

Sense and sensibilities : the psychosocial and contextual determinants of STD-related behaviour

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Sense and Sensibilities:

The psychosocial and contextual determinants of STD-related behaviour

PROEFSCHRIFT

ter verkrijging van de graad van doctor aan
de Universiteit Maastricht, op gezag van de Rector Magnificus,
Prof. Dr. A.C. Nieuwenhuijzen Kruseman, volgens het besluit van
het College van Decanen, in het openbaar te verdedigen op
vrijdag 18 Juni 1999 om 13:00 uur

door

Sasiragha Priscilla Reddy

&

Anna Meyer-Weitz

“A passion for the possible.”

(Søren Kierkegaard 1813 – 1855)

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Sexually transmitted diseases in South Africa

STDs are water-borne and are transmitted by contact with infected secretions from the genital tract. The most common STDs are gonorrhoea, syphilis, chlamydia, and HIV. The prevalence of these diseases is high in South Africa, particularly in the urban areas. The high prevalence of STDs is a major public health problem in South Africa, and is a major cause of morbidity and mortality. The high prevalence of STDs is also a major cause of infertility and other reproductive health problems. The high prevalence of STDs is also a major cause of HIV infection, which is a major cause of death and disability in South Africa.

The high prevalence of STDs in South Africa is due to a number of factors. One of the main factors is the high prevalence of unprotected sexual intercourse. Another major factor is the high prevalence of multiple sexual partners. A third major factor is the high prevalence of sexual violence. The high prevalence of STDs in South Africa is also due to the high prevalence of HIV infection, which is a major cause of death and disability in South Africa. The high prevalence of STDs in South Africa is a major public health problem, and it is important to take steps to reduce the prevalence of these diseases.

There are a number of ways to reduce the prevalence of STDs. One of the most important ways is to use condoms correctly and consistently. Another important way is to get tested for STDs regularly. A third important way is to avoid sexual violence. The high prevalence of STDs in South Africa is a major public health problem, and it is important to take steps to reduce the prevalence of these diseases. The high prevalence of STDs in South Africa is also a major cause of HIV infection, which is a major cause of death and disability in South Africa. The high prevalence of STDs in South Africa is a major public health problem, and it is important to take steps to reduce the prevalence of these diseases.

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This introduction sets out general background information about STDs in South Africa, elaborates on a planning model used to guide the development of health education programmes and discusses theories that were used to investigate the determinants of STD-related behaviour. Finally a summary of each chapter is presented.

Sexually transmitted diseases in South Africa

STDs are widespread in South Africa and have been since the mid 20th century and perhaps before (Kark, 1949; Laga, 1991). Historically the development and spread of STDs can be traced to the growth of the diamond and gold mining industry in the mid 1800s to early 1900s (Kark, 1949). During this time thousands of men were recruited from well-established family and community structures in the rural areas to work as unskilled labourers on the mines. There was an unequal distribution of men and women in the cities. This, together with the extremely poor living conditions, set the scene for behaviours and lifestyles that contributed to the spread of STDs in southern Africa (Kark, 1949).

STDs have a major impact on the economic life of South Africa. The cost to the nation in terms of lost earnings, interrupted employment, absenteeism from work and school and medical care costs is enormous. In addition, they have significant impact on the quality of life of millions of people. Annually some 11 million episodes of STDs are treated in the country (Colvin, 1997). More than half of all new infections occur in people aged between 15 and 24 years (UNAIDS & WHO Report, 1998).

It has been estimated that STDs contribute to 15% of the disease burden in urban areas with a high STD prevalence defined as a prevalence of >5% for gonorrhoea and >10% for syphilis among pregnant women (Over & Piot, 1990). In many sub Saharan African countries STDs have been described among the top five reasons for clinic attendance (Meheus, Schultz & Gates, 1990; Population Report, 1993). In South Africa approximately 10% of the general population have ulcerative infections caused by syphilis and chancroid. Gonorrhoea has an average prevalence rate of 8% and chlamydia an average prevalence rate of about 16%. Mixed infections occur frequently (Pham-Kanter, Steinberg & Ballard, 1996). The antenatal data on syphilis indicate poor pregnancy outcome as a result of the infection. Congenital syphilis remains an important factor affecting perinatal mortality in South Africa. Between 2,8% and 11% of stillbirths and perinatal deaths are attributed to syphilis (Delpont, De Jong, Pattinson & Odendaal, 1988; Delpont, 1988; Delpont & Rothberg, 1993). Many children are born with congenital syphilis, a further economic and human cost of STDs.

Furthermore, the high rate of STDs in this country is cause for concern in view of research findings that STDs contribute to the burgeoning HIV epidemic, cervical cancer, infertility and ectopic pregnancies that disproportionately affect women in developing countries (Pham-Kanter, *et al.*, 1996; Meheus, *et al.*, 1990; Sitas, Terblanche & Madhoo, 1996). STDs, both ulcerative and non-ulcerative, play a major role in the transmission of HIV/AIDS (Wasserheit, 1992). HIV, in turn, facilitates other STDs completing the cycle of reciprocal amplification (Way & Stanecki, 1991). Recent epidemiological studies have demonstrated a high prevalence of HIV seropositivity among STD patients. A review of 75 studies on the role of STD transmission shows that both ulcerative and non-ulcerative STD increase the risks of HIV transmission by approximately 3- to 5-fold (Wasserheit, 1992). The potential importance of STD reduction for the control of HIV can

be illustrated by a recent simulation in a hypothetical African city with 1% HIV prevalence in 1990. Without any reduction in other STDs, prevalence would exceed 16% by 2015. A 10% decline in STDs would result in a 12% seroprevalence by 2015; a 20% reduction would reduce HIV infection to below 1% by 2015. Research has also indicated that in sub-Saharan Africa genital ulcers alone may account for 74% to 98% and 20% to 40% of HIV infection in men and women respectively (Wasserheit, 1992).

Additionally the prevalence of asymptomatic STD infection, the diversity of pathogens and the atypical presentation of these pathogens pose major challenges to health care delivery in South Africa (Colvin, 1997; Pham-Kanter, *et al.*, 1996). A major difficulty in addressing the problem of STDs is increasing antibiotic resistance and, in some instances, multidrug resistance, in particular, in the use of penicillin, tetracycline and spectinomycin (Ison, Roope, Dangor, Radebe & Ballard, 1993).

Thus, we see that STDs make up a major source of the preventable burden of disease. An individual's behaviour has the potential to decrease their years of life and to add to society's suffering and misery.

The behaviours associated with STDs

STDs are passed on through the exchange of bodily fluids between infected partners. HIV infection, Hepatitis B virus and syphilis are also transmitted through sharing contaminated equipment by intravenous drug users as well as utilising infected blood products. Vertical transmission of congenital syphilis occurs between mother and child as well as through the perinatal transmission of gonorrhoea and herpes (WHO Technical Report, 1992; Goeman & Piot, 1990; Piot & Tezzo, 1990).

The most important STD- and HIV-related problem behaviours are unprotected vaginal, anal and oral sex with a new or casual partner, with multiple partners, with a non-monogamous, permanent partner or monogamous-infected partner (CDC, 1988). Unprotected sex with individuals from high-risk groups and a medical history of STDs have been described as the major risk factors for HIV transmission (CDC, 1988; Greenblat, Lukehart, & Plummer, 1988; Laga, Manoka & Kivuvu, 1993). More specifically, the absence of condom use and having multiple sexual partners within a specific time period has been reported as a risk factor for contracting gonorrhoea, human papilloma virus, chlamydia and genital herpes (D'Costa, Plummer & Bower, 1985; Stracher, Stoner & Moncada, 1983; Handsfield, Jasman, Roberts, Hanson, Kothenbeutel & Stamm, 1986; Miller, 1984/5).

Primary prevention of STDs

STD preventive behaviours have been the topic of many articles locally and internationally. The recommendations for primary prevention of STDs, including HIV, have been total abstinence, having a mutually monogamous relationship, delaying the initial sexual encounter, avoidance of sexual behaviours that place one at risk, and finally, using condoms consistently and correctly in situations that place one at risk.

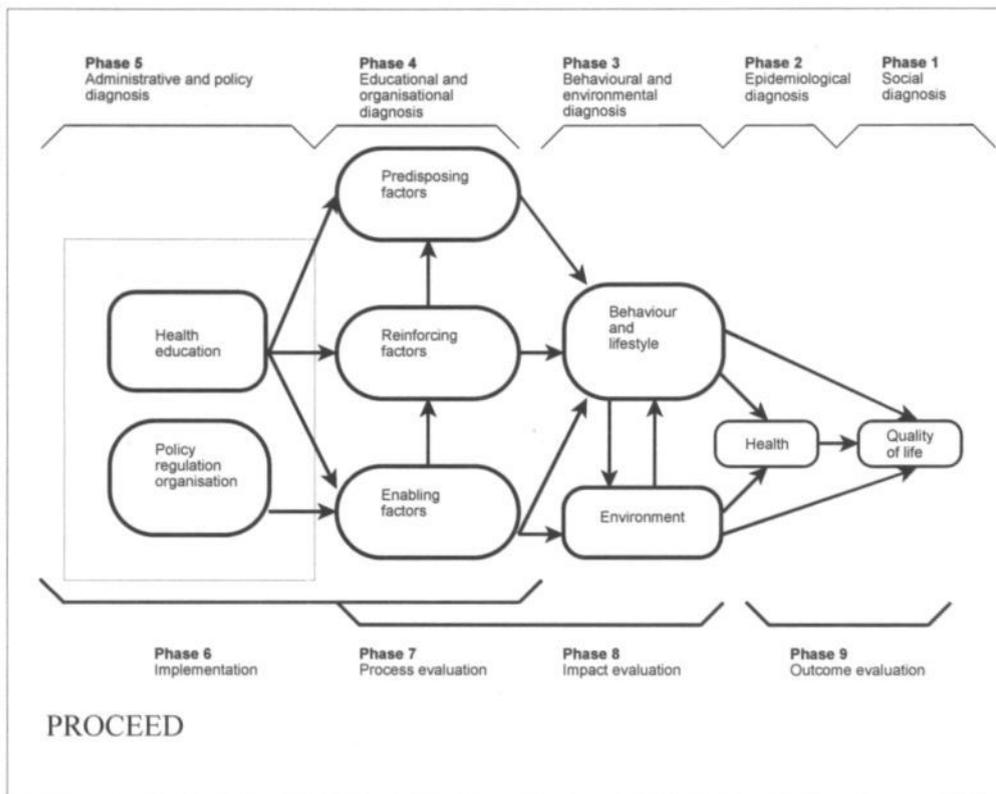


Figure 1.1. The precede-proceed model (adapted from Green & Kreuter, 1991)

as particular health problems (viz. specific diseases in the population) are analysed in this phase. This analysis often takes the form of data describing the enormity, the urgency and the human and economic costs of the problem to the population.

Phase two: The epidemiological diagnosis

Central to the first part of this phase is the description of the incidence and prevalence of the specific disease in the population. The second part identifies the known risk factors that contribute to the mortality and morbidity caused by the health problem.

Phase three: The behavioural and environmental diagnosis

The behavioural diagnosis is a systematic assessment of the behavioural links to the health problem described in phases one and two. The environmental diagnosis is usually a parallel analysis of the social and physical environment other than the specific actions that could be linked to the behaviour that was identified in the behavioural diagnosis, or directly to the outcomes of interest. For example, the clinic which is the organisational setting for STD health education, is an environmental factor influencing the uptake of preventive behaviours.

The studies in this publication focus on the following behaviours at the individual and environmental level:

Individual level

- Health care seeking behaviours of the clinic attenders.
- Partner-communication behaviour about the present STDs.
- Risky sexual behaviour viewed as a combination of multiple partners and condom use.
- Condom-using and non-condom-using behaviour.

Environmental level

Organisational level

- Health education practices within the clinics.

The behavioural diagnosis is directed towards specific behaviours in a particular target group, for example the behaviours that place people at risk of STDs, i.e. the absence of condom use and having multiple partners. However, health problems also have non-behavioural causes that lie either within the individual (e.g. age, genetic factors and gender) or outside the individual (e.g. multiple-partner behaviour of one's own partner in a 'monogamous relationship').

The behavioural and non-behavioural causes of the health problem have to be separated in working towards developing a health education intervention. The behaviours can then be sorted into primary (e.g. condom use), secondary (e.g. medical check-up) or tertiary (e.g. medical treatment) preventive behaviours.

Once the behaviours have been identified, they have to be rated in terms of their importance in relation to the health problem. The frequency of these behaviours in the target population should also be carefully studied. Judgements will also have to be made about the changeability of the selected behaviour through a health education programme within a given time frame.

Phase four: The educational and organisational diagnosis

The studies in this publication focus on this phase (see Fig. 1.2 on p. 8). This phase is a detailed exploration of the determinants of the selected behaviours or environmental factors that place the target group at risk of developing the health problem. The educational and organisational diagnosis identifies factors that must be changed to initiate and sustain the process of behavioural or environmental change. These factors become the immediate targets or objectives of the intervention (Bartholomew, *et al.*, 1998).

The model identifies three categories of determinants (predisposing factors, enabling factors and reinforcing factors) that influence individual or collective behaviour including organisational actions in relation to the environment. Each of these categories is believed to have a different type of influence on the behaviour. These categories are useful as they enable the planner to make the transition between perceptions and real skills that are necessary to perform the new behaviour.

The categories are explained as follows:

- Predisposing factors are those antecedents to behaviour that provide the rationale or motivation for the behaviour (e.g. knowledge, beliefs).
- Enabling factors are those antecedents to behaviour that enable a motivation to be realised (e.g. skills, facilities).

theoretical insights are used to explain how people attempt behaviour change over time. This model utilises the concept of people going through stages of change and suggests that people do not change their behaviour in a dichotomous step from unhealthy behaviour to healthy behaviour. The model acknowledges that the process of behaviour change is dynamic and can be divided into different stages. When people are trying to change their behaviour they can move from pre-contemplation (not interested in change) via contemplation (thinking about change) to preparation (actively planning for change in the short term) to the action stage (actually enacting the new behaviour) and finally to maintenance (sustaining the new behaviour). In moving through the various stages people can relapse into earlier stages, thus we see a recycling process. Research has demonstrated that people in each behavioural stage require particular information tailored to their specific stage to motivate them to proceed through the change process to action and maintenance. (Prochaska & DiClemente, 1983; Prochaska, 1991; DiClemente & Norcross, 1992). In order to understand the determinants of a particular behaviour and to identify the discrete informational needs of the various stages of behaviour change, an integration with other theories such as the social cognitive theory or theory of planned behaviour change is required.

Outline

This publication consists of several studies which collectively make up the determinant components of a multi-phase project that is intended to develop and evaluate an STD prevention programme that focuses on STD clinic attenders.

Chapter 1

In this chapter STDs are presented as a priority health problem for South Africa, an overview of the precede-proceed model as a planning framework for health education programmes is given; and, psychosocial theories of behaviour and behavioural change that informed the determinant studies are discussed.

Chapter 2

This chapter provides a planning framework that was developed to ensure appropriately designed health education interventions in South Africa. This chapter presents a definition of health education and an explanation of the health promotion matrix as applied to STDs and HIV.

Chapter 3

Chapter 3 provides information gathered using qualitative data collection methods. This information has laid the foundation for the quantitative studies that investigated the determinant of STD-related behaviour. This study explores STD patients' illness representations within their socio-cultural context, particularly with regard to gender relationships.

Chapter 4

This chapter presents a quantitative study of STD patient's knowledge, beliefs and attitudes about STDs in terms of gender, education and age. This contributes to an improved understanding of the epidemiology of STDs in South Africa, describing the diversity of STD clinic attenders in terms of their current knowledge about STDs and their beliefs and attitudes towards STDs and condom use. The information was collected with a view to developing an appropriate health education intervention.

Chapter 5

The study presented offers an understanding of the predictors of risky sexual behaviour among patients with STDs, with a view to the development of a health education intervention for STD prevention within the clinic setting. A survey was conducted among 2978 randomly selected STD-clinic attenders. Risky sexual behaviour was assessed by: a) the number of sexual partners in the last 6 months and multiplied by b) the frequency of condom use in the last 6 months.

Chapter 6

This chapter reports on a cross-sectional study of the determinants of condom-using behaviour among patients attending dedicated STD clinics in South Africa. Condom use as a dependent variable was examined using an adapted transtheoretical model (Prochaska & DiClemente, 1991). Patients were placed in a pre-contemplation stage if they had never used a condom, contemplation if they had seriously thought of using a condom, some action if they sometimes used a condom and regular action if they used a condom every time.

Chapter 7

In this chapter patients' communication with partners about their STDs was investigated in a sample of patients with STD symptoms (N=1477). Communication provides the mechanism through which partner referral can be accomplished. The improvement of patients' communication skills as a strategy for improved partner referral therefore needs to be a priority in health education programmes directed at the prevention of STD transmission and re-infection.

Chapter 8

This study investigated the determinants of health care seeking behaviours among patients with STD symptoms (N=1482) with a view to developing a health education intervention for the prevention of STDs. Health care seeking behaviour was assessed in terms of the time interval between noticing STD-related symptoms and seeking health care.

Chapter 9

Chapter 9 presents information on the health care seeking behaviour of adolescent STD clinic attenders. The primary aim was to investigate the delay in health care seeking behaviour in a survey sample of 292 adolescent patients with STD symptoms, with specific reference to the determinants of this behaviour. Health care seeking was assessed in terms of the time interval between noticing STD-related symptoms and seeking health care.

Chapter 10

To develop health education interventions targeted at STD clinic attenders, an understanding of both STD clinic attenders and health worker educational needs is necessary. This qualitative study assessed health education practices in STD clinics in South Africa with a view to developing improved health education programmes in such clinics. Health workers' knowledge of and attitudes towards health education practice, their perceived health education skills, the content of health education in STD clinics and the organisational structure and context for health education was investigated.

Health education refers to learning experiences designed to facilitate voluntary actions conducive to health (Green & Kreuter, 1991), while health promotion, which has historically evolved from the field of health education, is defined as any combination of educational and environmental supports for action and living conditions conducive to health. The term 'combination' refers to the necessity of matching the multiple determinants of health with multiple intervention sources of support. 'Environmental' refers to the social, political, economic, organisational, policy and regulatory circumstances that have an influence on behaviour or directly on the health status of individuals or communities. 'Living conditions' enable this definition to expand beyond the narrow domain of behaviour and lifestyle (single acts or temporary practices) to incorporate the crucial areas of culture, norms and socio-economic environment (Green & Kreuter, 1991). Thus we see that health education is one of the many preventive strategies in the field of health promotion.

The health promotion matrix as applied to the prevention of STDs/HIV

When planning and promoting public health a combination of health education, facilities and/or associated provisions and regulations/legislation is most likely to be effective. This health promotion matrix can be applied when planning any public health intervention, for example the prevention of STDs, including HIV infection.

Explanation of the application of the above matrix

Primary prevention of STDs including HIV is preventing infection by the promotion of safer sex, the use of uncontaminated blood and blood products and no sharing of needles with infected persons. The health education activities for STDs, including HIV, could involve mass media campaigns for the general public, specific targeted programmes (e.g. youth, sex workers, STD clinic attenders, etc.) and skills training and counselling. Facilities could include availability of subsidised or free condoms and lubricants. Facilities also need to be provided for research aimed at the development and evaluation of effective interventions. Regulations could imply compulsory AIDS prevention education in schools, or compulsory provision of STD/HIV prevention education at the point of treatment.

Early detection is the diagnosis and treatment of illness while treatment is still effective (e.g. primary syphilis or tuberculosis (TB)). This is not useful for AIDS, for which there is no cure, but is useful for TB in HIV-infected people. Health education activities could involve educating the general public to recognise genital ulcers and seek treatment as early as possible. Facilities include provision of screening and treatment facilities in the case of curable STDs. Regulations can imply mandatory screening of all pregnant women for syphilis and the treatment of those people who are infected.

Health education in patient care can involve, for example, assisting AIDS patients, HIV-positive people and their friends and families. These activities could take the form of counselling programmes to cope with fear and prevention of transmission and reducing complications of the disease. Facilities for medical care and psychological support for the patient and family can be provided in the community as well as at tertiary centres. Regulations prohibiting discrimination against AIDS and HIV-seropositive patients will complete the matrix.

Table 2.1. The health promotion matrix as applied to the prevention of STDs/HIV

Health promotion	Primary prevention	Early detection	Patient care
Health education	Education for condom use	Education for recognition of symptoms, e.g. genital ulcers	Counselling AIDS patients
Facilities/provisions	Cheap or free condoms and lubricants	STD screening facilities	Medical care and psycho-social support
Regulation/legislation	Mandatory STD/HIV prevention education at schools	Regulations for screening pregnant woman for syphilis	Laws prohibiting discrimination against people with AIDS

A model for planning health education

In South Africa the field of health education and health promotion has been neglected by formal educational institutions at secondary and tertiary levels, including nursing colleges and medical schools. This has serious implications for practice in terms of the quality and cost effectiveness of health education interventions. While health education and health promotion are not synonymous and interchangeable activities, health education is necessary and sometimes the most suitable public health activity to confront a health problem or health risk.

The planning of health education activities is often incomplete or does not have explicit long- or short-term goals. A common problem has been to jump from a perceived health problem directly to an intervention.

A careful evaluation of health education interventions is necessary for them to be effective (Kok, 1991/92; Mullen, *et al.*, 1985). As many authors have argued, 'the potential success of a programme' depends on the quality of planning. We will discuss some theoretical considerations in planning and evaluating health education interventions (Green & Kreuter, 1991; Kok, 1991/92; Mullen, *et al.*, 1985). This theoretical framework is useful for health care, school, occupational or worksite and community-based settings including mass media interventions. A model for detailed planning and evaluation is presented (Fig. 2.1).



Figure 2.1. Model for planning and evaluation of health education interventions

Has the intervention been carried out as planned?

This step ensures that the intended population received the health education intervention. This is a necessary, but not sufficient, condition for effectiveness. For example, did the pupils join a peer education group and did they read the pamphlets made available to them?

Has the intervention been received as planned?

This step is necessary to consider whether the target group understood the messages contained in the intervention. Failure to make clear which behaviours are expected to reduce the risk can result in ineffective prevention. For example, did the pupils understand the concept of serial monogamy as a means of prevention of STDs/HIV?

Have the determinants of the behaviour changed?

This step considers whether the determinants of the unhealthy behaviour have changed in a positive direction. For example, has the understanding of the routes of STD/HIV infection increased and have the skills for acquiring and using a condom improved as a consequence of the intervention?

Has the behaviour changed?

As health education aims at promoting healthy behaviour, quantifying the behaviour change is important for the programme. For example, to what extent do pupils always use condoms when having sexual intercourse?

Has the problem been reduced?

This measure of whether the problem has decreased is the ultimate measure of efficacy, but is sometimes methodologically difficult to calculate (e.g. calculating the reduction in the number of teenagers suffering from STDs). Another difficulty is the time that is required for behaviour change to occur. For instance, even if we persuaded everyone to use condoms, it would take years before a reduction in cases was seen.

Pitfalls

Unfortunately the ten steps that we have discussed are often not given the necessary consideration. It is common in the practice of health education to leap from problem to intervention without taking the intermediate steps. Evaluation of the effectiveness of programmes is rare, so ineffective interventions remain unnoticed in many situations. Evaluations are vital for checking previous designs and to improve the intervention before further human and financial resources are committed. Careful planning can avoid a number of pitfalls experienced by many programmes.

Pitfall 1: The development of an intervention for a problem that does not exist

The pitfall here is to develop an intervention for a problem that does not exist or is declining rapidly, e.g. smallpox. Further, when the problem does exist, failure to conduct a thorough problem analysis, and insufficient acknowledgment of the personal characteristics of the target group and the nature of the problem could lead to the wrong target population, such as targeting affluent groups to stop smoking when, in fact, they have already done so.

Pitfall 2: The development of an intervention addressing an action lacking a clear relationship with the problem

The pitfall here is to develop an intervention for a behaviour where there has been no clear epidemiological evidence showing a relationship between behaviour and the health problem. An example would be if an intervention addresses severe alcohol consumption as a determinant of cancer without mentioning that it is a combination of smoking with excessive alcohol consumption that causes an increased risk.

Pitfall 3: The development of an intervention that is based on a misconceived or incomplete idea about the determinants of the behaviour

The most common mistake is the assumption that knowledge about the negative health effects of a behaviour is enough to change that behaviour. This does not seem to be the case. The outcome that makes the health-related behaviour important for the health educator may not necessarily be the important determinant for the people concerned. For example, a smoking cessation programme based only on the idea that tobacco use causes lung cancer, without considering the immediate benefits that the individual derives from it, is unlikely to be successful.

Another pitfall could be the focus on the advantages and disadvantages when, in fact, the target group lacks the requisite skills to perform the safer health action. An example here is promoting condom use for STD/HIV prevention by posters and pamphlets while people lack the skills to use condoms correctly.

Pitfall 4: The development of the wrong intervention for the wrong group

For example, a school health education programme about the dangers of drinking paraffin would be ineffective. Such a programme is aimed at the wrong group, since most accidents occur in younger children who are not in school. A planned approach would have shown that such an intervention should be aimed at parents and at container production companies, to ensure childproof paraffin containers.

Pitfall 5: The development of an effective health education intervention without considering the regulations or complementary facilities

A community health education programme encouraging women to obtain cervical screening may result in a high motivation for screening. However, unless there are adequate clinic facilities to cope with the increased demand for screening, such a programme would be inappropriate. In planning interventions the different elements of the health promotion matrix must be considered carefully.

determine how patients respond to those threats (Leventhal, Meyer & Nerenz, 1980). It further proposes that the patients' health beliefs are structured, i.e. the core of the patients' illness theories consists of subjectively perceived symptoms (severity) and attributions concerning the cause of the symptoms. These subjectively perceived symptoms and attributions are derived from the social environment, i.e. cultural factors and information from professionals and lay people and, in part, from the patients' past illness experience (Leventhal, *et al.*, 1980). The employment of illness schemata or illness representations in understanding health threats and the regulation of health behaviour, is central to the theories of illness cognition. Schemas as organised collections of beliefs, values and feelings provide structures for the processing of new information and the retrieval of stored information (Greenwald & Pratkanis, 1984; Higgins & Bargh, 1987). Illness schemata represent experienced-based, over-learned patterns of perceptions and conceptualisations of the disease (Skelton & Croyle, 1991). Thus, these theories perceive people as actively creating meaning out of their experiences which directs their coping.

STD illness representations in a southern African context

Within the socialised roles of men and women, sexual intercourse is regulated by different norms which include various sexual taboos such as having sex with a widow and having sex with a woman who has had a miscarriage or an abortion.

These taboos reflect the widespread belief in Africa that death is a mystically polluting force that can negatively affect health (Green, Zonkwe & Dupree, 1995). Other sexual taboos that can result in ill health are having sex with a woman during menstruation or with another man's widow (Green, 1992; Green, *et al.*, 1995; Scott & Mercer, 1994). It is believed that in instances where these sexual taboos are ignored or transgressed that a traditional disease such as an STD will occur. Diseases are considered as either naturally or spiritually caused (Green, 1992). In Africa most diseases that are transmitted by sexual intercourse are considered as traditional diseases, thus spiritually caused (Green, 1992; Green *et al.*, 1995). It is therefore believed that these diseases are best diagnosed and treated by traditional practitioners and medicines or through consultation with multiple healers (Green, 1992). Apart from the fact that the transgression of a sexual taboo will result in an STD, sorcery is believed to be another root cause of such diseases. Sexual intercourse is believed to be a vehicle for different conditions or diseases. It is believed that a jealous husband or partner can treat his wife or partner with special medicines to ensure her fidelity (Green, 1992; Scott & Mercer, 1994). If another man has sexual intercourse with the woman he will develop symptoms such as a discharge from the penis and/or external sores while the woman will remain asymptomatic. Spell-casting medicines or poisons intended to punish the victim or to bring ill fate to the victim induce similar symptoms. It is also possible for a woman herself to place spell-casting medicines or poisons on her genitals to inflict an STD in order to ruin the victim's other relationships (Green, 1992).

Within this context, different traditional treatment regimens are considered for different conditions ranging from traditional vaccination, washing sores in special medicines, drinking herbal concoctions to induced vomiting.

Gender relationships

Complex socio-cultural factors shape marriage, sexual relationships and morality in southern Africa. Images of femininity and masculinity within the traditional Zulu and Xhosa cultures of South Africa are dominated by fertility. The significance of patrilineal descent and of lineage membership among southern African people rates the procreation of children highly. Consanguineal or blood ties between people are rated higher than marriage ties directed and limited by exogamy (De Villiers, 1992). However, the significance of women as producers of heirs that ensure the continued existence of the lineage and many offspring to worship one as an ancestor is emphasised by consanguinity. Apart from this significant social value of children they also enjoy high economic value in terms of labour in and around the house (Mostert & Lotter, 1990) and in being responsible for looking after their parents in their old age. It is implied that the larger the number of children one has, the better one will be able to live in your old days (Preston-Whyte & Zondi, 1989).

This explains traditional women's primary role as child bearers and minders. Being able to bear a child is an essential part of being a woman and of achieving success as a woman (Preston-Whyte & Zondi, 1989). On the other hand, men's status within their communities is related to the number of children they have indicating their ability to ensure the continuation of the lineage.

The continued existence of the lineages was traditionally ensured by polygamy where men were allowed to have more than one wife. Today, for both economic and religious reasons, monogamy is the rule, particularly in urban areas, but multiple sexual encounters, either with regular partners or with sex workers remain. Consensual unions, often between a man and more than one woman also occur relatively frequently. Polygamy and concubinage are still accepted as normal cultural practices among Africans in spite of the effect of modern life on many tribal customs (Mokhobo, 1989).

Nevertheless, marriage provides the institution in which procreation takes place. It is usually accompanied by '*illobolo*' - the passing of a significant gift in money or cattle from the groom and his family to the father of the bride. The bride's family in return provides '*umabo*'. This is accompanied by feasting and a show of great hospitality (Preston-Whyte & Zondi, 1989).

On the strength of the marriage contract validated by the transfer of marriage goods (De Villiers, 1992) the groom and his kin group takes ownership of the bride and children born within the marriage. Within this context and institutional structures the in-laws and the husband tend to dominate the control of reproduction. This subordinate status assigned to women makes it difficult for them to influence their own fertility. The current unequal status between males and females in general is maintained by strong socio-cultural structures and protocol but also by the fear of sorcery or '*muti*' should they not fulfil their socialised roles. Men's socialised roles are characterised by the expectations of male dominance and sexual prowess while women are expected to be subordinate and submissive.

The subordinate status of women places them in a very vulnerable position making it virtually impossible to negotiate safer sex or to claim monogamy from their partners. This seriously compromises their risk for STD infection and their ability to protect themselves.

Women's unequal power position is illustrated by one respondent's view that women will tend "to please men even if they do not love them because they are unable to stand up against men's wishes and desires."

Men's sexual prowess was explained through the common belief that the suppression of sexual desires leads to ill health. Men were therefore justified in needing their sex drives to be satisfied and even in seeking other partners if the primary partner is unable to do so. Men further attempt to justify their sexual behaviour by indicating that it is only 'natural' for men to seek 'outside partners'.

Male respondent: "The man's blood forces him to have a girlfriend."

Both men and women accept the notion that men's sexual desires are uncontrollable and therefore result in being constantly *'tempted by outside girls'*.

Female respondent: "I know that a man cannot stop going to the street. I am happy...".

Men claim the prerogative of having outside relationships while expecting their partners to be monogamous. This is further supported by women's view that it is unacceptable behaviour for women to have multiple partners. It is described as *'not taking care of yourself'*. Women with sexual experience maintain men's position of control within the sexual relationship by pretending innocence and inexperience. Women indicated that they risk being beaten up for having *'outside relationships'*. Nevertheless some women do seek outside relationships for love and for increased financial means to better support their children.

Women seem to accept that marriage, while it involves love, does not necessarily mean monogamy on their husband's part. Their husband's unfaithful behaviour was explained as a *'disturbance'* rather than a threat to their sexual relationship and potentially damaging to their health because of STDs and the risk of HIV infection.

For a woman the discovery of STD symptoms is proof that their partner has had *'an outside partner'* or *'has been on the street'*, where he was *'tempted by a beautiful girl'*.

Female respondent: "I stopped trusting him when I found out that I had this dirty blood".

Although women in our interviews seem unable to challenge men's unfaithful behaviour, some expressed severe hurt and pain as a result of their husband's having other *outside* relationships.

Female respondent: "It hurts, it hurts. That is why I say, these are the things that we are hiding, or maybe we pretend as if they are not there, you know. You keep them secret, and all along you are full of wounds inside ..."

Women themselves provided different explanations for accepting their subordinate position in relationships as well as accepting their male partner's outside partners. Women's need for consolation made them fulfil their partner's sexual needs and the fact that they come back to them, gives them a sense of power or a feeling that they are the chosen ones.

Female respondent: "You want to keep the affair because you want to console yourself by believing that if he comes to you after going to another woman he still cares for you."

This also shows that a woman gains status when she is able to keep a permanent partner. If not, she is actually failing as a woman in her community.

The role of socialisation was offered as another explanation for maintaining the unequal status between men and women. In this context women see themselves as responsible for perpetuating their own submissiveness and acceptance of men's sexual behaviour.

Female respondent: "...because at home a boy is always regarded higher than girls...you are always being next to your mother, you have always seen your mother being beaten up by your father but when she talks she says 'I am just staying for my children you know even if this man went to sleep out' you know...she always has her reasons for staying in that house irrespective of how she is treated..."

The fear of sorcery or 'muti' plays a major role in maintaining male dominance and female submissiveness. Women fear men's ability to cast a spell over them should they confront their men about seeking outside girls, bringing disease home, seeking treatment and breaking trust. Apart from men's ability to use witchcraft against women, women explained that they too resort to traditional practices such as consulting witchdoctors who put 'snakes into the vagina' in order to prevent their partners from straying.

Causal explanations for STDs

The respondents spoke about STDs in terms of 'bad' or 'dirty blood' but at first in a depersonalised and questioning way, revealing its delicateness:

Interviewer: "What brings you to the clinic today?"

Female respondent: "Maybe you have bad blood?" (very low voice)

A further elaboration regarding acquiring the STD suggests that dirt from the people you sleep with enters your body and makes your blood dirty. The STD is therefore seen as an entity which must be removed from the body: 'the blood has to be cleaned'. This entity is sometimes perceived as lying dormant and re-emerging at different times:

Male respondent: "But what I am confused about, is people say you can cure this problem and then after a few days, maybe a month, it comes out again. People say the doctors cannot help it, cannot take out the source from inside. So they say maybe after some time, it comes out again."

A general awareness exists of the contagious nature of the disease and its association with sexual intercourse. However, should symptoms not occur and become visible immediately after intercourse an ambiguous representation of the cause of the STD exists. In addition to the notion of sexual transmission, the respondents provide more than a single, simple explanation for the cause of the STDs, but rather suggest a complex web of illness representations.

Particular practices are perceived to cause STDs, such as the deliberate delaying of ejaculation which is explained as leading to the build up of sperm which, in turn, is thought to result in the development of symptoms. Having consecutive sexual partners during one night, having intercourse with a woman who is tense or 'who holds her breath', unclean toilet practices, or withholding and delaying urination is thought to result in an STD. Contraceptives such as condom use by men as well as oral and injectable contraceptives used by women are considered as reasons for the (re)occurrence of STD symptoms. Pregnant women, on the other hand, interpreted their STD symptoms in terms of their pregnancy and, in particular, the position of the baby that is thought to result in lower abdominal pain and a discharge. Finally, STD symptoms are explained to be spiritually caused, where men indicated that they are victims of bewitchment by women, while women see themselves as possessed by witchcraft and demons that evoke an evil spirit inside them which finds expression in an STD.

In talking about the cause of STDs wives directly blame the 'outside' partners for the cause of their husbands' STD. They make a spatial distinction between home and the street. The home is considered as her domain but as soon as he is away, on the street, his behaviour is out of her control and he runs the risk of getting 'tempted by other beautiful girls' who then give him the STD. There is an implication that the husband is a passive recipient of the 'other girls' dirtiness'. While women blame their husbands for having outside relationships, both men and women blame the outside women for the STD.

Female respondent: "...you go to him as clean as you are, you go to him and get her dirtiness."

Men frequently see themselves as victims of women, implying that acquiring an STD is not within their control.

Male respondent: "Nothing else but a girl... I don't know how it started but this thing started after I slept with that child."

Thus men attribute their STDs to women, not to their own behaviour. It is only later on in the interview that they acknowledge having several sexual partners. They seem either unable or unwilling to openly attribute their *outside* partner behaviour as a cause for their STDs.

The role of sorcery or '*muti*' as well as traditional understandings or explanations for the cause of diseases play an important role in the causal representations of STD. Women are easily blamed and suspected of intentionally 'making drop', i.e. inflicting a man with an STD if she does not love him any more. The belief in the use of traditional medicines by a jealous partner or by women themselves to cause an STD, explains men's suspicion of women. In support of this belief some women perceived themselves to be the cause of the STD as a result of being bewitched or possessed by evil spirits.

Cues to seek help from the clinic

The men and women in the study reached an awareness that 'something is wrong' through different processes. Men generally experienced clear, visible and uncomfortable symptoms, which are impossible to ignore as explained by a male respondent: "*Enough is enough, it is painful...*". The severity of the symptoms motivated men to communicate about their symptoms and to seek

help. Men's disclosure of their STD symptoms to other males in their social network result in them being supported to visit the clinic for treatment by their friends who were successfully treated at the clinic.

Male respondent: "I told this chap at work that I have a problem like this. He told me that, no man, don't let this thing wait, early tomorrow you must go to the clinic."

In contrast to men, only a small group of women decide to seek help because of the symptoms they experience. Since these symptoms are often vague and can easily be related to the menstrual cycle or to pregnancy, it is difficult for them to realise that there is 'something wrong'. Because of the general asymptomatic nature of STDs in women they are often informed about their 'dirty blood' at the clinic after having experienced symptoms for a long time, having been referred by their partners who are undergoing STD treatment and if pregnant, during the antenatal examination.

Female respondent: "So as I have said there is nothing that I feel. They (nurses) say that my blood is dirty. Me, I do not feel anything."

Pregnant women were particularly concerned about the effects of the STD on their unborn babies. The knowledge of risks to the unborn baby indicated by pregnant women who were referred by the antenatal clinics played a very important role in them seeking treatment for the STD. Women's responsibility in ensuring healthy children was expressed in their concern for the health and well being of their unborn babies. Women differ from men in that most do not discuss their symptoms or their clinic referral with their female friends. In instances where discussions took place women explored their own ideas regarding the possible causes of the symptoms thus increasing the level of ambivalence when interpreting the meaning of the symptoms. The fear of being stigmatised as a result of having an STD was offered as a reason why women decline from discussing their STD. They are afraid that people will laugh at them and keep them at a distance because they 'have something'. Women feel that the STD is 'their secret', with possible consequences for their future attractiveness and acceptance as a sexual partner. Women will be seen as careless, or not being able to keep a permanent partner, or even bewitched. While for men, despite the discomfort of the STD, it is seen as a measure of their virility as explained by a respondent: "*It means that I am alive, that I am a man*". At least they are not considered to be 'ubhulus', i.e. men that do not have girls.

Thus, the greater visibility and discomfort created by the STD symptoms as well as the relative ease with which men communicate these symptoms, results in men seeking medical treatment at the clinic earlier than women. Pregnant women's concern for their unborn babies is an important cue to seek help immediately once they have been referred for STD treatment.

Conceptualisations of treatment and help-seeking behaviour

In accordance with the representation of STDs as 'dirty blood', the respondents talk about treatment in terms of 'cleaning the blood'. They try to achieve this by using different methods ranging from self-help actions, visiting a traditional healer, visiting the clinic, or a combination of these activities.

Self treatment like bathing the genitals with commercial detergents to taking laxatives to 'wash the disease out of the body' seemed to have occurred on the initial presentation of the symptoms in respondents who have never had an STD before. Traditional treatment is obtained from a traditional healer who provides herbal mixtures and potions 'the bottle' in order to 'take out the poison' or to a faith healer who removes demons and witchcraft from possessed people. These help-seeking activities stem from traditional conceptualisations of the cause of STDs and the recommended treatment regimes. It is only when those who use self-help and/or treatment from the traditional healer do not experience success, that they decide to seek treatment at the STD clinic.

Another group of respondents simultaneously sought treatment from the clinic and the traditional healer. Treatment at the clinic was sought to cure their symptoms while they visited the traditional healer to 'cure' them of the 'cause' of the STD. These beliefs reflect the patients' traditional causal explanations of STDs thus considering the traditional healer as central in addressing the cause of the STD. However, some respondents who had had an STD previously indicated that they only sought immediate treatment at the clinic for their STDs because of previous cures they had experienced.

Representations of STD prevention and preventive behaviour

In talking about the prevention of STDs the respondents explain that it is difficult to take action until you actually experience the disease. This opinion indicates that the patients do not fully perceive themselves at risk of contracting STDs, making it difficult for them to take any preventive actions.

Male respondent: "Sometimes it is difficult to attend to a sickness that you don't have, when it is the other person who has it, especially a sexually related illness. You just say that you will take care of it when you have it, and only when you have it you start paying attention to it."

When asked what can be done 'to prevent these diseases' people generally refer to medical treatment, i.e. coming to the clinic as soon as possible and being given injections and medication as well as completing the medical treatment. The questions about prevention of the STD were thus interpreted as prevention of deterioration of the disease.

Male respondent: "Receiving treatment. Because you will be treated so that you don't get the disease."

Additionally the maintenance of personal hygiene was perceived as another possible strategy to prevent STDs.

For men showing care for the primary partner by visiting the clinic when they have had sex with an outside partner in order to avoid 'bringing sickness home' seemed to be important. In this context the treatment of the disease is talked about in terms of inoculation against the disease.

Male respondent: "If I met with the lady I am seriously involved with, after I have met with the other one, I am sure she would get it. I went to the clinic so that I would not bring sickness home."

Another strategy used to prevent STDs mentioned by men is to avoid having intercourse with the woman they think they got it from. The notion that women are able to either intentionally inflict an STD upon a man by the use of 'muti' or cause an STD through the use of 'muti' by a jealous partner, is reflected in the words of the following male respondent: "To protect myself, is knowing who did this to me so that I avoid her."

In keeping with the traditional causal explanations of STDs the important role of the traditional healer in preventing STDs is emphasised. The use of 'muti' by the traditional healer to address the cause of the STD is perceived to be an important way to prevent the recurrence of STDs. Prevention is also talked about in terms of 'controlling oneself', i.e. not having too many sexual partners and having intercourse only with people that are perceived not to be promiscuous.

Perceptions on condom use

The use of condoms for STD primary and secondary prevention was mentioned.

Male respondent: "When it happens that you have certain desires to sleep with a person you use condoms. So if I have this problem it should not be spread over to her. It should stay in the sack and I just throw it away, so that it is not left behind in her."

However, women consider condoms as 'things men use to prevent themselves from getting children and diseases' and perceived prevention more often in terms of going to the clinic.

Different meanings are attached to the use of condoms. Many of these interpretations stem from the physical characteristics of condoms rather than from the respondents' own experiences with the use of condoms. Both men and women perceive condom use to be 'unnatural'. Although condom use as a method of contraception was mentioned, the view was expressed that condom use results in a 'waste of sperm' and was therefore undesirable. In the data, both men and women's gender identity was embedded in aspects of fertility. Men's virility and fertility was expressed as synonymous with manhood while women's fertility and ability to bear healthy children was, in turn, seen as synonymous with womanhood.

Because of the general belief held by both men and women that condom use could result in the death of the female partner, the use of condoms was viewed with fear. The perception exists that condoms could remain inside the vagina and would go into the womb and later to the heart which would result in death.

Female respondent: "I want to but now, firstly I have to start learning how to use a condom, make sure that a condom is not going to fall, and left in my womb, as left inside me, you know."

Condom use was interpreted as creating distance between partners because of the artificial layer or barrier between partners, 'it is not flesh to flesh' thus implying a lack of love or care between partners.

Male respondent: "In all when you desire someone usually there is some kind of warmth that you need from that person....Then the warmth you know is not there. There is some coolness. ...This causes condom use not to be desirable."

Condom use was very strongly associated with promiscuity, in this context with STDs and in a few instances with AIDS.

Interviewer: "What do you think about someone who uses a condom?"

Female respondent: "He is someone with loose conduct, because if you have sexual conduct you are not expected to have a disease. If you are too promiscuous you are obliged to use a condom because you don't want to have a disease or spread it to many others...I criticise it because most men do not use condoms for the prevention of pregnancy. They use it for their sexual immorality with many sexual partners."

Women's association of condoms with male promiscuity were used by men as a reason why they find it difficult to suggest condom use to their female partners. Men explained that women would assume that their partners have had other sexual partners and possibly an STD, if condom use is suggested. In addition women would suspect that their male partners did not love them any more, and were contemplating terminating the relationship. This was particularly true in situations where condom use is suggested to partners with whom men have never used condoms before.

Communication about condoms and STDs

The association of condom use with promiscuity and, by implication, with STDs places a major barrier on communicating about condoms as well as about STDs. The male respondents explained that they experienced problems in communicating with their partners about their STDs and referring them for treatment. They indicated that they were afraid to tell their primary partners about their STDs because of the conflict it would cause since it would imply unfaithfulness on their part.

Male respondent: "...with the close one it is a bit problematic because it will cause conflict okay whereas the distant one you can talk freely. Because the closer one will realise there is another person that is causing the problem. To avoid conflict I just won't talk about it."

Discussions about STDs with outside partners were not seen by men to be difficult. Some men indicated that they tell their partners about the STD so that they would seek treatment while others refer their partners to the clinic by giving them the clinic letters without discussing it. A reason offered was that in referring their partners they would prevent themselves from getting reinfected. However, another group of men mentioned that they would not 'bother' referring the outside partner for treatment.

Women's subordinate position in relationships and the expectation that they should not discuss sexual matters seems to act as a barrier to open communication about STDs in general and specifically around the issues of partner referral and condom use. Some female respondents indicated that they had to wait for appropriate times to initiate discussions or have to employ different strategies to get their partners to the clinic for treatment. Some tried to persuade their partners that it was a shared responsibility to determine the cause of the symptoms, or indicated that the partner is sought at the clinic for a blood test. A woman mentioned that she used the health of the unborn baby as a way to persuade her partner to visit the clinic. Some women were, however, able to tell their partners about their STDs and that they have to go to the clinic for treatment.

Discussion

Causal explanations of STDs embedded in gender relations

STDs are commonly viewed as an entity which has invaded the body through sexual intercourse which results in the 'blood being dirty'. Although there is an awareness of the contagious nature of an STD as well as its association with sexual intercourse, a delay in the presentation of symptoms, results in ambiguity regarding the cause. The reference to the relationship between the cause of the STD and the context in which sexual intercourse takes place reflects the important role of 'context' as a contributing factor to the cause. Additionally it reflects gender relations and sexual practice. Women are expected to be fully accepting of sex, while men should not have more than one partner during a night.

Men's reluctance to attribute their STDs to their own sexual activity as well as their blaming of women for STDs, can possibly be explained by the stigmatisation of STDs which is located in a traditional notion that an STD is a result of the transgression of sexual taboos, sorcery or '*muti*'. When considering STDs within this context, the admission of one's own 'sexual wrongdoing' as a possible cause for STDs may be perceived as very threatening. The perception of some women that they themselves were responsible for the cause of the STD as a result of being bewitched or possessed by evil spirits, reinforces this notion. While men blame women for inflicting an STD upon them to the exclusion of their own behaviour, women tend to blame the 'outside women' for the STD. Men are seen as the passive recipients of the other 'woman's dirtiness' while their own sexual prowess is justified and accepted. Men's sexual desires are believed to be uncontrollable and, if not satisfied, to result in ill health.

The traditional view of male supremacy and female submission when it comes to sex, impacts on women's reluctance to blame men for the STD. This reticence is enhanced by the notion that acknowledging this issue may tarnish the woman's identity. She will be perceived as somebody who is unable to control or satisfy her partner's sexual needs, thus not fulfilling her socialised role. This, in turn, will adversely effect her self-esteem thus making her reluctant to seek help from the formal health sector. On the other hand, the social meaning of an STD for men is the opposite. Having an STD is an indication of men's sexual prowess.

