From intention to STI prevention

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**ORIGINAL RESEARCH:
EMPIRICAL RESEARCH—QUANTITATIVE**

From intention to STI prevention: An online questionnaire on barriers and facilitators for discussing sexual risk behaviour among HIV nurses

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Abstract

Aims: We aimed to elucidate facilitators and barriers that HIV nurses experience in discussing sexual risk behaviour with HIV-positive men who have sex with men, using variables from a previous qualitative study and the theory of planned behaviour.

Background: HIV-positive men who have sex with men are frequently diagnosed with sexually transmitted infections, which can be reduced if HIV nurses discuss sexual risk behaviour.

Design: An online questionnaire was disseminated in April 2015 among all HIV nurses in the Netherlands.

Methods: We assessed variables, such as attitudes, shame, ability, knowledge and time concerns. A regression analysis was conducted with "intention to discuss sexual risk behaviour" as an outcome variable.

Results: The questionnaire was completed by 60 of 79 HIV nurses. Overall, participants reported high intentions to discuss sexual risk behaviour, and 38% of the variance was explained by attitude, sexual preference, knowing ways to introduce the topic and experiencing enough time or viewing it as a priority. In addition, high intenders significantly differed from low intenders in "experienced shame," "relation with patients," "non-verbal communication," "subjective norm" and "knowledge."

Conclusion: Improving sexual health in HIV care translates into improving opportunities and the facilitating factors in initiating the discussion of sexual risk behaviour rather than removing barriers HIV nurses experience. Interventions should mainly focus on improving the HIV nurses' perceived ability to initiate the topic of sexual risk behaviour and to utilize the jargon and terminology that is commonly used among men who have sex with men.

KEYWORDS

consultation, counselling, healthcare providers, HIV/AIDS, men who have sex with men, nurse practitioners, nurses, patient-provider interaction, sexual risk behaviour, sexually transmitted infections

1 | INTRODUCTION

To curb the persistently high incidence of sexually transmitted infections (STIs) among HIV-positive men who have sex with men (MSM), it is of paramount importance that these men are persuaded to discontinue or reduce sexual risk behaviour. In 2014, 76% of the HIV patients in the Netherlands were MSM of whom many (33.9%) were repeatedly diagnosed with one or more STIs (HIV Monitoring Foundation, 2014). This indicates that these MSM tend to engage in unprotected sex, leading to an increased risk of transmission of STIs in this group and their sexual partners. Additionally, in MSM, who have not reached undetectable viral load, sexual risk behaviour can result in the transmission of HIV (Cohen et al., 2011).

Recent shifts in the prevention of HIV transmission policy emphasize early initiation of combination antiretroviral treatment (cART), aiming an overall undetectable viral load as strategic risk-reduction approach, clinical outcome indicating low transmission risk (Loutfy et al., 2013) and the in-the-near-future possible provision of pre-exposure prophylaxis (PrEP) to prevent HIV infections. In the Netherlands, 88% of the patients diagnosed with HIV who are in care, receive cART. Of them, 92% have an undetectable viral load within 6 months (HIV Monitoring Foundation, 2014). Another prevention strategy is PrEP, which has been tested effective to prevent HIV infections (Fonner et al., 2016). Notably, these efforts focus on preventing HIV transmission, not on STI transmission. Therefore, targeted efforts to counter the continuing high incidence of STIs among HIV-positive MSM are needed, such as counselling by HIV nurses.

Discussing sexual risk behaviour during HIV consultations has been shown to result in reduction of STIs among HIV-positive MSM (Richardson et al., 2004). Notably, the discussion could emphasize different topics such as transmission risks related to certain behaviours, prevention messages that increase the motivation and commitment of patients to protect their partners and themselves, or the risk of negative consequences of unsafe sexual behaviour (Crepaz & Marks, 2002; Johnson et al., 2008; Richardson et al., 2004). Discussing these different topics could be improved by interventions aiming to strengthen facilitators of the discussion of sexual risk behaviour or removing or reducing the barriers. There are already several interventions which have been shown to support the discussion of sexual risk behaviour. For example, brief provider-delivered safer-sex interventions are both feasible and effective (Richardson et al., 2004). Moreover, healthcare providers can play a significant role in helping patients to adopt and maintain healthy behaviours (Marks et al., 2002). Additionally, reducing STIs among HIV-positive MSM by discussing sexual risk behaviour leads to a better individual health and lower public health costs. Therefore, national agencies and professional guidelines encourage healthcare providers to counsel HIV-infected patients about safer sex practices and transmission risks, including STIs (De Vries, Van Doornum, Bax, & Al, 2012).