Under these circumstances it is clear that women's vulnerability to contract STDs is perpetuated by the culturally accepted behaviour of both men and women. This results in women's inability to claim monogamy from their partners nor being able to discuss the use of condoms. Male dominance and sexual prowess is further exaggerated by economic and emotional dependency by especially women with children. The desperate environment that women often find themselves in perpetuates the cycle of abuse from which they can seldom escape. Although it has been argued that women's position in relationships will change once women have been empowered to defend themselves, it is clear that these efforts have not had much success yet. Instead women's increased empowerment has been matched with increased male dominance as an attempt by men to counteract women's 'liberation' resulting in women becoming even more oppressed. On the other hand, female-headed households have become part of local community life since marriage does not ensure economic and emotional security (Preston-Whyte & Zondi, 1989). Therefore a more equal distribution of power in relationships seems only possible if the status quo is

challenged through a process of exploration and negotiation by both men and women rather than efforts to empower women alone. This suggests the need for improved education opportunities for women and the development of social debate around gender constructions. Such a process would contribute to the redefinition of gender roles within developing communities so that gender power relations are improved. This, in turn, will impact on male and female roles and responsibilities within sexual interactions and ultimately on STD prevention.

Help-seeking behaviour and treatment

The processes through which men and women become aware of their STD symptoms and the way in which they respond to this awareness differs. Men's communication about their STDs with friends and their help seeking at the formal health sector is facilitated by the severity of their symptoms and the social meaning attached to an STD by men.

On the other hand, women's delay in seeking help from the clinic is explained by vague symptoms and their interpretation of these symptoms in terms of the menstrual cycle and pregnancy. Women's awareness of an STD or that 'their blood is dirty' is often only acquired during an antenatal clinic visit or a referral by a partner for STD treatment. The rapid way in which pregnant women who have been referred by the antenatal clinic seek treatment, is an expression of their concern for the health and well being of their unborn babies. This is a reflection of their traditional role as child bearers. In STD prevention emphasis on the health of unborn babies can be an effective strategy to motivate women to seek help immediately at the formal health sector when experiencing STD symptoms. However, the recognition of STD symptoms by women seems problematic and improving knowledge and understanding in this regard is important.

The reluctance of women to discuss their STDs with friends and family is due to the social meaning attached to 'women with STDs'. In this context disclosure of the STD would imply an acknowledgement that the women's partner has outside partners and that she is therefore unable to satisfy his desires. The interplay of the notion that an STD is a result of bewitchment will prevent women from disclosing their STDs for fear of blame and victimisation.

The destigmatisation of STDs is of vital importance in its prevention since stigmatisation impacts negatively on help-seeking behaviour, referral of partners for treatment and on the use of condoms. Improved gender relations will be instrumental in the destigmatisation of STDs. The fact that the stigmatisation of STDs is partly linked to sorcery or '*muti*' should be seen as an opportunity for traditional healers to intervene.

The traditional causal explanation of an STD as something the 'blood has to be cleaned from' explains the type of self-help actions patients engage in when noticing symptoms, such as washing the genitals with disinfectants and taking laxatives. The ease with which patients seek help from the traditional healer and the health sector simultaneously is a reflection of the complex web of causal explanations of STDs. The health sector's role is defined as curing the body of the symptoms while the traditional healers' tasks are to 'cure the cause' of the STD. Thus traditional healers should be encouraged to promote behaviours that prevent STDs. Additionally, traditional healers' role in primary prevention, for example, education at circumcision schools, early diagnosis as well as referral of STD patients to the formal health sector could be valuable. The newly implemented district health system in South Africa provides for the incorporation of traditional healers in health care delivery. It is, however, of the utmost importance that the

incorporation of traditional healers into the health care system should be a negotiated process of mutual exchange in knowledge and values and not merely be an extension of the biomedical paradigm.

Perceptions of risk and understanding of prevention

Patients' understanding of the cause of the STD has implications for their perceived risk of contracting the disease and the prevention strategies that they might consider.

Men's blame of women to the exclusion of their own sexual behaviour as a contributing factor as well as women's blame on the 'outside women' for the cause of the STD, could result in men not perceiving themselves at risk of contracting STDs. They would therefore not consider taking any precautions such as using a condom or changing their own sexual behaviours. Women, on the other hand, perceive themselves at risk and vulnerable to contract an STD. However, their often-inferior position within relationships results in them being unable to suggest any preventive measures. To prevent STDs, the role of personal behaviour and perception of risk will need to form a central part of a skills-development intervention targeted at both men and women. Additionally, patients' understanding that STDs are a result of the transgression of sexual taboos might provide a false reassurance to people who believe that they are not transgressing sexual taboos and therefore need not protect themselves from contracting an STD.

Furthermore, patients' understanding of the concept of prevention influences their behaviour in this regard. The interpretation of prevention as 'preventing the disease from deteriorating by going to the clinic' rather than taking precautions to prevent initial infection seems to be a function of different factors. First the traditional causal understanding of diseases and, in particular, understandings regarding the cause of STDs, explains individuals' vulnerability to diseases in that they perceive themselves as victims of the 'entity that enters the body' that makes the 'blood dirty' thus making it difficult to prevent the STD by their own actions. A disease seems to become a reality only once symptoms occur which, in turn, provide the first cues to seek help. Within this context prevention of an STD was seen as visiting the clinic to 'cure the symptoms', the traditional healer to prevent the recurrence of the disease by 'curing the cause' of the STD, or visiting the faith healer to remove the demons and bewitchment from possessed people. In addition the notion of going to the clinic for 'prevention' is continuously reinforced by messages from the health services regarding contraceptives for 'the prevention of pregnancies' and the immunisation of children 'to prevent' communicable diseases. In this way prevention has become associated with 'visiting the clinic' rather than doing something for and by yourself to prevent a disease, thus reinforcing patient's traditional causal understandings of STDs. Once again this illustrates that patients' current understanding of prevention needs to be expanded to include the role of personal behaviour in prevention.

Although condom use was mentioned as a possible way of preventing STDs, it was done without conviction and serious doubts were expressed regarding its desirability. The many obstacles raised to condom use were clearly not from personal experiences but rather a result of rumours and negative social and cultural norms towards condoms. The perception that condom use results in a 'waste of sperm' is an indication that the expression of sexuality is motivated by the desire and importance to procreate thus ensuring the continuation of the clan name. The

intentional prevention of a pregnancy was therefore considered as wrong. Within this context condom use can thus be seen as a humiliating experience for a 'real man' and a 'real woman'. The importance of having children for both men and women's gender identity seems to result in the neglect of condom use. In addition, the association of condom use with death, promiscuity — with reference to STDs and AIDS, and a lack of care and love further undermines the use of condoms as an STD-preventive strategy. The data reinforce the known complexity of condom use and the challenges it poses to behavioural change interventions. It is important to note that, despite the knowledge of these underlying beliefs regarding condom use, many interventions in South Africa seem not to address them directly. It is only by developing specific messages regarding these beliefs that we can hope to establish a social norm of responsible sexual behaviour in which the use of condoms is central.

Partner referral, an important STD prevention strategy, is seriously compromised by patients' causal explanations of STDs as well as the unequal gender power distribution within sexual relationships. The perceptions that one is unable to take action before symptoms occur make it difficult for patients to understand the importance of referring one's asymptomatic partner for STD treatment. Furthermore, the inability to communicate about sexual issues in general and in particular, disclosing one's STD, greatly diminishes the possibility of referring sexual partners for treatment. Because the STD is often proof that one's partner has other sexual partners, knowledge of the STD could result in conflict, something the majority of people would like to avoid. This is an often-cited reason for patients' reluctance to refer their partners for STD treatment. In the light of this information attempts to increase partner referral will necessitate the development of interventions that promote a more equal distribution of power within relationships and improved communication and negotiation skills. This, in turn, could facilitate more open communication regarding sexual issues, condom use and STDs in particular. Stressing the importance of condom use with 'outside partners' thus avoiding contracting STDs in the first place and therefore the need to refer one's primary partner for STD treatment, could be a feasible strategy for STD prevention.

Conclusion

The findings suggest that STD patients' illness representations are reflections of their socio-cultural understanding of disease and culturally defined gender relations. This impacts on their general perceptions of the cause of STDs, their perceptions of the risk of contracting STDs, them entering and using formal and traditional medical treatment and on their ideas of prevention.

It can therefore be argued that in developing a health education programme consideration needs to be taken of STD patients' illness representations and its reciprocal relationship with gender constructions as it clearly impacts on patients seeking help from both the traditional and formal health care sector as well as the preventive strategies they will consider.

Apart from addressing the different aspects of patients' illness representations in a health education intervention, the importance of basing the content and implementation of such a programme on sound educational principles cannot be negated. For instance, a negotiated content will ensure relevancy and appropriateness to the STD patient.

Healthy behaviours of the STD patient need to be facilitated through multiple educational strategies focusing on an improved understanding of the cause of the STD in its context of gender

relations, the development of interpersonal and technical skills as well as focusing on cues for action.

More insight is, however, needed into the causal explanations of STDs. Improved knowledge about STDs with special reference to the asymptomatic nature of STDs in women, the recognition of symptoms, perceived risk and the meaning of prevention is a necessity. A major area of intervention seems to be gender relationships as it has the potential to impact on patients' causal explanations of STDs, their help-seeking and preventative behaviours as well as the referral of partners for STD treatment. True empowerment of women can only be achieved through a process of exploration, negotiation and education with both men and women. In this context male responsibility for their own and partner's health should be emphasised. It is, however, clear that the concept of monogamy even in the modern African community seems to be an inappropriate prevention strategy for STDs or HIV/AIDS. However, men's reluctance to 'bring disease home' provides an opportunity for intervention. Men need to be supported and encouraged to develop the necessary interpersonal and technical skills that will enable them to negotiate and use condoms with the 'outside partner'. It seems that messages that would motivate men to use condoms with all 'outside partners' rather than to suggest using condoms in general would have a better chance of facilitating the prevention of STD infection as a first step in the process of change. However, in conjunction with the above, health messages addressing the underlying beliefs of condom use such as the association of condom use with death, STDs and AIDS, lack of love and care should be viewed as an important strategy in the prevention of STDs. The establishment of a safer sex norm in which condom use is seen as an act of caring, needs to be established. Motivation strategies, sensitive to the socio-cultural contexts of patients focusing on partner referral need to be implemented as part of comprehensive STD management. For instance, the importance attached to fertility and the health of the unborn baby as it is central to the gender identity of both males and females can be used to motivate for the prevention of STD infections because of the detrimental consequences of STD infections on fertility and on the health of the unborn baby. Caution should, however, be taken not to evoke guilt feelings because it might impact negatively on patients' psychological well being and the performance of the desired behaviours.

However, the complexity of the socio-cultural contexts that underlie STD illness representations with specific reference to gender constructions and traditional beliefs should not be underestimated, as it poses a major challenge to behavioural change interventions. For instance the ease with which patients seek treatment from the different sectors of health care ranging from traditional healers to the formal health care, need not be viewed as opposing but could form part of a comprehensive strategy in the prevention of STD and HIV/AIDS within the southern African context.

Introduction

The aim of this review is to highlight the socio-cultural context of STDs in South Africa. The review is intended to provide a public health perspective on the socio-cultural context of STDs in South Africa. The review is intended to provide a public health perspective on the socio-cultural context of STDs in South Africa. The review is intended to provide a public health perspective on the socio-cultural context of STDs in South Africa.

4 STD-related knowledge, beliefs and attitudes of Xhosa-speaking patients attending STD primary health care clinics in South Africa

Abstract

Objectives. The primary aim of this study was to describe patients at STD clinics in Cape Town, South Africa, in terms of gender, education and age differences relative to their STD knowledge and beliefs, their condom use, as well as their attitudes towards condom use and their condom-use behaviour. The information was collected with a view to developing a health education intervention.

Methods. Structured interviews were conducted with 2978 randomly sampled, Xhosa-speaking STD clinic attenders about their knowledge, beliefs and practices regarding STDs and related behaviours.

Results. More males (75%) than females (25%) presented for STD treatment. The majority of patients (92%) were younger than 35 years. Female patients were found to be more aware than male patients of the sexual nature of STD transmission, valued personal autonomy in sexual behaviour and expressed a greater need to use condoms. Males perceived STD symptoms to be more serious, had more misconceptions about the cause of STDs and also more negative beliefs and attitudes towards condom use. Only 34,9% of the patients reported using condoms in the last 6 months while only 24,5% reported regular use. Those who reported condom use were more knowledgeable about the sexual transmission of STDs and the effects of STDs on the neonate. They also had fewer misconceptions about the causes of STDs and perceived STD symptoms to be more serious, attached greater value to personal autonomy in sexual behaviour and condom use and had more positive outcome expectancies of refusing sex than those who never used condoms.

Conclusions. The data suggest that targeted interventions directed at males will have to address their inadequate knowledge regarding STDs in terms of transmission, causes, consequences, prevention and cure. Their negative beliefs and attitudes towards condoms will need special attention, especially in view of their multiple-partner behaviour. Interventions directed at females will need to improve their knowledge regarding STD consequences, causes, recognition of symptoms as well as improve their knowledge of aspects of prevention and cure. All interventions must facilitate personal autonomy in decision making about sexual behaviour and condom use for both men and women, through skills development programmes that promote self-efficacy in the individual and instil a culture of mutual respect of such in the community.

In press:
Reddy, P., Meyer-Weitz, A., Van den Borne, B., & Kok, G., (in press). STD-related knowledge, beliefs and attitudes of Xhosa-speaking patients attending STD primary health care clinics in South Africa. *International Journal of STDs and AIDS*.

Introduction

The evidence that sexually transmitted diseases (STDs) contribute to the burgeoning HIV epidemic in South Africa underscores their seriousness as a public health problem. From a national antenatal survey in 1996 it was estimated that 2,4 million adults were infected with HIV (Abdool Karim, Mathews, Gutmacher, Wilkinson & Abdool Karim, 1997). This survey further

demonstrated that the prevalence of HIV infection among pregnant women was highest in the under-30-year age group. The risk of contracting HIV during a single coital act was less than 1% if no other STD was present, but increased 8 - 10 times in the presence of a genital ulcer and 4 - 5 times if there was a urethral or vaginal discharge (Abdool Karim, *et al.*, 1997). The widespread occurrence of STDs in South Africa is evidenced by the approximately 4 million episodes recorded annually (Abdool Karim, *et al.*, 1997).

In many sub Saharan African countries, STDs have been described as being among the top five reasons for clinic attendance (Meheus, Schultz & Cates, 1990; Population Report, 1993). The implications of the high rate of STDs in these countries are reflected in the disproportionately high prevalence of infertility, ectopic pregnancy and cervical cancer among women in developing countries (Meheus, *et al.*, 1990; Pham-Kanter, Steinberg & Ballard, 1996). The fact that many children will be born with congenital syphilis and HIV infection further adds to the economic and human cost of STDs (Pham-Kanter, *et al.*, 1996; Piot & Hira, 1990).

A comprehensive approach is imperative for controlling the spread of STDs and therefore of HIV. An attempt in this direction was made by the South African Department of Health which adopted the syndromic STD management approach in 1996 (Department of Health, 1995). This approach advocates a focus on correct treatment and stresses the importance of improving health workers' attitudes and skills in counselling and promoting condom use, partner notification and patient adherence or compliance with treatment.

Despite these attempts, there is a limited understanding regarding the epidemiology of STDs in South Africa. The few studies that have been undertaken neither identify risk factors nor adequately describe the STD epidemic at a population level (Abdool Karim, *et al.*, 1997). Furthermore, the limitations posed by health workers' current knowledge of and skills in health education, their limited understanding of the psycho-social and contextual determinants of STD-related behaviours as well as the severe time, space and resource constraints of clinics impede the success of health education (Reddy, Meyer-Weitz, Van den Borne, Kok & Weijts, 1998).

It would appear that because of these obstacles to health education, the biomedical approach to STD management, which focuses on diagnosis and treatment is reinforced. These obstacles prevent comprehensive STD management which emphasises treatment as well as prevention (Reddy, *et al.*, 1998). Against this background the need to develop research-based, targeted STD health education interventions directed at the clinic setting is evident. However, behavioural theories suggest that targeted health education interventions which focus on behaviours that place people at risk should be premised on an understanding of the psycho-social and contextual determinants of these behaviours (Mullen & Green, 1990). Furthermore, the diversity of STD clinic attenders in terms of knowledge, beliefs, attitudes and behaviours has to be considered. This diversity implies that different education needs must be catered for in the clinic context (Bartholomew, Parcel & Kok, 1998).

The most widely used models of behaviour change such as the health belief model (HBM) (Rosenstock, 1966), models of reasoned action (Ajzen & Fishbein, 1980), planned behaviour (Ajzen, 1988) and social cognitive theory (Bandura, 1990) provide us with an understanding of the major cognitive determinants of behaviour. These models suggest that behaviour is determined primarily by personal and normative factors as well as by perceptions of control.

Personal determinants of behaviour encompass an individual's knowledge, beliefs and attitudes, including their perceptions of risk regarding a particular behaviour, whereas the normative determinants refer to the social influence of important others, an individual's desire to conform to their wishes and the behavioural norms of their community. Perceptions of control, on the other hand, refer to people's perceptions as to their ability to perform the desired behaviours. They include perceptions of direct control over the behaviour and perceptions of self-efficacy. These are prerequisites for performing the desired behaviour satisfactorily.

This study is part of a joint effort to contribute to developing a targeted health education intervention for health care workers. It is based first on a qualitative understanding of the psycho-social and contextual determinants of STDs (Meyer-Weitz, Reddy, Weijts, Van den Borne & Kok, 1998) and on an understanding of the clinic setting in which STD management occurs (Reddy, *et al.*, 1998). The study describes patients at STD clinics in Cape Town, South Africa, in terms of gender, education and age differences relative to their STD knowledge, beliefs, condom use — including their attitudes towards condom use and their condom-use behaviour. The respondent's previous experience with STDs was also gauged.

Methodology

Design and research instrument development

Structured interviews were conducted with randomly sampled, Xhosa-speaking STD clinic attenders. The broad categories of investigation included biodemographics, general knowledge and beliefs about STDs and condom use, physical consequences of STDs, transmission, prevention, treatment, attitudes towards condoms, as well as STD history, sexual behaviours including partner pattern and condom use. In order to ensure cultural sensitivity and valid/accurate data, the questionnaire was developed as follows:

- Step 1:* The questions were developed from theoretical concepts, a literature review and data from a qualitative study investigating the illness representations of STDs and the psycho-social and contextual determinants of STD-related behaviours (Meyer-Weitz, *et al.*, 1998).
- Step 2:* The questions were then translated into Xhosa by graduate, Xhosa-speaking students. These students worked as interviewers in the qualitative STD study.
- Step 3:* The questionnaire was then developed during a workshop with 15 STD patients who critiqued the language use, the comprehension/understandability of questions and appropriateness of content, cultural and gender sensitivity and sexual terminology.
- Step 4:* Based on these comments the questionnaire was back translated and pretested in English.
- Step 5:* It was then translated from English to Xhosa and back translated from Xhosa to English again by a separate set of translators to ensure accuracy of meaning. A Xhosa questionnaire was pretested among 60 STD clinic attenders. Based on these results, the questionnaire was amended, and a final questionnaire was developed both in English and Xhosa. The primary investigators are English speaking.

Participants and data collection

Xhosa-speaking men and women seeking STD treatment in two STD clinics during November 1996 and March 1997 in Cape Town, South Africa were randomly selected. Although 3048 patients were approached, 60 refused because they had either participated in previous research

and did not want to do so again or were in a hurry and did not have time. Ten (10) patients did not complete the interview due to the length of the questionnaire. The realised sample therefore consisted of 2978 STD patients. The interview lasted between 45 minutes and an hour with a refreshment served halfway through. For each interview session the first STD patient was selected by approaching the patient for interviewing after the completion of treatment. Thereafter the patient who had next completed treatment was selected as a respondent. This method was followed throughout the clinic session. Written informed consent was obtained.

Fifteen Xhosa-speaking interviewers from a similar geographical and cultural background as the respondents were trained to administer the questionnaire. One male had to be dismissed during the survey period for not following the survey procedures. While the interviewing team comprised 10 female and 4 male interviewers, the qualitative study had revealed that the STD patients do not indicate a sex preference for interviewers.

Analysis

The data were analysed using the SPSS-X statistical package. Frequencies were calculated for each item in the questionnaire. These included the demographic variables such as age, education, employment status, duration of residence and marital status. The questionnaire measured knowledge and beliefs about STDs with respect to their cause, transmission, consequences, prevention and cure as well as attitudes towards condom use and sexual behaviours.

In addition to examining the single-item responses, 6 scales were developed for knowledge and beliefs about STDs and 4 scales for attitudes towards sexual practices. Twenty-nine (29) items relating to knowledge and beliefs and 12 items relating to attitudes regarding STDs were subjected to a factor analysis, to reduce the number of items in both categories and in order to identify the conceptually meaningful dimensions measured within this large data set. The number of factors to be retained were selected using the scree plots and the minimum eigen value of 1 as selection criteria. An oblique rotation method was used to allow for correlations between the rotated factors. The interpretation of the rotated factors was based on variables with factor loadings of 0,4 or higher. A 6-factor solution was retained, explaining 46% of the variance in the belief and knowledge items. The following factors emerged as a coherent structure:

1. Misconceptions about condom use
2. Knowledge about the effects of an STD on the neonate
3. Misconceptions regarding the cause of STDs
4. Knowledge about STDs
5. Knowledge about STD prevention and cure
6. Perceived seriousness of STD symptoms

With regard to the 12 attitude items a 4-factor solution was retained by the minimum eigen value criterion which explained 66% of the variance. The following factors emerged as a coherent structure:

1. Negative attitudes to condom use
2. Valuing personal autonomy in sexual behaviour
3. Valuing personal autonomy in condom-use behaviour
4. Positive-outcome expectancy of refusing sex

Cronbach's Alpha coefficient was computed for each of the retained factors, to test for internal consistencies. Based on the 6 factors for knowledge and beliefs and 4 factors for attitudes, scales were constructed (see Table 4.1: number of items, Chronbach's alpha, maximum score, minimum score, mean, standard deviation).

Table 4.1. Instruments measuring knowledge, beliefs and attitudes regarding treatment of STDs, cause of STDs, consequences of STDs, transmission of STDs, and prevention of STDs

Scale:	Number of items	Chronbach alpha	Minimum score	Maximum score	Mean	Standard deviation
Knowledge and belief						
Knowledge about the effects of an STD on the neonate	3	0,77	3	9	7,90	1,55
Negative beliefs about condom use	6	0,75	6	18	9,95	3,15
Misconceptions regarding the cause of STDs	4	0,62	4	12	8,15	2,15
Knowledge about sexual transmission of STDs	3	0,50	3	9	8,19	1,20
Knowledge about STD prevention and cure	6	0,43	6	18	15,67	2,06
Perceived seriousness of STD symptoms	2	0,58	2	6	4,28	1,61
Attitudes						
Valuing personal autonomy in sexual behaviour	2	0,84	2	4	3,00	0,92
Negative attitudes to condom use	4	0,79	4	12	7,12	2,93
Valuing personal autonomy in condom-use behaviour	2	0,79	2	4	3,50	0,75
Positive outcome expectancy of refusing sex	3	0,79	3	6	5,00	0,89

The relationship between the knowledge, beliefs and attitudes factors and the personal characteristics of the patients such as age, sex, education, previous experience with STDs and condom use in the last 6 months were examined through logistic regression analyses. Logistic regression analyses were used because the scores on some of the knowledge, belief and attitude factors deviated from a normal distribution, as determined by the use of scatter plots. The median and distribution of the total scores were used to dichotomise the scores on these factors.

Results

The socio-demographic profile of the study participants

The STD patients' socio-demographic characteristics are depicted in Table 4.2.

Table 4.2. Socio-demographic characteristics of sample (N=2978)

Socio-demographic variables	Male 2233 (75%)	Female 745 (25%)	Total 2978 (100%)
Age			
≤20	15,1%	37,3%	20,7%
21-25	38,6%	40,1%	39%
26-35	35,1%	18,4%	31%
36+	11,1%	3,8%	9,3%
Education			
Primary and less	23,2%	6%	19%
Junior secondary	36,7%	36,9%	36,9%
Senior secondary	32,3%	46,2%	35,9%
Tertiary	7,3%	10,6%	8,1%
Employment status			
Yes	48,9%	15,7%	40,7%
No	42,8%	79,9%	52,2%
Part time	8,2%	4,3%	7,2%
Duration of residence in area			
3 years +	83%	74,1%	81,7%
1-2 years	8,4%	12,6%	9,5%
7-12 months	5,0%	6,6%	5,4%
1-6 months	3,6%	6,7%	4,4%
Marital status			
Married	11,2%	7,7%	12,2%
Unmarried	88,2%	92,3%	87,8%
Ever used a condom in last 6 months	34,8%	35,4%	35%
Ever had an STD	57,9%	29,5%	50,9%

More males than females presented at the STD clinics. In this sample 75% of the respondents were male and 25% female. A large proportion of the respondents fell into the age category of 21-25 years old (39%). The respondents aged 25 years and younger comprised 59,7% of the total sample while the adolescent group (20 years and younger) comprised 20,7%. With regard to the respondents' level of education the majority had either a junior secondary (36,9%) or a senior secondary (35,9%) education. However, 19% had either primary education or no education while only 8,1% had a tertiary education. Fifty-two per cent (52,2%) of the respondents were unemployed. The majority of the respondents had lived in the Cape Metropolitan area for more than 3 years (81,7%) while only 9,8% had resided in the area for a year or less.

Half of the respondents (50,9%) had experienced an STD previously. Of those respondents who had an STD before, 44,4% indicated that they had had an STD only once in the last 12 months,

33,4% had it twice and 22,3% had had an STD three or more times in the last 12 months. Over half of the respondents (54,9%) reported having multiple sex partners in the last 6 months. Of the total sample, 27,0% had two partners while 27,9% of the respondents had three and more partners. Only 34,97% of the respondents reported having used a condom in the last 6 months. Of those respondents who used a condom, 24,5% reported using it every time they had sex while 75,5% reported using it only sometimes. Only 45,6% of the respondents reported ever having used a condom.

Knowledge, beliefs and attitudes about STDs and condom use

Knowledge regarding STDs

The knowledge measurements used in the analysis include knowledge about the sexual transmission of STDs, the effects of STDs on the neonate and knowledge about STD prevention and cure. These are depicted in Table 4.3.

Women appear to be somewhat better informed about the sexual transmission of STDs than men. It is interesting to note that significantly more women than men blame other women for the sexual transmission of STDs. With regard to the effect of STDs on the neonate both men and women appear to be well informed, with significantly more men than women realising that STDs can result in infertility. Over 20% of the sample incorrectly thought that STDs were not serious because they could be cured and that one could only transmit the infection in the symptomatic phase. Over 90% of the respondents thought that STDs could be prevented by going to the clinic for regular checks, with significantly more women reporting this incorrect view.

Table 4.3. Knowledge about sexual transmission of STDs, about the effects of an STD on the neonate and about STD prevention and cure.

Knowledge	Males	Females
	N=2233 (75%)	N=745 (25%)
	% in agreement	% in agreement
About sexual transmission of STDs		
STDs are caused by sleeping with a person who has an STD without using a condom	88,71	91,54
STDs are caused by sleeping with many people without using a condom	87,64	88,99
STDs are caused by husbands' girlfriends	62,88	69,40*
About effects on the neonate		
STDs cause infertility	81,59	74,63*
STDs cause baby to be stillborn	68,88	68,05
STDs during pregnancy cause neonatal blindness	66,19	66,31
About STD prevention and cure		
STDs can be prevented by going to the clinic for regular checks	93,60	96,24*
One can only pass on the symptoms while infected	26,74	24,16
STDs are not serious because they can be cured	22,21	24,16

* $P < 0,001$

As shown in Table 4.4, to analyse how the different knowledge, belief and attitude measurements relate to the patients' age, sex, education, previous STD experiences and condom use, backward stepwise logistic regression analyses were performed with each of the 3 knowledge scales as the dependent variable.

Female patients were more likely to have a better knowledge regarding the sexual transmission of STDs than male patients. Those who were 21 years and older as well as those who used condoms before were also more likely to have a better knowledge about STD transmission.

The patients who were 21 years and older had a better knowledge of the effects of STDs on the neonate than the younger ones and those who had used condoms previously were also more knowledgeable about such effects.

Clinic attenders with a secondary education and higher appeared to have more knowledge about STD prevention and cure than visitors with primary or no education. Again those who were 21 years and older had more knowledge about STD prevention and cure than those who were younger.

Table 4.4. Logistic regression analysis of knowledge variables

Independent variable	Odds ratio	95% CI for the OR	
		Lower limit	Upper limit
Results of logistic regression analysis on knowledge about the sexual transmission of STDs (3-8 = 1 (low knowledge), 9=2 (high knowledge))			
Sex	1,23	1,1268	1,3474
Age	1,18	1,0734	1,2936
Ever used a condom	1,12	1,0381	1,2129
Results of logistic regression analysis about the effects of an STD on a neonate (3-7=1 (low knowledge), 8-9=2 (high knowledge))			
Age	1,39	1,2669	1,5208
Ever used a condom	1,11	1,0256	1,2087
Results of logistic regression analysis regarding knowledge about STD prevention and cure (6-15=1 (low knowledge), 16-18 =2 (high knowledge))			
Education	1,19	1,0770	1,3040
Age	1,13	1,0299	1,2412

Age: 1 = < 20 years old, 2 = 21 years old; **Education:** 1 = nothing/primary, 2 = junior secondary and higher);

Sex: 1 = male, 2 = female; **Ever used a condom in last 6 months:** 1 = no, 2 = yes

Beliefs

The belief measurements consisted of misconceptions about condom use and the cause of STDs as well as the perceived seriousness of STD symptoms. These are depicted in Table 4.5.

Over one-third of the sample held the incorrect belief that STDs were the result of contraceptive use. While a high proportion of both men and women reported correct knowledge about the causes of STDs, men also believed that STDs were caused by specific practices by women during

coitus, namely 'holding her breath' (58,0% men and 35,3% women) and 'pushing him out during climax' (57,5% men and 41,5% women). More men than women believed that the use of condoms decreased intimacy and caused AIDS. Significantly more women thought that the STD symptoms would go away and that STDs were not serious.

To analyse how the different belief measurements relate to the patients' age, sex, education, previous STD experiences and condom use, a backwards stepwise logistic regression analysis was performed with the different belief scales as the dependent variables.

Table 4.5. Beliefs about the causes of STDs, about condom use and about treatment

Beliefs:	Males	Females
	N=2233 (75%)	N=745 (25%)
	% in agreement	% in agreement
Negative beliefs about condom use		
Using a condom means you do not trust your partner	45,34	35,03*
Using a condom will lessen sexual pleasure	43,57	20,40*
Using a condom will decrease intimacy	34,78	16,78*
Using a condom means that you have AIDS	14,11	7,92*
Using a condom will cause physical harm to the woman	8,70	4,56*
Using a condom will cause an STD	5,15	3,22
About the conceptions regarding the cause of STDs		
STDs are caused by sleeping with a women who holds her breath	58,04	35,30*
STDs are caused by a women who pushes a man out during climax	57,59	41,48*
STDs are caused by contraceptives	34,03	34,50
STDs are caused by witchcraft	16,44	11,81
About seriousness of STDs		
Noticed symptoms and thought it was serious	70,31	53,76*
Noticed symptoms and thought it would go away	49,40	61,21*

* $P < 0,001$

Table 4.6 shows that the patients with a higher education were less likely to have misconceptions regarding the causes of STDs than those with only primary education. Also female patients and patients who had ever used a condom before had less misconceptions. Older patients were more likely to have misconceptions about the causes than younger patients.

The patients who reported using condoms before were less likely to have negative beliefs about condoms than those who had never used condoms. Female patients were less likely than male patients to have negative beliefs regarding condoms.

Patients who had a secondary and higher education, were less likely than those who had primary or no education to have negative beliefs about condoms. However, the respondents who previously had an STD were more likely to have negative beliefs about condoms. Patients who had previously experienced STDs were more likely to perceive STD symptoms as serious, than those who did not have an STD before. Female patients perceived STD symptoms as less serious than male patients.

Table 4.6. Logistic regression analysis on the belief variables

Independent variable	Odds ratio	95% CI for the OR	
		Lower limit	Upper limit
Results of logistic regression analysis regarding misconceptions about the cause of STDs (4-8=1 (low score), 9-12=2 (high score))			
Age	1,09	0,9897	1,2007
Education	0,71	0,6450	0,7828
Sex	0,78	0,7125	0,8560
Ever used a condom	0,85	0,7873	0,9216
Results of logistic regression analysis of negative beliefs about condom use (6-9=1 (low score) 10-18 =2 (high score))			
Education	0,79	0,7161	0,8733
Sex	0,69	0,6333	0,7614
Previous STD	1,12	1,0380	1,2137
Ever used a condom	0,63	0,5766	0,6780
Results of logistic regression analysis of perceived seriousness of STD symptoms (0-1=1 (low score), 2=2 (high score))			
Sex	0,77	1,7038	0,8475
Ever used a condom	1,21	1,1216	1.3115
Previous STD	1,32	1,2208	1,4246

Education: 1 = nothing/primary, 2 = junior secondary and higher; **Sex:** 1 = male, 2 = female
Previous STD: 1 = no, 2 = yes; **Ever used a condom in last 6 months:** 1 = no, 2 = yes
Age: 1 ≤ 20 years old, 2 ≥ 21 years old

Attitudes

The attitude measurements depicted in Table 4.7 consisted of attitudes toward condom use, valuing personal autonomy in sexual behaviour and in condom use as well as attitudes to the outcome expectancies of refusing sex.

More men than women expressed a negative attitude towards using condoms. This negative attitude to condom use was related to the perceptions that condom use results in diminished sexual pleasure, loss of virility and interferes with the propagation of the clan name.

Table 4.7. Attitudes - the attitude measurement included attitudes about condom use and attitudes about personal autonomy in sexual and condom-use behaviour

Attitudes	Male	Female
	N=2233	N=745
	% in agreement	% in agreement
Negative attitude towards condom use		
Condom use is bad because not flesh to flesh	44,67	22,42*
Condom use is wasted sperm ... not good for clan name	44,51	20,13*
Condom use is bad because it's like masturbation	41,37	19,13*
Condom use is bad because if men refuse sex ... will lose virility	33,33	14,67 *
Towards valuing personal autonomy in sexual behaviour		
It is right for a woman to refuse sex	51,48	57,45
It is right for a man to refuse sex	50,76	55,03
Towards valuing personal autonomy on condom-use behaviour		
It is right for a man to insist on using condoms	79,44	86,85*
It is right for a woman to insist on using condoms	71,99	82,95*
Towards positive outcome expectancies of refusing sex		
Refusing sex while infected makes your partner think that you care	62,68	61,74
Refusing sex makes your partner think that you are unfaithful	52,60	38,70*
Insisting on condoms each time you have sex ... partner will beat you up	8,52	14,09*

* $P < 0,001$

Significantly more women than men valued personal autonomy in sexual behaviour. Over half the men in the sample expressed the view that using condoms would be interpreted as being unfaithful. While more women than men reported that the suggestion of condom use would result in them being beaten up, 8,5% of men also expressed this view.

The relationship between patients' attitude measurements and their age, sex, education, previous STD experiences and condom use was analysed using a backwards stepwise logistic regression analysis with the different attitudes as the dependent variables are shown in Table 4.8.

Negative attitudes to condom use were more likely among male patients, among patients who had had an STD before, among patients who had used a condom before and among patients with only a primary education. The patients who reported having used condoms before were more likely to have negative attitudes towards condoms. The patients who used condoms previously,

had a secondary and higher education, and were female. These patients were more likely to value personal autonomy in condom-use behaviour than the others. Patients who reported having used condoms during the last 6 months and those who with more than a primary education were more likely to have positive outcome expectancies of refusing sex.

Table 4.8. Logistic regression analysis on the attitude variables

Independent variable	Odds ratio	95% CI for the OR	
		Lower limit	Upper limit
Results of logistic regression analysis on negative attitudes to condom use (4-7=1 (low score), 8-12 =2 (high score))			
Education	0,74	0,6744	0,8214
Sex	0,63	0,5671	0,6894
Previous STD	0,66	0,6057	0,7144
Ever used a condom	1,13	1,0484	1,2274
Results of logistic regression analysis on valuing personal autonomy in using condoms (total scores: 2-3=1, 4=2)			
Education	1,20	1,0870	1,3286
Sex	1,32	1,1895	1,4659
Ever used a condom	1,34	1,2228	1,4656
Results of logistic regression analysis on positive outcome expectancies of refusing sex (total scores: 3-4=1, 5-6=2)			
Education	1,15	1,0466	1,2732
Ever used a condom	1,29	1,1814	1,4054
Results of logistic regression analysis of attitudes towards valuing personal autonomy in sexual behaviour (total scores: 2-3=1, 4=2)			
Sex	1,1626	1,0693	1,2641
Ever used a condom	1,1044	1,0233	1,1919

Education: 1 = nothing/primary, 2 = junior secondary and higher; **Sex:** 1 = male, 2 = female
Previous STD: 1 = no, 2 = yes; **Ever used a condom in last 6 months:** 1 = no, 2 = yes

The valuing of personal autonomy in sexual behaviour was more likely among female patients and those patients who reported having used condoms before.

Discussion

The gender distribution of STD patients found in this study is similar to other studies in that more males than females present at STD clinics for treatment (Sekeitto, 1993). It is important to note that 92% of the patients were younger than 35 years, which reflects the age distribution of HIV-infected people in South Africa (Abdool Karim, Mathews, Gutmacher, Wilkinson, & Abdool Karim, 1997). This is of serious concern as it affects the economically active members of South African society. The study demonstrated that the majority of the respondents had a secondary

education and were therefore able to read and write. This augurs well, as it implies that health education at a clinic level could be supplemented and reinforced with materials containing both written and pictorial components, and that information about STD prevention and the promotion of desirable behaviours can be conveyed using these methods to these patients.

Although national unemployment is currently at 36% (Department of Welfare and Population Development, 1997), more than half of the respondents reported being unemployed. This may provide the opportunity to actively involve patients in health education programmes as peer educators, and possible role models in instances where the positive behaviours are being practised, i.e. including those individuals who have positive beliefs and attitudes to condom use as an STD-prevention behaviour.

Contrary to expectations, female patients were found to be more aware of the sexual nature of STD transmission than male patients who had presented more frequently with STDs and therefore would be expected to receive more exposure to educative material. Males, on the other hand, perceived STD symptoms to be more serious than women did. This could be due to the severe and unpleasant symptoms in men compared to women who have vague symptoms (Pham-Kanter, Steinberg & Ballard, 1996; Meyer-Weitz, *et al.*, 1998) as well as men having had more experience with STDs (Bartholomew, Parcel & Kok, 1998; Sekeitto, Padyachee, Schoub, Ballards, & De Beer, 1993; O'Farrell, 1992). Even though men are implicitly more exposed to the clinic and thus receive more health education, they had many misconceptions regarding the causes of STDs, and also had negative beliefs and attitudes towards condom use. This raises questions about the impact and value of current education strategies in the clinic context.

As expected, patients who had experienced STDs before, were also more likely to perceive STD symptoms as being serious. Ambivalence about condoms among these patients is reflected in their negative beliefs about condoms, on the one hand, but positive attitudes towards condoms, on the other hand. Apart from the role that social desirability might have played in them expressing positive attitudes towards condoms, they might have realised that although they did not like condoms or had had a negative experience with using condoms previously, condoms are the only form of protection from STDs if they are to continue their current lifestyle.

While half the respondents said they had had two and more partners, only a third of the patients reported ever having used a condom in the last 6 months. It must be noted that a very small proportion of this group reported consistent use. Careful consideration of this group in particular is necessary for the development of interventions. As expected they were more knowledgeable about the sexual transmission of STDs, the effects of STDs on the neonate, they had fewer misconceptions about the causes of STDs, and perceived STD symptoms to be more serious than those who had never used condoms previously. Thus, it may be assumed that to improve condom use it would be necessary to ensure adequate knowledge of the transmission, cause, prevention and cure of STDs. Knowledge of the consequences of STDs and the recognition of STD symptoms must also be facilitated. Despite negative attitudes towards condoms the positive cognitions about condom use among this group appears to have been adequate motivation for some condom use. It is, however, important to note that although the patients had positive beliefs about the condoms, their negative attitudes may have derived from their own experiences with condom use. They might have experienced first-time condom use as embarrassing, difficult or messy, thus decreasing the likelihood of consistent and sustained condom use in future. STD

clinic attenders' encounters with the clinic should provide education and counselling that would ensure successful and pleasant encounters with condoms. It would therefore be of the utmost importance to ensure that patients acquire the appropriate skills to use condoms through technical as well as interpersonal skills development. This would impact on future beliefs and attitudes, and thus on the use of condoms.

The patients who had used condoms in the last 6 months valued personal autonomy in sexual behaviour, in using condoms and had positive outcome expectancies of refusing sex. This appears to be a reflection of perceptions of control over their own behaviour. Interventions should therefore be targeted at improving patients' self-efficacy so that they would not only value, but also be able to develop autonomy in sexual behaviour and condom use.

Given that the majority of the patients were under the age of 35 years, the patients that were 21 years and older were considered as older patients and those who were 20 and younger were considered as younger patients. As expected, the patients who were older than 21 years were more knowledgeable about the sexual transmission of STDs, their effects on the neonate and about the prevention and cure of STDs. This could be the result of exposure to national AIDS information campaigns or their previous experience with STDs that would have resulted in more contact with the health care sector and thus more exposure to health education on STDs. However, it must be noted that they expressed misconceptions about the causes (as opposed to the method of transmission) of STDs which may be due to more entrenched cultural interpretations of STDs.

The patients who had a secondary education were knowledgeable about the sexual transmission of STDs, they also had fewer negative beliefs and attitudes about condoms than patients who had a primary or no education. Patients with more education valued personal autonomy in condom use and had positive outcome expectancies of refusing sex. Thus it seems that, apart from focusing on targeted clinic interventions, the empowerment of individuals and the fostering of social equity will need to be based on broad education and social development strategies.

Recommendations

1. Targeted interventions directed at males will need to address their inadequate knowledge regarding STDs in terms of transmission, causes, consequences, prevention and cure. Their negative beliefs and attitudes towards condoms will need to be an important focus, especially in view of their multiple-partner behaviour.
2. Targeted interventions directed at females will need to improve their knowledge regarding STD consequences, causes, recognition of symptoms as well as improving their knowledge of aspects of prevention and cure.
3. Targeted interventions must facilitate personal autonomy in decision making about sexual behaviour and condom use for both men and women, through skills development programmes that promote self-efficacy in the individual and a culture of mutual respect of such in the community.
4. As younger people were less informed on information about STDs in general, further research needs to be done into understanding their STD-related behaviour, so that interventions can be targeted specifically to their needs within the local context.

5 Risky sexual behaviours of patients with STDs in South Africa: Implications for interventions

Abstract

Objective: This study aims to gain an understanding of the predictors of risky sexual behaviour among patients with sexually transmitted diseases (STDs) with a view to the development of a health education intervention for STD prevention within the clinic setting.

Methods: A survey was conducted among 2978 randomly selected STD-clinic attenders. Risky sexual behaviour was considered a non-metric dependent variable and assessed by: a) the number of sexual partners in the last 6 months and multiplied by b) the frequency of condom use in the last 6 months. Patients' scores were used to categorise them into low, medium, high and very high-risk categories. A chaid analysis was used as an exploratory technique to identify the determinants of STD patients' risky sexual behaviours.

Findings: Most of the patients were male (75%). The majority (73%) had a secondary school education. The sample was also characterised by a relatively young age distribution. The majority (60%) were 25 years and younger. Fifty-five per cent reported multiple-partner behaviour, 27% had had two partners, and 38% three or more partners during the past 6 months. Fifty-one per cent had had an STD previously and only 35% indicated having used condoms during the past 6 months. The greatest proportion of the patients (42%) seemed to be in the medium-risk category, followed by the very high-risk and the high-risk categories (25% each), and lastly the low-risk category which comprised only 8%. The identified factors, in order of importance, associated with risky sexual behaviour were as follows: being male, having negative attitudes to the use of condoms, not valuing personal autonomy in sexual behaviour (e.g. having a right to refuse sex with one's partner), and having negative expectations about refusing sex and about insisting on the use of condoms in a relationship, being unemployed, having had a previous experience with STDs, being 25 years and younger, and having misconceptions about the causes of STDs.

Discussion and conclusions: Patients with STDs represent a major target group for the prevention of repeated STDs and HIV infection. Male patients and younger patients in general are primary targets for interventions directed at sustained behavioural change. Knowledge about the causes of STDs, attitudes towards condoms, and preventive sexual behaviours all need to be improved. Attention to broader socio-economic problems (i.e. unemployment and education issues) is important for improved health. Interventions based on imparting a clear understanding of the contextual and socio-cultural determinants of multi-partner behaviour and condom use is needed to facilitate sustained behavioural change and reduce patients' exposure to repeated STDs and HIV infection.

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Introduction

Indicators of South Africans' exposure to risky sexual behaviour is evidenced by the 11 million or so cases of STDs that are treated annually (Colvin, 1997) and the increasing prevalence of HIV infection (Abdool Karim, Mathews, Gutmacher, et al., 1997). The 'epidemiological synergy' (Wasserheit, 1992) of STDs and HIV/AIDS is observed in the twofold to fivefold increased risk of HIV infection among persons who have other STDs, including genital ulcers and non-ulcerative

and inflammatory STDs (Kassler, Zenilman, Erickson, *et al.*, 1994; Otten, Zaidi, Peterman, *et al.*, 1995; Laga, Alary, Nzila, *et al.*, 1994). Improved treatment of STDs has been found to reduce HIV incidence by about 40% in rural Tanzania (Grosskurth, Mosha, Todd, *et al.*, 1995). The comprehensive management of STDs with equal emphasis on early diagnosis, treatment, and prevention, specifically directed at sustained behaviour change, has been widely advocated. Efforts directed at achieving sustained behaviour change through reducing the number of sexual partners people have, and at promoting sustained condom use, remain critical (Royce, Sena, Cates, *et al.*, 1997).

It has been argued that changes in risk are not only dependent on individual behavioural change, but will only be facilitated if structural and contextual (including cultural and social) factors that contribute to risky behaviour are successfully addressed (Aggleton, O'Reilly, Slutkin & Davies, 1994; Hankins, 1998; Meyer-Weitz, Reddy, Weijts, *et al.*, 1998). It should also be borne in mind that political commitment can bring change to the contextual environment and enhance individuals' ability to perceive the risks and modify their behaviours. This commitment is therefore essential in HIV prevention efforts (Aggleton, 1997; Hankins, 1998). The 21% drop in HIV prevalence among pregnant women in Uganda, which was detected between 1990 and 1993 is viewed as a direct result of government commitment and effort (Hankins, 1998).

The facilitation of sustained behavioural change, with specific reference to reducing the number of sexual partners people have and promoting consistent condom use, remains problematic in South Africa. Despite an increase in government expenditure on HIV/AIDS, there seems to have been limited success in curbing the HIV pandemic (Ntsaluba & Pillay, 1998). One possible explanation for the relative ineffectiveness of the campaigns in the mass media and other interventions may be a lack of planning and researched-based information as well as a lack of adequate pretesting and evaluation. Qualitative studies and comprehensive surveys on the determinants of multi-partner behaviour and condom use have not been undertaken and many interventions might have been developed without a thorough understanding of the determinants that need to be addressed to bring about sustained behavioural change. The different individual, sociocultural and contextual factors that influence multi-partner behaviour and condom use need to be considered in focused interventions (Orubuloye, Caldwell & Caldwell, 1993; Moses, Muia, Bradley, *et al.*, 1994).