Surprisingly, however, studies have shown that discussing sexual risk behaviour is still often neglected (Drainoni, Dekker, Lee-Hood, Boehmer, & Relf, 2009; Gardner et al., 2008; Laws et al., 2011; Mayer, Safren, & Gordon, 2004; Morin et al., 2004). This neglect

Why is this research or review needed?

- Many factors might contribute to the risk of HIV transmission, HIV nurses can play a pivotal role in decreasing sexual risk behaviour by their HIV-positive patients.
- Recent shifts in prevention like the early start of combination of antiretroviral therapy, and the possible provision of pre-exposure prophylaxis, alter the context of visits by HIV nurses about sexual risk behaviour.
- By discussing sexual risk behaviour during HIV visits, healthcare providers can contribute to preventing both STIs and secondary transmission of HIV and improve the sexual well-being of the patient.

What are the key findings?

- Besides the known more practical barriers, our research identified several additional barriers and facilitators, which can be applied in tailor-made training sessions for HIV nurses.
- HIV nurses agree that sexuality is an important topic that needs to be discussed with their patients, omitting this topic is not due to the lack of motivation or belief that it is important, but the discomfort of bringing it up, being perceived as preaching or giving priority to other important topics.
- In addition, our findings emphasizes the need to adjust current guidelines, apart from guidelines on specific topics (i.e. medication adherence/motivational interviewing), there is no specific guide of which topics to discuss and how to discuss these topics.

How should the findings be used to influence policy/practice/research/education?

- Because of the recent shifts in HIV prevention policy, we should convert our results into a tailor-made training to achieve that HIV nurses discuss relevant topics with patients.
- Further observational research among HIV nurses and patients is necessary to investigate social interactions with their patients and efficacy of what they discuss to change behaviour.
- Specific national guidelines for what to discuss in HIV nurse consultations will be developed if concluded that these are too general or when completely lacking.

seems not related to barriers, such as insufficient motivation of healthcare providers. Marks et al. (2002) reported effects of practical barriers as reasons, such as lack of structure and guidelines and lack of training of healthcare providers. Previous research also showed additional barriers experienced by healthcare providers for not

discussing sexual risk behaviour such as time constraints, difficulty obtaining a patient's sexual history, language barriers and cultural barriers and patient confidentiality concerns that prevented routine STI screening (Carter, Hart-Cooper, Butler, Workowski, & Hoover, 2014). Moreover, healthcare providers seldom provide sexual risk reduction counselling in HIV care, even in the presence of specific indications, such as STI (Laws et al., 2011). Furthermore, patients are not as much engaged in discussions on sexual risk behaviour as they are in discussions on other health behaviours, such as tobacco use or eating habits (Gardner et al., 2008). Healthcare providers are also hampered in discussing sexual risk behaviour because of the notion that MSM will not change their behaviour regardless, an idea that is also known as provider fatalism (Gerbert, Love, Caspers, Linkins, & Burack, 2009).

Most studies emphasize barriers towards discussing sexual risk behaviour and were conducted in the USA therefore, they may not be generalizable to the situation in Europe. Specifically, in the Netherlands people have more liberal and open mindset towards sexuality, which could be a strong facilitator to discuss sexual risk behaviour. Confirmed by the Dutch having the highest ranking of the acceptance of same-sex sexual behaviour, with 69.6% who found that same-sex sexual risk behaviour is "not wrong at all" (Smith, 2011). Therefore, the Netherlands should be a front runner in the discussion of sexual risk behaviour in HIV consultations.