In our qualitative study (Meyer-Weitz, *et al.*, 1998) among STD patients which preceded this study, the unequal gender-power relationship between men and women in South Africa was found to contribute to women's inability to demand monogamy and safer sex from their partners. These suggestions were also supported by other studies in southern Africa (Colvin, 1997; Nyamathi, Shuler & Porche, 1990; Scott & Mercer, 1994). While woman's primary traditional role is viewed as that of child bearer and child minder (Preston-Whyte & Zondi, 1989), male sexual prowess is valued as an indication of his ability to ensure the continuation of the lineage (De Villiers, 1992). A prevailing opinion is that consensual unions, often between a man and more than one woman, occur relatively frequently and are still accepted as normal cultural practices among South Africans in spite of the effects of modern life on many tribal customs (Harrison, Lurie & Wilkinson, 1997; Mokhobo, 1989). In addition, migrant labour in southern Africa has also contributed to multi-partner behaviour among men who have left their wives and families behind in rural areas in search of better opportunities in urban areas, and among the women who remain in the rural areas (Abdool Karim, 1998; Harrison, *et al.*, 1997; Jochelson, Mothibeli & Leger, 1991). According to Ulin (1992), empirical evidence suggests that poverty, lack of oppor-

tunity and a desire for upward social mobility lead many women to exchange sexual favours for economic survival. These women cannot all be viewed as sex workers, however, because some engage in casual affairs to support themselves and their children (Meyer-Weitz, *et al.*, 1998; Ulin, 1992). However, the probability of encountering an infected partner increases as the number of partners increases (Allen, Lindan, Serufulira, *et al.*, 1992; Allen, Serufulira, Bogaerts, *et al.*, 1992; Tanfer & Schoorl, 1992). Recent research on multiple-partner patterns suggests that the prevalence of sexual and social networks is hampering efforts to reduce HIV transmission (Hankins, 1998). Multiple partnerships can increase the size of the HIV pandemic (Morris, 1997). Apart from the presence of other STDs, multiple partners has been found also to be an independent risk factor in HIV acquisition (Morris, 1997). However, multi-partner behaviour in the absence of condom use greatly increases the risk of contracting STDs and thus HIV (Dolcini, Coates, Catania, *et al.*, 1995).

Condom use in South Africa is very low; condoms are used inconsistently by about 10% - 20% of the population (Abdool Karim, Abdool Karim, Soldan & Zondi, 1995; Abdool Karim, *et al.*, 1997; Colvin, 1997; Du Plessis, Meyer-Weitz, Steyn, *et al.*, 1993; Reddy, *et al.*, submitted). Many obstacles to condom use exist in South Africa. These include the perception that condom use results in a 'waste of sperm' (implying that the expression of sexuality is motivated by the desire and importance to procreate). Condom use is also associated with decreased sexual pleasure, a lack of love and caring, mistrust, and STDs and AIDS (Abdool Karim, Abdool Karim, Preston-Whyte & Sankar, 1992; Colvin, 1997; Meyer-Weitz, *et al.*, 1998; Meyer-Weitz & Steyn, 1992; Swart, Du Plessis & Meyer-Weitz, 1993). Although many resources and efforts are directed at making condoms accessible, in particular at clinics and hospitals throughout the country, condom accessibility still remains an obstacle in promoting consistent use (Colvin, 1997; Swart, *et al.*, 1993).

Against the background of the alarming incidence of STDs in South Africa, in conjunction with increased HIV infection, the complexity of sustained behavioural change poses major challenges to both health education programme developers and health authorities working on STD control. With a view to developing a health education programme for STD patients within the clinic setting, this study aims to gain an understanding of the predictors of risky sexual behaviour among patients with STDs.

The current debate on the nature of risk, in relation to STD and HIV transmission, and consequent changes in risk discourse — from 'risk group' to 'risk behaviour' to 'risk situation' — has informed the understanding of patients' risk of contracting STDs (Hankins, 1998). Within this context the political, legal, social, economic and environmental factors determining vulnerability to infection are acknowledged with specific reference to women's vulnerability (De Bruyn, 1992; Hankins, 1996; Seidel, 1993a, 1993b; Ulin, 1992). Patients' risky sexual behaviour was assessed in terms of patients' number of sexual partners within the past 6 months and consistency of condom use.

Methodology

Research design and instrument development

A quantitative study was conducted among patients seeking health care at dedicated STD clinics. A structured, interviewer-administered questionnaire was used. The research instrument was developed on the basis of our qualitative study which investigated the illness representations of

STD clinic attenders and the psychosocial and contextual determinants of STD-related behaviours (Meyer-Weitz, *et al.*, 1998). Additionally, theories of behaviour provided insight into the determinants of sexual behaviour that needed to be investigated.

The most widely used models of behaviour, such as the health belief model (HBM) (Janz & Becker, 1984), the theory of reasoned action (TRA) (Ajzen & Fishbein, 1980), the theory of planned behaviour (TPB) (Ajzen, 1988) and social cognitive theory (Bandura, 1990) state that behaviour is primarily determined by personal and normative factors, as well as perceptions of control. The personal determinants of illness-related behaviour encompass knowledge, beliefs and attitudes, and include one's perceptions of risk as well as the perceived seriousness of a particular disease. Normative determinants, on the other hand, relate to the social influence of other important persons and the desire to conform to their wishes, as well as community behavioural norms, i.e. what other people do (modelling). 'Perceptions of control' relates to people's perceptions of their ability to demonstrate the desired behaviour and overcome barriers to doing so.

In order to ensure cultural sensitivity and valid/accurate data, a rigorous, step-by-step questionnaire development process was followed. Once the initial questions were developed, these were translated into Xhosa by Xhosa-speaking graduate students. The questionnaire was further developed during a workshop with 15 STD patients, who critiqued the language use, the comprehension and/or the understandability of questions, appropriateness of content, cultural and gender sensitivity and sexual terminology. Based on these comments, the questionnaire was further refined and was back translated and pretested in English. It was then translated from English to Xhosa and then back translated from Xhosa into English again by a separate set of translators to ensure accuracy of meaning. A Xhosa questionnaire was pretested among 60 STD clinic attenders. Based on the results of the pretest the questionnaire was amended and a final questionnaire was developed both in English and Xhosa. The primary investigators were English speaking.

Measurements and scale construction

Questions were developed in the broad categories of biodemographics, general knowledge about STDs, beliefs and attitudes regarding STD and condom use, perceptions of self-efficacy to use condoms, the valuing of personal autonomy in sexual behaviour and condom-use behaviour, and about expectations of the outcome of refusing sex and insisting on condom use. In addition, questions were formulated regarding communication with partners about the present STD, condom use and HIV risk, STD history, partner patterns and condom-use behaviour.

Patients' condom behaviour was first considered within a stages of change perspective (Prochaska, DiClemente & Norcross, 1992). The scale was constructed as follows: patients were considered to be in the 'precontemplation' stage when they reported never having used condoms and they scored 1; if they had seriously thought about using condoms they were considered to be in the 'contemplation' stage and scored 2; if they indicated that they had sometimes used a condom they were in the 'some action' group and scored 3; if they indicated that they used a condom every time they were considered to be in the 'regular action' group and scored 4.

Risky sexual behaviour was considered a non-metric, dependent variable and assessed by: a) the number of sexual partners in the last 6 months (1 = one partner, 2 = two partners and 3 =

three or more partners); and, b) the frequency of condom use in the last 6 months (0 = every time, 1 = sometimes, 2 = never). Risky sexual behaviour was assessed by multiplying the number of sexual partners by the respondents' score for condom use. The initial product scores were re-scored as follows: those patients who always used a condom irrespective of their number of partners received a score of 1 = low risk (because of their current STD infection they were not considered to be without risk), the patients who had had one sexual partner and never or sometimes used condoms received a score of 2 = medium risk; the patients who had had two partners and never or sometimes used condoms) received a score of 3 = high risk; and lastly the patients who had had three or more partners and never or sometimes used condoms received a score of 4 = very high risk. A minimum score of 1 and a maximum score of 4 could be obtained.

Both questions and statements were formulated to measure knowledge and beliefs. Patients were asked to respond to these by indicating agreement or disagreement on a 3-point scale ('Yes', 'Don't know' and 'No'). Examples are "Do you think that an STD can cause infertility?" and "Some people say that a man gets an STD when a woman pushes him out during climax". A higher score indicated better knowledge than a lower score. Similarly, items were formulated to measure attitudes to STD-related behaviours, as well as attitudes to personal autonomy in sexual behaviour and condom use on a 3-point scale ('Yes', 'Don't know' and 'No'). Examples are "Is it right or wrong for a woman to insist on using a condom?" and "Is it right or wrong for a man or a woman to refuse sex?"

To reduce the number of items into meaningful categories all the items related to knowledge and beliefs about STDs and condoms as well as attitudes to condom use and sexual behaviour, were subjected to factor analyses by means of proc factor. The factors to be retained were selected by means of the scree test and taking the minimum eigen value of 1 as a selection criterion. The promax oblique rotation method was used to allow for correlations between the rotated factors. The interpretation of the rotated factors was based on variables with factor loads of 0,4 or higher. The 19 items related to knowledge and beliefs about STDs and condoms resulted in a 6-factor solution which explained 59% of the variance, while the 11 items related to attitudes resulted in a 4-factor solution which explained 64% of the variance. The Cronbach coefficient, α was computed for the items in each of the factors consisting of three and more items in order to test for internal consistency in these factors and scales were constructed. Pearsons' inter-correlation coefficients were calculated for the factors consisting of only two items. Scales consisting of only two items were constructed based on the summing of these items given a positive correlation of $r = 0,42$ or higher. Although knowledge about STD prevention and cure emerged as a factor, it was excluded from further analysis owing to an unsatisfactory correlation coefficient namely $r = 0,27$ (items with a skewed distribution were not included in the factor analysis).

A description of the factors that emerged from the data used as measurements of the respondents' knowledge, beliefs and attitudes related to STDs, condom use and autonomy in sexual behaviour and condom use is provided in Table 5.1.

The two knowledge factors, each with two sample items are

- knowledge of the sexual transmission of STDs (e.g. by having sex with many without using a condom; or from the husband's girlfriends);
- knowledge of the effects of STDs on neonates (e.g. STDs cause blindness in the unborn baby; and can result in stillbirth).

The three belief factors, each with two sample items, are

- beliefs regarding the cause of STDs (e.g. causes of STDs are witchcraft; and contraceptives);
- perceived seriousness of STDs (e.g. after noticing symptoms, thinking they would not go away; and that they were serious);
- positive beliefs about condoms (e.g. condom use will not cause physical harm to the woman; and will not decrease intimacy).

Table 5.1. Instruments measuring knowledge and beliefs towards STDs, and attitudes towards condom use and autonomy in sexual and condom-use behaviour

Measurements	Number of items	α/r^*	Min./max. scores	Mean	Standard deviation
Knowledge and beliefs					
Knowledge about the sexual transmission of STDs	3	0,50	3-9	8,19	1,20
Knowledge of the effects of STDs on the neonate	3	0,77	3-9	7,90	1,55
Beliefs regarding the cause of STDs	3	0,64	3-9	5,36	1,83
Perceived seriousness of STD symptoms	2	0,41*	2-6	4,28	1,62
Positive beliefs about condom use	6	0,75	6-18	14,44	3,15
Attitudes					
Positive attitudes towards condoms	4	0,79	4-12	8,88	2,93
Valuing personal autonomy in sexual behaviour	2	0,72*	2-6	4,43	1,79
Valuing personal autonomy in condom-use behaviour	2	0,66*	2-6	5,16	1,45
Positive outcome expectation of refusing sex and insisting on condom use	3	0,41	3-9	7,10	1,70

r^* — Pearson's inter-correlation coefficient

The four attitude factors, each with two sample items are

- attitudes towards condom use (e.g. condom use is bad because: it is not 'flesh to flesh'; it is not good for the clan name);
- attitudes reflecting personal autonomy in sexual behaviour (e.g. it is acceptable for a man or woman to refuse sex);
- attitudes reflecting personal autonomy in condom use (e.g. it is right for a man or for a woman to insist on using condoms);
- positive-outcome expectation of refusing sex (e.g. refusing sex while infected will make your partner think that you care; and that you have not been unfaithful).

Participants and data collection

Xhosa-speaking men and women seeking STD treatment at STD clinics during November 1996 and March 1997 in Cape Town, South Africa were randomly selected. Although 3048 patients were approached, 60 refused because they had either participated in previous research and did not want to do so again, or were in a hurry and did not have time. Ten (10) patients did not complete the interview owing to the length of the questionnaire. The realised sample therefore consisted of 2978 STD patients, comprising 98% of the patients approached. The interview lasted between 45 minutes and an hour and refreshments were served halfway through. For each interview session the first STD patient was selected by approaching an STD patient with a request for an interview after they had received treatment. Subsequent potential respondents were approached after they had received their treatment. This method was followed throughout the clinic session. Written informed consent was obtained.

Fifteen Xhosa-speaking interviewers (5 males and 10 females) were trained to administer the questionnaire. One male had to be dismissed for not following survey procedures. The qualitative study showed no gender preference for interviewers among the STD patients.

Data analysis

The data analysis was based on the 2978 STD patients. Frequencies were calculated for each item in the questionnaire, which included demographic variables such as sex, age, education and employment status. Chi-square analysis was used to determine the association between the number of sexual partners and condom use in the past 6 months (as dependent variables), and patient characteristics such as sex, age, education, employment status, previous STDs and frequencies of previous STDs as independent variables.

Chaid analysis by means of the SPSS-Chaid program was done to identify the predictors of risky sexual behaviours. This technique is often used to find, among a number of independent, non-metric variables, those that have a significant relationship with a single, non-metric, dependent variable. A chaid analysis follows a number of steps. In the first step, the categories of each predictor are inspected and, if some of the respondents in some of the categories have responded similarly on the response variable, those categories are then combined. In the next step each predictor variable is again examined, and the variable that explains the most variation in the dependent variable is then used to split the sample into a number of subsamples according to the (combined) categories of the predictor variable. Each of the subsamples is then again analysed in the same two steps, as discussed. This process is continued until no further significant relationships are found or when the sample sizes in the subsamples are too small (Pietersen & Damianov, 1998). In the tree diagram the subcategories of the dependent variables are expressed

in percentages. The following independent variables were included: sex, age, education, employment status, previous STDs, thinking about abstaining from sex while infected, abstaining from sex while infected and the five measurements related to knowledge and beliefs as well as the four measurements related to attitudes.

Findings

Socio-demographic characteristics of the patients

In Table 5.2 the patients are described in terms of sex distribution, age, educational level, employment status, duration of residence and marital status.

Table 5.2. Socio-demographic characteristics of the sample (N=2978)

Socio-demographic variables	Male 2233 (75%)	Female 745 (25%)	Total 2978 (100%)
Age			
20 and less	15%	37%	21%
21-25	39%	40%	39%
26-35	35%	18%	31%
36+	11%	4%	9%
Education			
Primary and less	23%	6%	19%
Junior secondary	37%	37%	37%
Senior secondary	32%	46%	36%
Tertiary	7%	11%	8%
Employment status			
Yes	49%	16%	41%
No	43%	80%	52%
Part time	8%	4%	7%
Duration of residence in area			
3 years +	83%	74%	82%
1-2 years	8%	13%	10%
7-12 Months	5%	7%	5%
1-6 Months	4%	7%	4%
Marital status			
Married	11%	8%	12%
Unmarried	88%	92%	88%

Table 5.2 shows that 75% of the respondents were male and 25% female. The sex distribution of the sample is typical of patients attending STD clinics in South Africa in that more male patients present at STD clinics than females (Colvin, 1997). STD clinic attendance by women is often undermined by the asymptomatic nature of STDs and the vague symptoms they experience in comparison to men (Colvin, 1997; Moses, Ngugi, Bradley, *et al.*, 1994; Pham-Kanter, Steinberg & Ballard, 1996).

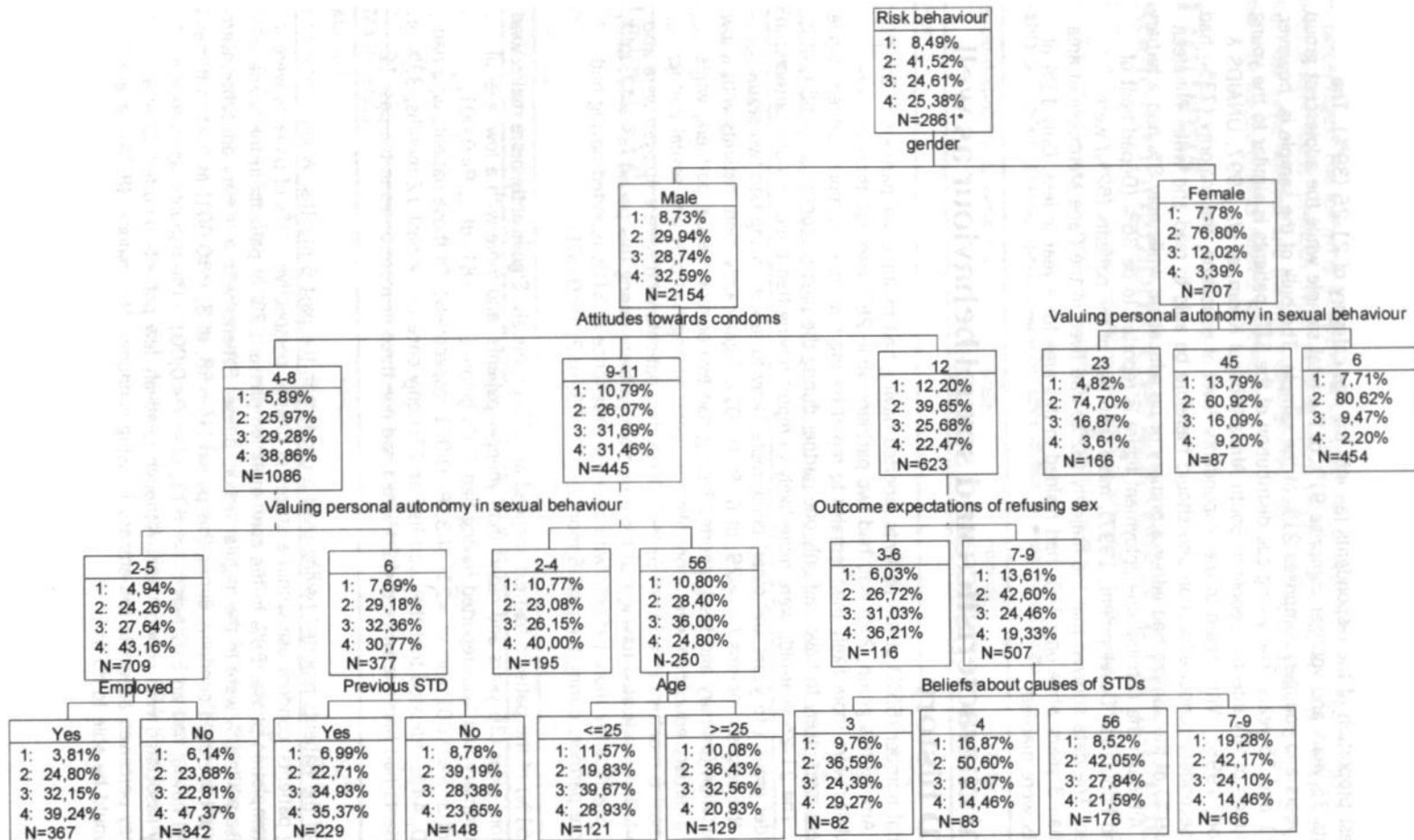
The greatest proportion of the respondents fall into the age category of 21-25 (39%). The respondents 35 years and younger comprise 91% of the total sample while the adolescent group alone (20 years and younger) comprises 21% of the sample. The bulk of the sample is, however, between 21 and 35 years. The young age distribution of the STD patients is similar to the young age distribution of HIV-infected people in South Africa (Abdool Karim, *et al.*, 1997; UNAIDS & WHO Report, 1998). With regard to the respondents' level of education, the majority (73%) had at least a secondary school education and should therefore be able to read and write. Nineteen per cent (19%) of the sample had either a primary or no education, while only 8% had a tertiary education. Although the national unemployment figure is reported to be 36% (Department of Welfare and Population Development, 1997), more than half of the patients (52%) were unemployed. The data showed that the majority (82%) had lived in the Cape Metropolitan area for more than 3 years while only 10% had resided in this area for a year or less. Only 11% of the patients were married.

Patient characteristics and sexual behaviour as well as STD history

A substantial number (55%) of the patients reported having had multiple sex partners in the past 6 months. Among this group, 27% had had two partners while 28% had had three or more partners. Males were more likely than females to report having had three or more partners, while females were more likely to have had only one partner during the past 6 months ($\chi^2 = 584$; *df* 2; $P < 0,001$). The 21-25-year-olds were more likely to report having had three or more partners, with the older group (36 years and older) being more likely to report having had two sexual partners in the past six months ($\chi^2 = 29$; *df* 6; $P < 0,001$). Significantly more patients with a low level of education (primary and less) reported having had two or more sexual partners, while those with a tertiary education were more likely to report having had only one sexual partner during the past 6 months ($\chi^2 = 31$; *df* 6; $P < 0,001$). The patients who were employed were also more likely to have indicated having had three or more partners during this period ($\chi^2 = 42$; *df* 2; $P < 0,001$). Significantly more patients with previous experience of STDs reported having had three or more partners during the past 6 months ($\chi^2 = 93$; *df* 2; $P < 0,001$).

Over half (51%) of the patients had experienced an STD previously. Significantly more males than females, more older (36 years and older) than younger patients, and more with a low level of education (primary and less) reported having had STDs before ($\chi^2 = 181$; *df* 1; $P < 0,001$; $\chi^2 = 119$; *df* 3; $P < 0,001$ and $\chi^2 = 21$; *df* 3; $P < 0,001$ respectively). Of those patients who had had an STD, 44% indicated that they had had an STD only once in the past 12 months, 33% of the respondents had had one twice and 23% had had one three or more times in the past 12 months.

Only 35% of the patients reported having used a condom in the past 6 months. When considering patients' condom use within a stages of change perspective, 37% of patients were in the precontemplation phase, 28% in the contemplation phase, 27% of patients in the 'some action' phase while 8% were in the 'regular action' phase. Patients with a tertiary education were more likely to have used condoms during this period ($\chi^2 = 58$; *df* 3; $P < 0,001$) as well as those that reported having had an STD before ($\chi^2 = 11$; *df* 1; $P < 0,001$). The patients' age was not significantly associated with condom use. Although relatively few patients reported using a condom, they perceived adequate self-efficacy in using condoms. The majority (86%) believed that they would be able to do so.



* Patients with missing values were excluded

Figure 5.1 Determinants of risky sexual behaviours

Determinants of risky sexual behaviour

In the tree diagram of the chaid analysis (Fig. 5.1), the most significant variables explaining risky sexual behaviour are depicted. In Fig. 5.1 it is shown that the greatest proportion of the patients (42%) seem to be in the medium-risk category, followed by the very high risk and the high risk-categories (25% each), and lastly the low-risk category which comprises only 8% of the patients. Because sex is the most significant predictor, the sample was split into males and females.

Males were more likely than females to engage in very high-risk sexual behaviour (33% and 3% for men and women, respectively). When males were considered as a subsample, the next significant predictor was attitudes to condoms. The male sample was split into three groups, namely those with very negative attitudes to condoms, those with moderate to positive attitudes, and those with very positive attitudes. The patients with the most negative attitude to condoms were also more likely to engage in very high-risk sexual behaviour than the other patients with moderate to positive attitudes and very positive attitudes to condoms (39%, 31% and 22% in the very high-risk category for the three groups respectively). Among those patients with a very negative attitude to condoms, those who put a lower value on personal autonomy in sexual behaviour were more likely to engage in risky sexual behaviour than those who valued it more. Similarly, for those male patients who had moderate to positive attitudes towards condoms, the valuing of personal autonomy in sexual behaviour also best predicted their risky sexual behaviour. The patients who valued it less were also more likely to be in the very high-risk category than those who valued it more. On the other hand, patients with a very positive attitude to condoms and who had positive expectancies of the outcome of refusing sex and insisting on condom use, were less likely to be in the very high-risk category than those with more negative outcome expectations (19% and 36% respectively).

Among the patients with very negative attitudes who scored low on the valuing of personal autonomy in sexual behaviour, employment status best predicted risky sexual behaviours. Those who were unemployed were more likely to be in the very high-risk category than those who were employed. For the patients with very negative attitudes to condoms, but who valued personal autonomy in sexual behaviour, previous experience with STDs best predicted risky sexual behaviours. Those who indicated having had previous STDs were more likely to be in the very high-risk category than those who had not experienced STDs previously (35% and 24% respectively).

For the male patients with moderate to positive attitudes to condoms who valued personal autonomy in sexual behaviour, age best predicted risky sexual behaviour. Those who were 25 and younger were more likely to be in the very high-risk category than those who were older (29% and 21% respectively).

Among the male patients with very positive attitudes to condoms and positive-outcome expectations regarding refusal of sex and insisting on condom use, beliefs about the causes of STDs best predicted risky sexual behaviour. The male patients who held the most misconceptions regarding the cause of STDs were more likely than those who had fewer misconceptions to be in the very high-risk category.

On the other hand, the valuing of personal autonomy in sexual behaviour best predicted risky sexual behaviour among female patients. The patients who valued personal autonomy in sexual behaviour moderately were more likely to engage in high-risk sexual behaviour than the others. However, those female patients who valued personal autonomy in sexual behaviour highly were more likely to be in the medium-risk category.

Discussion

Patients with STDs comprise a major target group for the prevention of repeated STDs and thus HIV infection. When considering patients' characteristics and their sexual behaviour as well as their experience of STDs, the findings clearly suggest that male patients with STDs, as a group, need special efforts directed at sustained behavioural change because of their multi-partner behaviour, lack of condom use and previous experience with STDs. It should be noted that patients' high estimation of self-efficacy in using condoms probably results from their inexperience with using condoms. It has been found in a study among South African adolescents that those who had never used condoms, were more positive about condoms and also more positive about their ability to use condoms than those who had used condoms before (Abdool Karim, *et al.*, 1992). The fact that more than half of the patients reported having had a previous STD in the past 12 months, is a major cause for concern, especially in the light of their increased risk of HIV infection. They would therefore need special attention in health education interventions. Although patients with previous experience of STDs were also more likely to report using condoms in the past 6 months, their current STD infection would, however, suggest inconsistent use. In addition, the multi-partner behaviour of patients of 21 to 25 years of age, is another cause for concern when one considers the relatively young age distribution of HIV infection in South Africa (Abdool Karim, *et al.*, 1997; UNAIDS & WHO Report, 1998). Multi-partner behaviour among people in younger age groups is a phenomenon supported by many studies and young people therefore remain important as target audiences for STD- and HIV-prevention interventions (Abdool Karim, 1998; Dolcini, *et al.*, 1995; Du Plessis, *et al.*, 1993).

The finding that patients who were employed were more likely to report having had three or more partners in the past 6 months suggests that the availability of money might facilitate multi-partner behaviour. This finding has been partly supported by a study in Tanzania on the determinants of high-risk behaviour, which suggests that men with more money might be in a position to spend it on casual sex, and on being attractive to potential partners, as well as to travel more, which might increase opportunities for multi-partner behaviour (Mnyika, Klepp, Kvale & Ole-King'ori, 1997). The situation is, however, different for women, for whom poverty has often been the driving force, exposing them to multi-partner behaviour in an effort to support themselves and their children (Meyer-Weitz, *et al.*, 1998; Ulin, 1992).

When considering the influence of patients' levels of education on their number of sexual partners during the past 6 months, and condom use during this period, as well as previous experience of STDs, it is clear that improved education of the population is an essential strategy in STD and HIV prevention. The positive relationship between condom use and increasing levels of education has been supported by other studies in Africa (Du Plessis, *et al.*, 1993; Kapiga, Lwihula, Shao & Hunter, 1995). This shows the intrinsic link between sustainable development and improved health. This reciprocal relationship needs to be widely recognised by intervention programme planners and policy makers alike (Meyer-Weitz, 1998). In this regard the re-establishment of a 'culture of learning' in schools has been recognised as a priority by the Ministry of Education.

An understanding of STD patients' risky sexual behaviours is a prerequisite for the development of interventions directed at sustained behavioural change through persuading people to reduce the number of sexual partners they have, and promoting consistent condom use among STD patients. The chaid analysis clearly indicates a major difference between male and female patients' risky sexual behaviours. However, this also implies an increase in risk for women. Male patients are

more likely to engage in very high-risk behaviour which increases their likelihood of acquiring repeated STDs and thus HIV infection, and men are therefore most in need of targeted, sustained behavioural interventions. The finding of men's risky sexual behaviours has been widely supported by various studies (Brunswick & Flory, 1998; Dolcini, *et al.*, 1995; Du Plessis, *et al.*, 1993; Harrison, *et al.*, 1997; Mnyika, *et al.*, 1997). It also seems that men's multi-partner behaviour is generally accepted by women and seen as an indication of their manhood (Harrison, *et al.*, 1997; Meyer-Weitz, *et al.*, 1998). This could partly be explained in terms of the cultural tradition of men's responsibility to ensure the continuation of the lineage (De Villiers, 1992). However, the multi-partner behaviour of men increases women's exposure to STDs and thus HIV infection. Women often cite their primary partners as the source of their own STDs, and view their STD as proof of their primary partners' multiple sexual relationships (Harrison, *et al.*, 1997; Meyer-Weitz, *et al.*, 1998). For the subsample of women in the chaid analysis, the majority of women (77%) reported having had only one sexual partner during the past 6 months and had either never used condoms or used condoms only sporadically. Despite their 'monogamous behaviour', their current STD infection illustrates their vulnerability to STD risk and thus HIV within their 'monogamous' relationships. Within this context it should again be stressed that, apart from the presence of an STD, the level of multiple partners has been found to be a major independent risk factor for HIV contraction (Havanon, Bennett & Knodel, 1993; Morris, 1997). However, the complexities of sexual networks and multiple-partner patterns as situations of risk need to be better understood with specific reference to the socio-cultural and contextual determinants as an essential step in reducing risky sexual behaviours. The recent trends in HIV infection among women confirmed the seriousness of women's exposure to risk (Abdool Karim, *et al.*, 1997; Pham-Kanter, *et al.*, 1996; Strebel, 1996).

However, women's low social status in relationships and cultural expectations of monogamy and submission might have played a role in their failure to admit openly to their own multi-partner behaviour (Bertrand, Makani, Hassig, *et al.*, 1991; Harrison, *et al.*, 1997; Meyer-Weitz, *et al.*, 1998). Women's exposure to STDs and HIV risk should not only be viewed as a consequence of their own attitudes and behaviour; but cognisance should also be taken of the political, economic and social context of the HIV epidemic (Seidel 1993a, 1993b; Strebel, 1996). Women's fatalistic attitude to the AIDS pandemic and denial of their own risk of HIV infection reported on by Strebel (1996) should also be interpreted within this context, and could be a result of their inability to control their exposure to STDs and HIV/AIDS. In this regard, it should also be noted that women who valued personal autonomy in sexual behaviour were less likely than the others to engage in very high-risk sexual behaviours. Women's positive attitudes in this regard need to be encouraged.

Further investigation of the subsample of males indicated that different factors, such as attitudes to condoms, attitudes to personal autonomy in sexual behaviour, and their expectations of the outcome of refusing sex and insisting on condom use within their relationships, all played a significant role in determining their risky sexual behaviours. At the last level of analysis male patients' employment status, previous experience of STDs, age and beliefs about the causes of STDs further explained their risky sexual behaviours.

Because of the association of negative attitudes about condoms with increased risky sexual behaviours, special attention should be given to improving attitudes to condom use in efforts at achieving sustained behavioural change. The importance of addressing patients' underlying beliefs (Ajzen & Fishbein, 1980) about condoms, namely the association of condom use with mistrust,

and a lack of care or love, is essential in condom-promotion efforts. While the general message of the importance of using condoms in multi-partner relationships has been disseminated in South Africa, most STD and HIV interventions have failed to address the underlying beliefs associated with condoms, and this is possibly a reason why limited success in consistent condom use has been achieved. Furthermore, male patients' positive attitudes towards personal autonomy in sexual behaviour, as well as their positive outcome-expectations of refusing sex and insisting on condom use, decreased their risky sexual behaviours. Although numerous studies of attitude-behaviour relations have demonstrated that people's attitudes are often incongruent with their behaviour (Fishbein & Ajzen, 1975), the attitudinal component plays a significant role in determining male patients' risky sexual behaviours and therefore deserves special attention in efforts at intervention. In a study by Fishbein (1990) the attitudinal component also played a significant role in determining condom use among Mexican college students, while the normative component was significant in determining condom use among American college students. The relative importance of the determinants of STD-preventative behaviours needs therefore to be thoroughly investigated when developing health education interventions.

Being unemployed and having had previous experience of STDs were significantly associated with risky sexual behaviours among those male patients with the most negative attitudes towards condoms. However, among the total group of STD patients, being employed was associated with increased risky sexual behaviour. Unemployment, with consequent socio-economic deprivation, could foster feelings of hopelessness and fatalism which, in turn, could contribute to increased risky sexual behaviours (Hajcak & Garwood, 1988). Feelings of hopelessness and fatalism born out of a lack of hope for the future, especially among the youth of South Africa, is viewed as a major factor contributing to increased risky sexual behaviours (Abdool Karim, 1997; Meyer-Weitz & Steyn, 1998). It is possible that previous experience with having an STD cured by the health services, could have played a role in male patients' not deeming it necessary to change their behaviour in order to prevent STD infection. However, experience of a previous cure for an STD also implies possible information exchange at the clinic with regard to preventive behaviour, such as the use of condoms. This raises serious questions about the effectiveness of current health education within STD management. The findings of Reddy, *et al.* (1998) with regard to health education practice within the STD clinic reveal a lack of appropriate health education, with particular reference to preventive behaviours. It was found that health workers' own negative attitudes towards the use of condoms impacted negatively on their providing STD patients with complete information about the use of condoms.

For those male patients with moderate to positive attitudes to condoms, and those who valued personal autonomy in sexual behaviour, being young was associated with increased risk. Other studies support the finding that younger males constitute an important target group for behaviour modification interventions (Dolcini, *et al.*, 1995; Du Plessis, *et al.*, 1993). The risk behaviour of male patients with the most positive attitudes to condom use and those who had positive-outcome expectations of refusing sex and insisting on condom use within their relationships, was associated with their concepts of the causes of STDs. Those who held many misconceptions in this respect – namely that STDs are caused by the use of contraceptives, by having sex with a woman who holds her breath and by a woman who pushes a man out during climax – were more likely to engage in very risky sexual behaviour than the others. These misconceptions regarding the causes of STDs could also contribute to inaccurate assessment of their risk of contracting STDs, with the result that they did not perceive their own behaviour as risky. This finding also suggests that positive attitudes towards condom use, without a basic understanding of the cause, spread and prevention of STDs, remain ineffective in motivating behaviour modification.

Thus patients' understandings of STDs, embedded in their socio-cultural understandings of disease, will impact on their perceptions of the causes of STDs, their perceptions of their risk of contracting STDs, and the preventive behaviours they will adopt (Meyer-Weitz, *et al.*, 1998). Improved knowledge about the cause, spread and prevention of STDs therefore remains essential in efforts to achieve sustained behavioural change. However, when one considers the mean scores of the factors related to patients' knowledge about STDs in terms of STDs' consequences for the neonate, the transmission and prevention, as well as the perceived seriousness of STDs, patients appear to be adequately informed. Although adequate knowledge about STDs and HIV/AIDS is a prerequisite for sustained behaviour change – and it is often found to be high – knowledge alone does not translate into behavioural change (Du Plessis, *et al.*, 1993; Hospers & Kok, 1995; Kapiga, *et al.*, 1995). It should also be borne in mind that interventions to improve knowledge about STDs which focus only on the medical facts without taking into account the prevailing misconceptions about their causes, spread and prevention, might not be successful in bringing about sustained behavioural change. An improved understanding is needed of perceived risk to STDs and thus HIV as a motivation to modify behaviours.

Conclusions

Despite increased awareness among the South African public regarding the rising threat of HIV/AIDS, little success has been achieved in persuading people to reduce the number of partners and to use condoms. The prevalence of STDs suggests that a significant proportion of the population engage in risky sexual behaviour or is exposed to risky sexual situations. These findings indicate that men constitute the primary target group for sustained behavioural change interventions. However, women's particular vulnerability to STDs and thus HIV also warrants urgent attention. Cognisance needs to be taken of the sociocultural and economic dimensions of STDs and HIV/AIDS in renewed efforts at intervention and more research in this area is suggested.

Negative beliefs and attitudes towards condom use, and misconceptions regarding the transmission of STDs, make it clear that efforts need to be directed at changing patients' prevailing understandings about STDs and preventive behaviours in order to facilitate responsible sexual practice. In addition, it will be important to focus on promoting positive attitudes towards autonomy in sexual behaviour and expectations of positive outcome when sex is refused and condom use is insisted on. Patients' multiple-partner behaviour and the absence of condom use would also need to be specially focused on behavioural modification interventions.

However, behavioural change strategies attempt not only to persuade people but also to enable individuals to adopt and maintain behavioural change within environments supportive of this change (Aggleton, 1997). The importance of political commitment is in this regard cannot be underestimated (Hankins, 1996). This is further illustrated by the findings that link improved socio-economic development (i.e. unemployment and education issues) to improved health. Condom accessibility within the context of supportive environments remains an obstacle to consistent condom use in South Africa (Colvin, 1997; Meyer-Weitz & Steyn, 1998; Swart, *et al.*, 1993) and needs special attention before any success in sustained behavioural change can be expected.

The seemingly prevalent multi-partner behavioural norm is another obstacle to reducing this behaviour. In our qualitative study (Meyer-Weitz, *et al.*, 1998), it was suggested that within a sociocultural perspective, monogamy might not be a viable strategy for STD and HIV prevention in South Africa. With the emergence of multiple-partner behaviour as an independent risk factor

for contracting HIV (Morris, 1997) and against the rapidly increasing rate of HIV infection, the need to promote a social norm not supportive of multiple partners should be considered. In light of the open political commitment of the South African government to the fight against AIDS, it is suggested that an understanding of risky sexual behaviours, embedded within sociocultural contexts, and STD illness representations be incorporated into renewed efforts at sustained behavioural change.

Conclusions

Results indicated awareness of the South African national reporting of HIV and AIDS. The survey has been helpful in providing insight into a number of key factors. The prevalence of STDs suggests that a significant proportion of the population may be at risk of exposure to risky sexual behaviour. The survey also indicates the need for continued efforts to reduce the prevalence of STDs and HIV. The survey also indicates the need for continued efforts to reduce the prevalence of STDs and HIV. The survey also indicates the need for continued efforts to reduce the prevalence of STDs and HIV.

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6 Determinants of condom-use behaviour among STD clinic attenders in South Africa

Abstract

This cross-sectional study analyses determinants of condom-use behaviour among patients attending dedicated STD clinics in South Africa. A structured interviewer-administered survey was conducted among 1473 patients. Patients' beliefs and attitudes towards condom use in general, as well as their personal condom-use behaviour were measured. Their perceptions regarding the social influence of their partners and friends on their condom use, and of their self-efficacy in using condoms while infected with an STD, were also measured.

Condom use as a dependent variable was examined using an adapted transtheoretical model (Prochaska & DiClemente, 1991). Patients were placed in a pre-contemplation stage if they had never used a condom, contemplation if they had seriously thought of using a condom, some action if they sometimes used a condom and regular action if they used a condom every time.

The relationships between the stages of change, as dependent variables, and the independent variables were investigated for both those patients with steady partners and those with outside partners. This was performed by stepwise multiple regression analyses.

The variables that significantly explained stages of change were similar for patients with steady partners and those with outside partners. In both partner groups communication was the variable most strongly associated with the use of condoms. General self-efficacy in condom use, self-efficacy in condom use with a partner and attitudes towards the use of condoms played a role in determining patients' different stages of change.

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Introduction

Consistent and correct use of condoms is being promoted by governments and health workers world-wide as a primary strategy in preventing the spread of STDs and HIV (Colvin, 1997; Larson, 1996; Marin & Marin, 1992). The promotion of condom use in South Africa has met with limited success. This is evidenced in the widespread occurrence of sexually transmitted diseases and the increasing numbers of HIV-infected people (Ntsaluba & Pillay, 1998). It is estimated that approximately 11 million episodes of STDs are treated annually (Colvin, 1997). South Africa has a HIV-infection prevalence rate of approximately 10%, but up to 20% in specific areas (Abdool Karim, Mathews, Gutmacher, Wilkinson & Abdool Karim, 1997). It is important to note that the bulk of HIV-infected people in South Africa are between 15 and 45 years of age, thus comprising the economically most active group of the population (Abdool Karim, *et al.*, 1997). This has serious implications, not only for the health sector, but for the general economy of the country.

This increase in HIV prevalence exists despite numerous prevention efforts by the South African government and non-governmental sector. These include the promotion of condom use through mass media campaigns, the free distribution of condoms as well as the promotion of condom use

by the health service delivery system. It should be noted that although free condoms are being distributed, only an average of 7,7 condoms per person per year are being distributed to those who are sexually active (Colvin, 1997). This suggests that condoms are not readily available to the South African population at large and that distribution mechanisms are inadequate. This is a matter for concern as it has been suggested that easy access to condoms is an important way of preventing the spread of STDs and HIV (Marin & Marin, 1992).

With regard to condom promotion within the health care delivery system, a reluctance to promote the use of condoms by some health workers working in STD clinics was reported (Reddy, Meyer-Weitz, Van den Borne, Kok & Weijts, 1998). This stemmed from the health workers' own negative attitudes towards condom use and the health workers' belief that the STD patients would not use condoms because they had negative attitudes towards them. The impact of health workers' attitudes is compounded by negative attitudes of STD patients who expressed serious doubts regarding the desirability of condom use. This reflects the existing negative social and cultural norms by associating condom use with death, promiscuity, STDs and AIDS, as well as a lack of trust and love (Meyer-Weitz, Reddy, Weijts, Van den Borne & Kok, 1998).

Thus, general negative attitudes towards condom use and a low prevalence of condom use has been widely reported in South Africa and therefore places people at risk of contracting HIV and other STDs (Abdool Karim, Abdool Karim & Nkomokazi, 1991; Abdool Karim, Abdool Karim, Soldan & Zondi, 1995; Blecher, Steinberg, Pick, Hennink & Durcan, 1995; Brooks, 1996; Colvin, 1997; Govender, Bhana, Pillay, Panchia, Padyachee & De Beer, 1991; Whiteside & Barnett, 1996). It is, however, important to note that most of the abovementioned studies were conducted in narrow geographical areas and with relatively small sample sizes thus making it difficult to extrapolate the rate of condom use nationally. In a national study conducted among the general population a condom-use prevalence rate of 22% was reported (Du Plessis, Meyer-Weitz & Steyn, 1993).

While many of the South African studies have tried to demonstrate the effect of demographic variables on sexual behaviour and condom use, little attention has been paid to the determinants of condom use within the context of different relationships. This study is an attempt to understand condom-use behaviour within the context of the steady-partner relationship and the casual-partner relationship (referred to by respondents as 'outside-partner' relationships) with a view to informing the development of appropriately targeted interventions. The study considers the influence on condom use of a number of different concepts which were derived from our extensive qualitative inquiry into the knowledge, beliefs, attitudes, social norms, self efficacy and communication ability of the respondents. These were conceptualised within a cultural context (Meyer-Weitz, *et al.*, 1998).

The following theories of behaviour change were used to clarify and provide structure to the explanations provided by the qualitative study, and to guide the study in understanding condom-use behaviour. The theory of planned behaviour (Ajzen, 1988) and the social cognitive theory (Bandura, 1990) suggest that behaviour is primarily determined by personal, normative factors and perceptions of control. The personal determinants of behaviour encompass knowledge, beliefs, attitudes and includes an individual's perceptions of risk. It also includes the perceived seriousness of a particular disease. Normative determinants, on the other hand, refer to the social influence of important others and the desire to conform to their wishes, as well as the desire to conform to community behavioural norms, i.e. what other people do (modelling). The perceptions of control refer to people's perceptions of their ability to perform the desired behaviour and to overcome barriers in performing the behaviour, as well as their expected outcomes of the behaviour in question.

The transtheoretical or stages of behaviour change model was also used to understand the use of condoms. This model suggests that behaviour change should be viewed as a process in which the individual progresses through different stages when trying to change a behaviour. (Prochaska & DiClemente, 1983, 1985; Prochaska, DiClemente & Norcross, 1992). People can move from pre-contemplation via contemplation to action and then to the maintenance phase or they may move to a relapsed phase. Movement through the stages involves a dynamic recycling process. The process of behaviour change is further facilitated by communication. Communication with sexual partners has been shown to positively influence the likelihood of enacting condom-use behaviour (Galavotti, Cabral, Grimley, Riley & Prochaska, 1991; O'Reilly & Higgins, 1991).

This study aims to analyse the determinants of condom-using behaviour among patients attending STD clinics by integrating these concepts.

Methodology

Design and research instrument development

A cross-sectional quantitative study was conducted among Xhosa-speaking patients seeking health care at dedicated STD clinics in Cape Town, South Africa. A structured, interviewer-administered questionnaire was used. The questionnaire was developed using information gathered from our qualitative study (Meyer-Weitz, *et al.*, 1998) as well as the theories of behaviour change mentioned above. The broad categories of investigation thus included biodemographics; STD histories; general knowledge, beliefs and attitudes towards condom use. It further explored the sexual behaviours of individuals infected with an STD in areas such as condom use, abstinence and partner pattern. The patients' attitudes towards condoms in general and towards their personal use of condoms, their perceptions about the social influence regarding the use of condoms with particular reference to their partners and their 'friend's' feelings about the use of condoms, as well as the patients' perceptions regarding their ability to use condoms while infected with an STD were investigated. In order to ensure cultural sensitivity as well as to ensure that valid and accurate data were collected, a rigorous step-by-step questionnaire development process was followed.

- Step 1:* The questions were developed from theoretical concepts, a literature review and data from our qualitative study investigating the illness representations of STDs and the psycho-social and contextual determinants of STD-related behaviours (Meyer-Weitz, *et al.*, 1998).
- Step 2:* The questions were then translated into Xhosa by graduate Xhosa-speaking students. These students worked as interviewers in the qualitative STD study.
- Step 3:* The questionnaire was then developed during a workshop with 15 STD patients who critiqued the language use, the comprehension/understandability of questions and appropriateness of content, cultural and gender sensitivity and sexual terminology.
- Step 4:* Based on these comments, the questionnaire was back translated and pretested in English.
- Step 5:* It was then translated from English to Xhosa and back translated from Xhosa to English again by a separate set of translators to ensure accuracy of meaning. A Xhosa questionnaire was pretested among 60 STD clinic attenders. Based on the results of the pretest, the questionnaire was amended, and a final questionnaire was developed both in English and Xhosa. It must be noted that the primary investigators are English speaking.

Questionnaire and measurements

The questionnaire measured both patients' beliefs and attitudes towards condom use in general, and their personal condom-use behaviour. Their perceptions regarding the social influence of their partners and friends on their use of condoms while infected with an STD, as well as their perceptions of their self-efficacy in using condoms in these circumstances were also measured. The items were measured on a 3-point scale (Yes = 3, Don't know = 2 and No = 1), with the higher score referring to the correct answer or the more positive score and the lower score representing the wrong answer or a negative score). For example 'condoms are bad because they are not flesh-to-flesh'; 'it is easy for you to use a condom during an STD infection' and 'you will be able to convince your partner to use condoms.' The variable 'having had a previous STD,' was scored as (1 = having had one or more previous STDs and 2 = this was the first STD).

Thirty-five items related to condom use while infected with an STD and four items related to communication with a partner were subjected to a factor analysis. This was done to reduce the number of items in both these instances and to understand the conceptually meaningful dimensions measured within this large data set. The number of factors to be retained were selected using the scree plots and the minimum eigen value of 1 as selection criteria. An oblique rotation method was used to allow for correlations between the rotated factors. The interpretation of the rotated factors was based on variables with factor loadings of 0,4 or higher. Scales were constructed based on the factor analysis followed by reliability testing for internal consistency. In the case of only two items scales were constructed based on the summing of these items given a positive correlation of 0,45 or higher. Information on these scales is presented in Table 6.1 (i.e. number of items, Chronbach's alpha, Pearson's correlation, maximum score, minimum score, mean and standard deviation). The factors that emerged as coherent structures in the knowledge, belief, attitude, self-efficacy and condom-use measurements are depicted in Table 6.1.

Condom-use behaviour as a dependent variable was considered within a stages of change perspective, i.e. consisting of *pre-contemplation*, *contemplation*, *some action* and *regular action* phases as adapted from the transtheoretical model (Gavalotti, *et al.*, 1991; O' Reilly & Higgins, 1991). The patients were placed in the pre-contemplation stage if they never used a condom and scored 1; if patients had seriously thought about using condoms, they were considered to be in the *contemplation* stage and scored 2; if the patients indicated that they had sometimes used a condom, they were placed in the some action group and scored 3; if patients indicated that they used a condom every time they were considered to be in the regular action group and scored 4.