HIV-positive MSM have many opportunities for receiving information on sexual risk behaviour during the outpatient clinic consultations. They have approximately three times a year a consultation in one of the 26 specialized HIV treatment centres. During these consultations, the medical needs of MSM are discussed, their health is monitored and if necessary, they receive additional support and care from trained HIV nurses. HIV nurses are Registered Nurses specialized in HIV care. Differences are seen in the educational level among them; some nurses with and some without a postgraduate qualification on a professional level (Master of Advanced Nursing Practice and/or academic level Master of Science). For HIV nurses, discussing sexual risk behaviour could be an important part of their professional role (de Munnik, den Daas, Raethke, Kok & Vervoort, 2014). Nevertheless, they also reported that the discussion of sexual risk behaviour was influenced by experiencing barriers such as discomfort, lack of trust, lack of guidelines and time constraints. These barriers influenced Dutch HIV nurses differently and hence they discuss sexual risk behaviour to different degrees and in markedly different ways. In the group of HIV nurses, there is variety in their role and which issues they discuss during consultations (de Munnik et al., 2014). Moreover, since a guideline for discussing sexual risk behaviour with HIV consultations is lacking, HIV nurses discuss this subject without direction (or guidance) and thus in different ways. As HIV nurses are specifically suited to discuss sexual risk behaviour, determinants that influence the discussion of sexual risk behaviour in this specific group might be characteristic for healthcare professionals in HIV care in general.

To improve the frequency and quality of HIV nurses' discussions of sexual risk behaviour with HIV-positive MSM, insight into the social-cognitive determinants that contribute or hamper discussing

sexual risk behaviour is needed for the development of tailored tools for HIV nurses. The aim of this study was to investigate systematically the psychosocial determinants that affect the intention to discuss sexual risk behaviour by measuring these facilitators and barriers and assessing their relative importance. As previous research focused on investigating why sexual risk behaviour was not discussed, the emphasis was on barriers. In this study, both barriers and facilitators are included. Facilitator and barriers of HIV nurses' intentions will be identified by means of the protocol suggested by the theory of planned behaviour (Ajzen, 1991), which states that intention, one of the immediate determinants of behaviour, depends on three constructs: attitudes, subjective norms and perceived behavioural control and their underlying beliefs. Moreover, the theory of planned behaviour posits that these constructs also mediate influences of other factors, such as age, gender and education.

2 | METHODS

2.1 | Design and procedure

An online self-reported questionnaire was offered by email to 79 of the total 85 HIV nurses in the Netherlands; six HIV nurses were excluded because they did not work with the target group. The email addresses were made available through the chairperson of the professional association (Nurse Consultants HIV-VCH), of which all Dutch HIV nurses are a member. All HIV nurses received an email in April 2015 through the questionnaire software "Easy Research." This email contained a direct link to the questionnaire. After 2 weeks, an automatic reminder email was sent to all HIV nurses, who had not or had only partially completed the questionnaire. In the invitation, participants were assured of their privacy and of the confidentiality of their responses. Participants gave informed consent at the start of the questionnaire. Under Dutch law, Research Ethics Committee approval for this study was not necessary; as confirmed in this Dutch site (Central Committee Human Research), participation was voluntary and completely anonymous.

2.2 | Questionnaire

To get insight into facilitators and barriers, which are important for the discussion of sexual risk behaviour, a questionnaire was developed consisting of 14 determinants. These determinants were derived from the theory of planned behaviour (Ajzen, 1991; Kok, 2014): attitude, subjective norm and perceived behavioural control. The remaining determinants were extracted from a qualitative focus group study among HIV nurses in the Netherlands (de Munnik et al., 2014). These determinants were also confirmed through literature (e.g. Carter et al., 2014; Drainoni et al., 2009). The items were measured using 7-point Likert scales with the end points labelled as 1 = does not apply to me at all and 7 = completely applies to me unless indicated otherwise:

1. Attitude towards discussing sexual risk behaviour was measured using four semantic differentials (i.e. "Discussing sexual risk

behaviour with HIV-positive MSM is: positive–negative, useful–not useful, appropriate–inappropriate, important–unimportant”; $\alpha = .82$).