Participants and data collection

Xhosa-speaking men and women seeking STD treatment in two STD clinics during November 1996 and March 1997 in Cape Town, South Africa, were randomly selected to participate. Although 1513 patients were approached, 35 refused because they had either participated in previous research and did not want to do so again or were in a hurry and did not have time and 5 patients did not complete the interview due to the length of the questionnaire. Only the patients who presented with STD symptoms were included in the sample. The realised sample consisted of 1473 STD patients being 97,36% of the sample. The interview lasted between 45 minutes and an hour with a refreshment served halfway through.

Each interview session corresponded to a clinic session. The first respondent was selected by approaching an STD patient with a request for an interview after that person had completed his/her medical treatment. Once that interview was completed, a second person, who had received his/her medical treatment, was approached and permission for an interview was requested. This

Table 6.1. Instruments measuring knowledge, beliefs, attitudes, social norms, self-efficacy, outcome expectancy, and communication towards condom use

Scale:	Number of items	Chronbach's alpha	Pearson's correlation	Range of scales	Mean	Standard deviation
Negative beliefs about condoms	6	0,76		6 - 18	14,50	3,12
Knowledge about condom use	4	0,60		4 - 12	6,42	1,26
Attitudes to condom-use behaviour	4	0,79		4 - 12	9,01	2,91
Personal autonomy with regard to condom use	2		0,62	2 - 6	3,57	0,71
General self-efficacy with condom use	3	0,74		3 - 9	5,20	1,05
Steady partner condom-use self-efficacy	3	0,78		3 - 9	5,25	0,79
Outside partner condom-use self-efficacy	2		0,45	2 - 6	3,72	0,58
Outcome expectancies regarding condom use and steady partner	2		0,58	2 - 6	3,24	0,86
Outcome expectancies regarding condom use and outside partner	2		0,60	2 - 6	3,04	0,89
Communication about condom use with steady partner	2		0,74	2 - 6	3,04	0,93
Communication about condom use with outside partner	2		0,68	2 - 6	2,76	0,89
Perceived norms on condom use with steady partner	3	0,60		3 - 9	4,08	1,03
Perceived norms on condom use with outside partner	4	0,62		4 - 12	5,84	1,3

method was followed throughout the clinic session. Written informed consent was obtained from all respondents.

Fifteen Xhosa-speaking interviewers (5 males and 10 females) were trained to administer the questionnaire. One male had to be dismissed during the survey period for not following the survey procedures. In our qualitative study (Meyer-Weitz, *et al.*, 1998) it was learned that STD patients did not mind whether the interviewer was male or female.

Analysis

Frequencies were calculated for each item in the questionnaire. These included the bio-demographic variables such as sex, age, employment status, duration of residence, experience with a previous STD and education.

The relationships between the stages of change as dependent variables and the independent variables (consisting of demographics such as age, sex, education; the constructed scales which refer to knowledge, beliefs, attitudes and norms regarding condom use; and perceptions of general self-efficacy regarding condom use and self-efficacy with partner in condom use) were investigated for both those patients with steady partners and those with outside partners. This was done through the application of stepwise multiple regression analyses. For the purposes of the study a '*steady partner*' was defined as husband or wife, or a regular girlfriend or boyfriend with whom the respondent had a sexual relationship. An '*outside partner*' was defined as a partner with whom the respondent had sex in addition to his/her regular partner. The category of outside partner also included casual sexual partners such as one-night stands. The term '*outside partner*' was used by the patients themselves to describe these relationships.

To understand how patients differed from each other in the various stages of condom use, i.e. *pre-contemplation* stage, *contemplation*, *some action* and *regular action* in terms of the determinants of the stages of change, a stepwise multiple regression analysis and variance analysis (ANOVA) was conducted. The one-way Tukey analysis was employed to determine among which groups the significant differences occurred.

Results

The socio-demographic profile of the study participants

As portrayed in Table 6.2 more males (72%) than females (28%) presented at the STD clinics. A large proportion (60%) of the patients were in the age category of 25 years and younger. The adolescent group (20 years and younger) comprised 22% of the total sample. With regard to the respondents' level of education, the majority had either a junior secondary (37%) or a senior secondary (36%) education. However, 18% of the sample had either a primary or no education while only 8% had a tertiary education. Nearly 61% of the patients were unemployed. The majority of the respondents had lived in the Cape Metropolitan area for more than 3 years (80%) while 10% had resided in this area for a year or less.

Although not depicted in Table 6.2, 49% of the respondents reported having experienced an STD before. More than half the patients had had 2 or more partners during the last 6 months with 25% indicating that they had had 2 partners and 27% saying that they had had 3 or more partners during the same time period.

Condom-use behaviour

Although 87% of the respondents indicated that they would be able to use a condom, only 37% indicated that they had used a condom in the last 6 months. Of these respondents, 81% reported use with steady partners and 35% with outside partners. Examining those respondents

Table 6.2. Socio-demographic characteristics of sample (N = 1473)

Socio-demographic variables	Male 72%	Female 28%	Total 100%
Age			
≤ 20	162 (51%)	158 (49%)	320 (21,8%)
21-25	397 (70%)	168 (30%)	565 (38,5%)
26-35	386 (85%)	67 (15%)	453 (30,8%)
36+	115 (88%)	16 (12%)	131 (8,9%)
Education			
Primary and less	249 (92%)	22 (8%)	271 (18,5%)
Junior secondary	385 (71%)	156 (29%)	541 (36,9%)
Senior secondary	344 (65%)	187 (35%)	531 (36,2%)
Tertiary	80 (64%)	45 (36%)	125 (8,5%)
Employment status			
Yes	520 (90%)	58 (10%)	578 (39,3%)
No	539 (60%)	352 (40%)	891 (60,7%)
Duration of residence			
3 years +	875 (75%)	298 (25%)	1173(79,6%)
1-2 years	90 (60%)	60 (40%)	150 (10,2%)
7-12 months	55 (68%)	26 (32%)	81 (5,5%)
1-6 months	42 (61%)	27 (39%)	69 (4,7%)

with steady partners (N = 1326), 41% were in the stage of pre-contemplation, 27% in the stage of contemplation, 24% in some action, and 8% in regular action. For respondents with outside partners (N = 512), 45% were in pre-contemplation, 26% in contemplation, 22% in some action, and 7% in regular action. These figures show that condom use is inconsistent and varied in terms of frequency of use.

Determinants of condom use

Condom-use behaviour with a steady partner

As demonstrated in Table 6.3 the stepwise multiple regression analysis indicated that patients' condom-use behaviour with the stages of change components as the dependent variable was related to the following variables: communication about condom use with the steady partner; attitudes towards condom use; general self-efficacy in condom use; experience with previous STDs; and condom use self-efficacy.

Table 6.3. Condom-use behaviour with steady partner; stepwise multiple regression analysis (N=1238), in relation to prediction of stages of change of condom-use behaviour, i.e. steady-partner model

	Model variable	R	R ²	R ² change	P<	R	*beta
1	Communication with steady partner	0,40	0,16	0,16	0,001	0,04	0,33
2	Attitude towards condom use	0,44	0,20	0,04	0,001	0,27	0,15
3	General self-efficacy with condom use	0,46	0,22	0,02	0,001	0,24	0,13
4	Experience previous STD	0,47	0,23	0,01	0,001	0,06	0,09
5	Condom-use self-efficacy with partner	0,48	0,23	0,01	0,001	0,24	0,10

*Beta of final comparison model

It was found that communication about condom use with one's partner correlated most strongly with stages of change ($r=0,04$) and explained most of the variance of stages of change (16%). The correlations with stages of change that were not as strong include patients' attitudes towards condom use ($r=0,265$), explaining an additional 3,5% of the variance. Their general self-efficacy in condom use ($r=0,243$), accounted for a further 2,2% and lastly their previous experience with STDs ($r=0,064$) and condom-use self-efficacy ($r=0,243$) explained another 1%. All of these correlations were statistically significant ($P < 0,001$).

Differences between the four stages of condom-use behaviour change among the steady partner group

The results of the ANOVA with one-way Tukey analyses in terms of the mean values and significant differences in the five concept variables (communication with steady partner, attitudes towards condom use, general self-efficacy in condom use, previous experience with STDs and condom-use self-efficacy with partner) with regard to the stages of behaviour change are depicted in Table 6.4.

The patients who were in the pre-contemplation group communicated significantly less with their steady partners than those patients who were in the contemplation, some action and regular action groups. This difference in communication was reflected in the individual items related to communication about condom use and HIV risk. The patients in the pre-contemplation phase were less likely than those in all the other groups to communicate about these topics. Similarly, those patients who were contemplating condom use communicated significantly less on condom use and HIV infection with their partners, than those patients who were engaging in *some or regular* actions with condoms.

The patients who were in the pre-contemplation group, were significantly more inclined to hold an overall negative attitude towards condom use than those in the other three groups. In particular they held more negative attitudes than the patients who engaged in *some or regular*

action regarding condom use. Similarly those patients who were contemplating condom use were also more negative towards condom use than those who belonged to the two action groups. This difference in overall attitude was reflected in several attitude items. An examination of the individual attitude items among the patients in the pre-contemplation group showed that these patients were more inclined to feel that condom use is 'bad because it is not flesh-to-flesh' than those patients who were contemplating condom use. This held true also in the comparison between the pre-contemplation and the some action group. Similarly the patients in the regular action group were significantly less likely to hold this view than those patients who contemplated condom use.

The attitude that condom use is 'bad because it is like masturbation' was more likely to prevail among the patients in the pre-contemplation phase than among patients who had engaged in condom use (e.g. the some and regular action groups). The patients in the pre-contemplation and contemplation groups were significantly more likely to believe that condom use is 'bad because it wastes sperm', than the patients in the two action groups. Similarly the patients in the pre-contemplation groups were also more likely to hold the attitude that condom use is bad because it causes a loss in virility than the patients in the some and regular action groups. Patients in the contemplation group had more fears about virility than did the patients in the regular action groups.

An assessment of the general self-efficacy regarding condom use showed that patients in the pre-contemplation group had a lower perception of general self-efficacy regarding condom use than patients in the other groups. The patients in the contemplation group had significantly less, perceived general self-efficacy over condom use, than the patients in the two action groups.

The patients' self-efficacy regarding condom use was reflected in two individual items, namely the belief that it was easy to use a condom while infected with an STD and the belief that they were able to use a condom every time during an STD. The patients in the pre-contemplation group were less likely to believe that it was easy for them to use a condom during an STD than the patients in the three other groups. The patients in the contemplation group were also significantly less likely to hold this belief than those in the regular action groups. Similarly the patients in the pre-contemplation group were also less likely to believe that they were able to use a condom every time they had sex while having an STD than the patients in all the other groups.

The patients' self-efficacy in using a condom with a steady partner differed significantly between those who were in the pre-contemplation stage and those who were in the other stages. Those in the latter groups were more likely to report higher self-efficacy with a partner in using condoms than those in the pre-contemplation group. This difference in overall self-efficacy was reflected in three individual items, viz. patients' beliefs in their ability to convince their partners to use condoms, their ability to refuse sex during infection and their ability to use condoms for the first time. The patients in the pre-contemplation phase were less likely to believe in their ability to convince their steady partners to use condoms. They also had less belief in their ability to use a condom for the first time than those in all the other groups. The patients in the contemplation group were significantly less likely to believe in their ability to convince their steady partners to use condoms than the patients in the two action groups.

Although having had a previous STD slightly but significantly contributed to the explanation of condom-use stage of change, in the subsequent analysis of variance no significant differences between the four stages was found (Table 6.4).

Table 6.4: Mean values and significant difference within the five concept variables at the different stages of behaviour change for steady partners: Pre-contemplation (P), Contemplation (C), Some Action (SA), Regular Action (RA)

Concept variable/single item	Stage of change			
	P N = 546	C N = 360	SA N = 319	RA N = 101
Communication with steady partner	2,60 ^a	3,08 ^b	3,48 ^c	3,62 ^c
Talked to partner about condom	1,29 ^a	1,54 ^b	1,77 ^c	1,81 ^c
Talked to partner about HIV risk	1,31 ^a	1,54 ^b	1,71 ^c	1,81 ^c
Attitude to condom use	8,19 ^a	9,05 ^b	10,02 ^c	10,25 ^c
Bad because not flesh-to-flesh	1,92 ^a	2,22 ^b	2,46 ^{bc}	2,53 ^c
Bad because like masturbation	2,09 ^a	2,26 ^{ab}	2,52 ^b	2,45 ^b
Bad because wastes sperm	1,98 ^a	2,21 ^a	2,50 ^b	2,53 ^b
Bad because causes loss of virility	2,21 ^a	2,36 ^{ab}	2,54 ^{bc}	2,74 ^c
General self-efficacy with condom use	4,92 ^a	5,24 ^b	1,48 ^c	1,48 ^c
Easy for you to use condom during STD	1,62 ^a	1,73 ^{ab}	1,83 ^{bc}	1,86 ^c
While infected you are able to use condom every time	1,73 ^a	1,87 ^b	1,90 ^b	1,92 ^b
Experience with previous STD	1,55	1,52	1,48	1,48
Condom-use self-efficacy with partner	5,30 ^a	5,63 ^b	5,74 ^b	5,85 ^b
Be able to convince partner to use condoms	1,78 ^a	1,89 ^b	1,94 ^{bc}	1,99 ^c
Be able to refuse sex during infection	1,72 ^a	1,82 ^a	1,84 ^b	1,84 ^b
Be able to use condoms for first time	1,79 ^a	1,91 ^b	1,96 ^b	1,97 ^b

Note: Means with a different superscript differ significantly (One-way Tukey; $P < 0,01$).

Condom-use behaviour with outside partner

Table 6.5. Condom-use behaviour with outside partner; stepwise multiple regression analysis (N=341), in relation to prediction of stages of change of condom-use behaviour, i.e. outside partner model.

	Model variable	R	R ²	R ² change	P<	r	beta
1	Communication with steady partner	0,30	0,09	0,09	0,001	0,31	0,23
2	Condom-use self-efficacy with outside partner	0,36	0,13	0,03	0,001	0,23	0,13
3	Attitude to condom use	0,38	0,15	0,02	0,01	0,21	0,11
4	Education	0,40	0,16	0,02	0,05	0,20	0,14
5	General self-efficacy with condom use	0,42	0,18	0,02	0,05	0,21	0,13

The findings of the stepwise multiple regression analysis indicated that patients' condom-use behaviour with outside partners in terms of the stages of change components was associated with patient communication with the outside partner, condom-use self-efficacy with outside partners, attitudes towards condom use, level of education and general self-efficacy in condom use.

The stepwise regression analysis depicted in Table 6.5 shows that communication with one's outside partner correlated most strongly with stages of change ($r=0,31$) and explained 9% of the variance. The correlations with stages of change that were not as strong include patients' self-efficacy in condom use with an outside partner ($r=0,23$); explaining another 3% of the variance, their attitudes towards condom use and general self-efficacy in condom use ($r=0,20$ and $r=0,21$ respectively); and followed lastly by their level of education ($r=0,20$) all explained an additional 2% of the variance. It was only communication with outside partner and self-efficacy in condom use with an outside partner that were highly statistically significantly associated with stages of change ($P < 0,001$). A lower level of statistical significance was noted for the association of patients' attitudes towards condom use with stages of change ($P < 0,01$). For the association between their level of education and stages of change and their general self-efficacy in condom use and stages of change the significance level was $P < 0,05$.

Differences between the four stages of condom-use behaviour among the outside partners' group. The mean values and significant differences in the five concept variables (communication with steady partner, condom-use self-efficacy with outside partner, attitudes towards condom use, level of education and general self-efficacy in condom use, for the different stages of behaviour change are depicted in Table 6.6 according to the results of the ANOVA with one-way Tukey analyses.

The patients' who were in the contemplation, some action and regular action groups communicated significantly more than those who were in the pre-contemplation group. With regard to the individual communication items, namely communication with partner about condom use and communication about HIV infection, the patients who belonged to the some action and regular action groups communicated significantly more with their outside partners than those who were in the pre-contemplation group. Self-efficacy in using condoms with an outside partner was more likely to be expressed by the patients who were in the regular action group than those in any of the other groups. Patients in the regular action group were also more likely to perceive themselves to be capable of using condoms in a first-time encounter.

Patients' perception of their ability to convince their partners to use condoms did not differ between the four stages of change groups. With regard to patients' overall attitudes towards the use of condoms, those patients who belonged to the pre-contemplation, contemplation and some action groups were more likely to have negative attitudes towards condoms than those patients in the regular action group. An examination of the individual attitude items showed that patients belonging to the regular action group were less inclined to believe that condom use is 'bad because it is not flesh-to-flesh' or that it is 'bad because it wastes sperm,' than patients in the other three groups. Those patients who belonged to the some and regular action groups were also less likely to think that condom use is bad because it is like masturbation. Similarly the patients who engaged in regular action regarding condom use were less inclined than patients in the pre-contemplation group to believe that condom use is bad because it results in a loss of virility. The patients in the regular action group had a significantly higher level of education and perceived

they had more general self-efficacy in condom use than those patients in the pre-contemplation group. The individual items used to measure general self-efficacy in condom use, namely the belief that it is easy to use a condom while one is infected with an STD and the belief that it is easy to use a condom every time one has sex when one is infected with an STD did not differ significantly among the four stages of change groups.

Table 6.6. Mean values and significant differences in the five concept variables and the items between the stages of behaviour change for outside partners: Pre-contemplation (P), Contemplation (C), Some Action (SA), Regular Action (RA)

Concept variable/single item	Stage of change			
	P N = 229	C N = 134	SA N = 112	RA N = 37
Communication with steady partner	2,40 ^a	2,95 ^b	2,92 ^b	3,1 ^b
Talked to partner about condom use	1,19 ^a	1,43 ^{ab}	1,51 ^b	1,57 ^b
Talked to partner about HIV risk	1,12 ^a	1,50 ^{ab}	1,41 ^b	1,56 ^b
Condom-use self-efficacy with partner	3,60 ^a	3,80 ^{ab}	3,82 ^{ab}	3,93 ^b
Be able to convince partner to use condoms	1,78	1,86	1,90	1,93
Be able to use condoms for first time	1,79 ^a	1,91 ^{ab}	1,92 ^{ab}	2,00 ^b
Attitude to condom use	7,60 ^a	8,20 ^a	8,70 ^a	10,27 ^b
Bad because not flesh-to-flesh	1,74 ^a	2,04 ^a	2,09 ^a	2,59 ^b
Bad because like masturbation	1,92 ^a	2,02 ^a	2,19 ^b	2,54 ^b
Bad because wastes sperm	1,83 ^a	1,94 ^a	2,02 ^a	2,59 ^b
Bad because causes loss of virility	2,10 ^a	2,19 ^{ab}	2,40 ^{ab}	2,57 ^b
Education	2,10 ^a	2,33 ^{ab}	2,34 ^{ab}	2,64 ^b
General self-efficacy with condom use	4,90 ^a	5,02 ^{ab}	5,38 ^{ab}	5,45 ^b
Easy for you to use condom during STD	1,62	1,62	1,75	1,78
While infected you are able to use condom every time	1,73	1,82	1,91	1,89 ^b

Note: Means with a different superscript differ significantly (One-way Tukey; $P < 0,01$).

Discussion

The male-female ratio reported in this study of all STD patients was similar to the 3:1 ratio reported by McCoy (1995). However, it must be noted that in the 26-35 age group the male-female ratio was 7:1. It has been argued that this reflects the under-reporting of STDs among woman. This may be due to misdiagnosis. For example, pelvic inflammatory disease may be classified as lower abdominal pain or as a urinary tract infection rather than an STD. The majority of the respondents are under the age of 25, which is the group that is currently being affected by HIV infection and the presence of this STD thus increases their vulnerability further.

The variables that significantly explained stages of change were similar for both groups of patients, i.e. steady and outside partners. In both partner groups communication was the variable most strongly associated with the use of condoms. There was a difference between those people who were in pre-contemplation and contemplation stages, on the one hand, and action stages, on the other hand, when assessing communication as a predictor of the various stages of change of condom-use behaviour. There was a further distinction between those in the pre-contemplation phase and those in the contemplation phase. More specifically, for patients to move from pre-contemplation to contemplation stages and then to the action stages they had to have engaged in communication about condom use and HIV risk. The findings in this study demonstrate that communication is an important factor in promoting the regular use of condoms. This is supported by other studies (Chapman, Stoker, Ward, Porritt & Fahey, 1990; Mnyika, Klepp, Kvale & Ole-King'ori, 1997).

High levels of general self-efficacy in condom use and self-efficacy in condom use with partner appears to be able to move patients from the pre-contemplation stage of condom use to the action stages for patients with both steady and outside partners. For those patients who had outside partners it was particularly the belief that they were able to use a condom during a first sexual encounter with a partner which resulted in them shifting from a pre-contemplation to a regular action stage. This finding parallels other studies in which self-efficacy has been found to be positively associated with the use of condoms (Chapman, *et al.*, 1990; Richard & Van der Pligt, 1991).

For both steady and outside partner relationships, attitudes towards the use of condoms played a role in determining patients' different stages of change. Patients with steady partners who held positive attitudes towards condoms were more likely to be in either one of the action stages while patients with outside partners who held positive attitudes towards condoms were in the regular action stage. Similarly education level influenced the stage of change in patients with outside partners. As expected, patients who had a higher level of education were more likely to be in a regular action phase with regard to condom use with outside partners. This finding is supported by other studies where higher levels of education were found to be positively associated with increasing frequency of condom use (Kapiga, Lwihula, Shao & Hunter, 1995; Mnyika, *et al.*, 1997; Kapiga, *et al.*, 1995). It is possible that patients with outside partners might perceive themselves as being at risk of contracting HIV/AIDS and other STDs and therefore be more willing to use condoms while patients in steady relationships might not necessarily see the need to use condoms regularly. The patients' previous experience with STDs did not affect the stage at which they were in condom use. This is possibly due to the fact that they had experience of being cured by using medication.

Implications for developing interventions

The findings of this study provide discrete information, i. e. in terms of content, upon which to base the development of health education programmes to promote condom use among STD clinic attenders. A limitation of the study is that it does not provide information on how to execute it. This requires further research that focuses on methods and techniques that will provide clear direction for intervention development (Bartholomew, Parcel & Kok, 1998).

This study has demonstrated that condom use among this group of people is not consistent and that they are in different stages of condom-use behaviour. The examination of the theory-driven

interventions suggest that health education messages will therefore have to be tailored to the individual to accommodate the different social and cognitive needs in the relevant stages (Prochaska, & DiClemente, 1983, 1985; Prochaska, DiClemente & Norcross, 1992; Bandura, 1986). An application of the concepts from the transtheoretical model and social cognitive theory implies that, for example, a message designed to help move people from pre-contemplation to contemplation will be different to one that would help move them from contemplation to action stages (Maibach & Cotton, 1995). Additionally the order in which this stage-appropriate information is presented will also influence the consistent use of condoms.

People who have a negative intention to use (are against using) a condom or are in the pre-contemplation stage of condom-using behaviour need an intervention that will improve their knowledge about their sexual behaviour and encourage them to examine their personal risk of acquiring an STD to help them move to the contemplation stage. This study has demonstrated that most of the STD clinic attenders, are in the pre-contemplation stage of condom-use behaviour with both their steady and outside partners.

The group that follows is the contemplators or those who are aware that they need to use condoms. They need interventions that will help them to assess the outcome of not using a condom, for example, diminished physical pleasure versus the risk of repeated STDs including HIV. As seen in this study (general self-efficacy with condom use and self-efficacy with a partner moved people to the action stages), they need to try to use a condom and gain an enhancement in self-efficacy to move to the next stage of actually using the condom and then doing so regularly in conditions that place them at risk of contracting an STD.

The data also suggest that enhanced communication between partners can help people move from pre-contemplation to contemplation and then to action. This implies that the development and testing of interventions to enhance communication related to STD and condom use between partners needs further research.

Finally, in order to maintain condom use, the strength of the newly adopted behaviour has to be developed. These interventions will need to focus on acquiring skills to circumvent obstacles to condom use, to cope with setbacks as well as gain social support for the regular use of condoms.

In other words, programmes that promote the desired behaviour should not crudely provide one message for everybody and expect them to adopt the health-enhancing behaviour (Maibach & Cotton, 1995; Prochaska, & DiClemente, 1983, 1985; Prochaska, DiClemente & Norcross, 1992; Bandura, 1986).

It is clear that the current programmes that focus on medical facts and basic knowledge will not make a serious contribution to decreasing the incidence of STDs. In addition to these recommendations, it must be noted that well-developed health education programmes must be accompanied by an improvement of the educational level among the general population in South Africa.

7 Communication with partners about current STDs: Implications for partner referral

Abstract

Objective: This study aimed at understanding communication between partners by identifying determinants for talking with a partner about a current sexually transmitted disease. Talking with a partner was viewed as an indication of the likelihood of partner referral.

Methods: A randomly selected sample of 1477 patients with STD symptoms were interviewed using a structured questionnaire. Logistic regression analysis was used to identify the determinants of talking to a partner about the present STD.

Findings: The majority of patients (69%) said they did talk to their partners about their present STDs while almost all (86%) believed that they would be able to talk to their friends and partners about STDs. The logistic regression analysis indicated that those patients who had talked were more likely to be female and employed, and had a tertiary level of education. They were about twice as likely to indicate that they had had only one sexual partner in the last 6 months, that they had used condoms during the last 6 months and had thought about abstaining from sex while infected with an STD. Furthermore, those who had talked were more likely to have a good knowledge about the effects of STDs on the neonate, to have positive beliefs about the use of condoms, to believe that one is able to pass on STD infection even in the absence of STD symptoms, to believe that their best friends would refer their partners to the clinic for STD treatment and were also more likely to believe that they would not be blamed by their partners for the STD should they refer them for treatment, than the others who did not talk.

Conclusions: Health education interventions directed at improving communication between partners about STDs will need to take cognisance of subgroups among STD patients who are less likely to talk and are at risk for STD infection. In particular this study showed that men, people with less than tertiary education, the unemployed and those with multiple partners are at risk. In addition to improving communication, improved knowledge regarding the transmission modes and consequences of STDs as well as improved beliefs and attitudes towards condoms would need particular attention. Social and partner support for partner referral and perceived self-efficacy in this regard should also be encouraged and maintained. Communication provides the mechanism through which partner referral can be accomplished. The improvement in communication between partners as a strategy for improved partner referral therefore needs to be a priority in health education programmes directed at the prevention of STD transmission.

Submitted:

Meyer-Weitz, A., Reddy, P., Van Den Borne, B., Kok, G. & Pietersen, J. (1999). Communication with partners about current sexually transmitted diseases: Implications for partner referral.

Introduction

STDs as preventable diseases are a major public health problem in South Africa both in terms of their effect on quality of life as well as economic costs. Their widespread occurrence is evidenced by the approximately 11 million episodes of STDs that are treated annually (Colvin, 1997). The early diagnosis and treatment of STDs is considered central to their syndromic management, which is the prescribed therapeutic regimen in South Africa. It is argued that the duration of infection increases the probability of harmful sequelae and STD transmission to others (Hills, Joesoef, Marchbanks, *et al.*, 1993). Therefore the promotion of early health care seeking for STD

symptoms and partner referral for STD treatment are important strategies in preventing STD transmission. The treatment of patients' partners will also prevent STD re-infection. Because of the limited financial and human resources of the present health care services in South Africa, partner notification or contact tracing by health care workers is not feasible (Colvin, 1997). Instead heavy reliance is put on patients themselves to refer their partners for STD treatment. This has proved to be problematic and many efforts are currently under way to improve partner referral rates by improved 'contact slips' (i.e. a card with a code representing the STD that the patient has been treated for to be given to sexual partners as a way to speed up treatment) and more accessible health care services (Colvin, 1997). In our qualitative study (Reddy, Meyer-Weitz, Van den Borne, *et al.*, 1998), a second study in a range of studies conducted to inform the development of a health education intervention, it was found that the lack of a uniform contact tracing policy resulted in many clinics using their own codes for particular STDs on the 'contact slips'. This, however, resulted in a serious delay in treatment in situations where the patients' partners visited other clinics rather than those where their partners received treatment.

Although improved 'contact slips' are an important strategy in facilitating early treatment of STDs, very little attention has been paid to patients' ability to communicate about their STDs with their partners as an essential prerequisite for referring them for medical treatment. However, in our first qualitative study (Meyer-Weitz, Reddy, Weijts, *et al.*, 1998) it was found that partner referral is seriously compromised by STD patients' causal explanations of STDs as well as by the unequal gender-power distribution within sexual relationships that impacts on patients' ability to communicate about sexual issues in general and about STDs in particular. With regard to patients' understanding of the cause of STDs we found that patients' perceptions that they were unable to take action for treatment before symptoms occur made it difficult for patients to understand the importance of referring their partners, who have not yet experienced any symptoms, for STD treatment. Furthermore, the inability to communicate about sexual issues in general and, in particular, to disclose one's STD, greatly diminishes the possibility of referring sexual partners for treatment. Mathews, Magwaza, Coetzee, *et al.* (1998) found in this regard that women in particular are unable to approach their sexual partners about STDs. Our study (Meyer-Weitz, *et al.*, 1998) suggested that the blame for the STD on the 'outside women' (sexual partners outside the primary relationship) would make men less likely to refer their outside partners for STD treatment while Mathews, *et al.* (1998), found that male patients' conviction in their ability to 'know' which one of their partners infected them also posed a barrier in referring all their partners for STD treatment.

Meyer-Weitz, *et al.* (1998), also found that patients with STDs indicated that discussing their STD with, especially, their primary partners would result in conflict, as the STD would be proof that they had other sexual partners. Communication about STDs was therefore viewed as better to be avoided. Thus we see that communication around STDs is complex because of the underlying meanings associated with STDs.

When developing a targeted health education intervention for the STD-clinic setting, an understanding of communication between partners about STDs is of the utmost importance as it impacts directly on partner-referral behaviour. In this study talking with a partner about an STD was viewed as an indication of the likelihood of partner-referral behaviour since the patients who were interviewed had not had the opportunity to provide their partners with 'contact slips'. The aim of the study was to investigate the factors influencing patient-partner communication about their present STD symptoms.

Methodology

Research design and instrument development

A quantitative study was conducted among patients seeking health care at dedicated STD clinics. A structured, interviewer-administered questionnaire was used. The research instrument was developed on the basis of our qualitative study which investigated the illness representations of STDs and the psycho-social and contextual determinants of STD-related behaviours (Meyer-Weitz, *et al.*, 1998) and the theory of planned behaviour (TPB) of Ajzen (1988) which provided insight into the determinants of partner-referral behaviour that needed to be investigated. This theory contends that behaviour is primarily determined by personal and normative factors as well as perceptions of control. The personal determinants of behaviour encompass knowledge, beliefs, attitudes and include one's perceptions of risk as well as the perceived seriousness of a particular disease. Normative determinants, on the other hand, refer to the social influence of important others and the desire to conform to their wishes as well as to community behavioural norms, i.e. what other people do (modelling). The perceptions of control refer to people's perceptions of their ability to perform the desired behaviour and overcome barriers in performing the behaviour. Perceptions of control correspond to Bandura's (1990) concepts of self-efficacy in social learning theory. Furthermore, the role of communication as a prerequisite for partner-referral behaviour is explained by the Construct Accessibility Model (CAM) derived from the construct-accessibility perspective, for example, of Bargh (1984), Greenwald and Pratkanis (1984) and Higgins and Bargh (1987). They argue that constructs such as beliefs, attitudes and intentions are more likely to influence a particular behaviour when they are accessible or activated in memory. Constructs become accessible for use during information processing that is facilitated by communication. It can thus be argued that the accessibility of constructs of partner referral become available to patients during conversations with partners about STD-related symptoms and health care seeking. This, however, requires that the communicators be supportive of referring their partners for STD treatment and understand the importance of partner referral in STD prevention.

In order to ensure cultural sensitivity and valid, accurate data, a rigorous step-by-step questionnaire development process was followed. Based on our qualitative study, a literature review and theoretical concept questions were developed. These questions were then translated into Xhosa by Xhosa-speaking graduate students. The questionnaire was further developed during a workshop with 15 STD patients who critiqued the language use, comprehension/understandability of questions, the appropriateness of content, cultural and gender sensitivity and sexual terminology. Based on these comments, the questionnaire was further refined and was back translated to and pretested in English. It was translated from English into Xhosa and then back translated from Xhosa into English again by a separate set of translators to ensure accuracy of meaning. A Xhosa questionnaire was pretested among 60 STD clinic attenders. Based on the results of the pretest, the questionnaire was amended and a final questionnaire was developed both in English and Xhosa. The primary investigators were English speakers.

Measurements and scale construction

Against the background of the qualitative study and theoretical frameworks, questions were constructed to determine whether they had talked to their partners (wife/husband, boy/girlfriend/outside partner) about their present STDs as well as the use of condoms and the risk of HIV if condoms were not used. Questions were developed in the broad categories of biodemographics,

knowledge, beliefs and attitudes towards STDs as well as beliefs, attitudes and support around referring partners for STD treatment. Questions about patients' perceived self-efficacy to refer partners for treatment were also included. Additionally, questions about their partner patterns and STD history were asked.

Communication about the present STD as a dependent variable was defined in accordance with the patients' responses as to whether they had talked to their partners about their present STD or not (Yes = 1; No = 0). Risky sexual behaviour was assessed by: a) the number of sexual partners in the last 6 months (1 = one partner, 2 = two partners and 3 = three or more partners); and, b) the frequency of condom use in the last 6 months (0 = every time, 1 = sometimes, 2 = never). The measurement of risky sexual behaviour was calculated by multiplying the number of sexual partners by the respondents' score for condom use. This resulted in an index for risk behaviour (ranging from 0 = no risk behaviour to 6 = high-risk behaviour).

To measure knowledge and beliefs, items consisting of both questions and statements were formulated. The patients were asked to respond to these by indicating agreement or disagreement on a 3-point scale ('Yes', 'Don't know' and 'No'). Examples are: 'Do you think that STDs can cause a baby to be stillborn?' and 'Some people say that STDs are not caused by witchcraft'. A higher score indicated a better knowledge than a lower score. Items were also formulated to measure attitudes towards condom use and towards valuing of personal autonomy in condom use and refusing sex on a 3-point scale ('Yes', 'Don't know' and 'No'). Examples are: 'Condom use is bad because it is not flesh to flesh' and 'Is it right or wrong for a man/woman to insist on using condoms?'

Scales were developed by first subjecting the 22 items, related to patients' knowledge and beliefs about the cause, transmission, consequences, seriousness and prevention of STDs to a factor analysis using proc factor. Similarly, scales were developed by subjecting the 12 items, relating to attitudes towards condom use, personal autonomy regarding sexual behaviour and condom use as well as patients' outcome expectancies of refusing sex to a factor analysis. In both instances this was done to reduce the number of items and to understand the conceptually meaningful dimensions in knowledge, beliefs and attitudes. The number of factors to be retained were selected using the scree test and the minimum eigen value of 1 as selection criteria. The PROMAX rotation was used as an oblique rotation method to allow for correlations between the rotated factors. The interpretations of the rotated factors were based on variables with factor loadings of 0,4 or higher. For the knowledge and belief measurements a 7-factor solution was retained and this explained 60% of the variance of all the items. For the attitude measurements a 4-factor solution was retained, explaining 62% of the variance of the items. The Cronbach coefficient α was computed for the items in each of the factors consisting of three or more items to test for internal consistencies. Scales consisting of only two items were constructed based on the summing of these items given a positive correlation of $r=0,42$ or higher. It is important to note that although knowledge about STD risk for HIV and STD prevention and cure emerged as factors the unsatisfactory correlation coefficients ($r=0,38$ and $r=0,19$ respectively), excluded these scales in further analysis. The individual items were, however, included in the analysis. Items with a very skewed distribution were not included in the factor analyses and frequencies were reported on.

A description of the factors that emerged from the data and were used as measurements of the respondents' knowledge, beliefs and attitudes related to STDs, condoms and personal autonomy in sexual and condom-use behaviour is provided in Table 7.1.

The two knowledge factors, each with two sample items, are:

- Knowledge of the sexual transmission of STDs (e.g. by having sex with various partners without using condoms; or from the husband's girlfriends);
- Knowledge of the effects of STDs on the neonate (e.g. STDs cause blindness in the unborn baby; and can result in stillbirth).

The three belief factors, each with two sample items, are:

- Beliefs regarding the cause of STDs (e.g. causes of STDs are witchcraft and contraceptives);
- Perceived seriousness of STDs (e.g. when noticing symptoms thinking that it would not go away; and that it was serious);
- Positive beliefs about condoms (e.g. condom use will not cause physical harm to the woman; and will not decrease intimacy).

Table 7.1. Instruments measuring knowledge, beliefs and attitudes regarding STDs and condom use

Measurements	Number of items	α/r^*	Minimum/maximum range	Mean	Standard deviation
Knowledge of sexual transmission of STDs	3	0,49	3-9	8,2	1,2
Knowledge of the effects of STDs on the neonate	3	0,75	3-9	7,9	1,5
Beliefs regarding the cause of STDs	4	0,62	4-12	7,9	2,1
Perceived seriousness of STD symptoms	2	0,44*	2-6	4,3	1,6
Positive beliefs about condoms	6	0,74	6-18	14,3	3,1
Positive attitudes towards condoms	4	0,78	4-12	8,7	2,9
Attitudes re. personal autonomy in condom use	2	0,69*	2-6	5,1	1,5
Attitudes re. personal autonomy in sexual behaviour	2	0,74*	2-6	4,3	1,8
Positive outcome expectancy of refusing sex	4	0,45	4-12	8,9	2,1

*r** – Pearson's inter-correlation coefficient

The four attitude factors, each with two sample items, are:

- Positive attitudes towards condom use (e.g. condom use is bad because it is not 'flesh to flesh'; and it is not good for the clan name);
- The attitude reflecting personal autonomy in sexual behaviour (e.g. it is right for a man or for a woman to refuse sex);
- The attitude reflecting personal autonomy in condom use (e.g. it is right for a man or for a woman to insist on using condoms);
- Positive outcome expectation of refusing sex (e.g. 'refusing sex while infected will make your partner think that you care', and 'will make your partner think that you have not been unfaithful').

Participants and data collection

Xhosa-speaking men and women seeking STD treatment in two STD clinics during November 1996 and March 1997 in Cape Town, South Africa were randomly selected to participate. Although 1535 were approached, 26 refused because they had either participated in previous research and did not want to do so again or were in a hurry and did not have time; four patients did not complete the interview due to the length of the questionnaire. Of the 1505 patients who were fully interviewed, only 23 of the respondents had no STD symptoms and were therefore not included in the sample as well as five patients who did not answer the question about talking to their partners about their present STD. The realised sample comprised 1477 STD patients (98% of the total number of patients approached). The interview lasted between 45 minutes and an hour with refreshments served halfway through. For each interview session the first STD patient was selected by approaching the patient with a request for an interview after they had received treatment. After this interview was completed subsequent potential respondents were approached after treatment. This method was followed throughout the clinic session. Written informed consent was obtained.

Fifteen Xhosa-speaking interviewers (5 males and 10 females) were trained to administer the questionnaire. One male had to be dismissed during the survey period for not following the survey procedures. In the qualitative study it was found that STD patients did not indicate a sex preference for interviewers.

Analysis

The data analysis was based on the 1477 STD patients who presented with STD symptoms and indicated that they had either talked or not talked to their partners about their present STD. Frequencies were calculated for each item in the questionnaire. These include the demographic variables such as sex, age, education and employment status. Chi-square analyses were used to determine the association between talking to their partners about their present STDs and patient characteristics such as sex, age, education, employment status, talking to partners about the use of condoms and about the risk of HIV if condoms are not used, previous STDs and frequencies of STDs, and number of sexual partners in the past 6 months. In addition, chi-square analyses were also used to determine the association between talking about the present STD and perceptions of social support and self-efficacy in referring one's partner for STD treatment.

To gain an understanding of the variables (as suggested by the Theory of Planned Behaviour) that may explain communication with patients' partners about their present STDs and to assess the predictive power of the variables, a forward stepwise logistic regression analysis with talking with a partner about the present STD as the dependent variable was conducted. In the logistic regression analyses the following co-variables were included as independent variables: sex, age, education, employment status, previous STD, knowledge about STD risk for HIV and about STD prevention and cure, perceived support for referring a partner as well as the nine measurements related to knowledge, beliefs and attitudes regarding STDs, condom use and sexual behaviour. Items with a skewed distribution (e.g. some items related to self-efficacy and social support for partner referral) were not included in the analysis but frequencies are reported on. The nine measurements were included as continuous variables while dummy variable coding was used for the categorical variables. PROC LOGISTIC was used to do the analysis. In the logistic regression analysis a test of the full model with the constant and all eight predictors of talking to a partner

about the present STD against a constant-only model was statistically reliable ($\chi^2 = 48$; df 9; $P = 0,0001$) showing that the predictors as a set reliably distinguished between the two groups. The Hosmer and Lemeshow Goodness-of-Fit Test indicated that the model fit was good ($\chi^2 = 4$; df 8; $P=0,88$).

Findings

Description of the respondents

The socio-demographic characteristics of the patients in the study are described in Table 7.2.

The majority of the clinic attenders were male (78%). This unequal gender distribution of STD patients was also reported on by Colvin (1997). Most of the respondents (40%) were in the age category of 21 to 25 years. The respondents over-25 years constituted 40% of the total sample while the adolescent group (20 years and younger) constituted 20% of the sample. With regard to the respondents' level of education, the majority had either a junior secondary education or a senior secondary education and should therefore be able to read and write. A substantial number had primary or less education (20%). Although not depicted in Table 7.2, only 1,8% had no education. Only a small group of the respondents (8%) had a tertiary education. Although the current national unemployment figure is 36% (Department of Welfare and Population Development, 1997) the majority of the respondents (58%) were unemployed (not depicted in Table 7.2).

Table 7.2. Socio-demographic characteristics of sample (N=1474*)

Age	Sex	Education				Total
		Primary and less	Junior secondary	Senior secondary	Tertiary	
20 and less	Male	23	72	73	6	174
	Female	4	46	57	8	115
21-25	Male	86	144	178	52	460
	Female	6	33	66	21	126
26-35	Male	99	163	107	21	390
	Female	9	30	27	3	69
36+	Male	59	52	16	2	129
	Female	4	5	2	0	11

*Patients with missing values were omitted.

The association of patients' characteristics with talking to their partners about their current STDs

The majority of the respondents (69%) indicated that they had talked to their partners about their present STD. Additionally, 53% said that they had talked to their partners about the use of condoms and 52% said they had talked about the risk of HIV if condoms are not used.

The females in the survey were more likely than the males to have indicated that they had talked to their partners about their STDs ($\chi^2 = 37$; df 1; $P<0,001$). The respondents with a tertiary level of education were more likely to indicate that they had talked to their partners about their present STD than the others ($\chi^2 = 11$; df 3; $P<0,01$). However, no relation was found between the respondents' age, employment status and talking about the present STD. The patients who

indicated that they had talked to their partners about condom use and about the risk of HIV if condoms were not used were also more likely to indicate that they had talked to their partners about their present STD ($\chi^2 = 101$; df 1; $P < 0,001$ and $\chi^2 = 112$; df 1; $P < 0,001$ respectively).

More than half of the respondents (52%) reported having had an STD previously. Of those respondents 45% had had it once, 33% had had it twice and 22% had had it three times or more in the last 12 months. However, no relation was found between previous experience with STDs and talking to a partner about the present STD.

The majority of the respondents (57%) reported having had two or more partners in the last 6 months. The males were more likely than the females to report having had three partners in this time period ($\chi^2 = 285$; df 2; $P < 0,001$). The respondents who indicated that they had had only one partner in the last 6 months were more likely to indicate that they had talked to their partners about their present STD than those who had had more partners ($\chi^2 = 64$; df 2; $P < 0,001$). However, males who had had only one sex partner in the past 6 months were more likely to indicate that they had talked to their partners than those who had more partners ($\chi^2 = 37$; df 2; $P < 0,001$). Women, on the other hand, had talked to their partners irrespective of the number of sex partners. Those respondents who indicated that they had used a condom in the last 6 months were also more likely to talk to their partners about the STD than those who had not used a condom during this period ($\chi^2 = 17$; df 1; $P < 0,001$). With regard to the relationship between risky sexual behaviour and talking about the present STD, it was found that those respondents with the lowest risk were more inclined to talk to their partners while those with the highest risk (risk factor 6) were least inclined to talk to their partners about their present STD ($\chi^2 = 75$; df 5; $P < 0,001$).

Perceptions of social support and self-efficacy in referring a partner

Patients perceived strong support from their partners and friends to refer their partners for STD treatment. The vast majority (89%) of the patients thought that their good friends would encourage them to refer their partners to the clinic. The respondents who indicated that their good friends would expect them to refer their partners (78%) as well as those who indicated that their friends themselves would refer their partners for treatment in the case of an STD (63%), were more likely to have indicated that they had talked to their partners about their present STD ($\chi^2 = 9$; df 2; $P < 0,01$ and $\chi^2 = 21$; df 2; $P < 0,001$ respectively). The majority of the patients (87%) also indicated that their partners would expect them to refer them immediately for treatment.

The majority of the patients held extremely positive beliefs and attitudes towards referring their partners for STD treatment. For example, 92% of the patients felt that one should refer one's partner immediately to the clinic for treatment, 92% said that they would not be frightened to refer their partners, 87% did not believe that they would feel guilty if they referred their partners and 84% of the patients were of the opinion that referring their partners would not cause trouble in their relationships. However, those patients who had had STDs previously were more inclined to believe that referring a partner for STD treatment would make them feel guilty as well as cause trouble in the relationship ($\chi^2 = 6$; df 2; $P < 0,04$ and $\chi^2 = 15,5$; df 2; $P < 0,001$ respectively).

Contrary to expectation the majority of the respondents (86%) indicated that they would be able to talk to their partners and friends about their STDs. The majority of the respondents felt that it

would not be difficult (96%) or embarrassing (97%) to refer their partners for STD treatment. The patients were also not afraid that their partners would leave them (90%) or beat them up (97%) should they refer them for treatment. Those patients who believed that they would not be blamed by their partners for the STD should they refer them for treatment (78%) were also more inclined to have indicated that they had talked to their partners about their present STD ($\chi^2 = 28$; df 2; $P < 0,001$). Those patients who indicated that they had thought of abstaining and had abstained from sex while infected with an STD were more likely to have talked to their partners about their present STDs ($\chi^2 = 9$; df 1; $P < 0,01$ and $\chi^2 = 4$; df 1; $P < 0,01$ respectively). All the patients indicated that they would refer their partners immediately for treatment. It is, however, important to note that the study did not aim to establish whether the patients who were interviewed did refer their partners for STD treatment.

Determinants of communication with a partner about the present STD

In an effort to understand why some respondents talked to their partners about their present STD while others did not, the final model fitted in the stepwise logistic regression analysis identified several variables as determinants for communication about STDs (Table 7.3).

With regard to the demographic variables, the analysis revealed that compared to those respondents who had not talked to their partners about the present STD, those who had talked were more likely to be female and employed, and had a tertiary level of education.

In comparison to those patients who had not talked about their STD, the patients who had talked to their partners were about twice as likely to indicate that they had had only one sexual partner in the last 6 months. They were also more likely to have indicated that they had used condoms during the last 6 months and had thought about abstaining from sex while infected with an STD.

With regard to patients' knowledge, the analysis indicated that in comparison to patients who had not talked, those who had talked about their present STDs were more likely to have a good knowledge about the effects of STDs on the neonate and were also more inclined to have positive beliefs about the use of condoms. In comparison to those patients who had not talked, the patients who had talked were more likely to believe that one is able to pass on STD symptoms even if one has not experienced those symptoms oneself. They were also more likely to believe that their best friends would refer their partners to the clinic for STD treatment. The patients who talked to their partners about their present STDs were also more likely to believe that they would not be blamed by their partners for the STD should they refer them for treatment than the others.

Discussion

The data suggest opportunities for intervention to improve communication between partners in order to improve partner referral. Although most respondents believed that they would be able to talk to their partners and friends about their STDs and indicated that they had talked to their partners about their present STD, it is clear that difficulties do exist around talking about STDs.

Despite the fact that age was not found to be related to talking about the present STD, it is of the utmost importance to note that the majority of STD patients (59%) were 25 years and

Table 7.3. Logistic regression analysis of the determinants of communication with partner about present STD (N=1457)

Independent variable	Parameter estimates (beta values)	Standard error	χ^2 Df 1	P- value	Unit**	Odds ratio	95% confidence intervals	
							lower limit	upper limit
Sex	-0,6907	0,1887	12,397	0,0003	1	0,501	0,367	0,684
Education	-0,6525	0,2635	6,1333	0,0133	1	0,521	0,338	0,803
Employed	0,3571	0,1313	7,4038	0,0065	1	1,429	1,152	1,774
Sex partner(s) in last 6 months	0,7053	0,1589	19,7895	0,0001	1	2,024	1,559	2,629
Condom use in last 6 months	0,3720	0,1376	7,3058	0,0069	1	1,451	1,157	1,819
Thought about abstinence	0,2639	0,1331	3,9314	0,0474	1	1,302	1,046	1,621
Knowledge about effects of STDs on the neonate	0,0923	0,0396	5,4335	0,0198	3	1,319	1,085	1,604
Positive beliefs about condoms	0,0385	0,0207	3,4806	0,0621	6	1,260	1,028	1,545
Pass on STDs only when one has symptoms	-0,04318	0,2390	3,2638	0,0708	1	0,649	0,438	0,962
Best friends don't refer their partners for treatment	-0,3028	0,1357	4,9806	0,0256	1	0,739	0,591	0,923
Will be blamed for STD when referring partner	-0,4814	0,1525	9,9688	0,0016	1	0,618	0,481	0,794

*Sex (Male = 1, Female = 0); Education (Lower than tertiary = 1, Tertiary = 0); Employed (Yes = 1, No = 0); Number of sex partners in last 6 months (One = 1, Two+ = 0); Condom use in last 6 months (Yes=1, No=0); Thought about abstinence while infected with STDs (Yes=1, No=0); Knowledge of STD effects on the neonate (Higher knowledge = high score, Lower knowledge = low score); Beliefs about condoms (Positive beliefs = high score, Negative beliefs = low score); Pass on STDs only when one has symptoms (Yes=1; No=0); Best friends don't refer their partners for treatment (Yes=1, No=0); Will be blamed for STD when referring your partner (Yes=1, No=0).

**To make the scales of the predictors comparable the odds-ratios (and confidence intervals) are determined in terms of ti units, where ti is the number of items in the factor i.

younger while 90% were 35 years and younger. This age distribution is also reflected in the relatively young age distribution of HIV-infected people in South Africa (Abdool Karim, *et al.*, 1997; UNAIDS & WHO Report, 1998). This age group should be a major target group for interventions directed at early diagnosis, treatment and prevention of STDs.

Although the patients with a tertiary level of education were more likely to have talked about their present STDs, only a small minority had a tertiary education. Thus patients with less than

tertiary level of education need particular attention. Patients who were unemployed were also less likely to talk about their present STD. The fact that these patients did not talk about STDs could partly be attributed to a lack of knowledge regarding the consequences of STDs and the need for treatment, but could also indicate a lack of skills to translate knowledge about STDs into actions, such as partner referral. The need for improved education and employment opportunities as a strategy for improved health is suggested.

The unequal gender-power relationships in southern Africa between men and women have often been cited as a reason for women's inability to talk about sexual matters and to negotiate safer sex with their partners (Colvin, 1997; Mathews, *et al.*, 1998; Meyer-Weitz, *et al.*, 1998; Scott & Mercer, 1994). However, the women in the study were more likely than the men to talk about their present STDs with their partners. Women's talking about the present STD could result from them wanting to know about their male partners' outside partners or may be a way for them to let their partners know that they were aware of them having other sexual partners. In our qualitative study (Meyer-Weitz, *et al.*, 1998), having an STD was viewed by the patients as the first evidence that their partners had other partners. Men were less likely to talk about the STD and also more likely to have had more than one partner in the last 6 months. The men's reluctance to talk about the STD could be out of fear of conflict in the relationship as suggested by our qualitative study (Meyer-Weitz, *et al.*, 1998). This is further supported by the finding that those patients who believed that they would be blamed for the STD were less likely to talk to their partners about the STD. In addition, patients who had had previous experience with STDs were more likely to indicate that referring a partner for STD treatment would make them feel guilty or cause trouble in the relationship and this might impact negatively on them referring their partners for treatment.

Patients who engaged in high-risk behaviour, i.e. those who had had two or more partners in the last 6 months and those who did not use condoms regularly, were less likely to talk to their partners about their STDs. The lack of communication in multi-partner relationships might result from an inability to locate all the partners, or not caring enough about them to take trouble to refer them for treatment as indicated in our qualitative study (Meyer-Weitz, *et al.*, 1998). It is also possible that the notion of not wanting to 'bring disease home' found in the same study, would play a role in men talking to their steady partners rather than to their outside partners about their STDs. It is clear that the problematic nature of partner-referral behaviour is further compromised by the number of sex partners patients have. The possibility of re-infection and transmission of STDs to others is facilitated by this high-risk behaviour. The need to specifically point out the consequences of high-risk behaviour in STD health education interventions is evident. While monogamy as an STD prevention strategy is challenged (Meyer-Weitz, *et al.*, 1998; Mokhobo, 1989), the use of condoms provides an alternative strategy in the attempt to prevent STD transmission. However, a better understanding is needed of communication between partners about STDs within the context of multiple partners and partner-referral behaviour in different sexual relationships. Additionally, abstinence from sex while infected could also be seen as a possible strategy to prevent STD transmission. In this regard it should be noted that patients who thought of abstaining from sex while infected with an STD were also more likely to have indicated talking to their partners about STDs. This could partly be explained by their being more aware of the consequences of STDs and the possibility of transmission.

The general ease with which patients claimed to have communicated with their partners about the use of condoms, about the risk of HIV should condoms not be used and about the present

STD suggests that communication about these issues is possible. The fact that patients who had used condoms in the last 6 months were also more likely to have talked to their partners about their STDs is partly explained by the construct accessibility perspective of Bargh (1984), Greenwald and Pratkanis (1984) and Higgins and Bargh (1987). They argue that constructs such as beliefs, attitudes and intentions are more likely to influence a particular behaviour when they are accessible or activated in memory. Constructs become accessible for use during information processing facilitated by communication. It can thus be argued that constructs of preventative behaviours were available to those patients who had engaged in condom-use behaviour. These accessible constructs of STD-preventative behaviours, in turn, impacted on them to talk with a partner about their present STD. This, however, implies an informed public as prerequisite for appropriate STD health behaviours. The importance of improving communication between partners about STD preventive behaviours as a strategy for facilitating responsible health behaviours (such as improving the likelihood of partner-referral behaviour, using condoms or abstaining from sex while infected with an STD) is thus suggested.

Patients who had a good knowledge of the consequences of STDs on the neonate, those who were aware that STDs could be transmitted in the absence of symptoms, and those who held positive beliefs about condoms were more likely to talk to their partners about their present STDs. With regard to the normative component, namely social support and influence from partners and friends about referring partners for STD treatment, it is clear that those patients who believed that they would not be blamed for the STD should they refer their partners, as well as those patients who believed that their friends would refer their partners for STD treatment, were also more likely to talk to their partners about their STDs.

The general supportive beliefs and positive attitudes expressed by most patients towards referring their partners for STD treatment may have been a result of the patients' providing socially desirable answers in response to the information they had received from health workers prior to the interview about the necessity of referring their partners. This can be considered a limitation of the study. Patients' high estimations of self-efficacy in referring their partners for STDs could partly be ascribed to the fact that nearly half of them had not experienced STDs before. However, those who did were more likely to believe that referring a partner for STD treatment would make them feel guilty and cause trouble in the relationship. Although the patients expressed the intention to refer their partners for STD treatment it is not sure whether their intentions were translated into improved partner-referral behaviour.

As communication provides the mechanism through which partner referral is accomplished, the likelihood of partner-referral behaviour could be facilitated through targeted health education interventions directed at different subgroups of STD patients who are least likely to talk to their partners and are at risk for STD infection. In particular, this study shows that men, people under the age of 35, and patients who have had previous experience of STDs and have many sexual partners, are at risk. The seeming ability of women to talk about their present STDs should be encouraged and maintained. More research is, however, needed to better understand the dynamics underlying women's talking about STDs.

It is important to note that the relative importance of the different determinants of behaviour has a profound influence on behaviour-change initiatives (Fishbein, 1990; Schaalma, Kok & Peters, 1993). For a particular individual or population group a particular behaviour could be primarily

under personal control while for others it could be under normative control (Fishbein, 1990) or even under aspects of perceived behavioural control. It can thus be argued that it is of major importance to establish which determinants explain a particular behaviour for a particular group of people during the planning phase of a health education intervention so as to tailor the intervention accordingly. However, this study suggests that attention is needed in the areas of knowledge (the consequences of STDs and transmission modes in particular), beliefs and attitudes about STDs and condom use. Social and partner support for partner referral as well as perceptions of self-efficacy in referring partners for STD treatment should be encouraged and maintained.

The recent public commitment of the South African government to unite in the fight against AIDS provides an opportunity to utilise the mass media in support of interpersonal communication between sexual partners. It is evident that the improvement of communication between partners needs to be a priority in health education efforts to improve partner referral as a strategy to prevent STDs and thus HIV.

Introduction

STDs are a major public health problem in South Africa. The prevalence of gonorrhoea, chlamydia, syphilis and genital ulcers among sexually active individuals is high.

Approximately 17% of the population aged 15-49 years are infected with gonorrhoea, chlamydia, syphilis and genital ulcers.

and a number of other factors could be used to help parents understand the importance of their role in their child's health care. For example, parents could be encouraged to discuss their child's health care with their child's teacher, who could then discuss it with the child's friends. This could help to create a supportive environment for the child and their family. The study also suggests that attention should be paid to the role of the parent in the child's health care. The study found that parents who were more involved in their child's health care had children who were more likely to be vaccinated. This suggests that parents should be encouraged to be more involved in their child's health care. The study also found that parents who were more involved in their child's health care had children who were more likely to be vaccinated. This suggests that parents should be encouraged to be more involved in their child's health care.

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8 Health care seeking behaviour of patients with STDs: Determinants of delay behaviour

Abstract

Objectives: This study investigates the determinants of health care seeking behaviours among patients with STD symptoms with a view to developing a health education intervention for the prevention of STDs. Health care seeking behaviour was assessed in terms of the time interval between noticing STD-related symptoms and seeking health care.

Methods: Structured interviews were conducted with 1482 randomly selected patients. The patients in Group 1 waited less than 7 days, patients in Group 2 waited between 7 and 10 days, and patients in Group 3 waited more than 10 days before seeking health care. A logistic regression analysis with delay behaviour as a dichotomised dependent variable was used to identify the determinants associated with delay behaviour.

Findings: Most patients (59%) sought health care within the first 6 days of noticing their symptoms, 24% waited between 7 and 10 days while 16% waited longer than 10 days. Men were more likely than women to seek health care earlier as well as patients who had a tertiary education and were employed. Although age was not associated with delay behaviour, a large group (40%) of patients was younger than 25 years. A substantial group of patients (19%) resorted to self-treatment before seeking health care. Those who first resorted to self-treatment and those who indicated that their partners suggested self-treatment were more likely to delay in seeking care. Those patients who perceived STD symptoms to be serious and those who held fewer lay beliefs regarding the causes of STDs sought health care earlier. Additionally, patients who talked about their STDs, those who valued personal autonomy in refusing sex, and those who indicated that their friends do not wait before seeking treatment were also more likely to seek health care earlier than the others.

Conclusions: Efforts to improve the early detection and treatment of STDs should be directed at various subgroups within the group of STD patients, i.e. focus on women, the youth, those with less than a tertiary education and the unemployed. The study points to salient determinants of delay behaviour that need to be addressed in a health education programme, i.e. improving patients' knowledge regarding STDs, specifically regarding the dangers of self-treatment, the causes of STDs and the seriousness of STDs and encouraging the valuing of autonomy in refusing sex. The data suggest that a health education intervention should aim to change several cognitions as well as facilitate the establishment of a social norm for early health care seeking through improved communication about STDs and social support for early health care seeking.

Submitted:
Meyer-Weitz, A., Reddy, P., Van Den Borne, B., Kok, G. & Pieterse, J. (1999). Health care seeking behaviour of patients with STDs: Determinants of delay behaviour.

Introduction

STDs as preventable diseases are a major public health problem in South Africa which impact on the economy in terms of interrupted employment, absenteeism and medical costs and on people's quality of life. Annually some 11 million episodes of STDs are treated in the country (Colvin, 1997).

Approximately 10% of the general population have ulcerative infections specifically caused by syphilis and chancroid. Gonorrhoea has an average prevalence rate of 8% and chlamydia an

average prevalence rate of about 16%. However, mixed infections occur frequently (Pham-Kanter, Steinberg & Ballard, 1996). The antenatal data on syphilis imply poor pregnancy outcome. Congenital syphilis remains an important factor affecting perinatal mortality in South Africa. Between 2,8% and 11% of stillbirths and perinatal deaths are attributed to syphilis (Delport, 1988a, 1988b; De Jong, Pattinson & Odendaal, 1988; Delport & Rothberg, 1993; Ballot & Rothberg, 1993).

The high rate of STDs in this country is cause for concern in view of research findings indicating that STDs contribute to the growing HIV epidemic and cervical cancer, infertility and ectopic pregnancies that disproportionately affect women in developing countries (Pham-Kanter, *et al.*, 1996; Meheus, Schultz & Cates, 1990; Sitas, Terblanche & Madhoo, 1996). Additionally the prevalence of asymptomatic infection, the diversity of pathogens and the atypical presentation of these pathogens pose major challenges to health care delivery in South Africa (Colvin, 1997; Pham-Kanter, *et al.*, 1996). A major difficulty in addressing the problem of STDs is increasing antibiotic resistance and, in some instances, multidrug resistance with particular reference to the use of penicillin, tetracycline and spectinomycin (Ison, Roope, Dangor, Radebe & Ballard, 1993).

In an effort to manage STDs comprehensively, the Department of Health in 1995 adopted the syndromic approach. The early diagnosis and treatment of STDs is considered central to comprehensive management and HIV prevention. It is argued that the duration of infection increases the probability of harmful sequelae and STD transmission to others (Hills, Joesoef, Marchbanks, Wasserheit, Cates & Weström, 1993; Moses, Ngugi, Bradley, *et al.*, 1994). Early health care seeking for STD-related symptoms facilitates the early diagnosis and treatment of STDs. In a study in Mwanza, Tanzania, where an intervention involved the improvement of STD management, researchers recorded a 41% reduction in the HIV infection rate in the population studied (Grosskurth, Mosha, Todd, *et al.*, 1995).

There is limited information describing health care seeking behaviours and their determinants among patients with STDs (Moses, *et al.*, 1994). In the South African context a general framework for considering help-seeking behaviour among urban black people has been suggested (Pillay, 1996). In this framework it is argued that people's health beliefs influence their health and illness behaviour and thus determine whether they treat themselves or consult family, friends or medical services (Pillay, 1996). The experiencing of symptoms is seen as setting the process of seeking help into motion. The type of help sought is viewed as being dependent on the patient's evaluation of the symptoms in terms of his/her personal conception of health and illness (Pillay, 1996).

Similarly, our qualitative study, the first in a range of studies among STD patients, indicated that STD patients' illness representations reflected their socio-cultural understanding of disease and were affected by their culturally defined gender relations (Meyer-Weitz, Reddy, Weijts, *et al.*, 1998). Perceptions of disease affected patients' general perceptions of their risk of contracting STDs and also determined whether they entered and used western-based treatment and/or traditional treatment. These perceptions of disease also affected their ideas on disease prevention. Among patients with STDs, it was observed that males who experienced severe symptoms were motivated to discuss them with friends. This resulted in them being given support in seeking help from the formal health care sector without delay. Among women, however, it was observed that the vague nature of STD symptoms meant that these symptoms were often

interpreted as 'normal' physiological events, which were related to the menstrual cycle or to pregnancy. In contrast to the men, the women expressed reluctance to discuss their STD symptoms with friends and family because of the stigma for women with STDs. Disclosure of STD-related symptoms could imply an acknowledgement that the woman's partner had other sexual partners because she was unable to satisfy his sexual desires. These factors reduced the likelihood that women would seek medical care. However, it was observed in the case of pregnant women, concern for their unborn baby was sufficiently important to prompt them to seek health care immediately.

Patients' causal explanations of STDs also seemed to influence their health care seeking behaviour. Their explanations determined the various self-help actions they engaged in on first noticing symptoms, such as washing their genitals with disinfectants and taking laxatives. Delays in seeking help from the formal medical sector were caused by such self-help behaviours as well as by attempts to obtain help from traditional healers (Meyer-Weitz, *et al.*, 1998). Apart from these factors, practical barriers to seeking health care often mentioned by patients included clinic hours as well as the limited times available for STD treatment (Meyer-Weitz, *et al.*, 1998).

An understanding of the health care behaviours of STD patients is a prerequisite for facilitating early health care seeking behaviour. In view of developing a health education intervention for the prevention of STDs, this study investigates the determinants of health care seeking behaviours of patients with STD symptoms. Health care seeking behaviour was assessed in terms of the time interval between noticing symptoms and seeking health care. This is referred to as the 'delay-behaviour interval'.

Methodology

Research design and instrument development

A quantitative study was conducted among patients seeking health care at dedicated STD clinics. A structured, interviewer-administered questionnaire was used. The research instrument was developed on the basis of a literature study and our qualitative study which investigated the STD illness representations of clinic attenders and the psycho-social and contextual determinants of STD-related behaviours (Meyer-Weitz, *et al.*, 1998). Additionally, theories of behaviour change and illness representation provided insight into the determinants of health care seeking behaviour that needed to be investigated.

The most widely used models of behaviour such as the health belief model (HBM) (Rosenstock, 1966), the theory of reasoned action (TRA) (Ajzen & Fishbein, 1980), the theory of planned behaviour (TPB) (Ajzen, 1988) and social cognitive theory (Bandura, 1990) argue that behaviour is primarily determined by personal and normative factors as well as perceptions of control. The personal determinants of behaviour encompass knowledge, beliefs and attitudes, and include one's perceptions of risk as well as the perceived seriousness of a particular disease. Normative determinants, on the other hand, relate to the social influence of important others and the desire to conform to their wishes as well as community behavioural norms, i.e. what other people do (modelling). Perceptions of control relate to people's perceptions of their ability to perform the desired behaviour and overcome barriers in performing the behaviour.

Illness representation theories focus on how lay people understand and respond to illness. It is suggested that illness cognition, i.e. patients' mental representation of health threats, determines

how they respond to those threats (Leventhal, Meyer & Nerenz, 1980). This explanation corresponds with the abovementioned theories in terms of patients' knowledge and beliefs as determinants of behaviour.

Against this background the following were investigated: biodemographics, time interval between noticing symptoms and seeking health care, self-treatment regimens followed, partner patterns and STD history, general knowledge and beliefs regarding STD beliefs and condoms, communication about the present STD, social support in seeking health care as well as perceptions of self-efficacy in seeking health care.

In order to ensure cultural sensitivity and valid/accurate data, a rigorous step-by-step questionnaire development process was followed. Once initial questions were drawn up these were translated into Xhosa by Xhosa-speaking graduate students. The questionnaire was further developed during a workshop with 15 STD patients who critiqued the language use, comprehension/understandability of questions, appropriateness of content, cultural and gender sensitivity and sexual terminology. Based on these comments, the questionnaire was further refined and was back translated from Xhosa into English. It was then translated from English into Xhosa and then back translated from Xhosa into English again by a separate set of translators to ensure accuracy of meaning. A Xhosa questionnaire was pretested among 60 STD clinic attenders. Based on these results, the questionnaire was amended and a final questionnaire was developed both in English and Xhosa. The primary investigators were English speaking.

Measurements and scale construction

Based on our qualitative study, the theoretical frameworks and a literature review, questions were developed in the broad categories of biodemographics, time interval between noticing symptoms and seeking health care, self-treatment regimens followed, partner patterns and STD history, general knowledge and beliefs regarding STDs and condoms, communication about the present STD, social support in seeking health care as well as perceptions of self-efficacy in seeking health care.

The extent of delay behaviour as a dependent variable was defined according to the patients' response on the question 'For how long did you have the symptoms before coming to the clinic?' The response categories were as follows: less than 7 days = 1; from 7 to 10 days = 2; longer than 10 days = 3. These response categories were used to group the patients into Group 1 (those who waited less than 7 days before seeking health care), into Group 2 (those who waited between 7 and 10 days before seeking health care), and into Group 3 (those who waited more than 10 days before seeking health care). The extent of delay behaviour as the dependent variable was dichotomised because of the small time interval between the two extreme groups (Groups 1 and 3). In the first analysis, the extent of delay behaviour was categorised as follows: Patients who waited 6 days and less scored 1, and those who waited more than 6 days scored 0. In the second analysis the patients who waited 7 to 10 days before seeking treatment were deleted and only the two extreme groups were considered. The patients who waited 6 days and less scored 1, and those who waited more than 10 days scored 0.

To measure knowledge and beliefs, items consisting of both questions and statements were formulated. Patients were asked to respond to these by indicating agreement or disagreement on a 3-point scale ('Yes', 'Don't know' and 'No'). Examples of the knowledge and belief items are 'Do you think that STD can cause infertility?' and 'Some people say that a man gets an STD when a

woman pushes him out during climax'. A higher score indicated a better knowledge than a lower score. Similarly, items were formulated to measure attitudes towards STD-related behaviours, health care seeking and social influence towards seeking health care. For example are 'Is it right or wrong for a woman to insist on using a condom?' and 'Will you be afraid that your partner will find out that you went to the clinic to seek treatment for your STD?'

To reduce the number of items into meaningful categories all the items related to the knowledge, beliefs and attitudes towards STDs and health care seeking were subjected to factor analyses by means of proc factor. The factors to be retained were selected by using the scree test (Cattell, 1966) and the minimum eigen value of 1 as selection criteria. The promax rotation was used as an oblique rotation method to allow for correlations between the rotated factors. The interpretations of the rotated factors were based on variables with factor loads of 0,4 or higher. The 18 items related to knowledge and beliefs resulted in a 6-factor solution, which explained 58% of the variance. The Cronbach coefficient α was computed for the items in each of the factors of three or more items in order to test for internal consistencies in these factors, and scales were constructed. Scales consisting of only two items were constructed based on the summing of these items given a positive correlation of $r = 0,42$ or higher. It is important to note that although knowledge of STDs as a risk for HIV infection emerged as a factor, the unsatisfactory $r = 0,38$ excluded this factor from further analysis. Items with a very skewed distribution were not included in the factor analyses and were investigated individually.

The ten items related to attitudes towards personal autonomy in sexual behaviour, positive outcome expectations of both refusing sex and seeking health care as well as positive expectations of social support for health care seeking resulted in a 4-factor solution explaining 60% of the variance. Scales were constructed in a similar way as discussed above. Although both positive expectations of the outcome of refusing sex and perceptions of social support for health care seeking emerged as factors, the unsatisfactory ($r = 0,24$ and $\alpha = 0,39$ respectively) excluded these factors from further analyses. A description of the factors that emerged from the data used as measurements of the respondents' knowledge, beliefs and attitudes is depicted in Table 8.1. (Items with a very skewed distribution were not included in the factor analyses but frequencies are reported.)

With regard to the factors related to the knowledge measurements, the following emerged:

- *Knowledge of the sexual transmission of STDs*: measured by three items relating to STD transmission, namely, 1: by having sex with many without condoms; 2: by the husband's girlfriends; and 3: through sex while having STD symptoms;
- *Knowledge of the effects of STDs on the neonate*: measured by three items, namely, 1: STDs cause blindness in the unborn baby; 2: STDs result in stillbirth; and 3: STDs can cause infertility.

The belief measurements consisted of the following:

- *Beliefs regarding the causes of STDs*: measured by four items for causes of STDs, namely, 1: witchcraft; 2: contraceptives; 3: sleeping with a woman who holds her breath; and 4: a woman who pushes a man out during climax.
- *Perceived seriousness of STDs*: measured by two items, namely, 1: believes that symptoms would go away; and 2: that symptoms are serious.
- *Perceived practical barriers to health care seeking*: measured by four items, consisting of the beliefs that, 1: transport; 2: clinic hours; 3: money; and 4: getting time off work would (not) be a problem in seeking care.

Table 8.1. Instruments measuring knowledge, beliefs and attitudes towards STDs and health care seeking behaviour

Measurements	Number of items	α/r^*	Minimum/ maximum	Mean	Standard deviation
Knowledge about the sexual transmission of STDs	3	0,49	3-9	8,2	1,2
Knowledge of the effects of STDs on the neonate	3	0,75	3-9	7,9	1,5
Beliefs regarding the causes of STDs	4	0,62	4-12	7,9	2,1
Perceived seriousness of STD symptoms	2	0,43*	2-6	4,3	1,6
Perceived practical barriers to health care seeking	4	0,55	4-12	5,3	1,9
Valuing personal autonomy in sexual behaviour	2	0,75*	2-6	4,3	1,8
Positive outcome expectation of seeking health care	3	0,48	3	8,1	1,4

r^* — Pearson's inter-correlation coefficient

The factors on the attitude measurements were as follows:

- *The value of personal autonomy in sexual behaviour*: measured by two items, consisting of the belief that, 1: it is right for a man to refuse sex; or 2: it is right for a woman to refuse sex.
- *Positive outcome expectation of seeking health care*: measured by three items, 1: not be accused of being unfaithful by one's partner when seeking health care; 2: not being afraid that acquaintances will find out about health care seeking; and 3: not being afraid that partners will find out about health care seeking.

Participants and data collection

Xhosa-speaking men and women seeking STD treatment in two STD clinics during November 1996 and March 1997 in Cape Town, South Africa, were randomly selected to participate. Of the 1535 who were approached, 26 refused because they had either participated in previous research and did not want to do so again or were in a hurry and did not have time; four respondents did not complete the interview due to the length of the questionnaire. Of the 1505 patients who were fully interviewed only 23 had no STD symptoms and were excluded. The realised sample comprised 1482 STD patients. The interview lasted 45 minutes to an hour. Refreshments were served halfway through. For each interview session the first STD patient was selected by approaching the patient with a request for an interview after they had received treatment. On completion of this interview, potential respondents were approached after treatment. This method was followed throughout the clinic session. Written informed consent was obtained.

Fifteen Xhosa-speaking interviewers (5 males and 10 females) were trained to administer the questionnaire. One male had to be dismissed during the survey period for not following the survey procedures. Our qualitative study showed no gender preference for interviewers.

Analysis

The data analysis was based on the 1482 patients who presented with STD symptoms. Frequencies were calculated for each item in the questionnaire. Chi-square analyses were used to determine the association between delay behaviours and patient characteristics such as sex, age, education, employment status, previous STDs and frequencies of previous STDs, and number of sexual partners in the past 6 months. The same test was used to explore the relationship between delay behaviour and behavioural responses of the patients to the STD, whether they had treated themselves prior to seeking health care and discussions with partners about their present STDs.

It was also of interest to investigate whether the three delay categories differed on the knowledge, belief and attitude measurements in terms of location. Two non-parametric tests were done to test for significant location differences between the three delay categories (the Kruskal-Wallis one-way ANOVA test and the Brown-Mood test). After identifying the factors responsible for the differences among the groups, a multiple comparison test was used to establish between which of the three categories the differences were significant.

To identify the variables which may explain the delay behaviour among patients with STD symptoms and assess the predictive power of the identified significant variables, forward stepwise logistic regression analyses were conducted with delay behaviour as a dependent variable. Logistic regression analyses were conducted because of the categorical way, as discussed, in which the dependent variable was used and because of scale characteristics. The following variables were included as independent variables in the analyses: sex, age, education, employment status, whether the respondents used self-treatment prior to seeking help, previous STD, communication about present STD and perceived support from partners and friends to seek health care as well as perceived self-efficacy and practical barriers in seeking health care. It should be noted that items with a very skewed distribution (e.g. some items related to self-efficacy in seeking health care) were not included in both the analyses but frequencies are reported on in the next section. The five measurements related to knowledge and beliefs about STDs and barriers to health care seeking as well as the two measurements related to attitudes pertaining to personal autonomy in refusing sex and to the outcome of seeking health care were included as continuous independent variables. Dummy variable coding was used for the categorical variables. Proc logistic was used to do the analysis.

In the first analysis the three categories of the dependent variable were dichotomised by combining the second and third categories into one (those respondents who waited more than 6 days versus those who waited 6 days and less). A test of the full model with the constant and all five predictors of delay behaviour against a constant-only model was statistically reliable ($\chi^2 = 182$; $df = 5$; $P = 0,001$) as the predictors as a set reliably distinguished between the two delay-behaviour groups. The Hosmer and Lemeshow Goodness-of-Fit Test indicated that the model fit was good ($\chi^2 = 9$; $df = 8$; $P = 0,3744$).

In the second analysis the second category was omitted, and only the two extreme categories were used (those respondents who waited less than 6 days and those who waited longer than 10 days before seeking help). Once again the test of the full model with the constant and all five predictors of delay behaviour against a constant-only model was statistically reliable ($\chi^2 = 155$; df 8; $P = 0,001$), indicating that the independent variables as a set reliably distinguished between the two extreme delay-behaviour groups. The Hosmer and Lemeshow Goodness-of-Fit Test indicated that the model fit was good ($\chi^2 = 4$; df 8; $P = 0,8295$).

Findings

Description of the respondents

The realised sample consisted of 1482 patients with STD symptoms. A description of the respondents in terms of sex, age and education is given in Table 8.2. The majority of the clinic attenders were male (78%) and the rest female (22%). Colvin (1997) also reported on the unequal gender distribution of STD patients. The largest group of respondents (40%) was in the age category of 21 to 25 years. The respondents over 25 years comprised 41% while the adolescent group (20 years and younger) comprised 20% of the sample. With regard to the respondents' level of education the majority had either a junior secondary education (37%) or a senior secondary education (36%). Thus the majority of the respondents (73%) had a high school education and should therefore be able to read and write. A substantial number of respondents had a primary education or less (20%). While not depicted separately in Table 8.2, only 2% had no education. A small group of the respondents (8%) had a tertiary education. Although the current national unemployment figure is 36% (Department of Welfare and Population Development, 1997), the majority of the respondents (58%) were unemployed (not depicted in Table 8.2).

Table 8.2. Socio-demographic characteristics of sample (N=1474*)

Age	Sex	Education				Total
		Primary and less	Junior secondary	Senior secondary	Tertiary	
20 and less	Male	23	72	73	6	174
	Female	4	46	57	8	115
21-25	Male	86	144	178	52	460
	Female	6	33	66	21	126
26-35	Male	99	163	107	21	390
	Female	9	30	27	3	69
36+	Male	59	52	16	2	129
	Female	4	5	2	0	11

*Patients who had missing values were excluded.

Characteristics of patients and delay behaviour

The majority of the respondents (59%) sought help from the clinic in less than 7 days after noticing their symptoms, 24% of the respondents waited between a week and 10 days before visiting the clinic, while 16% of the respondents indicated that they waited more than 10 days after noticing symptoms. Significantly, more males than females sought help from the clinic within the first 6 days ($\chi^2 = 14$; df 2; $P < 0,001$). Those respondents who had the lowest level of

education (primary or less education) waited longer before seeking help than those with specifically a senior secondary and tertiary education ($\chi^2 = 15$; df 6; $P < 0,02$). It was also the respondents who indicated that they were unemployed who were more inclined to wait longer before seeking help ($\chi^2 = 8$; df 2; $P < 0,01$). No relation was, however, found between the respondents' age and delay behaviour.

More than half of the respondents (52%) reported having had an STD previously. Those who had an STD before were more likely than the others to have reported seeking help from the clinic within the first 6 days of noticing symptoms ($\chi^2 = 8$; df 2; $P < 0,01$). The majority of the respondents (92%) who reported having had an STD previously sought help at the formal health care system and did not seek traditional treatment. Males were also more likely than females to report having had an STD previously ($\chi^2 = 68$; df 1; $P < 0,001$). Of those respondents who had an STD before, 45% had it once, 33% had it twice and 22% had it three times or more in the previous 12 months. The frequencies of STDs in the previous 12 months were not related to delay behaviour.

The majority of the respondents (57%) reported having had two and more partners in the previous 6 months. Males were more likely than females to report having had three and more partners in this time period ($\chi^2 = 285$; df 2; $P < 0,001$). The respondents who had only one partner in the last 6 months (43%) were more inclined than the others to seek help at the clinic within the first 6 days of noticing symptoms ($\chi^2 = 12$; df 4; $P < 0,01$).

The respondents who indicated that their friends would not expect them to seek help from the traditional healer first were more inclined than the others to seek help from the clinic within the first 6 days ($\chi^2 = 9$; df 4; $P < 0,06$). Similarly, the patients who were of the opinion that their friends would take STD symptoms seriously and seek help immediately at the clinic were more inclined than the others to seek help in the first 6 days of noticing symptoms ($\chi^2 = 13$; df 4; $P < 0,01$).

Delay behaviour and behavioural responses

The respondents (19%) who reported having tried to treat themselves before seeking help at the clinic were more likely than the others to have waited longer before seeking help at the clinic ($\chi^2 = 21$; df 2; $P < 0,001$). The majority of the respondents (69%) indicated that they had talked to their partner(s) about their present STD. Those who indicated that they talked about their STD were also more inclined than the others to seek help earlier at the clinic ($\chi^2 = 6$; df 2; $P < 0,05$). Although not significantly associated with delay behaviour, some patients (39,6%) indicated that their partners would suggest that they first try to treat their symptoms before going to the clinic.

Differences among the delay-behaviour groups regarding the knowledge, beliefs and attitudes measurements pertaining to STDs and health care seeking

The Kruskal-Wallis one-way analysis of variance (ANOVA) and the multi-comparison tests revealed, as indicated in Table 8.3, that the three delay-behaviour groups differed significantly from one another regarding the respondents' lay beliefs pertaining to causes of STDs. However,

the three delay groups did not differ from one another on their knowledge regarding sex as a mode of transmission of STDs and the effects of STDs on the neonate. From the multi-comparison test it transpired that a significant difference occurred among the two extreme delay groups, namely those who waited 6 days and less and those who waited more than 10 days before seeking help. The groups also differed significantly from each other in terms of their perception of the seriousness of STDs. This difference among groups regarding the perceived seriousness of STDs occurred between those respondents who waited 6 days and less and those who waited between 7 and 10 days before seeking help, and between those respondents who waited 6 days and less and those who waited more than 10 days before seeking help. No difference occurred between the three delay groups in terms of their perceptions regarding the existence of practical barriers to seeking health care.

Table 8.3. Means, standard deviations for the delay-behaviour groups together with chi-squares and *P*-values on the knowledge, belief and attitude measurements.

Measurements	Delay behaviour			χ^2 Df 2	<i>P</i> -value
	Group 1 N=876	Group 2 N=361	Group 3 N=245		
Knowledge of the effects of STDs on the neonate	7,8 (1,6)	7,9 (1,4)	8,0 (1,4)	2,40	0,3011
Knowledge of the sexual transmission of STDs	8,2 (1,2)	8,3 (1,1)	8,1 (1,3)	3,27	0,1953
Beliefs re. cause of STDs	8,0 (2,2) ³	7,6 (2,0)	7,6 (2,0)	8,55	0,0139
Perceived seriousness of STDs	4,8 (1,5) ^{2,3}	3,8 (1,7)	3,5 (1,5)	152,04	0,0001
Perceived practical barriers to health care seeking	5,2 (1,9)	5,2 (1,8)	5,5 (2,0)	2,79	0,2477
Valuing personal autonomy in sexual behaviours	4,4 (1,8) ³	4,2 (1,8)	4,1 (1,8)	7,70	0,0213
Positive outcome expectation of seeking health care	8,0 (1,4)	8,2 (1,2)	8,1 (1,4)	0,71	0,7013

Superscripts 1-3 indicate differences between pairs of means. The numbers refer to the different groups

The attitudes of the respondents towards the value of personal autonomy in sexual decision making differed in the three groups. The respondents who waited 6 days and less valued personal autonomy more than those who waited more than 10 days before seeking help. However, no difference was detected among the three groups regarding positive expectations for the outcome of seeking health care.

Determinants of delay behaviour

In an effort to understand why some respondents sought health care from the clinic within the first 6 days of noticing symptoms and why others waited longer, final logistic regression models were fitted. This resulted in the identification of several variables as determinants for delay behaviour. Table 8.4 presents the results of the logistic regression analysis for the patients who waited 6 days and less to seek help (Group 1) versus those who waited longer (Groups 2 and Group 3), while Table 8.5 presents the results of the two extreme groups, namely Group 1 versus Group 3.

With regard to the demographic variables and behavioural responses to the STD symptoms, the analyses revealed that, compared to those patients who sought health care from the clinic within the first 6 days of noticing symptoms, the respondents who waited longer (model fitted for Group 1 versus Group 2 and Group 3 and model fitted for Group 1 versus Group 3) were more likely to be female. Men were in both instances about 1,5 times more likely to seek help within the first 6 days of noticing symptoms. Men's early help seeking for STD symptoms was also supported in a study by Leenaars, Rombouts and Kok (1993) in The Netherlands.

In both the analyses the respondents who indicated that they treated themselves prior to seeking health care were more likely to delay in seeking health care. In comparison to the respondents who sought help within the first 6 days of noticing symptoms the respondents who waited longer than 10 days were more likely to be unemployed.

Table 8.4. Logistic regression analysis of the determinants of delay behaviour (group 1 versus group 2 and group 3)

Independent variable*	Parameter estimates (beta values)	Standard error	χ^2 Df 1	P-value	Unit**	Odds ratio	95% confidence intervals	
							Lower limit	Upper limit
Sex	0,3584	0,1384	6,70	0,0096	1	1,430	1,091	1,877
Self-treatment	-0,4502	0,1429	9,90	0,0016	1	0,640	0,482	0,844
Beliefs re. STD causes	0,0823	0,0274	9,03	0,0026	4	1,390	1,121	1,722
Perceived seriousness of STD symptoms	0,3987	0,0354	126,75	0,0001	2	2,220	1,932	2,550
Valuing autonomy in sexual behaviour	0,0802	0,0317	6,39	0,0114	2	1,174	1,037	1,329
Friends wait before seeking health care	-0,3720	0,1652	5,07	0,0243	1	0,689	0,499	0,953

*Sex (Male = 1, Female = 0); Self-treatment (Yes = 1, No = 0); Beliefs re. uses of STD (Correct beliefs = high score, Incorrect beliefs = low score); Perceived seriousness (Serious = high score; Not serious = low score); Valuing personal autonomy in sexual behaviour (Yes = 1, No = 0); Friends wait before seeking help at clinic (Yes = 1, No = 0).

** To minimise the influence of the scale of the predictors, the odds-ratios (and confidence intervals) are determined in terms of ti units, where ti is the number of items in the factor i.

From the personal determinants of delay behaviour included in the two final models fitted, it is shown that those respondents who sought help from the clinic within the first 6 days of noticing symptoms, compared to those who waited 7 to 10 days and more than 10 days, had fewer lay beliefs regarding the causes of STDs. In comparison to those patients who waited 7 days and longer, those who sought health care within the first 6 days of noticing symptoms were more likely to perceive the STD symptoms as serious and valued personal autonomy in sexual behaviours more than the others. Neither the knowledge measures, namely the effects of STDs on the neonate, the role of sex in STD transmission nor the positive outcome expectation of seeking health care explained delay behaviour in the two models fitted.

With regard to the normative determinants, the analysis indicated that those respondents who sought help within the first 6 days of noticing symptoms in comparison to those who waited 7 days and more before seeking help at the clinic (Group 1 versus Groups 2 and 3) were more inclined to indicate that their friends would seek health care immediately at the clinic when noticing symptoms. In comparison to those patients who waited more than 10 days, those who sought health care within the first 6 days were more likely to indicate that their partners would not suggest self-treatment of STD symptoms prior to seeking health care. The perceived barriers to health care seeking used in the analysis were not related to delay behaviour in either of the models that were fitted. It is, however, important to note that the great majority of the respondents (97%) perceived going to the clinic for STD symptoms as being easy and as not being embarrassing. All the respondents (99%) shared the intention of seeking immediate medical help for STD symptoms in future.

Table 8.5. Logistic regression analysis of the determinants of delay behaviour (group 1 versus group 3)

Independent variable*	Parameter estimates (beta values)	Standard error	χ^2	P-value	Unit**	Odds ratio	95% confidence intervals	
							Lower limit	Upper limit
Sex	0,4064	0,1898	4,58	0,0323	1	1,501	1,035	2,178
Employed	0,4163	0,1710	5,93	0,0149	1	1,516	1,085	2,120
Self-treatment	-0,6296	0,1903	10,95	0,0009	1	0,533	0,367	0,774
Beliefs re. STD causes	0,1069	0,0383	7,80	0,0052	4	1,534	1,136	2,071
Perceived seriousness of STD symptoms	0,5004	0,0502	99,16	0,0001	2	2,720	2,234	3,313
Partner suggest self-treatment prior to health care seeking	-0,3411	0,1652	4,26	0,0389	1	0,711	0,514	0,983
Valuing autonomy in sexual behaviour	0,1229	0,0443	7,71	0,0055	2	1,279	1,075	1,521

*Sex (Male = 1, Female = 0); Employed (Yes = 1, No = 0); Self-treatment (Yes = 1, No = 0); Causes of STD (Correct = high score, Incorrect = low score); Perceived seriousness (Yes = high score, No = low score); Partner suggests self-treatment prior to health care seeking (Yes = 1, No = 0); Valuing personal autonomy in sexual behaviour (Yes = high score, No = low score).

** To minimise the influence of the scale of the predictors, the odds-ratios (and confidence intervals) are determined in terms of t_i units, where t_i is the number of items in the factor i .

Discussion

A limitation of the study is the fact that only those patients who experienced STD symptoms and sought health care were included; hence the study excluded patients who were infected but did not seek health care, whether they were symptomatic or asymptomatic.

The study aimed at identifying determinants of delay behaviour among patients with STDs with a view to informing the development of a health education programme for health workers involved in STD control. The data clearly suggest that delay behaviour interventions should be directed at various groups within the population of patients with STDs. The data also point to salient determinants of delay behaviour of patients with STDs that need to be addressed in a health education programme with a view to facilitate early diagnosis and treatment and thus to assist in the prevention of STD transmission.

Although the majority of patients sought help from the clinic within the first 6 days of noticing symptoms, it is a major concern that a substantial proportion (one-fifth) waited more than 10 days before seeking health care. The findings support the notion that women in particular need to be targeted for delay-behaviour interventions. Early health care seeking by women is often undermined by the asymptomatic nature of STDs and the vague symptoms they experience in comparison to men (Colvin, 1997; Pham-Kanter, *et al.*, 1996; Moses, *et al.* 1994). Studies show that more than half of women presenting at antenatal clinics have at least one STD (Colvin, 1997). More recent studies, however, estimated that 15% of family planning and antenatal clients are seropositive for syphilis, 16% have chlamydial infections, 8% have gonorrhoea and as many as 20-25% have other vaginal infections (Colvin, 1997). However, the delay behaviour among women can be further explained by the uncertainty that often exists about their symptoms and attributing them to the menstrual cycle or to pregnancy rather than a consequence of sexual behaviour (Meyer-Weitz, *et al.*, 1998). As women in this study were more likely to have reported having only one sexual partner in the last 6 months, they probably did not perceive themselves at risk of contracting STDs. Because of the association between perceptions of vulnerability and preventive behaviours (Bauman & Siegel, 1987), it is argued by Leenaars, *et al.* (1993) that perceptions of invulnerability based on risk-reducing actions, in this case women's one-partner behaviour, could result in their not perceiving themselves at risk of contracting STDs. This could partly explain women's delay behaviour. When considering the association of STDs with cervical cancer and the latter's high prevalence of 35% among women in South Africa (Sitas, *et al.*, 1996), the facilitation of early health care seeking among women is critical, in which case focused research could contribute to a better understanding of women's health care seeking behaviour. However, the facilitation of early diagnosis and treatment for women who are asymptomatic and experience vague symptoms also poses a major challenge to the formal health care sector. Although regular screening for STDs and cervical cancer could be recommended as a way of facilitating early diagnosis and treatment, the implications of such screening in terms of human, infrastructural and financial resources where major demands are being made on limited resources, should be subjected to careful feasibility analyses.

Men experience more severe symptoms than women, which acts as an important cue for health care seeking (Colvin, 1997; Moses, *et al.*, 1994; Pillay, 1996; Meyer-Weitz, *et al.*, 1998). This notion was supported by this study in that men sought health care earlier, were more likely to be involved in high-risk sexual behaviour and were also more likely to report having had an STD previously. Since previous experience with an STD was related to seeking health care earlier, men were more likely to seek help earlier. It is possible that experience with a previous cure could contribute to feelings of control and thus facilitated the early seeking of health care as suggested by Bandura's social cognitive theory (1990).

Although the patients' ages were not related to delay behaviour, it should be noted that the majority of STD patients (59%) were 25 years and younger, and 90% were 35 years and younger. The risk of HIV infection among this age group is great given that the bulk of HIV-infected persons in South Africa are younger than 45 years (Abdool Karim, Mathews, Gutmacher, *et al.*, 1997). This age group should therefore be a major target group for interventions directed at early diagnosis and treatment of STDs. Other subgroups that would need particular attention in delay-behaviour interventions are people with no education or only a primary school education, and the unemployed. Although it could be expected that the delay behaviour of the unemployed is a result of a lack of financial resources to obtain medical treatment at clinics, this is not supported by the data in that the patients' perceptions regarding practical barriers were not related to delay behaviour. The delay in seeking health care among the respondents with no education or a very low level of education could be attributed to a lack of knowledge regarding STD symptoms and their consequences.

However, given that the majority of the respondents were unemployed and had had two and more partners during the previous 6 months, it could also be argued that the despair arising from poverty and deprivation contributed to high-risk behaviour and, in particular, to high-risk sexual behaviour among adolescents. In circumstances of poverty, coitus is often an expression or fulfillment of emotional and interpersonal needs and has little to do with sexual activity per se (Hajcak & Garwood, 1988; Preston-Whyte & Zondi, 1989). The use of coitus as a way of coping with unfulfilled emotional and interpersonal needs often results in depression, decreased self image and interpersonal problems. Indeed, among adolescents in particular, low self-esteem is associated with the practice of unprotected coitus (St. Lawrence, 1993; Treffke, Tiggeman & Ross, 1992). In addition, the use of coitus in this way can also result in hyper sexuality because emotional and other needs can only be partly fulfilled by practising coitus (Hajcak & Garwood, 1988). In terms of this argument people living in poverty are likely to eventually become entangled in a cycle of high-risk behaviour, hopelessness and fatalism from which they might escape only with difficulty. Thus, delay behaviour as a health-risk behaviour, among those with a low level of education and the unemployed can be seen partly as resulting from feelings of hopelessness and fatalism.

Apart from its implications for micro interventions such as health education at the clinic or in the community, these findings have implications at a macro or policy level. It can be argued that early health care seeking for STD-related symptoms could be facilitated through improved education and increased employment opportunities. This suggests an intrinsic link between improved health and sustainable social development.

Although the majority of respondents did not treat themselves prior to seeking help at the clinic, the findings indicate that those who resorted first to self treatment, as well as those who indicated that their partners suggested self treatment for STD symptoms, delayed in seeking medical treatment. This supports a similar finding by Moses, *et al.* (1994) who investigated the health care seeking behaviour of STD patients in Kenya. Self-treatment could be a reflection of patients' understanding of the causes of STDs and possibly the seriousness of the symptoms. The data indicate that those respondents who perceived the STD symptoms to be serious and those who held fewer lay beliefs regarding the causes of STDs sought help earlier at the clinic than the others. This finding supports illness representation theory which suggests that patients' mental representations of health threats determine the way in which they respond to health threats

(Leventhal, *et al.*, 1980). The framework proposed by Pillay (1996) for understanding health care seeking behaviour also reinforced this notion. In attempts to facilitate health care seeking behaviour it would also be necessary to improve basic knowledge regarding the causes of STDs, and the recognition of symptoms as well as knowledge of the seriousness of the symptoms and knowledge of their consequences. Apart from expanding knowledge of the role of sex in STD transmission, existing lay beliefs regarding the causes of STDs should also be addressed. In this respect Ajzen and Fishbein (1980) argue that behaviour change could be brought about by specifically addressing the underlying beliefs of people regarding a particular behaviour rather than addressing general beliefs. It should be noted that some lay beliefs such as the belief that STDs are caused by contraceptives not only have implications for delay behaviour as such but also impact negatively on reproductive health in general. For instance, the use of contraceptives for the prevention of pregnancy or the use of condoms for the prevention of STD and HIV infection could be seriously hampered by beliefs of this nature.