2. Subjective norm was measured with eight items; $\alpha = .72$. Specifically, we measured perceived importance of prevention (five items) and whether HIV nurses perceived the discussion of sexual risk behaviour as part of their professional role (three items). Examples: “I think it is important to discuss sexual risk behaviour with an HIV-positive MSM to reduce negative health outcomes” and “The discussion of sexual risk behaviour with HIV-positive MSM is part of my job.”
3. Perceived behavioural control was measured with questions on knowledge (four items) and ability (five items). Examples are “I am not sufficiently familiar with the use of the guideline sexual health” (recoded) and “My experience has given me enough skills to discuss sexual risk behaviour with HIV-positive MSM”; $\alpha = .77$.
4. Five items measured verbal and non-verbal communication aiming to convey openness. Example: “I watch my body language when discussing sexual behaviour with an HIV-positive MSM”; $\alpha = .62$.
5. Initiation of the topic was measured with five items. Example: “I often use topics that are addressed as a bridge to discussing sexual risk behaviour”; $\alpha = .71$.
6. The interpersonal relation was measured with 12 items $\alpha = .85$. Specifically, we measured shame with six items. Example: “I sometimes find it uncomfortable to discuss sexual risk behaviours with an HIV-positive MSM”; and the direct relation with the HIV-positive MSM was measured with six additional items. Example: “I have a good relationship of mutual trust with most HIV-positive MSM patients”.
7. Motivation to discuss sexual risk behaviour was measured with six items. Example: “In my opinion, HIV-positive MSM are not interested in discussing sexual risk behaviour” (recoded); $\alpha = .76$.
8. Time concerns were measured with four items. Example: “Other topics often have priority over the discussion of sexual risk behaviour with HIV-positive MSM” (recoded); $\alpha = .72$.
9. The influence of similarity was measured with seven items. Example: “I think the more you have in common with HIV-positive MSM the more smoothly the conversation will go”; $\alpha = .80$.
10. The intention to discuss sexual risk behaviour was measured with three items: “I think that I discuss sexual risk behaviour with HIV-positive MSM more often than other colleagues.” “In general, I have the intention to discuss sexual risk behaviour with HIV-positive MSM.” “How often do you decide to skip the discussion of sexual risk behaviour?” (recoded); $\alpha = .76$. These questions were summed to obtain an intention score (1–7, 1–7, 1–5; range 3–19).

Some additional variables were measured to analyse their possible unique contribution to predicting intention, such as gender, age, professional function (nurse consultant or nurse practitioner), sexual

preference (heterosexual, homosexual, or other), years of experience, hospital the participant was employed at and self-reported participation in the focus groups (de Munnik et al., 2014). Finally, we assessed whether participants had taken one or more of the four available facultative courses related to sexual health: a specialized drug use and HIV-related course (Mainline), a course on motivational interviewing, a 3-day course and/or a 10-day course on sexuality-related diagnoses, such as loss of libido or addiction to sexual risk behaviour.

2.3 | Data analysis

Items were recoded if necessary so that higher scores indicated a positive relationship with discussing sexual risk behaviour. Items were averaged into one single concept when they showed sufficient internal consistency (Cronbach's $\alpha > .60$). We performed a regression analysis with “intention to discuss sexual risk behaviour” as an outcome. In addition, “intention” was dichotomized by categorizing scores above the mean as high intentions scores and scores below the mean were categorized as low intention. An independent t-test on specific beliefs was performed. For the analysis, IBM SPSS (version 20.0.0.0) was used.

3 | RESULTS

3.1 | Participants

Of the 79 HIV nurses in the Netherlands, 60 (76%) completed the online questionnaire. The 60 respondents (47 women; $M_{\text{age}} = 47.90$ SD 9.19) worked in 22 of 26 HIV treatment centres in the Netherlands, 33 as HIV nurse consultant and the remaining 27 as a nurse practitioner. In total, 45 respondents (75%; 43 women) were identified as heterosexual and 87% had completed at least one of the courses on sexual health. Respondents worked in this field for an average of 13 years (SD 9.30).

First, we report the expected relations among the social-cognitive variables, between the social-cognitive variables and the intention to discuss sexual risk behaviour. Next, the possible influences of the other variables were explored and the differences on item level are described in detail. Table 1 presents the means, SD s and correlations between the study variables.

3.2 | Prediction of intention to discuss sexual risk behaviour

Intentions to discuss sexual risk behaviour with HIV-positive MSM were high ($M = 13.67$ SD 2.46, range 5–19). Intention was predicted in a regression with the TPB variables: attitudes, subjective norm and perceived behavioural control (see Table 2). The percentage of explained variance was 23%, with attitudes as the only significant variable. Adding communication, initiation, interpersonal relation, time, motivation and similarity to the regression increased the percentage explained variance to 38%, with initiation, attitude and time as the most salient variables.