Other existing lay beliefs held by more than half of the respondents relate to women's role in STD transmission. The reported beliefs that STDs are caused by a woman who pushes a man out during climax and by a woman who holds her breath is supportive evidence that women are blamed for STDs (Meyer-Weitz, *et al.*, 1998). Apart from the role that these lay beliefs play in delay behaviour, it can be argued that they may also impact on general STD preventive behaviour. Should men perceive women to be responsible for the STD they might not consider their own sexual behaviour as a contributing factor to contract STDs. Hence they may fail to protect themselves from STD transmission (Meyer-Weitz, *et al.*, 1998; Scott & Mercer, 1994).

The majority of the respondents had positive expectations of the outcome of seeking medical treatment, whether they delayed in seeking medical treatment or not. However, those respondents who valued personal autonomy in sexual behaviour were most likely to seek help within the first 6 days of noticing STD symptoms. These findings may also reflect feelings of self-efficacy which could explain why they exerted behaviour control by seeking help earlier than those who valued personal autonomy in refusing sex, less.

The fact that the respondents who talked about their present STDs were inclined to seek health care earlier than those who did not, can partly be explained by the general social support from the patients' partners and friends to their seeking health care for STD symptoms. Furthermore, the influence of friends in health care seeking is illustrated by the finding that respondents who stated that their friends would immediately seek treatment for STD symptoms were also more inclined than the others to seek health care within the first 6 days of noticing symptoms. Thus instilling early health care seeking behaviour through improved communication about STD-related symptoms as a social norm could be important in facilitating early diagnosis and treatment of STDs. Furthermore, the role of communication in early health care seeking is explained by the construct-accessibility model (CAM), which has been derived from the construct-accessibility perspective of Bargh (1984), Greenwald and Pratkanis (1984), and Higgins and Bargh (1987). They argue that constructs such as beliefs, attitudes and intentions are more likely to influence a particular behaviour when they are accessible or activated in memory. Constructs become accessible for use during information processing facilitated by communication. It can thus be argued that constructs of help seeking become accessible to patients during conversations with partners and friends about STD-related symptoms. This has specific implications for interventions in that efforts at improving communication between partners about STDs would not only facilitate

early health care seeking but could also contribute to improved partner referral. The problematic nature of partner referral in South Africa is being addressed by a number of projects ranging from improved written 'contact slips' to more accessible STD services (Colvin, 1997; Mathews, Magwaza, Coetzee, *et al.*, 1998).

Despite the fact that many respondents delayed in seeking health care, they are not obstructed by practical barriers or by perceptions of embarrassment or difficulty in seeking help from the clinic. Although the studies of Meyer-Weitz, *et al.* (1998) and Pillay (1996) referred to obstacles in health care seeking such as clinic hours, getting time off work, little money, lack of transport and many others, they are not supported by the data. Inconvenient clinic hours, problems with getting off work and transport to the clinic were probably insignificant concerns for the respondents, the majority of whom were unemployed. Moreover, only a few respondents perceived barriers in seeking help from the clinic.

The intention to immediately seek health care for STD symptoms in future was shared by all the respondents. This overwhelming response could partly be explained by the possible pressure for the respondents to provide a socially desirable answer as a result of being exposed to the interview.

The theories of behaviour change and illness representation provided a useful framework for understanding delay behaviour among patients with STDs. In terms of this framework, the personal component (consisting of knowledge and beliefs regarding STDs) and the normative component (referring to social influence to seek medical care) seemed to have played a central role in determining delay behaviour in this particular study. However, more comprehensive research would be necessary to explore the relative importance of behaviour determinants in different STD populations for targeted health education interventions as suggested by Fishbein (1990) and Schaalma, Kok and Peters (1993). Interventions directed at different audiences might need to focus on different determinants. The data indicate that a health education intervention should change several cognitions but also facilitate the establishment of a social norm for early health care seeking through improved communication and social support in respect of health care seeking.

9 The determinants of health care seeking behaviour of adolescents attending STD clinics in South Africa

Abstract

Objectives: The primary aim of the study was to investigate the determinants of delay behaviour in health care seeking in a sample of 292 adolescent patients with STD symptoms. Health care seeking was assessed in terms of the time interval between noticing STD-related symptoms and seeking health care.

Methods: Interviewer-administered interviews were conducted with 292 adolescent patients (20 years and younger) selected from a random sample of 1505 STD patients. The extent of delay behaviour as a dependent variable was assessed according to the time interval between the adolescents noticing symptoms and seeking health care (1 = less than 7 days; 2 = from 7 to 10 days; 3 = longer than 10 days). A logistic regression analysis was used to identify the determinants of delay behaviour in health care seeking.

Findings: The majority (56%) of the adolescents sought health care within the first 6 days of noticing symptoms, 23% waited between 7 and 10 days and 21% waited longer than 10 days before seeking health care. For most (62%) the infection was their first experience of an STD. The majority (51%) had had two or more sexual partners during the last 6 months and only 33% indicated that they had used condoms during this time, with only 6% indicating regular use. The adolescents were generally knowledgeable about STDs in terms of their cause, transmission and prevention. They perceived strong social support from their partners and friends for health care seeking. Those adolescents who sought health care within the first 6 days of noticing STD symptoms perceived STDs to be serious, did not treat themselves prior to seeking health care and had positive attitudes regarding personal autonomy in condom-use behaviour.

Discussion: Although most adolescents sought health care relatively early, a substantial group delayed. Adolescents seemed to have adequate knowledge about the causes, transmission and prevention of STDs. It is, however, clear that attention should still be given to improving and reinforcing existing knowledge about STDs in general. Health education interventions should focus on the recognition of symptoms, the seriousness of the consequences, e.g. the risk for HIV infection, and the dangers of self treatment. When adolescents' number of sex partners, their lack of condom use and their present STD are considered within the context of the relatively young age distribution of HIV-infected people in South Africa, it is evident that adolescents constitute one of the most important target groups for the early diagnosis, treatment and prevention of STDs in the effort to curb the AIDS pandemic.

Conclusion: Sustained STD-preventative behaviours among adolescents remain critical in curbing the growing threat of AIDS in South Africa.

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Introduction

The early detection and treatment of STDs has become an important focus of comprehensive STD management, but also a major prevention strategy for HIV infection throughout the world. The relatively young age distribution of the HIV pandemic in southern Africa with most new infections

occurring among those between 15 and 24 years of age (UNAIDS & WHO Report, 1998), indicates that STDs among adolescents should be viewed with great concern. Epidemiological evidence shows an increase in HIV infection within adolescent populations (Trad, 1994). It should be noted that the reductions in HIV prevalence and incidence experienced in Uganda have occurred primarily because of a supportive environment and profound modification of perceptions of risk and behaviour among the younger age groups, i.e. the 15 to 24-year age group (UNAIDS & WHO Report, 1977). Adolescents thus constitute an important target group for the early detection, diagnosis and treatment of STDs as strategies for preventing STDs and thus HIV transmission. A delay in seeking health care was viewed by Ehrhardt and Wasserheit (1991) as a reason for high rates of STDs among adolescents.

A framework for understanding help-seeking behaviour of adults was suggested by Pillay (1996). He argued that people's health beliefs influence their health and illness behaviour and thus determine whether they treat themselves or consult family, friends or medical services. In our qualitative study (Meyer-Weitz, Reddy, Weijts, *et al.*, 1998), the first in a range of studies among STD patients, it was suggested that STD patients' illness representations are reflections of their socio-cultural understanding of disease and culturally defined gender relations that impact on their general perceptions of the risk of contracting STDs. These understandings also impact on whether they undergo formal or traditional medical treatment as well as on their ideas of prevention. However, there seems to be an absence of information on the health care seeking behaviour and the determinants of these behaviours among adolescents with STDs in South Africa.

In the process of developing a targeted health education intervention for health care workers working in STD management, an understanding of the health care seeking behaviours of the different target audiences is seen as a prerequisite for facilitating early health care seeking behaviour. The primary aim of this study was to investigate health care seeking among a sample of adolescent patients with STD symptoms. Health care seeking was assessed in terms of the time interval between noticing STD-related symptoms and seeking health care. This interval is referred to as the delay-behaviour interval.

Methodology

Research design and instrument development

A quantitative study was conducted among adolescent patients seeking health care at dedicated STD clinics. A structured interviewer-administered questionnaire was used. The research instrument was developed on the basis of a literature study and our qualitative study investigating the STD illness representations of clinic attenders and the psycho-social and contextual determinants of STD-related behaviours (Meyer-Weitz, *et al.*, 1998).

Theories of behaviour and illness representation also provided insight into the determinants of health care seeking behaviour that needed to be investigated. The most widely used models of behaviour, such as the health belief model (HBM) (Janz & Becker, 1984), the theory of reasoned action (TRA) (Ajzen & Fishbein, 1980), the theory of planned behaviour (TPB) (Ajzen, 1988) and social cognitive theory (Bandura, 1990) argue that behaviour is primarily determined by personal and normative factors as well as perceptions of control. The personal determinants of behaviour encompass knowledge, beliefs and attitudes and include one's perceptions of risk as well as the perceived seriousness of a particular disease. Normative determinants refer to the social influence of important others and the desire to conform to their wishes as well as community behavioural

norms, i.e. what other people do (modelling). The perceptions of control refer to people's perceptions of their ability to perform the desired behaviour and overcome barriers in performing the behaviour.

Illness representation theories focus on how lay people understand and respond to illness. It is suggested that illness cognition, i.e. patients' mental representation of health threats, determines how they respond to those threats (Leventhal, Meyer & Nerenz, 1980). This explanation corresponds with the abovementioned theories in terms of patients' knowledge and beliefs as determinants of behaviour.

The study investigated biodemographics, the time interval between noticing symptoms and seeking health care, self-treatment regimens followed, partner patterns and STD history, general knowledge and beliefs regarding STDs and condoms, communication about the present STD, condom use and HIV risk as well as social support in seeking health care and practical barriers to health care seeking. Perceptions of self-efficacy in seeking health care were also investigated.

To ensure cultural sensitivity and valid and accurate data, a rigorous step-by-step questionnaire development process was followed. Once initial questions were drawn up these were translated into Xhosa by Xhosa-speaking graduate students. The questionnaire was further developed during a workshop with 15 STD patients who critiqued the language use, the comprehension/understandability of questions, appropriateness of content, cultural and gender sensitivity and sexual terminology. Based on these comments, the questionnaire was further refined and was back translated from Xhosa into English. It was then translated from English into Xhosa and then back translated from Xhosa into English again by a separate group of translators to ensure accuracy of meaning. A Xhosa questionnaire was pretested among 60 STD clinic attenders. Based on the results of the pretest, the questionnaire was amended and a final questionnaire was developed both in English and Xhosa. The primary investigators were English speaking.

Measurements and scale construction

Based on the qualitative study, the theoretical frameworks and literature review, questions were developed in the broad categories of biodemographics, the time interval between noticing symptoms and seeking health care, self-treatment regimens followed, general knowledge about STDs, beliefs and attitudes regarding STDs and condom use, communication about STDs, condom use and the risk of HIV if condoms are not used, perceptions regarding self-efficacy to seek health care, social support for health care seeking as well as questions on partner patterns and condom-use behaviour.

The extent of delay behaviour as a dependent variable was defined according to the adolescents' response on the question 'For how long did you have the symptoms before coming to the clinic?' The response categories were as follows: less than 7 days = 1; from 7 to 10 days = 2; longer than 10 days = 3. Adolescents' condom-use behaviour was considered within a stages of change perspective (Prochaska, DiClemente & Norcross, 1992) and the scale was constructed as follows: Adolescents were considered to be in the precontemplation stage when they reported 'never ever' using condoms and scored 1; if they had seriously thought about using condoms they were considered to be in the contemplation stage and scored 2; if they indicated that they had sometimes used a condom they were in the some action group and scored 3; if they indicated that they used a condom every time they were considered to be in the regular action group and scored 4.

To measure knowledge and beliefs about STDs and health care seeking, items consisting of both questions and statements were formulated. Patients were asked to respond to these by indicating agreement or disagreement on a 3-point scale ('Yes', 'Don't know' and 'No'). Examples of the knowledge and belief items are 'Do you think that STDs are caused by contraceptives?' and 'Some people say that a man gets an STD when a woman pushes him out during climax'. A higher score indicated a better knowledge than a lower score. Similarly, items were formulated to measure attitudes towards STD-related behaviours, health care seeking and social influence towards seeking health care, for example 'Is it right or wrong for a woman to insist on using a condom?' 'Will you be afraid that your partner will find out that you went to the clinic to seek treatment for your STD?' Questions were also formulated to determine the patients' perceived self-efficacy to seek immediate medical care, for example 'Would you find it easy or difficult to seek health care immediately after noticing STD symptoms?' and 'Would you find it embarrassing or not embarrassing to seek health care immediately after noticing STD symptoms?' All the items were dichotomised by including the 'Don't know' response category to either the 'Yes' or 'No' categories to improve the distribution.

To reduce the number of items into meaningful categories all the items related to knowledge and beliefs about STDs and health care seeking as well as attitudes towards valuing of personal autonomy in using condoms and having sex, were subjected to factor analyses by means of proc factor. The factors to be retained were selected by means of the scree test (Cattell, 1966) and the minimum eigen value of 1 as selection criteria. The promax rotation was used as an oblique rotation method to allow for correlations between the rotated factors. The interpretations of the rotated factors were based on variables with factor loads of 0,4 or higher. The 14 items related to knowledge and beliefs resulted in a 5-factor solution which explained 60% of the variance. The Cronbach coefficient α was computed for the items in each of the factors of three or more items in order to test for internal consistency in these factors, and scales were constructed. Scales consisting of only two items were constructed based on the summing of these items given a positive correlation of $r = 0,42$ or higher. The four items related to attitudes resulted in a 2-factor solution with two items each, which explained 83% of the variance. Two scales were constructed in a similar way to the 2-item factors discussed above. A description of the factors that emerged from the data used as measurements of the patients' knowledge and beliefs related to STDs and health care seeking as well as the attitude measurements are depicted in Table 9.1. Items with a very skewed distribution were not included in the factor analyses and were investigated individually.

The two knowledge measurements, each with two sample items, are as follows:

- Knowledge of the effects of STDs on the neonate (e.g. STDs cause blindness in the unborn baby; and can result in stillbirth);
- Knowledge of STD as risk for HIV (e.g. STDs make it easier to get HIV; and can result in HIV).

The belief measurements, each with two sample items, consisted of the following:

- Misconceptions regarding the cause of STDs (e.g. causes of STDs are contraceptives; sleeping with a woman who holds her breath);
- Perceived seriousness of STDs (e.g. after noticing symptoms, thinking that they would not go away; and thinking that they were serious);
- Perceived practical barriers to seeking health care at the clinic (e.g. beliefs that transport, clinic hours, etc. would (not) be a problem in seeking care).

The scales that were constructed for the attitude measurements with two sample items were as follows:

- The value of personal autonomy in sexual behaviour (e.g. consisting of the belief that it is right for a man or woman to refuse sex);
- The value of personal autonomy in condom-use behaviour: measured by two items (consisting of the belief that it is right for a man or woman to insist on using condoms).

Table 9.1. Instruments measuring knowledge and beliefs related to STDs and health care seeking as well as attitudes towards personal autonomy in sexual and condom-use behaviour

Measurements	Number of items	α/r^*	Minimum/maximum score	Mean	Standard deviation
Knowledge of the effects of STDs on the neonate	3	0,77	3-9	7,9	1,5
Knowledge of STD and HIV risks	2	0,46*	2-6	5,3	1,1
Misconceptions regarding the cause of STDs	3	0,57	3-9	7,9	2,1
Perceived seriousness of STDs	2	0,42*	2-6	4,3	1,6
Perceived practical barriers to health care seeking	4	0,60	4-12	10,7	1,9
Valuing personal autonomy in sexual behaviour	2	0,71*	2-6	4,3	1,8
Valuing personal autonomy in condom-use behaviour	2	0,62*	2-6	5,4	1,3

r^* – Pearson's inter-correlation coefficient

Participants and data collection

Xhosa-speaking patients seeking STD treatment during November 1996 and March 1997 in dedicated STD clinics in Cape Town, South Africa were randomly selected. A sample of 1535 patients were approached. Twenty-six refused because they had either participated in previous research and did not want to do so again or were in a hurry and did not have time; four patients did not complete the interview due to the length of the questionnaire. Of the 1505 patients who were interviewed, 296 were 20 years old or younger. Four adolescents had no STD symptoms and were therefore excluded. The realised sample thus comprised 292 adolescent patients with an STD. The interview lasted 45 minutes to an hour. Refreshments were served halfway through. For each interview session the first STD patient was selected by approaching the patient with a request for an interview after they had received treatment. After this interview was completed, subsequent potential respondents were approached after they had received their treatment. This method was followed throughout the clinic session. Written informed consent was obtained.

Fifteen Xhosa-speaking interviewers (5 males and 10 females) were trained to administer the questionnaire. One male had to be dismissed during the survey period for not following the survey procedures. In the qualitative study it was learned that STD patients did not indicate a sex preference for interviewers.

Analysis

Frequencies were calculated for each item in the questionnaire including demographic variables such as sex, age and education. Chi-square analysis was used to determine the association between delay behaviours and patient characteristics such as sex, age, education, previous STDs and frequencies of previous STDs, perceived seriousness of STDs and number of sexual partners in the previous 6 months. In addition chi-square analysis was used to determine the association between delay behaviours and behavioural responses of the adolescents to the STD, namely self-treatment regimens used prior to seeking health care, discussions with partner(s) about the STD and health care seeking for a previous STD.

To understand the variables (socio-demographic and other determinants as suggested by the theory of planned behaviour) that may explain why adolescents with STD symptoms delay in seeking health care and to assess the predictive power of the identified significant variables, a forward stepwise logistic regression analysis was conducted with delay behaviour as an ordinal dependent variable. This technique was used because of the categorical nature of the dependent variable. The following variables were included as independent variables: sex, age, education, whether the respondents used self-treatment prior to seeking health care, whether they had had previous STDs, communication about the present STD, perceived accusation from partners for seeking health care, the five measurements related to knowledge and beliefs about STDs and health care seeking, as well as measurements related to attitudes towards autonomy in condom use and sexual behaviour. Items with a very skewed distribution (e.g. some items related to perceived self-efficacy and social support to seek health care) were not included in the logistic regression analysis but frequencies are reported on. The knowledge, belief and attitude measurements were included as continuous variables while dummy variable coding was used for the categorical variables. PROC LOGISTIC was used to do the analysis. A test of the full model with the two constants and all three predictors of delay behaviour against a constant-only model was statistically reliable ($\chi^2 = 64$; $df\ 4$; $P=0,0001$) as the predictors as a set reliably distinguished between the delay-behaviour groups.

Findings

Description of the respondents

The adolescents are described in Table 9.2 in terms of sex, age and education.

The majority of the adolescents were male (60%). The 19- and 20-year olds constituted 30% and 31% of the sample respectively. The younger age group (18 years and younger) constituted 39% of the sample. With regard to the adolescents' level of education the majority had a high school education and were thus able to read and write. Although not depicted in the table, the majority of the adolescents (92%) were not employed and were supported by their mothers and fathers.

Characteristics of patients and delay behaviour

The majority of the adolescents (56%) sought health care from the clinic less than 7 days after noticing their symptoms; 23% of the adolescents waited between a week and 10 days before visiting the clinic; while 21% of the adolescents indicated that they had waited more than 10 days after noticing symptoms. No significant relationships were found between delay behaviour and the demographic variables such as sex, age and education.

Table 9.2: Socio-demographic characteristics of sample (N=289*)

Age	Sex	Education				Total
		Primary and less	Junior secondary	Senior secondary	Tertiary	
14-18 years	Male	12	25	24	1	62
	Female	3	30	17	1	51
19 years	Male	4	26	24	0	54
	Female	1	6	24	3	34
20 years	Male	7	21	25	5	58
	Female	0	10	16	4	30

* Adolescents with missing values were omitted

For most of the adolescents (62%) this was their first experience of an STD. Of those adolescents who indicated that they had had an STD previously, 55% had had it once and 45% had had it twice or more during the past 12 months. All the adolescents who had had an STD previously had sought health care at clinics. No significant relationships were found between delay behaviour and previous experience with STDs or frequency of previous STDs. With regard to the patients' number of sex partners in the past 6 months, 49% had had only one sex partner in the past 6 months, 23% had had two partners and 28% had had more than two partners during this time. No significant relationships were found between delay behaviour and the number of sex partners adolescents had had in the past 6 months or between delay behaviours and condom use. Only 33% of the adolescent patients indicated that they had used condoms in the past 6 months. When considering condom use within a stages of change perspective, 35% of adolescents were in the precontemplation phase, 31% in the contemplation phase, 28% in the some action phase while only 6% indicated that they were in the regular action phase. Within the context of the present STD questions do arise as to regular condom-use behaviour.

Knowledge, beliefs and attitudes towards STDs and health care seeking

From the mean distributions on the knowledge and belief measurements regarding STDs it is clear that the adolescents generally have a good knowledge of STDs in terms of their cause, consequences and transmission.

Most of the adolescents held supportive beliefs and positive attitudes towards early health care seeking. For example, 90% believed that one should seek health care immediately when noticing STD symptoms, 96% indicated that one should not try to treat one's STD symptoms oneself but rather seek health care; and 97% said that one should not seek help from the traditional healer for STD symptoms.

Upon noticing STD symptoms, the majority of the adolescents (64%) thought that it was serious while 59% of the adolescents also thought that it would go away. Those adolescents who believed that STDs were serious were more inclined to seek health care within the first 6 days of noticing symptoms than the others ($\chi^2 = 25$; df 1; $P < 0,001$). On the other hand, those who thought that the STD symptoms would go away were more inclined than the others to wait longer than 10 days before seeking health care ($\chi^2 = 30$; df 1; $P < 0,001$).

Social support for health care seeking

The adolescents were of the opinion that their good friends and their partners would support them in seeking health care for their STD symptoms (84% and 94% respectively). The majority of the adolescents (73%) also believed that their partners would not accuse them of being unfaithful should they go to the clinic for STD treatment. No significant relationship was found to exist between this belief and delay behaviour. The adolescents were also not afraid that other people would find out that they had sought health care for an STD (90%), or that their partners would find out that they had sought health care at the clinic (88%).

With regard to their friends' own health care seeking behaviour, the majority (63%) believed that their friends would also seek health care immediately for STD symptoms. No significant relationships were found between these opinions and delay behaviour. The majority of the adolescents (90%) also indicated that their partners would take STD symptoms seriously and would seek health care.

Perceived self-efficacy to seek health care

The majority of the adolescents indicated that they would not find it difficult or embarrassing to seek health care immediately after noticing STD symptoms (97% and 96% respectively). With regard to perceived practical barriers to seeking health care the majority did not believe that transport (83%), the clinic opening hours (85%) nor money (81%) would pose a problem in seeking health care. All the adolescents indicated the intention to seek health care immediately in future for STD symptoms.

Delay behaviour and behavioural responses

Only a few of the adolescents (14%) indicated that they had treated their STD symptoms prior to seeking health care by washing their genitals with disinfectants, using laxatives or using traditional medicines (muti). The adolescents who resorted to self-treatment were more inclined than the others to wait longer than 10 days before seeking health care ($\chi^2 = 8$; $df 2$; $P < 0,01$). The majority (65%) indicated that they had talked to their partners about their present STDs. However, no significant relationship was found between delay behaviour and talking to partners about present STDs.

Determinants of delay behaviour

In order to understand why some adolescents sought health care from the clinic within the first 6 days of noticing symptoms and why others waited longer, a stepwise logistic regression analysis was performed. Only three variables were found to predict delay behaviour as depicted in Table 9.3.

In terms of the behavioural responses to the STD symptoms, the analysis revealed that, compared to those respondents who sought health care within the first 6 days of noticing symptoms, the respondents who waited longer were 2,4 times more likely to have reported treating themselves prior to seeking health care. Similarly, in comparison to those who sought health care within the first 10 days, the adolescents who waited longer than 10 days were also 2,4 times more likely to treating themselves prior to seeking health care from the clinic. With regard to the knowledge, belief and attitude measurements it was indicated that in comparison to those adolescents who waited longer than 6 days to seek health care, those who sought health care within the first 6 days were about 2,5 times more likely to have believed that the STD symptoms were serious and were about twice as likely to have positive attitudes towards

personal autonomy in using condoms. Similarly, in comparison to those adolescents who waited longer than 10 days, those who sought health care within the first 10 days of noticing symptoms were also more inclined to have perceived the STD symptoms to be serious and to have indicated valuing personal autonomy in using condoms. The other items, sex, age, education, previous STDs and number of sex partners and other knowledge and belief measurements were omitted from the final model that was fitted because of a non-significant contribution to the prediction of delay behaviour.

Table 9.3. Logistic regression analysis of the determinants of delay behaviour

Independent variable*	Parameter estimates (beta values)	Standard error	χ^2 Df 1	P-value	Unit**	Odds-ratio	95% confidence intervals	
							Lower limit	Upper limit
Self treatment	-0,8586	0,3302	6,76	0,0093	1	0,424	0,222	0,809
Perceived seriousness of STD symptoms	0,4532	0,0757	35,84	0,0001	1	2,475	1,840	3,330
Valuing personal autonomy in condom-use behaviour	0,4067	0,0939	18,75	0,0001	2	2,255	1,561	3,259

*Self treatment (Yes = 1, No = 0); Perceived seriousness (Yes = 1; No = 0); Valuing personal autonomy in condom-use behaviour (Yes = 1, No = 0).

** To minimise the influence of the scales of the predictors the odds-ratios (and confidence intervals) are determined in terms of ti units, where ti is the number of items in the factor i.

Discussion

The primary aim of the study was to understand the determinants of delay behaviour among adolescent patients with STDs with a view to informing the development of a health education programme that targets adolescents attending STD clinics. The data point to salient determinants that need to be addressed in a health education programme that would facilitate early diagnosis and treatment. This will prevent STD transmission and thus HIV infection.

Although the majority of the adolescents sought health care from the clinic within the first 6 days of noticing symptoms, a substantial proportion of the adolescents waited more than 10 days. Contrary to the findings of Fortenberry (1997) in a similar study among adolescents, and our own study (Meyer-Weitz, *et al.*, submitted) on the health care seeking behaviour of STD clinic attenders, the females in this study seemed not to have waited longer than the males in seeking health care. This could be a result of their general awareness of STD symptoms, their knowledge about the transmission modes, the consequences of STDs and prevention as reflected in their mean scores on knowledge and beliefs about STDs and condoms. However, it should be noted that the adolescents' knowledge regarding STDs could also be the result of health education they received from the health workers in this regard prior to the interview.

The factors that emerged as predictors of delay behaviour were the seriousness with which the adolescents perceived STDs, their attitudes towards the valuing of personal autonomy in condom-use behaviour and self treatment. Those adolescents who perceived their STD symptoms to be serious were less likely to delay in seeking health care. Perceived seriousness of STDs were also found to determine a delay in health care seeking in our own study among STD patients (Meyer-Weitz, *et al.*, submitted). This finding is supported by illness representation theory, which suggests that patients' mental representations of health threats determine the way in which they respond to health threats (Leventhal, *et al.*, 1980). This notion was also reinforced by the framework for understanding help-seeking behaviour proposed by Pillay (1996). Although the adolescents seemed to have adequate knowledge about STDs in general when examining their mean scores on knowledge and beliefs, the improvement of knowledge about STDs and, in particular, about the seriousness of STDs should not be neglected and continuous effort is needed to reinforce their knowledge of STDs as important prerequisites for preventative behaviours. However, a better understanding is needed of the influence of perceived risk for STDs, including HIV, as a motivating factor for early health care seeking before it can be widely used as a strategy in STD health education interventions.

Although the majority of respondents did not treat themselves prior to seeking health care at the clinic, the findings indicate that those who resorted first to self-treatment delayed seeking medical treatment. Moses, *et al.* (1994) made a similar finding in an investigation of the behaviour of STD patients in Kenya. Self treatment as a determinant for a delay in seeking health care was also found in our own study among STD patients (Meyer-Weitz, *et al.*, submitted). It is possible that self-treatment is a reflection of adolescents' understanding of the causes of STDs and perceptions about the seriousness of the symptoms. Improved knowledge in this regard with specific reference to the recognition of symptoms could discourage self-treatment regimens because these can interfere with diagnostic tests, while douching is also associated with pelvic inflammatory disease (Wolner-Hanssen, Eschenbach, Paavonen, *et al.*, 1990).

The majority of respondents had positive expectations of the outcome of seeking medical treatment, held positive attitudes and supportive beliefs about early health care seeking for STD symptoms and perceived strong support from their friends and partners to seek health care, independently of whether they delayed in seeking medical treatment. Those respondents who valued personal autonomy in condom use were most likely to seek health care within the first 6 days of noticing STD symptoms.

Despite the fact that some adolescents delayed in seeking health care at the clinic, help seeking seemed not to be obstructed by practical barriers or by perceptions of embarrassment or difficulty in seeking health care from the clinic. Although the studies of Meyer-Weitz, *et al.* (1998) and Pillay (1996) referred to obstacles in health care seeking such as clinic hours, getting time off work, little money, lack of transport and many others, they were not found to be significant in this study. This may have been because all the respondents were living in the Cape metropole, relatively close to the clinics. Moreover, only a few adolescents perceived barriers in seeking help from the clinic.

The intention to immediately seek help from the clinic for STD symptoms in future was expressed by all the respondents. This overwhelming response could possibly be explained by the pressure

experienced by the adolescent respondents to provide a socially desirable answer as a result of being exposed to information by health workers as well as the interview.

The findings on the adolescent patients' previous and current experiences with STDs, their number of sex partners in the previous 6 months as well as their lack of condom use during this time, suggest that their knowledge, positive attitudes and supportive beliefs about STDs and early health care seeking have not been translated into STD- and HIV-preventative behaviours, in particular condom use. Using the stages of change perspective (Prochaska, DiClemente & Norcross, 1994) to assess condom use, it was found that the majority of the adolescents were in the precontemplation and contemplation stages. Against this background and in light of the increasing levels of HIV infection and the relatively young age distribution of HIV-infected people in South Africa (Abdool Karim, Mathews, Gutmacher, *et al.*, 1997; UNAIDS & WHO Report, 1998), it is evident that adolescents constitute one of the most important target groups for the early diagnosis, treatment and prevention of STDs in the effort to curb the AIDS pandemic.

A serious limitation of the study is that only adolescents who experienced STD symptoms and sought health care were investigated; hence the study excluded patients who were infected but did not seek health care, whether they were symptomatic or asymptomatic. Some infected patients who did not seek health care may be those patients who have already been infected for a very long time, while some of them may never seek treatment or may wait until a very severe escalation of the disease occurs. It may be that other variables than the ones we found as predictors of delay behaviour in our sample are responsible for not seeking care or for extreme delay.

Conclusion

The findings suggest that although adolescents seemed to have a general awareness of STDs, their perceptions of the seriousness of STD symptoms are inadequate. It is therefore suggested that adolescents' knowledge about STDs needs to be improved, particularly in the area of recognition of STD symptoms and their consequences. This would also discourage self-treatment practices. It should be borne in mind that adolescents will only be able to use information for informed decision making regarding early health care seeking and other preventative behaviours once internalisation of knowledge has occurred (Bargh, 1984) through the application of sound educational principles (Mullen & Green, 1990; Mullen, Green & Persinger, 1985). However, evidence of the effectiveness of health education interventions in promoting preventative behaviours among adolescents within a South African context is needed.

The lack of condom use among adolescents, is a serious concern for STD (including HIV) prevention and requires urgent attention. The fostering of positive attitudes regarding the valuing of personal autonomy in condom use needs to be addressed because of its association with early health care seeking. Environments supportive of early health care seeking such as clinic accessibility, would remain a prerequisite for the prevention of STDs and need to be continuously improved. Sustained STD-preventative behaviours among adolescents remain critical in curbing the growing threat of AIDS in South Africa.

experiment by the adolescent respondents to provide a more accurate picture of their knowledge and attitudes towards STD. The findings of the adolescent patients' previous and current experiences with STDs were not reported in the previous 6 months as well as the lack of knowledge concerning the fact that adolescent HIV knowledge, positive attitudes and appropriate health-seeking behaviour may have not been translated into HIV and HIV-prevention behaviour. The findings of the adolescent patients' previous and current experiences with STDs were not reported in the previous 6 months as well as the lack of knowledge concerning the fact that adolescent HIV knowledge, positive attitudes and appropriate health-seeking behaviour may have not been translated into HIV and HIV-prevention behaviour. The findings of the adolescent patients' previous and current experiences with STDs were not reported in the previous 6 months as well as the lack of knowledge concerning the fact that adolescent HIV knowledge, positive attitudes and appropriate health-seeking behaviour may have not been translated into HIV and HIV-prevention behaviour.

A serious limitation in the study is that only adolescents were exposed to the knowledge and health-seeking behaviour intervention. It would be interesting to know whether the health-seeking behaviour intervention had any effect on the adolescents' knowledge, attitudes and health-seeking behaviour. The findings of the adolescent patients' previous and current experiences with STDs were not reported in the previous 6 months as well as the lack of knowledge concerning the fact that adolescent HIV knowledge, positive attitudes and appropriate health-seeking behaviour may have not been translated into HIV and HIV-prevention behaviour.

Conclusion

The findings suggest that although adolescents appear to have a general awareness of STDs, the majority of the adolescent patients do not seek health care when they have symptoms. The findings of the adolescent patients' previous and current experiences with STDs were not reported in the previous 6 months as well as the lack of knowledge concerning the fact that adolescent HIV knowledge, positive attitudes and appropriate health-seeking behaviour may have not been translated into HIV and HIV-prevention behaviour.

The findings of the adolescent patients' previous and current experiences with STDs were not reported in the previous 6 months as well as the lack of knowledge concerning the fact that adolescent HIV knowledge, positive attitudes and appropriate health-seeking behaviour may have not been translated into HIV and HIV-prevention behaviour.

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10 The Learning Curve: Health education in STD clinics in South Africa

Abstract

This qualitative study aims to assess health education practice in STD clinics in South Africa with a view to develop improved health education programmes in such clinics. Health workers' knowledge of and attitudes towards health education practice, their perceived health education skills, the content of health education in STD clinics and the organisational structure as context for health education were investigated. In-depth interviews were conducted with 18 health care workers practising in the area of STD control.

A lack of knowledge and skills required for effective health education practice was reported. The constraints posed by health workers' current knowledge and skills around health education and the organisational structure in terms of the absence of policy and protocols to govern health education, limited time, space and resources, impede on the actual practice of health education. It seems that these obstacles to health education facilitate a biomedical approach to STD management. This approach is further portrayed in the power dynamics between the health workers as well as between health workers and patients.

The data suggest that a health education intervention needs to be directed at an individual level namely at health workers and at the organisational level, i.e. the clinic that provides the context for health education. The newly adopted district health system which embraces medical care and health promotion equally augers well for a holistic management of STDs in South Africa. This would ensure the recognition of all categories of health workers' contributions to health education within their own functions, strengths and time limitations.

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Introduction

This study analyses the practice of health education by health workers practising in the area of sexually transmitted diseases (STDs) control. It was undertaken against the background of the economic and social impact of the country's rising rates of STDs and HIV (Pham-Kanter, Steinberg & Ballard, 1996). Since health education is a component of the newly adopted syndromic management of STDs (Reddy, 1996), the study assesses the health workers' role as health educators and, thus as key contributors to a comprehensive STD control programme. The impact of South Africa's health care structure on health education in the field of STDs was also assessed. It is one of a series of studies that are being conducted with a view to develop improved health education programmes in STD clinics.

Health education has been identified as a cornerstone of primary health care by the ALMA ATA declaration of 1978 (WHO/UNICEF, 1978), the Ottawa Charter of Health Promotion, 1986 and advocated as one of the strategies to achieve 'Health for All'. It is defined as any combination of learning experiences designed to facilitate voluntary behaviours conducive to health (Green & Kreuter, 1991). The effectiveness of health education interventions is dependent on the use of

theoretical knowledge in the area of behaviour change and the quality of its planning (Devine, 1992; Kok, 1985; Mullen, Douglas & Velezer, 1992; Mullen, Green & Persinger, 1985). The importance of providing feedback to inform the learner about progress, reinforcement to encourage and reward learners, development of skills, i.e. self-efficacy as well as social and environmental support for behaviour change are also emphasised (Ajzen, 1988; Bandura, 1990). Planning for the development of a health education programme should be based on an identification of the problem or issue that needs to be addressed, the behaviours or practices associated with the problem, as well as a careful analysis of the determinants of the behaviours or practices (Green & Kreuter, 1991). The planned programme needs to be subjected to careful pretesting and evaluation. When health education is suggested as a strategy for prevention it has to occur within an ecological perspective. This implies that health education interventions need to be integrated with advocacy, policy development, organisational and economic support (Green & Kreuter, 1991).

Health education, while inadequate by itself, is a key discipline that must be harnessed in any comprehensive management of primary health care concerns. The recent adoption of the syndromic approach to STD management in South Africa is an attempt in this regard. Although the medical component of the syndromic approach is well developed, little attention appears to have been paid to the health education component (Reddy, 1996). The focus on medical diagnosis and treatment is a reflection of the historic biomedical focus of the health care delivery system in South Africa (De Beer, 1994). The report of the National Health Services Commission in 1942 (also known as the Gluckman Commission) posed the first challenge to this approach in South Africa. The Commission (De Beer, 1994) reported that disease levels were unacceptably high, largely as a result of social and economic conditions. It was recommended that several thousand health educators be trained to do basic health education and preventive work in the community. The Commission's progressive proposals were not carried out because of a lack of political will (De Beer, 1994).

Within the traditional medical paradigm doctors dominate the medical environment because of their expert medical knowledge which enables them to hold the most powerful positions within the hierarchy (Freidson, 1970; Stein, 1967; Svensson, 1996). Nurses and all other health care workers are in subordinate positions. The hierarchy evident in the relationships between different categories of health workers reflects the hierarchical nature of health care delivery (Dingwall & McIntosh, 1978). The classic model of the doctor-nurse game can be used to explain the interaction between health professionals within the hierarchy (Freidson, 1970; Stein, 1967). According to the model the monopoly of expert knowledge places doctors in a powerful and unchallenged position at the top of the hierarchy. Nurses are viewed as an extension of medical doctors in that they have to follow the doctors' orders without questioning or doubting them in any way because of the perception that their medical knowledge is limited. The power division is gender-influenced in the sense that historically 'cure' has been linked with masculinity and has been ascribed a higher status than 'care' which is associated with femininity and has thus received lower social status (Davis, 1988; Porter, 1992; Weijts, 1993). Changes to the established biomedical structure are difficult to initiate because the deterministic hierarchical nature of authority allows few opportunities for health professionals to change their social interactions.

The shifts in global disease patterns such as increases in HIV and chronic diseases have forced biomedical structures to recognise the significance of all levels in the hierarchy in the delivery of

comprehensive health care. It is argued by Corbin and Strauss (1988) that the new spectrum of illnesses confronting present-day medicine has extended the focus on the body to include a social dimension to health care. This health care shift from 'preventing death to handling life' (Arney & Bergen, 1994) – such as in the management of chronic diseases – has improved nurses' positions in the medical hierarchy. Nurses' expertise in the social dimension of health care makes doctors more dependent on nurses for making decisions about diagnosis, treatment and rehabilitation (Svensson, 1996). The new social order that has emerged in the delivery of health care is described by Svensson (1996) as a negotiated order. This perspective is argued to be a more appropriate framework than the doctor-nurse game model to understand present-day interactions within the health care setting (Hughes, 1988; Porter, 1991; Svensson, 1996).

The widespread realisation of the equal importance of the biomedical and humanistic side to medicine, i.e. patients' cure and care needs, has renewed focus on the doctor-patient relationship (Ong, De Haes, Hoos & Lammes, 1996). While medical technology can be applied with great success in treatment and diagnosis, interpersonal communication is the primary tool by which health workers and patients can share information (Ong, *et al.*, 1996). It is suggested that the combination of a patient-centred and physician-centred approach in which patients are allowed to lead in areas where they are the experts such as symptoms, preferences, concerns, and the doctor leads in the areas such as disease details, diagnosis and treatment in shared decision making, would improve health care delivery and patient behaviour (Ong, *et al.*, 1996; Roter & Hall, 1992).

It is only currently, with the adoption in 1996 of the District Health System (DHS) (Department of Health, 1995) which places equal emphasis on medical care and health promotion, that South Africa has come to show greater acknowledgement of the ecological perspective in primary health care.

Guided by this background health workers were interviewed to explore their knowledge of and attitudes towards health education practice and patients as well as their perceived health education skills with regards to STDs. The study further investigates the content of the health education that they provide and explores the organisational structure as the context in which health education occurs.

Methodology

Sample

A total of 18 health workers practising in the area of STD control within the primary health care setting were interviewed. Of these, 7 were nurses, 8 were medical doctors and 3 were dedicated health educators.

The interviewees were selected from primary health care clinics in the Western Cape and Mpumalanga. In the Western Cape these clinics are staffed by doctors, nurses and, in some instances, health educators. In Mpumalanga the clinics are staffed by nurses and visited by doctors on a regular basis. While doctors and nurses are trained in disease management the health educator group reflects diverse educational backgrounds and levels of qualification, ranging from high school to tertiary training. The health educators receive in-service training in the practice of health education.

Staff in these clinics were approached to participate. Of the 22 health workers approached, four refused (three nurses and one health educator) to participate for undisclosed personal reasons. In-depth individual interviews were conducted with 8 doctors (6 male and 2 female), 3 nurses (female) and 3 health educators (2 male and 1 female) working in dedicated STD clinics. One doctor occupied a management position only, while 2 doctors held both management and clinical positions. One of the health educators was responsible for the management of the health promotion programme in her organisation. The 4 nurses working in a comprehensive primary health care (PHC) clinic were interviewed using a focus-group method as their working schedule prevented them from having time for in-depth individual interviews.

The STD clinics which participated in the study are attended by people from historically disadvantaged black communities. As STDs comprise a major burden of disease in South Africa these clinics experience large patient loads. In the Western Cape clinics studied, the STD clinic treatment sessions comprise 4- to 5-hour dedicated slots while in the Mpumalanga clinics STD clinic attenders visit the clinic at any time.

Data collection and interview schedule

The data were collected using a semi-structured interview schedule which was developed after discussions with grassroots and management staff from the health services. From these discussions anchor questions were formulated to introduce different topics during the interview. The questions covered the general themes of educational background, knowledge about health education and STD-related matters, health education training, attitudes towards health education, attitudes towards clients with STDs and the organisation as context for health education. The interviews were conducted in English since the health workers were able to communicate fluently in English.

The qualitative data management programme Kwalitan (Peters & Wester, 1990) was used to manage the data. This programme enabled the researchers to conduct a content analysis in a structured manner. This process involved searching the data for phenomena and grouping these into concepts which formed the basic unit of analysis. The data were initially examined independently by the first two authors to identify concepts. The concepts were then grouped into broader categories in which properties and dimensions were identified by all the authors. The categories which emerged during the analytical process are discussed below.

Results

Knowledge of and attitudes towards health education

Health education was commonly defined by the interviewed doctors, nurses and health educators as the transmission of 'correct and accurate medical information'. Health workers are perceived by themselves as having to issue 'instructions' which patients are expected to carry out. Although the health workers had a positive attitude towards health education as a discipline and described it as an important aspect of primary health care, patients' perceived failure to follow advice and act upon it is blamed on the patients' shortcomings or on the ineffectiveness of health education. Thus patients' failure to act on 'instructions' is not seen as resulting from the shortcomings in the health education practice.

According to a medical doctor the low level of education among STD patients is to be blamed for their not following health workers' instructions.

Male medical doctor: "... if they were more educated ... they will accept what the doctor informs them and they will realise that they have their lives at stake, which these people can't understand."

In addition to negative attitudes to patients' educational levels other judgements and blaming attitudes among health workers were cited by health educators as undermining the effectiveness of health education practice. In particular they argued that this had a detrimental effect on patients' treatment-seeking and treatment-completion behaviours.

Male health educator: "... there was a young lady, I think she was 18 years old, she had syphilis, TB and she was HIV positive. She only came here once, and you know people were just laughing at her ... professional people laughing ... she never came back ... When I asked her why? She said: 'I noticed that everybody was looking at me and then they laughed'...that does not give a good symbol to our job."

Health educators ascribed this judgmental approach in the case of nurses to a lack of knowledge and skills in health education practice.

While many of the health workers interviewed reported that other health workers were judgmental, only one doctor interviewed expressed judgmental views about STD patients himself. According to him, STD patients do not care about getting STDs and infecting others and are therefore not worth educating.

Male doctor: "... abnormal behaviour is the cause. Well they have got nothing to do for 24 hours because they are unemployed so they have sex ... We can't make them go and tell their partner, and they don't care about it anyway ... if they can't get sex from that woman they get it around the corner."

Other doctors and nurses pointed to repeated re-infections as the basis for their scepticism of health education practice in the STD setting.

Female nurse: "... in terms of re-infections sometimes you see patients coming in ... maybe over a period of a year, they come in three or four times with the same problem. ... so one assesses that each time they come in they have had some health education. Therefore for them to be presenting with the same thing there must be a problem somewhere."

Health education is perceived as a luxury in a clinic setting that is characterised by time and space constraints. As one doctor described it, it is perceived to contribute to 'chaos' in a busy clinic. A nurse reported that health education is seen as placing a burden on limited resources.

Health education training

All three categories of health workers indicated that they feel inadequately prepared for the task of health education. Doctors explained that their basic medical training did not sufficiently address the social science aspects of medical practice.

Male doctor: "You know, we missed this in our basic training as doctors ... we missed sociology, social aspects in our training. I mean we had one or two lectures on human health."

Nurses, on the other hand, indicated that they received some in-service training. Their training focused primarily on the diagnosis and treatment of STDs. The knowledge they acquired was of a biomedical and pharmaceutical nature. Where health education was included in the training it was limited to 1 day of a 5-day course. Nurses commented that they were thus under-informed about the actual practice of health education and felt inadequately prepared for their health education tasks.

Although health educators received more training in the practice of health education, they too considered it insufficient. According to them, their limited access to specialised medical knowledge left them feeling ill-prepared for their health education tasks. They expressed the view that doctors and nurses were reluctant to promote improvement in the skills of health educators.

Organisational structure as the context of health education practice

Policies and protocols

Within the organisational frameworks of the clinics studied, formal policies and protocols regulate the medical diagnosis and treatment of STDs. These ensure that diagnosis and treatment are available, planned, consistent and that adequately trained personnel are available for the medical management of STDs. All categories of health workers are aware of the existence of these policies and protocols and are familiar with their content. Although the expectation exists that all members of the STD team will provide health education, since it is seen as implicit in the general duties of doctors, nurses and health educators, the respondents were unaware of any formal policies and protocols governing the practice of health education. The consequence is that no one takes responsibility for health education policy, co-ordination, development of protocols nor the evaluation of practice. While all the health workers mentioned the absence of formal protocols and policies for health education practice as a reason for health education being conducted in an unstructured, unplanned and irregular manner, it was the health educators who emphasised the 'Cinderella' status of health education. They argued that health departments do not provide supportive policies to facilitate appropriate infrastructure, skills, resources and protocols for health education practice. Health education was therefore provided at the discretion of health workers and thus dependent on their mood, motivation and the value that each individual placed on health education.

Female nurse: "Health education does not happen in every case. Many factors play a role ... their own abilities, their own comfort with the subject ... pressures at the clinic ... some are interested some are not They wake up in a bad mood, got a headache, don't feel well It depends on the individual to what extent they are involved in health education."

The respondents explained that they rely exclusively on their medical knowledge and their working experience with STDs when 'educating STD clinic attenders'. Thus an uncertainty exists among the various health workers as to the content of the different health education efforts of the

various members of the team. Doctors and nurses assumed that the health education information given by each team member to STD clinic attenders was 'more or less consistent' because of 'the similar clinical background'. Health educators, on the other hand, reported that the unstructured practice of health education sometimes resulted in inconsistent, inaccurate and conflicting messages which confused the STD patients, leading them to question the credibility of the health workers at the clinics.

Task differentiation and role dynamics

The study reveals a hierarchy in STD clinics in role- and task-differentiation between the different health workers. In keeping with their view that health education entails the provision of information, the prevailing perception among doctors and nurses is that medical doctors, followed by nurses, are the most appropriate people to provide disease-related information. Health educators are seen by doctors and nurses to have a supplementary function in the information-giving process. Doctors' and nurses' perceptions of their status are grounded in their belief that their expert medical training and knowledge makes them a more credible source of information than non-medical people.

Male doctor: "They are more likely to listen to a doctor than they would be to a non-medical man You have got their confidence."

Nurses supported the superior role of doctors by suggesting that 'doctors should be more involved in health education than currently because of their expertise with medical facts'. While nurses said they expected doctors to play a supportive and leadership role in the clinic, their interactions with doctors were described as being limited to 'doctors giving them instructions' about patients' diagnoses and prescriptions for treatment. Nurses said that they wanted to have more communication with doctors to improve their own medical expertise. Health educators viewed doctors as the most appropriate group to evaluate the content of health education, i.e. to 'check' whether the health workers gave the correct information.

The nurses' importance in the practice of health education was judged by doctors, health educators, and by nurses themselves in terms of medical knowledge. Doctors considered nurses important because of their accessibility to patients and the fact that they 'interface with the community', often sharing the language and cultural background of the patients. While nurses themselves believed that they have a primary role to play with regard to health education they said their efforts would need to be supplemented by the 'specialised skills' of health educators.

Health educators expressed dissatisfaction and frustration in their work and said they experienced feelings of powerlessness. They said their frustration derived from the low status they hold within the hierarchical structure of clinics. They ascribed their low status to their having limited medical knowledge. Additionally they felt that their position, which requires specialised skills, was undermined by the fact that doctors and nurses do not understand and value their roles and tasks. They cited the fact that they are often called upon to do administrative and menial tasks which are necessary for the completion of clinical management but have no bearing on their role as health educators.

Health educator: "... one professional nurse will take the blood. ...and I write the bottles, you know those small blood bottles. So while doing that I have time to say a few words to them (STD patients)."

Health educators said that the sense of hopelessness they experience is perpetuated by their lack of training in health education practice and their lack of medical knowledge, causing them to feel inadequately prepared for their tasks and unable to match the powerful position of the medically trained doctors and nurses to whom they are accountable.

Content of health education

The content of health education practice in the STD clinics studied is largely determined by individual health workers' understanding of and attitudes towards health education. Health educators are working largely on their own initiative, without a formal policy or programme on which to rely to guide their personal approach to their work. The content of health education in the clinics appears to be determined by individual enthusiasm for the task at hand and individual willingness to pass on personal knowledge. In most instances health education in these clinics takes the form of medical information transfer. Health workers report that there is little or no attention to developing communication and interpersonal skills among patients who will need these in interactions with partners around the issue of STDs.

The respondents described a variety of strategies to facilitate patients' understanding and prevention of STDs. One strategy reported was to adapt medical information to fit into the health workers' perceptions of patients' understanding of diseases, for example in explaining STDs as 'having dirty blood that needs to be cleaned'. Fear is used as another strategy in an attempt to motivate behaviour change by relating the consequences of STDs and sex to death.

Three health education themes in the STD clinics emerged from the data. These involved providing information and 'giving the index case instructions' on the following issues: the importance of completing medical treatment, the need for referring one's partner(s), as well as the need to use condoms.

In the clinics studied, health education regarding the completion of medical treatment involved explaining to the patients the seriousness of drug resistance should treatment not be completed. However, patients' illness representations and their ideas about adequate treatments, such as traditional medicines, and how these might influence completion of clinic-provided treatment are reported as not being addressed.

Health workers encourage STD patients to refer their partners for treatment by stressing aspects of STDs that are likely to provoke anxiety and fear since these messages are believed by many health workers to be powerful prompts for patients to avoid undesirable behaviours. The negative medical consequences of the spread of disease and the risk patients face of re-infection if they fail to refer partners are emphasised. 'Instructions' are given to patients to bring their partners to the clinic for treatment. These instructions are augmented by the issuing of 'contact slips' which contain coded information about the patient's diagnosis. Each patient, categorised as an 'index case' is 'ordered' to give this 'contact slip' to the partner. The interviews suggest that this is done without assessing or addressing gaps in the skills that patients may require in order to communicate on this delicate issue. According to nurses the absence of a uniform coding system for STD diagnoses at all clinics makes the issuing of contact slips for partner referrals problematic. Variations in coding mean that partners attending other clinics have to be re-diagnosed, consuming time and expertise needed for health education.

Female nurse: "... there is an indication of what the index person is suffering from, so we use a code system. But then the code system is not uniform throughout.... They are still using different codes. Then it becomes a problem."

Educating STD patients on the use of condoms was described by respondents as mainly entailing the issuing of condoms and instructions for them to be used. The respondents rarely mentioned discussing the advantages and disadvantages of condom use or discussing with patients the communication skills needed to raise the issue with partners. Additionally the respondents indicated that they seldom demonstrate the correct use of condoms. They justify this by reporting an assumption that most people know how to use condoms, by stating that patients avoid discussion around condoms and that patients are embarrassed talking about it.

Female nurse: "... how to use the condom ... but I don't demonstrate to them because they get embarrassed. I say to them there are condoms, go help yourself ..."

Respondents also said that they had reservations as to whether condoms would be used even if condom use was discussed with patients. They reported that these reservations resulted from them witnessing repeated STDs among clinic attenders as well as their own personal negative experiences with and their dislike of using condoms (thereby being able to identify with patients).

Female nurse: "I have said OK let's use the condom but I didn't like it that day ... I was the one who didn't like the condom ... it was so slippery with me, it interrupted us a lot and it is then I said let's take it off."

Personally positive attitudes towards condoms and their personal use by health workers was associated with willingness to enter into more detailed discussions with patients on condom use, as illustrated in the following quote given by a health educator.

Health educator: "I feel comfortable, I see nothing wrong with it ... when I give health education I tell them about my own experience with condom use."

Lack of time and physical space for health education

The respondents explained that the practice of health education as well as the manner in which it is conducted is determined by available time and physical space in clinics. Historically, clinics have been physically structured for consultations between medical professionals and patients. In addition, clinics in the historically disadvantaged communities are under-resourced and under-equipped. Many clinics have not been built with consideration for the number of people they need to serve. This results, in many instances, in a lack of privacy and confidentiality when receiving medical treatment.

In some of the studied clinics, patients enter the clinic via an admissions clerk and then filter into a waiting area from where they are called into smaller consulting rooms where they are diagnosed and treated by doctors and nurses. Because of a lack of space in these clinics, health education is conducted in large-group lecture sessions in the waiting area either by dedicated health educators or nurses. In others, which are integrated primary health care clinics, the waiting area for all patients is on the veranda of the building and therefore not conducive to dedicated STD health education sessions. Because of a lack of space in some clinics studied, waiting areas are partitioned by curtains to create additional consulting areas for the diagnosis and treatment of patients.

These constraints have a profound impact on health education practice. Patient education has to fit around the requirements of medical treatment. The doctors and nurses in this study perceived health education as an activity that may easily be dispensed with or accommodated only insofar as it does not disrupt the requirements of purely medical diagnosis and treatment. The high

patient-staff ratio which restricts the time available for patient consultations is cited by doctors and nurses as a justification for the priority of medical treatment over health education.

Male medical doctor (manager): "They see about 150 to 200 per session, in 3 hours, that's 3 minutes a patient. What can you do? There's no time for health education."

Because of limited time and space, health education often took the form of lectures to large groups of STD clinic attenders waiting for treatment. As lectures are continuously interrupted by patients leaving the group to be treated, patients receive poor or no exposure to health education.

Male health educator: "The problem is now that while they are being given health education ... we are waiting for the clients then we have to rush and say ... let's take them down for the management in the treatment rooms by the doctors ... even if the health education is not completed for the group."

Moreover lectures in large groups result in patients being reluctant to ask questions of a private nature and health workers are therefore not able to attend to specific problems. In addition, the patients' preoccupation with receiving medical treatment often results in them being inattentive to health education talks.

Nurses reported that individual health education occurs mainly during diagnosis and treatment while health educators indicated that it takes place only when patients request it. However, this is dependent on the availability of time and space for confidential counselling. Additionally, the ability of the individual health workers to conduct counselling was seen by health educators as playing a role in the decision to provide individual health education. The following quote from a health educator summarises the different types of limitations that compromise the effectiveness of health education.

Health educator: "... health education happens on a one-to-one basis but to a very limited extent, and it is influenced by many factors. Firstly, it is influenced by the patient, or the health care worker-patient relationship. Secondly, by the health care workers' ability to do this one-on-one, ... thirdly it is influenced by the environment under which they work, ... the environments are physically very limited, due to physical constraints of the building, or the consulting rooms, or the curtains they have ..."

Discussion and recommendations

This study reveals that health workers are generally positive towards health education and willing to provide health education directed at STD prevention. However, the limitations posed by their current knowledge and skills around the practice of health education as well as the severe limitations of the organisational structure of clinics in terms of time, space, and resources impede the actual practice of health education. It seems that these obstacles to health education furthermore facilitate a biomedical approach to STD management with its focus on diagnosis and treatment. This biomedical approach is further portrayed in the power dynamics between the health workers. Thus it is evident that a health education intervention needs to be directed at an individual level, namely at health workers and at the organisational level, i.e. the clinic that provides the context for health education.

As the first level of behavioural modification is directed at the individual and interpersonal level of health workers it is imperative that the determinants of the behaviours in question are well understood as a first process in facilitating change. The theoretical concepts applied to the individual/intrapersonal and interpersonal level suggest a careful analysis of the psycho-social determinants of behaviour as one of the prerequisites for the development of a health education intervention. The most widely used theories of behaviour change such as the theories of reasoned action (Ajzen & Fishbein, 1980), planned behaviour (Ajzen, 1988) and social learning (Bandura, 1990) constitute that individual behaviour is primarily determined by personal and normative factors as well as perceptions of control. The data suggest that attempts to influence health workers at the individual and interpersonal level would require an improvement of their knowledge in the theory and practice of health education, as well as their health education skills, by thorough training. This realisation was reiterated by all the health workers and prompted them to make a strong call for comprehensive training in the practice of health education. The health education in-service training received by health educators was apparently insufficient in improving their confidence and competence in health education practice.

The health workers' lack of formal and specific training in the theory and practice of health education is evident in their understandings and conceptualisations of health education. The prevalent view of health education as the *transmission of accurate medical information* is moulded by their medical orientation and training. This medical orientation explains why doctors and nurses are considered to be the most appropriate people to provide medical information to the STD patient. The health workers' reported understanding of health education differs markedly from the internationally accepted definition of health education. Green and Kreuter (1991) define health education as the empowerment of the STD patient through improved knowledge and skills in order to facilitate informed decision making and to facilitate the voluntary adoption of behaviours that are conducive to health. Although the health educators were unable to match the Green and Kreuter (1991) definition which would set the primary objective of health education in this setting, they were more knowledgeable, on certain of the components and concepts that constitute recognised health education practice, than the doctors and nurses.

Health workers also have a general understanding that health education is aimed at changing behaviours which involves 'instructing' people to behave in a prescribed way and to adhere to this advice. According to some health workers the failure of many STD patients to follow their 'instructions' led health workers to question the real impact of health education efforts. The assumption that exposure to medical information will automatically result in behaviour change indicates a lack of understanding of the complexity of behavioural change and ignores the available theories and methods in social science to facilitate change. In addition, the use of fear tactics by some health workers (through the association of STDs and sex with death) as a motivational device to encourage the adoption of health-promoting behaviour shows limited knowledge of the detrimental effects of excessive fear arousal (Leventhal, Meyer & Nereng, 1980). In the absence of any focus on inter- and intrapersonal skills development, the use of excessive fear tactics as a motivational force for change could result in patients resorting to despair or denial (Bauman & Siegel, 1986). The failure to apply knowledge from the social sciences in attempts to facilitate behaviour change might be ascribed to an inadequate knowledge base in health promotion among health workers. The relative newness of health education practice as a health education science tradition in South Africa, may explain the inadequacy of this knowledge base. Consequently, there is limited potential for health education to bring about attitudinal and behavioural change in an area which is sensitive and private, not only for STD

patients, but as the data showed, also for the health workers. The optimal improvement of knowledge and development of skills regarding health education practice can only be achieved through optimising the learning process by the application of sound educational principles (Mullen, Green & Persinger, 1985; Mullen, Douglas & Velezer, 1992).

It is therefore suggested that the goals, learning objectives and content of the health education programme be negotiated with the health workers, to ensure relevancy and appropriateness of the content. The training of health workers ought to encompass the principles of adult learning which recognise learner contribution to the learning process. The importance of enhancing the learning process and skills development through the application of multi-level and multi-faceted educational strategies should also be acknowledged (Knowles, 1990). However, improved health education skills would further require knowledge and insight into the psycho-social and contextual determinants of the required healthy behaviours of STD patients, e.g. responsible sexual behaviour, health-seeking behaviour and the referral of sexual partners for medical treatment. Increased insight and sensitivity to the facilitating factors and barriers that exist in promoting these healthy behaviours would assist health workers in ways to encourage and support patients in a process of change.

It is evident from the data that the current organisational structure of the clinic as the context in which health education occurs impacts negatively on health education practice. Although policies and protocols for diagnosis and treatment of STDs are well instituted, the predominantly biomedical approach to STD management results in an absence of policies and protocols to guide the practice of health education in this regard. The lack of formal and consistent health education protocols together with the physical constraints of limited time and space results in a health education practice that can best be described as lacking or incomplete, unsystematic, uncoordinated and unevaluated. The medical focus of STD management accords doctors, because of their expert medical knowledge, the most powerful position in the STD clinic followed by nurses and health educators who have the lowest status. Therefore, nurses and health educators aspire to improve their status in the clinic through improved medical knowledge. The power division between the disciplines impacts on practical interpersonal interactions, which are best understood by the classic doctor-nurse game interaction model in which the monopoly of expert knowledge places doctors in a strong and unchallenged position at the top of the medical hierarchy (Freidson, 1970; Stein, 1967). As a result, interactions between doctors and nurses focus on doctors 'giving nurses instructions' around diagnosis and treatment. Similarly, interactions between nurses and health educators were characterised by nurses 'giving health educators instructions'. The hierarchical structure is entrenched and limits the possibility for interactions across disciplines to change. Health education remains at the periphery and the position of health educators in the status hierarchy undermines their morale. Although the newly adopted syndromic approach to STD management in South Africa recognises the important role of health education, the current *laissez-faire* approach to health education practice in STD clinics as expressed by the health workers, necessitates a full integration of health education as a core component of STD management. This would require firstly, the development and implementation of health education policies and protocols and secondly, the facilitation of a social environment in which health education is actively supported and practised.

With consideration of organisational change, the importance of understanding the clinic as a complex social system with resources, members, roles, exchanges, and specific cultures is

emphasised (Rotman & Tropman, 1987). Thus attempts at changing clinic settings can best be achieved by addressing the multiple levels within the clinic by involving the management/decision makers and health workers in the process of change, i.e. from analysing health education practice to planning, decision making and implementation of the intervention. The participatory process in itself contributes to programme ownership, to the relevancy and the appropriateness of content and thus to sustained implementation (Mullen, Green & Persinger, 1985). Additionally, participation in planning and decision making will assist in an empowerment process through which health workers can learn to overcome feelings of powerlessness expressed by some nurses but, in particular, by health educators. Within this context a new 'negotiated social order' in health care delivery would allow for the transformation of STD management into an ecologically based approach. This approach would ensure the recognition of all categories of health workers' contributions to health education within their own functions, strengths and time limitations.

1 1 General discussion and conclusions

The studies presented set out to contribute to the broader national health goal of the South African health care system – to prevent disease and promote health. Specifically these studies focus on issues relevant to the prevention of the transmission of sexually transmitted diseases (STDs). The selected target group comprises STD clinic attenders. They have been identified as a core group for transmission of infectious disease. In South Africa scarce resources have necessitated an approach that maximises the health benefit to the broadest sector of the population in targeting any health problem, utilising the primary health care approach. Interventions aimed at the core transmitter group in the area of STDs meet this requirement.

In 1995 the South African Department of Health adopted the comprehensive syndromic management approach to the treatment of STDs. This was a welcome theoretical shift in treatment and prevention as it placed emphasis both on the biomedical aspects of care and health education components of prevention. However, while the biomedical aspects are well established, health promotion and health education in South Africa are unfortunately poorly developed and often practised without a research foundation.

Recognising the limitations of traditional interventions in the field of STDs, and acknowledging the need for the development of health promotion as a science in South Africa, the Medical Research Council and the Human Sciences Research Council, in partnership with other institutions, embarked on a research project aimed at developing, implementing and evaluating a health education intervention targeting STD-related behaviours among STD clinic attenders. In this chapter the recommendations for developing the content of a health education intervention, based on what was learned from the various studies will be discussed.

The main goal of this book is to find a way of understanding the causes or contributing factors that shape the behaviours that place people at risk for STDs. It was hoped that any understanding gained from the project would provide information that could be used to inform the content of an intervention aimed at tackling the problem of behaviours that are associated with the spread of STDs. This approach to the question of STDs requires a systematic framework based on health promotion theory rather than focusing on the epidemiology of the biomedical aspects of STDs. A health promotion planning framework was therefore developed as the initial element of this body of work, for use in conjunction with established theories of behaviour. This framework determined the way in which the research was undertaken.

STD clinic attenders were selected as the study population as they have been identified as a core transmitter group who are known to have engaged in sexual behaviours that place them at risk for contracting HIV. They also pose a risk to others as a potential source of HIV/STD transmission. This study population was specifically chosen because the behaviour choices of people who contract STDs are those we wished to study. A random sample from the broader population would have required a screening process in order to select people with STDs. However, while this choice of sample population meant ready access for the researchers to a group of STD patients, clinic attenders are not a truly representative group of people with STDs in South Africa because among the more affluent segments of the population treatment is likely to

To be submitted as a policy brief to the Department of Health:

Reddy, P., Meyer-Weitz, A., Kok, G., & Van den Borne, B. (1999) Recommendations for developing health education interventions targetted at STD clinic attenders.

be sought privately. In addition, those people who contract STDs and never seek treatment were not included in the sample. The selection of a study group created a degree of bias in the sample but the bias was acceptable to the researchers because the less-advantaged segment of the population had been identified as the primary target of the public health education intervention that was the long-term goal of this study. Further, in the study involving STD clinic workers, health workers at clinics were selected as the sample population because any health education intervention targeted at STD clinic attenders would have to be administered and executed by this group.

This study did not aim to describe the extent or types of STD infection among the South African population but aimed rather to explore the determinants of the types of behaviour choices that are made by people who contract STDs. Human sexual behaviour is a complex area of human interaction. Behaviour choices in the arena of sexual interaction are influenced by social, cultural, economic, gender and contextual elements. There are no clear guidelines to understanding the influences that affect sexual behaviour and thus a search for the determinants of choices in this area required an open-ended methodology.

Thus, to gain an understanding of the illness representations and factors that affect sexual behaviour, it was decided that qualitative research was necessary as an initial step. This methodology allowed for the research participants themselves to provide answers to open-ended questions that would generate insights into the subject. Subsequently quantitative research was conducted to establish the generalisability of these findings within the population of STD clinic attenders.

One specific limitation was the fact that participants were interviewed after consultation with health workers. This may have resulted in responses that were influenced by considerations of social desirability and may have meant that some responses were not entirely spontaneous or accurate reflections of prevailing knowledge, attitudes and behaviours among the sample population. The nature of the inquiry was explained to participants and they were encouraged to answer honestly without regard for what they assumed the interviewers wanted to hear. The findings suggest that the study's reliability was not substantially influenced by the clinic health workers. For example, where condom use was reported, the majority of participants reported a socially 'undesirable' behaviour, i.e. non use, from a health worker's perspective.

Self-report research has inherent limitations, even when direct influence such as that provided by the clinic workers cannot be identified. The impact of the common human need to demonstrate social conformity is always a problem. However, in the case of this study observation is not a realistic alternative and resource constraints precluded the use of other data-collection strategies (such as partner interviews) to enhance the validity of the findings. The accuracy of self reports of behaviours that place people at risk for STD and HIV infection have raised several methodological questions (Jaccard & Wan, 1995; Standing, 1992). Most research relies on self report in measuring aspects of sexual behaviour that are related to the spread of STDs including HIV such as the frequency of sexual intercourse, condom use, and the number of sexual partners. Very little is known about the validity of reports of sexual behaviours such as condom use over a period of time. Jaccard and Wan (1995) point to the complexities of stability in behaviour, recall bias, and transitory influences in self reports. They suggested improvements of self-report measurements within a cognitive psychological paradigm by arguing for more regular monitoring methods.

The issue of language difference between the researchers and the research participants was addressed at the outset of the study. The researchers were English speakers while the majority of participants were Xhosa speakers. In order to minimise the possibility of language acting as a confounder the interview schedules for the qualitative study and the questionnaires for the quantitative study were subjected to rigorous translation, back translation and re-translation in a process that eliminated errors and ensured culturally accurate reflections of idiomatic language. The interviews were also administered by first-language Xhosa speakers who were extensively trained in the techniques required for both qualitative and quantitative methodology.

Further to the specific research recommendations that were made in each area studied (Chapters 3-10), the following generic areas for research are pertinent:

- Abstinence from sexual intercourse while infected with an STD
- Similar research to be conducted among rural populations
- Research on developing and evaluating health education interventions targeted at STD clinic attenders.

While the studies in this book focused on the psycho-social determinants of STD-related behaviours, further research is needed on the influence of environmental determinants of these behaviours, such as, the availability and pricing of condoms, the role of the circumcision schools, traditional healers and other religious establishments with regard to the practice of consistent condom use and the effect of the built environment on sexual behaviour.

A literature review on STDs was undertaken and arguments examined for the use of the precede-proceed model in developing health promotion interventions (*Chapter 1*). A framework for research was developed and in *Chapter 2* this matrix was explained. Research topics were identified for information about the determinants of STD-related behaviours. Thus research into the sociocultural determinants of STD-related behaviours (*Chapter 3*), research into the knowledge, beliefs and attitudes related to STDs and condom use (*Chapter 4*), research into STD patients' risky sexual behaviours (*Chapter 5*) and research into the determinants of condom use (*Chapter 6*) was conducted. The crucial area of communication between sexual partners was examined in the research reported in *Chapter 7*. Following this it was considered important to understand how people responded to STD symptoms and research was conducted into clinic attenders, health care seeking behaviour (*Chapter 8*). This was followed with a study examining adolescent health care seeking behaviour (*Chapter 9*) as this is a critical target group for STD prevention. Finally the type of assistance given to STD patients who attend clinics was assessed in research into the attitudes, knowledge and beliefs about health education practices of health educators at STD clinics (*Chapter 10*). This area was researched because in order to develop an intervention we need information on the status and level of expertise of health workers with regard to health education.

Chapter 1

Chapter 1 presents an overview of STDs in South Africa and provides the precede-proceed planning framework for health promotion interventions. Psycho-social theories of behaviour and behaviour change are also elaborated upon.

Chapter 2

In identifying STDs as a priority area for research, decisions about the type of research also had to be made. We decided to focus on the preventive aspects of STDs. This pointed to the need for

establishing a framework which would enable a systematic assessment of the problem. The health promotion paradigm was selected and hence a health promotion matrix was developed. This matrix provided a comprehensive framework with multiple strategies for action. As this research was aimed at behaviour change, the strategy of health education was selected and the model for planning and evaluating health education interventions was explored. Epidemiological data on the seriousness of STDs, their consequences and the behaviours that perpetuate the problem were available. This research project was then developed to address the question of the determinants of STD-related behaviours, i.e. condom-using behaviour and health care seeking behaviour. In studying these behaviours, other areas such as communication with partners and risky sexual behaviours were also investigated.

Chapter 3

The study outlined in Chapter 3 explores STD patients' illness representations within the local socio-cultural context. One-to-one interviews using open-ended questions were used to probe the issues and to obtain information on which to base the subsequent quantitative studies. This was considered to be an extremely important part of the process as the area of sexual behaviour is one in which differences of interpretation are rife from one social context to another. Qualitative research ensured that the patients' perspectives were represented in the subsequent studies. A fascinating body of information came out of the interviews with Xhosa- and Zulu-speaking patients in clinics in Cape Town (N=67) and in the rural areas of Kabokweni in Mpumalanga (N=21).

One of the striking themes that emerged was the consistent way in which the explanations given about the causes of STDs were embedded in the politics of gender relations.

Men expressed reluctance to attribute their STDs to their own sexual activity and blamed women for STDs. This can possibly be explained by the stigmatisation of STDs which is located in a traditional notion that an STD is a result of the transgression of sexual taboos, sorcery or muti. The fact that some women perceived themselves to be responsible for causing the STD as a result of being bewitched or possessed by evil spirits, reinforces this notion. However, women predominantly blamed outside women for inflicting STDs on their partners but were powerless to change their husband's/boyfriend's sexual behaviours as they were expected to be fully accepting of them and to fulfil their men's sexual needs.

Men were more comfortable reporting to STD clinics than women were because for men having an STD was a sign of their sexual prowess which was justified and accepted by both men and women. However, for women STDs were a sign to the world that they had not been able to fulfil their men's sexual needs and were thus lacking in some way. Men's sexual desires were described as being uncontrollable and, if not satisfied, likely to result in ill health. Women thus become the vulnerable partners in sexual relationships and discussions about sexually difficult issues become impossible. Male dominance and sexual prowess is further exaggerated by the economic and emotional dependency of women, especially those with children.

The processes through which men and women become aware of their STD symptoms and their response to this awareness differs. This difference in help-seeking behaviour is also reported in Chapter 8. Men communicate about their STDs with friends. Their seeking help from the formal health sector is spurred by the severity of their symptoms and facilitated by the social meaning

attached to an STD for men. On the other hand, women's delay in seeking help from the clinic is explained by the vagueness of their symptoms and their interpretation of these symptoms in terms of the menstrual cycle and pregnancy. Women's awareness of an STD or their perception that 'their blood is dirty' is often only acquired during an antenatal clinic visit or when referred by a partner for STD treatment. The rapidity with which pregnant women who have been referred by the antenatal clinic seek treatment is an indication of their concern for the health and well being of their unborn babies. This is a reflection of their traditional role as child bearers. However, the recognition of STD symptoms by women seems problematic and improving knowledge and understanding in this regard is important. The reluctance of women to discuss their STDs with friends and family is due to the social meaning attached to women with STDs. The notion that an STD is a result of bewitchment prevents women from disclosing their STDs for fear of blame and victimisation.

The stigmatisation of women with STDs impacts negatively on their help-seeking behaviour, referral of partners for treatment and the use of condoms. The stigma of having STDs is partly linked to notions of causality that have their basis in sorcery or muti and help is sought from traditional healers.

The traditional causal explanation of an STD as something the 'blood has to be cleaned of' explains the type of self-help actions – such as washing genitals with disinfectants and taking laxatives – that patients engage in when noticing symptoms. The ease with which patients seek simultaneous help from the traditional healer and the formal health sector is a reflection of the complex web of causal explanations of STDs. The health sector's role is defined as curing the body of the symptoms while the traditional healers' task is to 'cure the cause' of the STD. Thus traditional healers should be encouraged to promote behaviours that prevent STDs.

Patients' perceptions of the causes of STDs have implications for their perceived risk of contracting a disease and for the prevention strategies that they might consider. Men's blaming of women, to the exclusion of their own sexual behaviour, as well as women's blaming the 'outside women' for the cause of the STD could result in men not perceiving themselves at risk of contracting STDs. Without a perception of risk men would not consider taking precautions such as using a condom or changing their own sexual behaviours. Women, on the other hand, perceive themselves as being at risk and as being vulnerable to contracting an STD. Their often-inferior position within relationships results in them being unable to suggest any preventive measures. Additionally, patients' perception that STDs are a result of the transgression of sexual taboos might provide a false reassurance to people who believe that they are not transgressing sexual taboos and therefore need not protect themselves from contracting an STD.

Furthermore, patients' understanding of the concept of prevention influences their behaviour in this regard. The interpretation of prevention as 'preventing the disease from deteriorating by going to the clinic' (secondary prevention) rather than taking precautions to prevent initial infection (primary prevention), seems to be a function of different factors. First the traditional causal understanding of diseases and, in particular, understanding regarding the cause of STDs, explains individuals' perception of themselves as being victims of an 'entity that invades the body'. This perception makes them vulnerable to disease because they do not perceive that their own actions can influence their likelihood of contracting a disease. A disease seems to become a reality only once symptoms occur. These, in turn, provide the first cues to seek help. Within this context

prevention of an STD was seen as making a visit to the clinic to cure the symptoms, making a visit to the traditional healer to prevent the recurrence of the disease by 'curing the cause' of the STD, or visiting the faith healer to remove the demons and bewitchment inflicted on possessed people. In addition, the notion of going to the clinic for 'prevention' is continuously reinforced by messages from the health services regarding contraceptives for 'the prevention of pregnancies' and the immunisation of children 'to prevent' communicable diseases. In this way prevention has become associated with 'visiting the clinic' rather than doing something for and by yourself to prevent a disease, thus reinforcing patients' traditional causal understandings of STDs. Once again this illustrates that patients' understanding of prevention needs to be expanded to include the role of personal behaviour in prevention if preventative actions are to be expected.

Although condom use was mentioned by clients as a possible way of preventing STDs, it was done without conviction and serious doubts were expressed regarding the desirability of their use. The many obstacles to condom use that patients described were not derived from personal experience but rather resulted from rumours and negative social and cultural norms around condoms. The perception that condom use results in a 'waste of sperm' is an indication that, at least in part, sexuality is motivated by the desire to procreate, thus ensuring the continuation of the clan name. The intentional prevention of a pregnancy was therefore seen as wrong. Within this context condom use has been described as a humiliating experience for a 'real man' and a 'real woman'. The importance of having children for both men's and women's gender identity seems to result in the neglect of condom use. In addition, the associations of condom use with death, promiscuity (by association with STDs and AIDS) and a lack of care and love further undermines the use of condoms as an STD-preventive strategy.

The data reinforce our knowledge of the complexity of condom use and highlight the challenge it poses to behavioural change interventions. It is important to note that, despite knowledge of these underlying beliefs regarding condom use, many interventions in South Africa seem not to address them directly. It is only by interventions that take these beliefs into account that we can hope to establish a social norm of responsible sexual behaviour in which the use of condoms is central.

Partner referral, an important STD prevention strategy, is seriously compromised by patients' causal explanations of STDs as well as the unequal gender power distribution within sexual relationships. The perception that one is unable to take action before symptoms occur makes it difficult for patients to understand the importance of referring their asymptomatic partners for STD treatment. Furthermore, the inability to communicate about sexual issues in general or about personal sexual issues in particular, such as disclosing one's STD, greatly diminishes the possibility of referring sexual partners for treatment. Because the STD is often proof that one's partner has had other sexual partners, knowledge of the STD could result in conflict, something the majority of people would like to avoid. This is an often-cited reason for patients' reluctance to refer their partners for STD treatment.

This study was important in that we learned about STD patients' illness representations, their socio-cultural understanding of disease and how their choices are governed by gender politics. These, in turn, mould their general perceptions of the causes of STDs, their perceptions of their risk of contracting STDs, and how they enter and use formal medical treatment and traditional healers. Finally we see that their ideas on prevention and the preventive behaviours that they do or do not engage in are all situated in this complex background.

This study provided insights into the complex, delicate and sensitive nature of sexual behaviour. Its limitations are that detailed, specific information is lacking. This we attempted to obtain through the quantitative studies. We have learned about broad issues that must be confronted when designing health promotion interventions around STDs. More studies need to be undertaken in other communities to further verify these results.

In addressing the different aspects of patients' illness representations in a health education intervention, the important educational principle of negotiating the content of the health education programme with the STD patient must be ensured. This is not only necessary for its relevance but also for programme acceptance.

Knowledge about STDs, specifically about the asymptomatic nature of STDs in women, the recognition of symptoms, the perceived risk for STDs and the meaning of prevention is an area for education. As gender relationships impact on patients' causal explanations of STDs, their help-seeking behaviour, their preventative behaviours and partner referral, sensitivity to the politics of gender relationships has to be integrated into any STD-prevention intervention. This can be done through the incorporation of elements which develop interpersonal and technical skills, that thereafter promote open debate and communication between men and women. Empowerment of women can only be achieved through a process of exploration, negotiation and education of both men and women. In this context male responsibility for their own and their partner's health should be emphasised.

The concept of monogamy seems to be a difficult one to discuss but men's reluctance to 'bring disease home' provides an opportunity for an intervention. Men need to be supported and encouraged to develop the necessary interpersonal and technical skills that will enable them to negotiate and use condoms with the 'outside partner'. From our findings it seems that messages that would motivate men to use condoms with all 'outside partners', rather than messages that suggest using condoms with all partners, would have a better chance of facilitating the prevention of STD infection as a first step in the process of change. The establishment of a safer sex norm in which condom use is seen as an act of caring, needs to be established.

Motivational strategies focusing on partner referral need to be implemented as part of comprehensive STD management. These need to be sensitive to the socio-cultural contexts of patients. For instance, the importance attached to fertility and the importance of the health of the unborn baby can be used to motivate for the prevention of STD infections because these are central to the gender identity of both males and females. The detrimental consequences of STD infections on fertility and on the health of the unborn baby can be emphasised. Caution should, however, be taken not to evoke guilt feelings because these impact negatively on patients' psychological well being and the performance of the desired behaviours.

The complexity of the socio-cultural contexts that underlie STD illness representations with specific reference to gender constructs and traditional beliefs should not be underestimated, as they pose a major challenge to behavioural change interventions. The ease with which patients seek treatment from the different sectors of health care, ranging from traditional healers to formal health care, need not be viewed as opposing but could form part of a comprehensive strategy in the prevention of STD and HIV/AIDS within the southern African context.

Chapter 4

At the outset of the research process it was necessary to obtain clarity on the characteristics of the STD clinic attenders. This information is important as it assists in providing an understanding of the target group and provides direction for the intervention. Structured interviews were conducted with 2978 randomly sampled Xhosa-speaking STD clinic attenders about their knowledge, beliefs and attitudes regarding STDs. Their knowledge and beliefs about their condom use, their attitudes towards condom use and their condom-use behaviour was also examined. These variables were studied in terms of gender, education and age differences of STD clinic attenders.

More males (75%) than females (25%) presented for STD treatment. The majority of patients (92%) were younger than 35 years. Patients who were 21 years and older demonstrated better knowledge about STD transmission, prevention and cure than those who were younger. Patients with a higher education had more knowledge about STD transmission, prevention and cure. They were also less likely to have misconceptions about the causes of STDs. Female patients were more aware than male patients of the sexual nature of STD transmission. Interestingly, women were also more likely than men to blame other women for the sexual transmission of diseases. They also valued personal autonomy in sexual behaviour and expressed a greater willingness to use condoms than males.

Males perceived STD symptoms to be more serious, had more misconceptions about the cause of STDs and also more negative beliefs about and attitudes towards condom use. Men were more likely to realise that STDs can result in infertility than women. They were also more likely to report misconceptions that specific coital practices of women result in STDs (for example that STDs are caused by a woman 'holding her breath during coitus' (58% men and 35% women) and 'pushing him out' during coitus (57% men and 41% women). The majority of the respondents (90%) believed that STDs can be prevented by going to the clinic for regular checks, with significantly more women reporting this incorrect view.

Only 35% of the patients reported using condoms in the last 6 months, with 24,5% of the patients reporting regular use. More men than women believed that condoms decreased intimacy and caused AIDS. Men were also more likely than women to have negative attitudes to condoms. These include the attitudes that condom use diminishes sexual pleasure, that it results in a loss of virility and that it interferes with the propagation of the clan name. Those who had a higher level of education were also more likely to use condoms and less likely to have negative attitudes to condom use. Those who reported that they used condoms were more knowledgeable about the sexual transmission of STDs and the effects of STDs on the neonate. They also had fewer misconceptions about the causes of STDs and perceived STD symptoms to be more serious. They attached greater value to personal autonomy in sexual behaviour and condom use and they had more positive expectations of the outcome of refusing sex than those who never used condoms.

The gender distribution in this randomly selected sample suggests that more males than females are seeking treatment from STD clinics. It is important to note that 92% of the patients were younger than 35 years, which reflects the age distribution of HIV-infected people in South Africa. The majority of the respondents had a secondary education and were therefore able to read and write. This provides the opportunity for one-to-one health education at a clinic level to be reinforced with materials containing both written and pictorial components.

More than half of the respondents reported being unemployed. This may provide the opportunity to actively involve unemployed patients in health education programmes as peer educators, and possible role models in instances where the preventive behaviours are being practised. Contrary to expectations, female patients were found to be more aware of the sexual nature of STD transmission than male patients who had presented more frequently with STDs and were therefore expected to have had more exposure to health education. Males, however, perceived STD symptoms to be more serious than women did but they had many misconceptions regarding the causes of STDs. They also had negative beliefs and attitudes towards condom use. Interventions directed at males will need to address their inadequate knowledge of STDs in terms of transmission, causes, consequences, prevention and cure. Their negative beliefs and attitudes towards condoms will have to be an important focus. Interventions that are designed for female STD clinic attenders will need to improve their knowledge regarding the consequences of STDs, their causes, the recognition of STD symptoms as well as improving their knowledge of aspects of prevention and cure.

The patients who had a secondary education were knowledgeable about the sexual transmission of STDs. They also had fewer negative beliefs and attitudes about condoms than patients who had primary or no education. Patients with more education valued personal autonomy in condom use and had positive outcome expectancies of refusing sex. Thus it seems that apart from developing targeted clinic interventions, the ultimate empowerment of individuals which enables them to make responsible personal choices will have to be fostered by social equity and will need to be based on broad education and social development strategies.

As expected, patients who had experienced STDs before, were also more likely to perceive STD symptoms as being serious. These patients expressed ambivalence about the use of condoms. This is reflected in their negative beliefs about condoms, on the one hand, but positive attitudes towards condoms, on the other hand. Apart from the role that social desirability might have played in their feeling under pressure to express positive attitudes towards condoms, they might have realised that although they did not like condoms or while they may have had a negative experience with using condoms previously, condoms are the only form of protection from STDs available to them if they want to continue their current lifestyles. Targeted interventions will therefore need to facilitate personal autonomy in decision making about sexual behaviour and condom use for both men and women. Since these people already have positive attitudes to condoms, programmes need to target skills development and the promotion of self-efficacy regarding condom use in the individual.

While half the respondents said they had had two and more partners, only a third of the patients reported ever having used a condom in the last 6 months. It must be noted that a very small proportion of this group reported consistent use. Careful consideration of this group in particular is necessary for the development of interventions. As expected they were more knowledgeable about the sexual transmission of STDs and about the effects of STDs on the neonate. They had fewer misconceptions about the causes of STDs and perceived STD symptoms to be more serious than those who had never used condoms. Thus, it may be assumed that to improve condom use it would be necessary to ensure adequate knowledge of the transmission, cause, prevention and cure of STDs. Knowledge of the consequences of STDs and the recognition of STD symptoms must also be facilitated. Despite misconceptions about condoms, the positive cognitions about condom use among this group appears to have been sufficient motivation for some condom use.

STD clinic attenders' visits to the clinic should provide them with education and counselling that ensures successful and pleasant experiences with condoms. It would therefore be of great importance to ensure that patients acquire the appropriate skills to use condoms through technical as well as interpersonal skills development. This would impact on future beliefs and attitudes, and thus on the use of condoms.

The patients who had used condoms in the last 6 months valued personal autonomy in sexual behaviour and in using condoms. They also had positive outcome expectancies of refusing sex. This appears to reflect perceptions of control over their own behaviour. Interventions should therefore be targeted at improving patients' self-efficacy so that they would not only value, but also be able to develop autonomy in sexual behaviour and condom use.

Chapter 5

Chapter 5 describes STD patients' risky sexual behaviour as a necessary step in developing health education interventions directed at sustained behavioural change. Patients' risky sexual behaviour was assessed in terms of the number of sexual partners within the past 6 months and consistency of condom use. Efforts to reduce the number of sexual partners that people have and to promote the regular use of condoms remain critical in STD-prevention interventions. This study aims to gain an understanding of the predictors of risky sexual behaviours among patients with STDs.

A survey was conducted among 2978 randomly selected STD patients. Most of the patients were male (75%) and the majority (73%) had a secondary education. The sample was also characterised by a relatively young age distribution in that most patients (60%) were 25 years and younger. More than half (55%) reported multiple-partner behaviour. Of these patients 27% had had two partners, and 38% had had three and more during the past 6 months. Fifty-one per cent of the patients had had an STD previously and only 35% indicated having used condoms during the past 6 months.

The findings suggest that male patients with STDs, as a group, need special interventions directed at sustained behavioural change as their multi-partner behaviour and previous experience with STDs places them at risk for reinfection. The fact that more than half of the patients (55%) reported having had a previous STD in the past 12 months raises concern because of their increased risk of HIV infection. Patients with previous STDs would therefore need special attention in health education interventions. Although patients with previous experience of STDs were also more likely to report using condoms in the past 6 months, their current STD infection would, however, suggest inconsistent use. In addition, the multi-partner behaviour of patients of 21 to 25 years of age (who were found to be more likely to have had three and more partners during the past 6 months) in particular, is another cause of concern when one considers the relatively young age distribution of HIV-infected people in South Africa.

The data show an association between low levels of education with high numbers of sexual partners, low condom use and repeated STD infection. This suggests that improving the education of the population is an essential strategy in STD and HIV prevention.

Different factors, identified by chaid analysis, were associated with increased risky sexual behaviours. A major difference was found between male and female patients' risk behaviour. Male

patients were more likely to engage in very high-risk sexual behaviours which increase their likelihood of acquiring repeated STDs and thus HIV-infection. Men are therefore in need of targeted interventions which make them aware of the necessity of reducing the number of sexual partners and/or engaging in consistent condom use. The multi-partner behaviour of men increases women's exposure to STDs and thus HIV infection. In the sub-sample of women in the chaid analysis, the majority (76,80%) reported having had only one sexual partner during the past 6 months. Despite their monogamous behaviour, their current STD infection illustrates their vulnerability to STD risk and thus HIV within their 'monogamous' relationships.

Women's positive attitudes to autonomy in sexual behaviour played a significant role in explaining their risk behaviour. Those women who valued personal autonomy in sexual behaviour most were most likely to have had only one sexual partner. Women's exposure to STDs and HIV risk should not only be viewed as a consequence of their own attitudes and behaviour. Cognisance should rather be taken of the political, economic and social context of the HIV epidemic. Women's particular vulnerability to STDs, and thus HIV risk, warrants urgent attention. While men need to be exposed to interventions which aim to change sexual practice, women need interventions that promote their communication skills and increase their self-efficacy as well as improving the value they place on personal autonomy.

Further investigation of the sub-sample of males indicated that the factors associated with increased risky sexual behaviour were having negative attitudes to condom use, not valuing personal autonomy in sexual behaviour and having negative expectations about both refusing sex and insisting on the use of condoms in a relationship. The data suggest that the attitudinal component plays a significant role in determining male patients' risky sexual behaviours and therefore deserves special attention in targeted interventions. The importance of addressing patients' underlying beliefs about condoms (the association of condom use with mistrust, and a lack of care or love), is essential in condom-promotion efforts.

Being unemployed and having had previous experience of STDs were significantly associated with risky sexual behaviours among those male patients with the most negative attitudes towards condoms. For those male patients with moderate to positive attitudes to condoms and those who valued personal autonomy in sexual behaviour, being 25 years and younger was associated with increased risky behaviours.

Male patients' risky sexual behaviours were determined by their conceptions of the causes of STDs. Those who held many misconceptions – such as that STDs are caused by the use of contraceptives, or by having sex with a woman who holds her breath and by a woman who pushes a man out during climax – were more likely to engage in very risky sexual behaviours than the others. These misconceptions regarding the causes of STDs could also contribute to inaccurate assessment of their risk of contracting STDs, with the result that they did not perceive their own behaviour as risky. However, positive attitudes to condom use without an understanding of the cause, spread and prevention of STDs, will remain ineffective in motivating behaviour modification. Patients' socio-cultural understanding of STDs impacts on their perceptions of the causes of STDs, their risk of contracting STDs, and the preventive behaviours they adopt. Improved knowledge about the cause, spread and prevention of STDs therefore remains essential in efforts to achieve sustained behavioural change.

In light of the existing commitment to fight against AIDS in South Africa, an understanding of risky sexual behaviours, embedded within socio-cultural contexts, and STD illness representations need to be incorporated into renewed efforts at sustained behavioural change.

Chapter 6

The study presented in this chapter provides data on the determinants of condom-use behaviour among STD clinic attenders. This study provides specific information on variables that can be targeted in a health education intervention that aims to promote condom-use behaviour among a high-risk group. It provides insights into a specific set of behaviours affecting STD transmission that have not been studied in South Africa previously.

The cross-sectional study uses a structured, interviewer-administered questionnaire to gather information from 1513 patients. Their beliefs and attitudes towards condom use in general as well as their personal condom-use behaviour were measured. Their perceptions regarding the social influence of their partners and friends on their condom use, and of their self-efficacy in using condoms while infected with an STD were also appraised. Condom use, as a dependent variable, was examined using an adapted version of the transtheoretical model (Prochaska & DiClemente, 1991) which categorises research participants according to stages of change. In this study patients were categorised as being in a *precontemplation* stage if they had never used a condom, in a *contemplation* stage if they had seriously thought of using a condom, in a *some action* stage if they sometimes used a condom and in a *regular action* stage if they used a condom every time that they engaged in sexual intercourse. These data were analysed in terms of the patients' partner pattern. For the purposes of the study a steady partner was defined as husband or wife or a regular girlfriend or boyfriend with whom the respondent had a sexual relationship. An outside partner was defined as a partner with whom the respondent had sex in addition to his/her regular partner. The category of outside partner also included casual sexual partners such as one-night stands. The term 'outside partner' was coined by the patients themselves to describe these relationships. The relationships between the stages of change, as dependent variables, and the independent variables were investigated for both those patients with steady partners and those with outside partners.

The variables that significantly explained stages of change were similar for both steady and outside partners. In all groups communication was the variable most strongly associated with the use of condoms. There was a difference between those people who were in the precontemplation and contemplation stages (the non users) on the one hand, and those in the action stages (users) on the other hand, when communication as a predictor of the various stages of change of condom-use behaviour was assessed. Those who communicated more were more likely to use condoms. In addition, the study showed that those who had engaged in communication about condom use and about the risk of becoming infected with HIV had progressed from precontemplation to action stages. The findings demonstrate that communication is an important factor in promoting the regular use of condoms.

High levels of self-efficacy in condom use appear to be able to move patients from the precontemplation stage to the action stages for patients with both steady and outside partners. For those patients who had outside partners it was particularly the belief that they were able to use a condom during a first sexual encounter with a partner which resulted in them shifting from a precontemplation to a regular action stage. For both steady and outside partner relationships,

attitudes towards the use of condoms played a role in determining patients' different stages of change. Patients with steady partners who held positive attitudes towards condoms were likely to be in either one of the action stages while patients with outside partners who held positive attitudes towards condoms were more likely to be in the regular action stage.

Education level also influenced the stage of change in patients with outside partners. As expected, patients who had a higher level of education were more likely to be in a regular action phase with regard to condom use with outside partners. It is possible that patients with outside partners might perceive themselves as being at risk of contracting HIV/AIDS and other STDs and therefore be more willing to use condoms while patients in steady relationships might not necessarily see the need to use condoms regularly. The patients' previous experience with STDs did not affect the stage at which they were in condom use. This is possibly due to the fact that they had experience of being cured by using medication.

These findings provide concrete information upon which to base the development of the content of health education programmes to promote condom use among STD clinic attenders. A limitation of the study is that it does not provide information on what form the intervention should take. This requires further research that focuses on methods and techniques that will provide clear direction for intervention development.

This study has demonstrated that condom use among this group of people is not consistent and that they are in different stages of condom-use behaviour. An examination of existing theory-driven interventions suggest that health education messages will therefore have to be tailored to the individual to accommodate the different social and cognitive needs in the relevant stage. An application of the concepts from the transtheoretical model and social cognitive theory implies that, for example, a message designed to help move people from precontemplation to contemplation will be different to one to help them move from contemplation to action stages (Maibach & Cotton, 1995). Additionally the order in which stage-appropriate information is presented will also influence the consistent use of condoms. People who have a negative intention to use a condom or are in the precontemplation stage of condom-using behaviour need an intervention that will improve their knowledge about their sexual behaviour and encourage them to examine their personal risk of acquiring an STD to help them move to the contemplation stage. This study has demonstrated that most of the STD clinic attenders are in the precontemplation stage of condom-use behaviour with both their steady and outside partners.