TABLE 1 Means, standard deviations (SDs) and correlations between study variables (N = 60)

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Intention													
2. Attitude	.40**												
3. Subjective norm	.33**	.37**											
4. Self-efficacy	.29*	.22	.20										
5. Communication	.29*	.29*	.49*	.57**									
6. Initiation	.40**	.07	.47**	.50**	.46**								
7. Interpersonal relation	.24	.17	.19	.45**	.25	.18							
8. Time	.33*	.28*	-.11	.20	-.01	-.03	.34**						
9. Motivation	.20	.44**	.18	.09	.25	.19	.17	.31*					
10. Similarity	.15	.40**	.13	.26*	.31*	.05	.45**	.32*	.35**				
11. Sex (men = 1; women = 0)	.27*	.15	.09	.19	.13	.04	.02	-.00	.02	-.16			
12. Sexual preference (homo = 1; hetero = 0)	.36**	.14	.09	.17	.03	.02	.06	.06	-.01	-.20	.72**		
13. Mainline course (yes = 1; no = 0)	.34**	.15	.16	.36**	.33**	.28*	.07	.12	.26*	.07	.23	.29*	
Mean score	13.67	6.15	6.01	5.59	5.89	5.30	5.62	4.20	5.34	5.29	21.7%	25%	55%
SD	2.46	0.76	0.58	0.73	0.58	0.90	0.78	0.91	0.89	0.96	0.42	0.44	0.50

*Correlation is significant at the .05 level (two-tailed).

**Correlation is significant at the .01 level (two-tailed).

TABLE 2 Determinants associated with the intention to discuss sexual risk behaviour (N = 60)

		<i>r</i>	Beta in step 1	Beta in step 2	Beta in step 3
Step 1	Attitude	.40**	.29*	.35*	.30*
	Self-efficacy	.33**	.19	-.10	-.22
	Subjective norm	.29*	.19	.05	-.01
	<i>R</i> ²		.23		
Step 2	Communication	.29*		.09	.09
	Initiation	.40**		.38*	.41**
	Interpersonal relation	.24		.11	.10
	Time	.33*		.30*	.28*
	Motivation	.20		-.12	-.15
	Similarity	.15		-.12	.00
	<i>R</i> ²			.38	
Step 3	Sex (women = 0; men = 1)	<i>F</i> = 4.59*			.01
	Sexual preference (hetero = 0; homo = 1)	<i>F</i> = 8.79**			.27
	Mainline course (no = 0; yes = 1)	<i>F</i> = 7.74**			.15
	<i>R</i> ²				.48

p* < .05, *p* < .01, beta = standardized regression coefficient, *r* = correlation coefficient, *R*² = explained variance.

Possible influences of the other variables were analysed by selecting variables with a significant direct relation with intention and subsequently adding these to the regression analysis (see Table 2). Age, function, years of experience and the courses (either taken or not taken or several courses) were not significantly related to intention, except the mainline course. Table 2 reports the additional variables with a significant unique relation with intention: gender, sexual preference and having taken the mainline course. Adding these variables increased the explained variance to 48%. However,

these variables did not reach significance in the multivariate regression model.

3.3 | Differences between high intenders' and lower intenders' beliefs

Table 3 shows the differences in means between low (*N* = 28) and high intenders (*N* = 32) about all the beliefs underlying the significant scales in the regression analyses; all variables were recoded and

TABLE 3 Differences in means between high and low intenders on all beliefs ($N_{\text{high}} = 32$, $N_{\text{low}} = 28$)

		High intention	Low intention ^a
Attitudes	Discussing SRB with HIV positive MSM...		
	is positive-negative	6.41	5.79**
	is useful-not useful	6.44	5.43**
	is appropriate-inappropriate	6.41	5.50**
	is important-unimportant	6.69	6.32*
Self-efficacy	I am able to discuss SRB	6.53	5.96*
	I have enough knowledge to discuss SRB	6.16	5.54*
	I am able to convert embarrassing moments	5.75	5.25
	My experience offers me enough skills to discuss SRB with HIV-positive MSM	5.47	5.39
	My work experience is helpful when discussing SRB by HIV-positive MSM	6.16	5.93
	I sometimes lack the right words from the scene (jargon), therefore I do not discuss SRB with HIV-positive MSM [R]	5.19	4.61
	I am not sufficiently familiar with the use of the guideline sexual health [R]	5.22	5.29
	It is difficult for me to apply my knowledge to discuss SRB in HIV-positive MSM [R]	6.06	5.36*
	When I notice problems I apply other counselling techniques	5.41	5.21
Initiation	I use bridge to initiate discussions about SRB with an HIV-positive MSM	5.22	4.86
	I often take the initiative to discuss SRB with an HIV-positive MSM	5.72	5.29
	I discuss SRB only when the HIV-positive MSM brings it up [R]	6.31	5.86
	I discuss SRB regularly without immediate cause	5.41	4.61*
	I often use topics that are addressed as a bridge to discuss SRB	4.81	4.79
Time	I discuss SRB in HIV-positive MSM less because I see them less frequently [R]	5.69	4.04**
	I sometimes feel pressure from colleagues to discuss SRB by HIV-positive MSM more often [R]	6.34	5.54*
	Other topics often have priority over the discussion of SRB by HIV-positive MSM [R]	4.19	3.50*
	I often lack time to discuss SRB with an HIV-positive MSM [R]	5.34	4.07**
	Besides SRB other topics have to be discussed that take priority	5.59	5.11
	Usually, in my department after a visit with the medical doctor a nurse is seen	5.19	4.68