The contemplators are those who are aware that they need to use condoms. They need interventions that will help them to assess the outcome of not using a condom, for example an intervention that highlights the issues of diminished physical pleasure versus the risk of repeated STDs including HIV. As seen in this study (general self-efficacy with condom use and self-efficacy in using a condom with a partner moved people to the action stages), contemplators need to try to use a condom and gain an enhancement of their self-efficacy in order to move to the next stage. Once they use a condom they may move to doing so regularly in conditions that place them at risk of contracting an STD.

The data also suggest that enhanced communication between partners can help people move from precontemplation to contemplation and then to action. This implies that further research needs to be undertaken on the development and testing of interventions to enhance communication between partners on STDs and condom use.

Finally, in order to maintain condom use, the strength of the newly adopted behaviour has to be reinforced. Interventions for this will need to focus on acquiring skills to circumvent obstacles to condom use, to cope with setbacks in condom use and to enable condom users to gain social support for their regular-use behaviour.

In other words, programmes that promote the desired behaviour should not crudely provide one message for everybody and expect them to adopt the health-enhancing behaviour.

Chapter 7

An understanding of communication between partners about STDs is a prerequisite for developing health education interventions, since it impacts directly on partner-referral behaviour, an important strategy for the early detection and treatment of STDs. In Chapter 7, STD patients' communication with their partners about their present STDs was investigated through a survey that was conducted among 1477 randomly selected STD patients seeking health care at clinics. A study was conducted into the factors influencing patient-partner communication about their present STD symptoms.

The majority of the patients (78%) who presented at the STD clinics were male. Most patients (73%) had a secondary school education and were thus able to read and write. Most of the patients (69%) indicated that they had talked to their partners about their present infections.

From the data it became apparent that interventions directed at improving communication between partners need to be targeted at all the STD interventions tailoring it to their specific needs.

The relatively young age distribution of patients with STDs (90% were 35 years and younger) is a major cause for concern. Special attention in interventions directed at the early diagnosis, treatment and prevention of STDs needs to be given to tailoring them to the needs of people in this age group.

Communication between partners about STDs needs to be improved. The data showed that those with less than tertiary education and those who were unemployed were less likely to talk than the others. Only 8% had some tertiary education and 58% were unemployed. The need for improved education and employment opportunities has to be recognised as a strategy for improved health.

Women were found to be more likely than men to have had only one partner in the past 6 months. The data showed patients who had had only one partner were more likely to talk about their present STD. Men were more likely to have had more than one partner in the last 6 months and were less likely to talk about the STD. Those patients who believed that they would be blamed for the STD were also less likely to talk to their partners about the STD. Patients who engaged in high-risk behaviour, i.e. those who had had two or more partners in the last 6 months and those who did not use condoms regularly, were less likely to talk to their partners about their STDs. The problematic nature of partner-referral behaviour is thus further compromised by the number of sex partners patients have.

Regular condom use provides a strategy in the presence of multiple-partner behaviour for STD prevention. Additionally abstinence from sex while infected could also be seen as a possible strategy to prevent STD transmission. In this regard it should be noted that patients who thought

of abstaining from sex while infected with an STD were also more likely to have indicated talking to their partners about STDs.

Patients who had a good knowledge of the consequences of STDs for the neonate, who were aware that STDs could be transmitted in the absence of symptoms, and those who held positive beliefs about condoms were more likely to talk to their partners about their present STDs. Programmes that target knowledge about STDs and facilitate positive beliefs about condoms are essential elements in a health education intervention.

The participants' claims that they talked to their partners about the use of condoms, about the risk of HIV should condoms not be used and about the present STD suggests that communication about these issues is possible. It was found that patients who had used condoms in the past 6 months were also more likely to have talked to their partners about their STDs. This study suggests that any attempt to improve partner-referral behaviour would need to include strategies to improve communication between partners about sexual matters. Improved communication would also impact on the use of condoms and possible abstinence from intercourse while infected with an STD.

Those patients who perceived social support from their partners and friends in referring partners for STD treatment and those who believed that they would not be blamed for the STD if they took this step, were more likely to talk to their partners about their STDs. Most of the patients had high estimations of self-efficacy in referring their partners. However, patients who had had previous experience with STDs were more likely to indicate that referring one's partner for STD treatment would make them feel guilty and would cause trouble in the relationship.

The general positive beliefs and attitudes expressed by most patients towards referring their partners for STD treatment could be a result of the patients' providing socially desirable answers in response to the information they had received from health workers prior to the interview about the necessity of referring their partners. This can be considered a limitation of the study. Although the patients expressed the intention to refer their partners for STD treatment it is not clear whether their intentions were translated into improved partner-referral behaviour.

As communication provides the mechanism through which partner referral is accomplished, the likelihood of partner-referral behaviour could be facilitated through targeted interventions which take into account the profiles of people within a population who are at high risk for STD infection. In particular this study showed that men, people under the age of 35, and patients who have had previous experience of STDs are at risk. In addition to improving communication between partners, improved knowledge regarding the consequences of STDs and STD-transmission modes would need particular attention. Social and partner support and perceived self-efficacy for partner referral should also be encouraged. It is evident that the improvement of communication between partners needs to be a priority in the attempts to improve partner referral as a strategy to prevent the STD transmission.

Chapter 8

Chapter 8 provides a description of STD patients' health care seeking behaviours. This study is important in that it assesses patients' responses to symptoms of diseases. This information is crucial to the development of a health education intervention targeted at the early detection and treatment of STDs since the greater the duration of infection, the higher the probability of harmful sequelae and STD transmission to others. A survey of 1482 randomly selected patients was

conducted to investigate the determinants of health care seeking behaviour of patients with STD symptoms.

The data suggest that interventions targeting delay behaviour should be directed at various subgroups within the population of STD patients. In addition this study points to the salient determinants of delay behaviour that will need to be addressed in a health education programme. The majority of patients (58%) sought health care from the clinic within the first 6 days of noticing symptoms, 24% waited between 7 and 10 days while 17% waited more than 10 days. The findings indicate that women were more likely to delay seeking health care than men. Since this is so, health education interventions need to focus on promoting early health care seeking behaviour among women.

The majority of STD patients (59%) were 25 years and younger which corresponds with the young age distribution of HIV-infected people in South Africa. Thus health education interventions to promote early health care seeking behaviour should be targeted at this group. Other subgroups that were identified as being in need of attention in delay-behaviour interventions are people with no education or only a primary school education, and the unemployed.

While the majority of patients did not treat themselves prior to seeking health care, those who resorted first to self-treatment and those who indicated that their partners suggest self-treatment, delayed in seeking medical treatment. The data indicate that those respondents who perceived the STD symptoms to be serious and those who held fewer misconceptions regarding the causes of STDs sought health care earlier than the others. The respondents' knowledge of the consequences of STDs was unsatisfactory and should be improved. In attempts to facilitate health-seeking behaviour it would thus be necessary to improve basic knowledge regarding the recognition of symptoms, the seriousness of the symptoms and their consequences. Additionally this study has demonstrated that health education interventions need to be tailored to target the misconceptions regarding the causes of STDs. Misconceptions such as the belief that STDs are caused by contraceptives not only have implications for delay behaviour per se, but also impact negatively on aspects of reproductive health in general. However, other existing misconceptions held by more than half of the respondents relate to women's role in STD transmission. The beliefs that STDs are caused by a woman who pushes a man out during climax and by a woman who holds her breath is supportive evidence that women are blamed for STDs and need special attention in interventions. Apart from the role that these lay beliefs play in delay behaviour, it can be argued that they may also impact on general STD preventive behaviour. Should men perceive women to be responsible for the STD they might not consider their own sexual behaviour as a contributing factor and may fail to protect themselves.

The majority of the respondents had positive outcome expectations of seeking medical treatment, independent of whether they delayed in seeking medical treatment. However, those respondents who valued personal autonomy in sexual behaviour were more likely to seek health care within the first 6 days of noticing STD symptoms. The supportive influence of friends in health care seeking is illustrated by the finding that respondents who stated that their friends would immediately seek treatment for STD symptoms were also more inclined than the others to seek health care within the first 6 days of noticing symptoms. The majority of the patients (69%) claimed to have talked to their partners about their present STD. Those patients who indicated that they talked about their present STDs, were also more inclined than the others to seek health care earlier.

Despite the fact that many respondents delayed in seeking health care, health care seeking behaviour was not obstructed by practical barriers nor was it impeded by perceptions of embarrassment or by perceived difficulties with seeking help from the clinic. The intention to immediately seek health care from the clinic for STD symptoms in future was shared by all the respondents.

The data clearly indicate that a health education intervention should aim to change several cognitions as well as facilitate the establishment of a social norm for early health care seeking through improved communication about STDs and social support for early health care seeking.

Chapter 9

While Chapter 8 assessed the health care seeking behaviour of STD clinic attenders a special focus on the health care seeking behaviour of adolescents was considered necessary given the high prevalence of HIV among this age group. The primary aim of the study described in Chapter 8 was to understand the factors associated with delay behaviour among STD patients of 20 years or younger with a view to informing the development of a health education programme for health workers involved in STD control. Questionnaire-administered interviews were conducted with adolescent patients (N=292) who presented with STD symptoms at clinics.

The data indicated that although the majority of the adolescents (56%) sought help from the clinic within the first 6 days of noticing symptoms, 23% waited 7 to 10 days and 21% waited more than 10 days. For most of the adolescents (62%) this episode was their first experience with an STD. The majority (51%) had had two and more sexual partners during the last 6 months. Only 33% indicated that they used condoms during this time. When considering condom use within a stages of change perspective, 35% of adolescents were precontemplating condom use, 31% contemplated the use of condoms, 28% engaged in some action while only 6% indicated regular action.

The adolescents seemed to be generally knowledgeable about STDs in terms of their causes, transmission and prevention. They had positive expectations of the outcome of seeking medical treatment, held positive attitudes and beliefs about seeking early health care for STD symptoms. They also perceived strong social support from their partners and friends for seeking health care. Despite the fact that some adolescents delayed in seeking health care, this was not because they were obstructed by practical barriers, by perceptions of embarrassment or anticipated difficulty in seeking health care from the clinic. The intention to immediately seek help from the clinic for STD symptoms in future was shared by all the adolescents.

The factors that emerged as predictors of delay behaviour were the seriousness with which the adolescents perceived STDs and their attitudes towards the valuing of personal autonomy in condom-use behaviour. Those adolescents who perceived their STD symptoms to be serious and those who valued personal autonomy in using condoms were less likely to delay in seeking health care. It is interesting to note that while the majority did not treat themselves prior to seeking health care, the findings indicate that those who resorted first to self-treatment delayed in seeking medical treatment. Contrary to expectation, females seemed not to have waited longer than males in seeking health care.

The data showed that adolescents had an awareness of the causes of STDs and the effects of STDs on the neonate; they had knowledge of prevention and of the risk of becoming HIV-infected.

But the data showed that their knowledge of the seriousness of STD symptoms was inadequate. It is suggested that adolescents' knowledge about STDs needs to be improved in a health education intervention, specifically in order to improve their recognition of STD symptoms and increase their knowledge about the seriousness of STDs (e.g. the risk for HIV infection). This would also discourage self-treatment practices which result in a delay in diagnosis and treatment. A health education intervention would also need to foster positive attitudes regarding the valuing of personal autonomy in using condoms because this is associated with early health care seeking.

When considering the adolescent patients' previous and current experiences with STDs, their number of sex partners in the last 6 months and their lack of condom use during this time, it is evident that their knowledge about STDs, their positive attitudes and beliefs towards condoms and early health care seeking had not yet been translated into STD- and HIV-preventive behaviours. The data indicated that the majority of the adolescents were in the precontemplation and contemplation stages and would need to be motivated to use condoms regularly. Against this background and in light of the increasing levels of HIV infection among young people in South Africa, adolescents constitute one of the most important target groups for the early diagnosis, treatment and prevention of STDs in the effort to curb the AIDS pandemic.

Chapter 10

To obtain a comprehensive picture of existing health education programmes targeted at STD clinic attenders, a qualitative study was conducted among 18 health workers. The aim was to ensure that the position of health education within the STD management structure was understood. The health workers interviewed were practising in primary health care clinics that are visited by STD clinic attenders. Of these 7 were nurses, 8 were medical doctors and 3 were dedicated health educators.

The interviews revealed several themes about their knowledge of and attitudes towards health education. The themes covered health education training, the content of health education programmes, organisational structure as the context of health education practice, task differentiation and role dynamics within the clinic and issues around the time available and physical space allocated for health education.

This study reveals that health workers are generally positive towards health education and willing to provide health education directed at STD prevention. However, the limitations posed by their current knowledge and skills in the practice of health education as well as the severe limitations of the organisational structure of clinics in terms of time, space and resources, impede the actual practice of health education. It seems that these obstacles to health education in fact facilitate a biomedical approach to STD management with a focus on diagnosis and treatment. This biomedical approach is further demonstrated in the power dynamics between the health workers. The health education in-service training received by health educators was apparently insufficient to improve their confidence and competence in health education practice. The health workers' lack of formal and specific training in the theory and practice of health education was evident in their understandings and conceptualisations of health education. The prevalent view of health education as the transmission of accurate medical information is moulded by the medical orientation and training of health workers. This medical orientation explains why doctors and nurses are considered to be the most appropriate people to provide medical information to the

STD patient. The health workers' reported understanding of health education differs markedly from the internationally accepted definition of health education provided by Green and Kreuter (1991) as being the empowerment of the STD patient through improved knowledge and skills in order to facilitate informed decision making and the voluntary adoption of behaviours conducive to health. Although the health educators were unable to match the Green and Kreuter (1991) definition which would set the primary objective of health education in this setting, they were more knowledgeable on certain of the components and concepts that constitute recognised health education practice than were the doctors and the nurses.

Health workers also see health education as being aimed at changing behaviour, a process which involves 'instructing' people to behave in a prescribed way and instructing them to adhere to this advice. According to some health workers the failure of many STD patients to follow their 'instructions' led health workers to question the real impact of health education efforts. The assumption that exposure to medical information will automatically result in behaviour change indicates the lack of understanding that exists regarding the complexity of behavioural change and ignores the available theories and methods in social science to facilitate change. In addition, the use of fear tactics by some health workers (through the association of STDs and sex with death) as a motivational device to encourage the adoption of health-promoting behaviour shows limited knowledge of the detrimental effects of excessive fear arousal.

It is evident from the data that the current organisational structure of the clinic as the context in which health education takes place impacts negatively on health education practice. Although policies and protocols for diagnosis and treatment of STDs are well instituted, the predominantly biomedical approach to STD management results in an absence of policies and protocols to guide the practice of health education. This, together with the physical constraints of limited time and space, results in a health education practice that can best be described as lacking or incomplete, unsystematic, unco-ordinated and unevaluated. The medical focus of STD management accords doctors, because of their expert medical knowledge, the most powerful position in the STD clinic followed by nurses and then by health educators who have the lowest status. Nurses and health educators aspire to improve their status in the clinic through improved medical knowledge. The power division between the disciplines impacts on practical interpersonal interactions, which are best understood by the classic doctor-nurse game interaction model in which the monopoly of expert knowledge places doctors in a strong and unchallenged position at the top of the medical hierarchy. As a result, interactions between doctors and nurses focus on doctors 'giving' nurses instructions around diagnosis and treatment. Similarly, interactions between nurses and health educators were characterised by nurses 'giving' health educators instructions. The hierarchical structure is entrenched and limits the possibility for interactions across disciplines to change. Health education remains at the periphery and the position of health educators in the status hierarchy undermines their morale.

Although the newly adopted syndromic approach to STD management in South Africa recognises the important role of health education, the current *laissez-faire* approach to health education practice in STD clinics as expressed by the health workers, must be challenged and a full integration of health education as a core component of STD management must be instituted. This would require first the development and implementation of health education policies and protocols. Secondly, it would require the facilitation of a social environment in which health education is actively supported and practised.

When considering the issue of organisational change, the importance of understanding the clinic as a complex social system with resources, members, roles, exchanges, and specific cultures needs to be recognised. Changing the clinic settings can best be achieved by addressing the multiple levels within the clinic by involving the management/decision makers and health workers in the process of change, i.e. from analysing health education practice to planning, decision making and implementation of the intervention. Engaging the health workers in the participatory process would contribute to programme ownership, to the relevance and appropriateness of content and thus to sustained implementation. Furthermore, workers' participation in planning and decision making would assist in an empowerment process through which health workers can learn to overcome the feelings of powerlessness that were expressed by some nurses and, in particular, by the health educators. These processes would collectively contribute to the transformation of STD management into an ecologically based approach. This approach would also ensure the recognition of all categories of health workers' contributions to health education within their own functions, strengths and time limitations.

On the issue of training health workers to practise health education, the data suggest that there is room for attempts to be made to provide training to improve health workers' knowledge about the theory and practice of health education as well as their health education skills. However, improved health education skills would further require knowledge and insight into the psychosocial and contextual determinants of the required healthy behaviours of STD patients, e.g. responsible sexual behaviour, health-seeking behaviour and the referral of sexual partners for medical treatment. Increased insight and sensitivity to the facilitating factors and barriers that exist in promoting these healthy behaviours would assist health workers in ways to encourage and support patients in a process of change. All the health workers interviewed made a strong call for comprehensive training in the practice of health education.

Finally the failure to apply knowledge from the social sciences in attempts to facilitate behaviour change was another limitation experienced by health workers. This might be ascribed to an inadequate knowledge-base in health promotion among health workers. The relative newness of health education practice as a health education science tradition in South Africa may explain the inadequacy of this knowledge base. The consequence is that there is limited potential for health education to bring about attitudinal and behavioural change in an area which is sensitive and private, not only for those people who become STD patients but, as the data showed, also for the health workers. This implies that future health education training programmes will need to draw on interdisciplinary bodies of knowledge and expertise if health workers are to focus on promoting behavioural changes among the STD patients.

Objectives for future programmes

The specific programme objectives for targeting the STD-related behaviours that were studied in this dissertation are tabulated below.

Table 11.1. STD patients' knowledge, beliefs about STDs and condom use as well as attitudes towards condoms

Target population: All STD clinic attenders	In developing health education programmes to prevent STDs the following programme objectives need to be considered. These determinants have been identified as changeable within the population of STD clinic attenders. The majority of the patients within this group were male and younger than 35 years.
Programme objectives	The primary objectives of the programme would be to improve the STD patients' knowledge, beliefs, and attitudes about STDs as well as their beliefs and attitudes towards condoms. Each programme objective highlights the subgroup within the STD clinic population that would need special attention.
Determinants to be changed:	<p>The target population is knowledgeable about sexual transmission of STDs Target population who are male Target population who are younger than 21 years Target population who have not used condoms before</p> <p>The target population is knowledgeable about the effects of STDs on the neonate Target population with a low level of education Target population who are younger than 21 years Target population who have not used condoms before</p> <p>The target population is knowledgeable about STD prevention and cure Target population with primary and less education Target population who are younger than 21 years</p> <p>The target population has positive beliefs about condom use Target population who are male Target population who have never used condoms Target population who have less than senior secondary education</p> <p>The target population does not have misconceptions about the causes of STD Target population who are male Target population with a primary and less education Target population who have never used condoms</p> <p>The target population has the belief that STDs are serious Target population who are female Target population who never used condoms Target population who had previous STDs</p> <p>The target population has positive attitudes towards condoms Target population who are men Target population who have had STDs before Target population who had used condoms before Target population who have a primary and less education</p> <p>The target population values personal autonomy in condom use Target population who are men Target population who have not used condoms before Target population who had less than senior secondary</p> <p>The target population has positive outcome expectancies of refusing sex Target population who have not used condoms before Target population with primary and less education</p> <p>The target population values personal autonomy in sexual behaviour Target population who are male Target population who have not used condoms before</p>

Table 11.2. Behaviour: Risky sexual behaviours (having multiple partners and not using condoms) of patients with STDs

Target population: Patients attending STD clinics	Health education programmes that are developed to focus on assisting STD patients to limit their risky sexual behaviours need to have the following programme objectives. Within the group of STD patients, men and patients younger than 25 years in particular, need special attention because of higher risk behaviour.
Programme objectives	The programme objectives would target decreasing the number of sexual partners that they have and to encourage them to use condoms consistently.
Determinants to be changed	<ul style="list-style-type: none"> • Target population has positive attitudes towards condoms • Target population values personal autonomy in sexual behaviour • Target population has positive outcome expectancies of refusing sex and insisting on condom use
Determinants to reinforce	<ul style="list-style-type: none"> • Target population be knowledgeable about the consequences of STDs on the neonate • Target population be knowledgeable about sexual transmission of STDs • Target population be knowledgeable about the causes of STDs • Target population be knowledgeable about the seriousness of STD symptoms • Target population has positive beliefs about condoms • Target population has positive attitudes to autonomy in using condoms
Determinants that are relatively unchangeable	Target population gains more employment

Table 11.3. Behaviour: Using condoms consistently by STD clinic attenders

Target group: Patients attending STD clinics	In developing health education programmes that are designed to promote condom-using behaviours among STD clinic attenders.
Programme objectives	The primary objective of the programme is to get patients to use condoms regularly, i.e. to get patients to move from the pre-contemplation and contemplation stages to the some action and regular action stages.
Determinants to be changed	<ul style="list-style-type: none"> • Target population talks to partners about STDs • Target population feels confident to talk about condom use in general • Target population talks to partners about the risk of getting HIV if condoms are not used • Target population talks to partner about own condom use • Target population has positive attitudes to condom use • Target population feels able to use condoms for the first time with a new partner • Target population has a positive attitude to condom use • Target population feels able to use condoms with current partner • Target population feels able to use condoms in general
Determinants that are relatively unchangeable	Target population gain more education

Table 11.4. Behaviour: Communication with partners about current STDs

Target population: STD clinic attenders	In developing health education programmes to improve communication between partners targeted at STD clinic attenders, different subgroups need special attention. These include males, and patients with a primary or less education. This is because of behaviours that place them at risk.
Programme objectives	The primary objectives of the programme would be to improve communication between partners. The determinants that have been identified constitute both changeable and relatively unchangeable determinants. The changeable determinants can be targeted through a health education programme.
Determinants to be changed	<ul style="list-style-type: none"> • Target population decreases their number of sex partners (see chapter 9) • Target population uses condoms consistently (see chapter 5) • Target population thinks about abstaining from sex while infected • Target population be knowledgeable of the effects of STDs on the neonate • Target population has positive beliefs about condoms • Target population knows that STDs can be transmitted in the absence of STD symptoms • Target population believes that their best friends would refer their partners • Target population believes that they will not be blamed for the STD when referring their partners for STD treatment • Target population develops self-efficacy for condom use
Determinants to be reinforced	<ul style="list-style-type: none"> • Target population be knowledgeable about the sexual transmission of STDs • Target population be knowledgeable about the causes of STDs • Target population be knowledgeable about the seriousness of STD symptoms • Target population has positive beliefs about condoms • Target population has positive attitudes towards condoms • Target population has positive attitudes towards autonomy in sexual behaviour and condom use • Target population has positive beliefs about referring their partners for STD treatment • Target population maintain estimations of self-efficacy in referring partners for STD treatments • Target population maintain perceived social support for partner referral
Determinants that are relatively unchangeable	<ul style="list-style-type: none"> • Target population gains more employment • Target population gains more education

Table 11.5. Behaviour: Health care seeking behaviour of patients with STDs

Target population: STD clinic attenders	In developing health education programmes that promote early health care seeking among patients attending STD clinics, the following programme objectives need to be considered. Within the group of STD patients women as a subgroup should be encouraged to seek health care earlier than currently. The changeable determinants can be targeted through a health education intervention.
Programme objectives	The primary objective of the programme would be the early detection and treatment of STD symptoms.
Determinants to be changed	<ul style="list-style-type: none"> • Target population does not resort to self treatment on noticing STD symptoms • Target population does not have correct conceptions about the causes of STDs • Target population perceives their STD symptoms to be serious • Target population values personal autonomy in sexual behaviour • Target population believes that their friends do not wait before seeking health care
Determinants to be reinforced	<ul style="list-style-type: none"> • Target population be knowledgeable about the sexual transmission of STDs • Target population be knowledgeable about the effects of STDs on the neonate • Target population maintains positive perceptions about accessibility of health care • Target population values autonomy in sexual behaviour • Target population has positive outcome expectations of seeking health care • Target population perceives social support (i.e. from friends and partners) for early health care seeking • Target population estimations of self-efficacy to early health care seeking • Target population communicates with partners about their STDs • Target population intends to seek health care immediately in future for STDs
Determinants that are relatively unchangeable	<ul style="list-style-type: none"> • Target group gains more employment

Table 11.6. Behaviour: Health care seeking behaviour of adolescents attending STD clinics

Target population: Adolescents who attend STD clinics	In developing health education programmes to promote early health care seeking among adolescents the following programme objectives need to be considered. These determinants have been identified as changeable through a health education intervention.
Programme objectives	The primary objective of the programme would be the early detection and treatment of STD symptoms
Determinants to be changed	<ul style="list-style-type: none"> • Target population does not resort to self-treatment on noticing STD symptoms • Target population perceives STD-symptoms to be serious • Target population values personal autonomy in refusing sex
Determinants to be reinforced	<ul style="list-style-type: none"> • Target population be knowledgeable on the effects of STDs on the neonate • Target population be knowledgeable on the risk that having an STD places on one for HIV • Target population has correct beliefs about causes of STDs • Target population has positive attitudes towards autonomy in condom use • Target population maintains positive perceptions about the accessibility of health care • Target population maintains estimations of self-efficacy in seeking health care • Target population maintains positive perceptions about social support for seeking of health care

Table 11.7. Behaviour: Health education practice by health workers working in STD management

Target population: Health workers working in STD management	In developing health education programmes to prevent the spread of STDs among patients seeking care at the STD clinic, the doctors, nurses and health educators need to focus on the following programme objectives.
Programme objectives	The primary objective is to improve health education practice by health workers in STD management as a strategy to prevent STDs.
Changeable determinants	<ul style="list-style-type: none"> • Target population are able to apply the principles of health education • Target population are able to apply principles of adult education • Target population have good inter-personal skills • Target population are able to communicate effectively <p>Target population are able to communicate effectively</p> <ul style="list-style-type: none"> • Target population are able to provide effective health education • Target population are able to follow a patient-centred approach in STD management • Target population are able to clarify their own values • Target population feels able to talk about sexual matters in a relaxed way • Target population has knowledge about the medical aspects of STDs • Target population feels positive about the use of condoms • Target population is able to use their knowledge about patients' underlying beliefs about STDs in terms of causes and prevention as well as about condom use in health education sessions
Determinants that are relatively unchangeable	Financial and human resources constraints resulting in limited space and time for comprehensive STD management

Determinants that are relatively unchangeable

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Samenvatting

In deze dissertatie wordt een serie studies beschreven die samen een beeld geven van determinanten van gedrag binnen een meer-fasen project dat gericht is op de ontwikkeling, uitvoering en evaluatie van een programma ter preventie van seksueel overdraagbare aandoeningen (SOA's) voor bezoekers van SOA-klinieken in Zuid-Afrika.

In hoofdstuk 1 wordt een beschrijving gegeven van SOA's als gezondheidsprobleem in Zuid-Afrika. Het PRECEDE/PROCEED planningsmodel voor gezondheidsvoorlichting wordt gepresenteerd en een aantal psycho-sociale theorieën over gedrag en gedragsverandering die bij de determinantenstudies zijn gebruikt, worden bediscussieerd.

In hoofdstuk 2 wordt de constructie van een planningsmodel beschreven dat als basis kan dienen voor de ontwikkeling van gezondheidsvoorlichtingsprogramma's in Zuid-Afrika. Er worden definities gegeven van gezondheidsvoorlichting en gezondheidsbevordering evenals een uitgewerkt voorbeeld van de toepassing van de matrix van gezondheidsbevordering op SOA's en HIV preventie.

In hoofdstuk 3 worden de resultaten beschreven van een kwalitatief onderzoek onder patiënten die een SOA-kliniek bezoeken. Deze resultaten vormen de basis voor de kwantitatieve studies naar de determinanten van SOA-gerelateerd gedrag. Het betreft hier een exploratief onderzoek naar de ziekte-representaties van mensen met een SOA binnen de sociaal-culturele context en in het bijzonder de context van de relatie tussen de seksen. Met Xhosa en Zulu sprekende patiënten van klinieken in Cape Town, Western Cape (N=67) en in de plattelandsgebieden bij Kabokweni, Mpumalange (N=21) werden diepte-interviews gehouden. De daarbij vastgestelde representaties geven een beeld van de bestaande sociaal-culturele opvattingen over de ziekte en van cultureel bepaalde opvattingen over de relatie tussen de seksen. Deze representaties beïnvloeden hun algemene opvattingen over de oorzaken van SOA's, hun inschatting van het risico op SOA's, hun gebruik van de officiële gezondheidszorg en hun ideeën over preventie. De uitkomsten van de studie laten zien dat gezond gedrag alleen bevorderd kan worden door een combinatie van verschillende voorlichtingsstrategieën die interveniëren op de wijze waarop mensen de oorzaken van SOA's begrijpen, binnen de context van de relatie tussen de seksen. Bij de ontwikkeling van inter persoonlijke en gedragsmatige vaardigheden zal er rekening gehouden moeten worden met de relevante cues for action.

In hoofdstuk 4 wordt verslag gedaan van een onderzoek naar de kennis, opvattingen en attitudes van SOA patiënten ten aanzien van seksueel overdraagbare aandoeningen en condoomgebruik, in termen van verschillen op grond van sekse, opleiding en leeftijd. Dit onderzoek draagt bij tot een beter begrip van de SOA-epidemie in Zuid-Afrika en moet aangrijpingspunten bieden voor de ontwikkeling van een gezondheidsvoorlichtingsprogramma.

Met 2978 willekeurig geselecteerde Xhosa-sprekende bezoekers van de SOA-kliniek werd een gestructureerd interview gehouden over hun kennis, opvattingen, attitudes en gedrag met betrekking tot SOA's, zoals risicogedrag, condoomgebruik en hulpzoekgedrag.

Meer mannen dan vrouwen zochten hulp voor SOA's. Een grote meerderheid van de patiënten (92%) was jonger dan 35 jaar. Vrouwen waren zich meer bewust van het seksuele karakter van SOA-transmissie, hechtten meer waarde aan persoonlijke autonomie in seksueel gedrag en vonden

condoomgebruik noodzakelijker dan mannen. Mannen vonden SOA-symptomen ernstiger, hadden meer misvattingen over de oorzaken van SOA's en ook meer negatieve opvattingen over condoomgebruik. Condoomgebruik in de laatste zes maanden werd gerapporteerd door 34,9% van de patiënten, terwijl slechts 24% aangaf consistent condooms te gebruiken. Zij die condooms gebruikten, hadden in vergelijking met hen die nooit condooms gebruikten, een betere kennis van het seksuele karakter van SOA-transmissie en de effecten van SOA's op het nog ongeboren kind. Ze hadden minder misvattingen over de oorzaken van SOA's en beschouwden SOA-symptomen als ernstiger. Ook hechtten ze meer aan persoonlijke autonomie in seksueel gedrag en condoomgebruik en verwachtten ze meer positieve gevolgen van het weigeren van seks. De resultaten laten zien dat een interventie voor de mannelijke patiënten gericht moet zijn op hun onvoldoende kennis van SOA's, waarbij het kennistekort achtereenvolgens het sterkst is op het gebied van de transmissie, oorzaken, consequenties, preventie en behandeling. Hun negatieve opvattingen over condoomgebruik vergen bovendien speciale aandacht, met name vanwege het gegeven dat zij vaak meer partners hebben. Interventies voor vrouwelijke patiënten moeten gericht zijn op het verbeteren van hun kennis, met als belangrijkste onderwerpen achtereenvolgens, kennis over de consequenties van SOA's, kennis over de oorzaken en het herkennen van symptomen en kennis over preventie en behandeling. Alle interventies zouden zich moeten richten op het vergroten van de persoonlijke autonomie in het nemen van beslissingen over seksueel gedrag en condoomgebruik van zowel mannen als vrouwen, door middel van programma's waarin individuele vaardigheden worden getraind en eigen-effectiviteit wordt versterkt en waarin in de community een cultuur wordt gecreëerd waarin die autonomie door alle betrokkenen wordt gerespecteerd.

In de studie die in hoofdstuk 5 wordt beschreven, wordt inzicht verschaft in de voorspellers van riskant seksueel gedrag van patiënten met een SOA, teneinde op basis daarvan een interventie te kunnen ontwikkelen voor SOA preventie binnen de kliniek. Een vragenlijst werd afgenomen bij 2978 willekeurig geselecteerde bezoekers van de kliniek. Riskant seksueel gedrag fungeerde als een niet-metrische afhankelijke variabele en werd gemeten door a) het aantal seksuele partners in de laatste zes maanden, vermenigvuldigd met b) de frequentie van condoomgebruik in de laatste zes maanden. De patiënten werden daarna in categorieën ingedeeld van laag, medium, hoog en zeer hoog risico. Als explorerende techniek werd een CHAID analyse uitgevoerd om de determinanten van seksueel risicogedrag van deze patiënten te analyseren. Opnieuw waren de patiënten relatief jong; de meerderheid (60%) was 25 jaar of jonger. Van de patiënten rapporteerde 55% meer dan één partner te hebben, 27% had twee partners en 38% had er drie of meer in de laatste zes maanden. Van de patiënten had 51% eerder een SOA gehad en slechts 35% gaf aan in de laatste zes maanden condooms te hebben gebruikt. De grootste groep patiënten zat in de medium-risico groep, gevolgd door de hoog-risico en de zeer hoog-risicogroep, elk 25%. De laag-risicogroep omvatte slechts 8% van de patiënten. Factoren die geassocieerd zijn met risicogedrag, zijn in volgorde van belangrijkheid: een man zijn, een negatieve attitude hebben ten aanzien van condoomgebruik, persoonlijke autonomie in seksueel gedrag niet op prijs stellen, negatieve verwachtingen hebben over seks weigeren en over condoomgebruik eisen binnen relaties, werkloos zijn, eerder een SOA hebben gehad, 25 jaar of jonger zijn en misvattingen hebben over de oorzaken van SOA's.

Patiënten met een SOA vertegenwoordigen een uiterst belangrijke doelgroep voor preventie van toekomstige infectie met een SOA of HIV. Met name bij mannelijke patiënten en jonge patiënten is het nodig om een stabiele gedragsverandering te bewerkstelligen. Zowel de kennis over de

oorzaken van SOA's moet worden verbeterd alsmede de houding ten opzichte van condoomgebruik en preventief gedrag. Interventies moeten gebaseerd worden op een goed begrip van de sociaal-culturele context rondom het hebben van meer partners en het gebruiken van condooms, teneinde stabiele gedragsverandering te verkrijgen en de patiënten te behoeden voor verdere infecties met SOA's of HIV.

In hoofdstuk 6 wordt een cross-sectionele studie beschreven waarin de determinanten worden geanalyseerd van condoomgebruik van bezoekers van SOA-klinieken in Zuid-Afrika. Bij 1513 patiënten werd een gestructureerd interview afgenomen. Gemeten werden opvattingen en attitudes ten aanzien van condoomgebruik evenals het eigen condoomgebruik. Ook werden de percepties gemeten van de sociale invloed van partners en vrienden/vriendinnen op condoomgebruik en de inschatting van de eigen-effectiviteit met betrekking tot condoomgebruik.

Condoomgebruik als afhankelijke variabele werd gemeten door middel van een aangepast transtheoretisch model van stages of change (Prochaska & DiClemente, 1991). Patiënten werden beschouwd als 'precontemplators' wanneer ze nog nooit condooms hadden gebruikt en nooit serieus over condoomgebruik hadden nagedacht, als 'contemplators' wanneer ze nooit condooms hadden gebruikt maar er wel serieus over hadden nagedacht, als 'onregelmatig gebruikers' wanneer ze wel condooms gebruikten maar niet altijd en als 'regelmatig gebruikers' wanneer ze altijd condooms gebruikten.

De invloed van de onafhankelijke variabelen op de stages of change als afhankelijke variabele, werd zowel onderzocht bij patiënten met een vaste partner als bij patiënten met meer partners, door middel van regressie-analyse. De variabelen die uit de analyse naar voren kwamen, waren dezelfde voor beide groepen patiënten. In beide groepen was de communicatie met de partner het sterkst geassocieerd met condoomgebruik. Algemene eigen-effectiviteit met betrekking tot condoomgebruik en specifieke eigen-effectiviteit met betrekking tot condoomgebruik, zowel als de attitude tegenover condoomgebruik bepaalden de stage of change van de patiënten.

In hoofdstuk 7 wordt de communicatie tussen patiënten en hun partners over hun huidige SOA beschreven in een steekproef van patiënten met SOA-symptomen (N=1477). De meerderheid was man (78%), had een voortgezette schoolopleiding (73%) en kon dus lezen en schrijven. Bijna allemaal (86%) gaven ze aan met hun partner en vrienden te kunnen praten over hun SOA en 69% gaf aan ook werkelijk met de partner over de SOA gesproken te hebben. Uit de logistische regressie-analyse bleek dat de patiënten die met de partner gesproken hadden, vaker vrouwen zijn, werk hebben en een hogere opleiding hebben gevolgd. Patiënten die met hun partner hadden gesproken, rapporteerden ongeveer twee maal zo vaak dat ze in de laatste zes maanden slechts één partner hadden gehad, in de laatste zes maanden condooms hadden gebruikt en dat ze erover gedacht hadden van seks af te zien gedurende de periode dat ze een SOA hadden. Bovendien hadden ze een betere kennis van de effecten van SOA's op het ongeboren kind, een meer positieve attitude ten aanzien van condoomgebruik en wisten ze beter dat SOA's overgedragen kunnen worden terwijl er geen symptomen meer zijn. Ze waren er eveneens meer van overtuigd dat hun partner niet negatief zou reageren en dat hun beste vrienden in een dergelijk geval met hun partners zouden spreken, dan de patiënten die niet met hun partners communiceerden over hun SOA. De meeste patiënten hadden een hoge eigen-effectiviteit ten aanzien van het kunnen communiceren met hun partner, en verwachtten sterke sociale steun voor het doorverwijzen van hun partner naar de SOA-kliniek.

Bij het ontwikkelen van gezondheidsvoorlichting bedoeld om de communicatievaardigheden van patiënten met hun partners te bevorderen, moet rekening worden gehouden met de subgroepen binnen deze patiëntenpopulatie die niet met de partner communiceren en een hoger risico lopen. Deze risicogroepen bestaan vooral uit mannen, mensen met een lagere opleiding en mensen zonder werk. Behalve aan het verbeteren van communicatievaardigheden moet aandacht worden geschonken aan het vergroten van kennis over transmissie en consequenties van SOA's. Bovendien moeten opvattingen over condoomgebruik meer positief worden, moeten vrienden elkaar ondersteunen ten aanzien van condoomgebruik en moeten partners elkaar ondersteuning bieden bij condoomgebruik.

Communicatie is essentieel in partnertificatie. Daarom behoort de verbetering van communicatievaardigheden tussen partners teneinde partnertificatie te bevorderen, een hoge prioriteit te krijgen in gezondheidsvoorlichting gericht op SOA-preventie.

In hoofdstuk 8 wordt een onderzoek beschreven naar de determinanten van hulpzoekgedrag door patiënten met SOA-symptomen, met als doel een gezondheidsvoorlichtingsprogramma te ontwikkelen voor de preventie van SOA's. Hulpzoekgedrag werd gemeten als het tijdsinterval tussen de ontdekking van de SOA-symptomen en het bezoek aan de kliniek.

Met 1482 bij toeval geselecteerde patiënten is een gestructureerd interview gehouden. De patiënten in categorie 1 wachtten minder dan zeven dagen, in categorie 2 tussen de zeven en de tien dagen en de patiënten in categorie 3 wachtten meer dan tien dagen voordat ze hulp zochten. Om de determinanten van uitstelgedrag te vinden werd een logistische regressie-analyse uitgevoerd, met hulpzoekgedrag als afhankelijke variabele. De meeste patiënten zochten binnen zeven dagen hulp (59%), 24% wachtte tussen de zeven en tien dagen en 16% wachtte langer dan tien dagen. Mannen, hoog opgeleiden en werkenden zochten relatief eerder hulp. Leeftijd was niet gerelateerd aan hulpzoekgedrag, maar een grote groep patiënten was jonger dan 25 jaar (40%). De meeste patiënten gaven aan sociale steun te hebben ervaren om vroeg hulp te zoeken en hadden een hoge eigen-effectiviteitsinschatting. Een substantiële groep patiënten probeerde eerst zelf de symptomen te behandelen alvorens hulp te zoeken. Deze patiënten stelden hun hulpzoekgedrag ook langer uit. Patiënten die de symptomen als ernstiger beschouwden en zij die minder misvattingen over de oorzaken van SOA's rapporteerden, zochten eerder hulp. Patiënten die over hun SOA spraken met de partner en zij die waarde hechtten aan persoonlijke autonomie in seksueel gedrag, waren ook vaker geneigd eerder hulp te zoeken dan de anderen.

Inspanningen om de vroege opsporing en behandeling van SOA's te bevorderen, moeten specifiek gericht worden op de behoeften van verschillende patiëntengroepen, bijvoorbeeld vrouwen, jongeren, laag opgeleiden en mensen zonder werk. In deze studie worden belangrijke determinanten geïdentificeerd die veranderd moeten worden via gezondheidsvoorlichtingsprogramma's, namelijk het verbeteren van de kennis over SOA's, in het bijzonder de risico's van het zelf behandelen van de symptomen, de kennis over de oorzaken van SOA's en de ernst van SOA's en tenslotte het inzien van de waarde van persoonlijke autonomie in seksueel gedrag. De resultaten laten zien dat gezondheidsvoorlichting moet streven naar individuele veranderingen in deze opvattingen, maar ook naar het versterken van een sociale norm die een vroegtijdig hulpzoekgedrag stimuleert. Meer communiceren over SOA's in het algemeen, kan daaraan bijdragen.

In hoofdstuk 9 worden de resultaten gepresenteerd van een studie naar de determinanten van hulpzoekgedrag bij adolescenten. Doel van de studie was het hulpzoekgedrag van adolescenten in kaart te brengen in een steekproef van 292 adolescenten met SOA-symptomen, plus de determinanten van dit gedrag. Hulpzoekgedrag werd opnieuw gemeten als het tijdsverschil tussen de ontdekking van de symptomen en het feitelijke zoeken van hulp.

Met 292 adolescenten (20 jaar of jonger) uit een grote random steekproef van 1505 SOA-patiënten, werden gestructureerde interviews gehouden. Hulpzoekgedrag werd gedefinieerd aan de hand van het tijdsverschil: categorie 1 wachtte minder dan zeven dagen, categorie 2 wachtte tussen de zeven en de tien dagen en categorie 3 wachtte meer dan tien dagen. Determinanten van hulpzoekgedrag werden geïdentificeerd door middel van een logistische regressie-analyse.

De meerderheid van de adolescenten (59%) zocht binnen zeven dagen hulp, 23% wachtte tussen de zeven en de tien dagen. Zorgelijk is het aantal adolescenten (21%) dat meer dan tien dagen wachtte voordat ze hulp zochten. Voor de meeste adolescenten was dit de eerste keer dat ze met een SOA werden geconfronteerd. De meerderheid (51%) had in de afgelopen zes maanden twee of meer partners gehad, 33% gaf aan condooms gebruikt te hebben terwijl slechts 6% altijd condooms gebruikte. De adolescenten hadden in het algemeen een goede kennis over SOA's in termen van oorzaken, transmissie en preventie. Ze ervoeren sterke sociale steun van partners en vrienden met betrekking tot het tijdig hulp zoeken. Zij die binnen zeven dagen hulp zochten, zagen SOA-symptomen als ernstiger en probeerden niet de symptomen zelf te behandelen. Ze hadden ook een positievere opvatting over persoonlijke autonomie ten aanzien van condoomgebruik. Hoewel veel adolescenten tijdig hulp zochten en voldoende kennis bezaten, dient toch aandacht te worden besteed aan het verhogen van de kennis over SOA's in het algemeen en in het bijzonder over het herkennen van symptomen, de ernst van de consequenties zoals de kans op HIV-infectie, en de gevaren van het zelf behandelen van de symptomen. Aandacht moet ook besteed worden aan het elkaar (vrienden en partners) ondersteunen voor het tijdig zoeken van hulp. Wanneer we het aantal sekspartners van adolescenten in beschouwing nemen, plus het gebrek aan condoomgebruik door deze groep en de hoge prevalentie van SOA's in combinatie met het hoge aantal HIV-geïnfecteerden onder deze groep jeugdigen in Zuid-Afrika, dan is het duidelijk dat adolescenten een zeer belangrijke doelgroep vormen voor de vroege opsporing en behandeling van SOA's in een poging de risico's van AIDS te beperken.

Om een gezondheidsvoorlichtingsprogramma te kunnen ontwikkelen voor bezoekers van SOA klinieken, is het noodzakelijk om de voorlichtingsbehoeften van zowel de bezoekers als de werkers in de klinieken te kennen. De kwalitatieve studie die in hoofdstuk 10 wordt beschreven, was gericht op de praktijk van gezondheidsvoorlichting in SOA-klinieken in Zuid-Afrika met de bedoeling om die voorlichting te verbeteren. Onderzocht werden de kennis en attitudes van de werkers in de klinieken, hun inschatting van hun voorlichtingsvaardigheden, de inhoud van de voorlichting in de kliniek en de structuur van de gezondheidsvoorlichting in de kliniek. Met 18 werkers in de klinieken die actief waren in de bestrijding van SOA's, zijn diepte-interviews gehouden.

Er bleek een tekort te zijn in kennis en in vaardigheden om effectief gezondheidsvoorlichting te kunnen geven. De praktijk van gezondheidsvoorlichting in de klinieken wordt bemoeilijkt door de

beperkte kennis en vaardigheden van de werkers en de gebrekkige organisatiestructuur, in termen van het ontbreken van beleid, van protocollen voor gezondheidsvoorlichting en het ontbreken van voldoende tijd, ruimtes en voorzieningen. Het lijkt erop dat deze barrières voor gezondheidsvoorlichting leiden tot SOA-bestrijding vanuit een biomedisch perspectief. Dit perspectief vindt zijn weerslag ook in de machtsverhoudingen tussen de werkers in de kliniek onderling en die tussen de werkers en de patiënten.

De resultaten geven aan dat zowel een interventie nodig is op het individuele niveau van de werkers in de kliniek als een interventie op het niveau van de organisatie, namelijk de wijze waarop in de kliniek de gezondheidsvoorlichting georganiseerd is. Het recent ontwikkelde, District Health System, = waarin de medische zorg én health promotion gecombineerd worden, geeft goede vooruitzichten op een meer holistische benadering van SOA's in Zuid-Afrika. Dit nieuwe systeem staat garant voor de bijdrage aan de gezondheidsvoorlichting, door alle groepen werkers in de kliniek binnen de beperkingen van hun positie, competentie en beschikbare tijd.

In hoofdstuk 11 worden de conclusies getrokken. Alle studies in deze dissertatie worden nogmaals samengevat. Op basis van wat geleerd werd van de resultaten, worden aanbevelingen gedaan ten behoeve van de ontwikkeling van gezondheidsvoorlichtingsprogramma's. Deze aanbevelingen hebben de vorm van concrete programmadoelstellingen.

The first part of the text discusses the importance of understanding the human mind and its capabilities. It emphasizes that the mind is a complex system that can be trained and developed through various methods. The author suggests that by understanding the mind, we can improve our performance in various tasks and activities.

The second part of the text focuses on the concept of 'sense and sensibilities'. It explains that these are the qualities that allow us to perceive and respond to the world around us. The author argues that these qualities are essential for a well-rounded education and a successful life.

The third part of the text discusses the role of education in developing these qualities. It suggests that education should not only focus on the acquisition of knowledge but also on the cultivation of the mind and the development of the individual.

The fourth part of the text concludes by emphasizing the importance of a holistic approach to education. It suggests that education should be designed to develop the whole person, including the mind, the body, and the emotions.