^aDifferences were tested with independent sample t-tests, * $p < .05$; ** $p < .01$; R = recoded; SRB = sexual risk behaviour.

higher scores indicated higher intentions. In addition, differences between high and low intentions groups were for self-efficacy and sexual preference approaching significance ($p < .20$).

The higher intention group comprised more homosexual (or MSM) HIV nurses than the lower intention group: 37.50% vs. 10.71%, $\chi^2(1) = 5.71$, $p < .02$. Non-heterosexuals were more likely to be male, $\chi^2(1) = 31.46$, $p < .01$, and to have taken the mainline course, $\chi^2(1) = 5.05$, $p < .03$. Additionally, investigating separate beliefs, homosexuals indicated that their gender made discussing sexual risk behaviour easier since they knew the right jargon or terminology to talk to HIV-positive MSM and they had the ability and time to discuss sexual risk behaviour and to deal with embarrassing moments ($ps < .05$). However, gender did not differ between the high and low intention groups, we will come back to this finding in the Discussion.

4 | DISCUSSION

This study showed that the intentions of HIV nurses to discuss sexual risk behaviour were influenced by facilitators and barriers derived

from the theory of planned behaviour, our focus groups study and the literature. Even though intentions to discuss sexual risk behaviour were uniformly high, facilitators among HIV nurses were positive attitudes, a high-perceived self-efficacy and believing that their level of knowledge and ability to discuss sexual risk behaviour was sufficient.

Another facilitator was if HIV nurses indicated that they were able to discuss sexual risk behaviour without immediate cause; this was especially true for HIV nurses with high intentions. In our study, we found more facilitating determinants than determinants that were barriers towards discussing sexual risk behaviour. The exception is that high intenders experienced less interference from barriers, such as time concerns and having other priorities during the consultations they have with HIV-positive MSM.

Consistent with previous studies, we found that recognizing the importance of discussing sexual risk behaviour was a facilitator, while experiencing a lack of time was a barrier for discussing sexual risk behaviour (Carter et al., 2014; Drainoni et al., 2009; Morin et al., 2004). Notably, effects of this barrier, experiencing priority and time constraints, is strongly associated with recent changes in the role of

HIV nurses in HIV care, together with the shift in HIV prevention strategies. The role of HIV nurses changed due to the priority of dealing with co-morbidities among HIV-positive MSM, because of the success of HIV treatments in this ageing population. During consultations, additional medical topics and discussing lifestyle take time at the expense of discussing sexual risk behaviour. Moreover, the shift in HIV prevention requires that other aspects are discussed, when aiming to reduce the amount of STIs in HIV-positive MSM. HIV nurses can discuss the number of sex partners, kinds of sexual acts, party drug use, whether or not to disclose one's serostatus or viral load to sex partners and discuss how these affect risks for STIs and the possibility to change behaviour. During counselling other risk reduction strategies, such as PrEP for their HIV-negative partners, condom use, strategic positioning, or how to sero-sort successfully, could be discussed.

Unlike previous research, we found a facilitator, in the ability to initiate the topic of sexual risk behaviour, which positively affected the intentions of HIV nurses, meaning that high intenders bring up the topic more easily. An intervention using this facilitator aiming to improve HIV nurses' ability to bring up this topic among those who still find it difficult to discuss sexual behaviour unexpectedly, is, therefore, an option. A tailor-made intervention assists HIV nurses in initiating the discussion of sexual risk behaviour, which give them the opportunity to discuss this topic more thoroughly and effectively. The advantage of this intervention is that it is not dependent on the patient or context but can be initiated by the HIV nurse.

As an additional facilitator, we found higher intentions to discuss sexual risk behaviour among homosexual HIV nurses. Sexual preference was confounded by gender, however, we found that sexual preference drove the effect, such that homosexual males and not males, in general, had higher intentions to discuss sexual risk behaviour. This association affected several facilitating determinants: having taken the mainline course, perceiving the discussion of sexual risk behaviour as easier, knowing the right jargon or terminology to talk to HIV-positive MSM and finally perceiving to have the ability to discuss sexual risk behaviour. Furthermore, barriers such as a lack of time and experiencing embarrassing moments were less a barrier among this group. Interventions could target these underlying facilitators and barriers that influence the effect of sexual preference on intention. For example, interventions could aim to provide heterosexual HIV nurses with the necessary knowledge of the target group's social context and help them to use the jargon to facilitate discussion. Concerning the social context, the typical homosexual context could be discussed, such as specific locations MSM like to visit, specific parties and often-used social media and apps.

A limitation of this study is the limited number of participants, which reduced the power of our study. However, a strength of this study is the high response rate of 76% of the total eligible population of HIV nurses in the Netherlands. Unfortunately, the group of HIV nurses in the Netherlands is small, which made it impossible to include more HIV nurses.

Second, since HIV care is particularly well organized in the Netherlands, our results might not generalizable to other HIV care

settings in the world. In the Netherlands, HIV care is concentrated in specialized HIV treatment centres. Interdisciplinary teams having strong ongoing collaborations with non-profit organizations with a focus on sexual health, provide opportunities to roll out strategic interventions easily. In addition, the social context in the Netherlands is more liberal and open than in other countries in general and specifically about the discussion of sexual risk behaviour (Widmer, Treas, & Newcomb, 1998). Despite the differences in the context of care, HIV-positive MSM anywhere in the world have similar basic needs and they are at risk for becoming infected with STIs. Thereby, in spite of the more liberal context, the majority of HIV nurses, even while having high intentions to discuss sexual risk behaviour, are hampered by several barriers. Most of these barriers can be generalized to other healthcare providers working in this field.

Third, because HIV care is dynamic, due to the ongoing developments in the HIV field, barriers that are experienced now might change rapidly and new barriers and facilitators could arise. Therefore, to convert our results to tailored interventions might be difficult. The present study however captured recent changes in the field, making it possible to adjust guidelines on the cutting edge of these developments. For instance, during the dissemination of the questionnaire initial findings about the reduction of HIV transmission infectiousness as a result of the early initiation of cART and the introduction of Prep were published (Grinsztejn et al., 2014; Landovitz & Coates 2014).

A final limitation of our study is that intention and not behaviour was assessed. Due to the well-known gap between intention and behaviour, HIV nurses who display high intentions may still not discuss sexual risk behaviour with their patients in daily practice (Webb & Sheeran, 2006). Future research should focus on what HIV nurses discuss during consultations, to understand the impact of verbal and non-verbal communication on the behaviour of patients better. HIV nurses have high intentions to discuss sexual risk behaviour, which is a good start. An observational study investigating how these intentions are translated into daily practice and which interventions can assist HIV nurses to improve frequency and quality of discussing sexual risk behaviour is needed. Ultimately, to curb the high STI's rates among HIV-positive MSM and to improve their sexual health.

5 | CONCLUSION

HIV nurses found that discussing sexuality is an inherent part of their role. Ultimately, improving the sexual health of HIV-positive MSM in HIV care seems to be more a question of improving opportunities, strengthening facilitators and removing or reducing barriers in the current context than of motivating HIV nurses. In contrast to previous studies, the current study included both facilitators and barriers and found that the intention to discuss sexual risk behaviour primarily was influenced by the strength of facilitating factors and not the strength of the experienced barriers. Interventions should mainly focus on improving the HIV nurses' perceived ability to

initiate the topic of sexual risk behaviour and to use the jargon and terminology that is commonly used among MSM.

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CONFLICT OF INTEREST

No conflict of interest has been declared by the authors.

AUTHOR CONTRIBUTIONS

All authors have agreed on the final version and meet at least one of the following criteria [recommended by the ICMJE (<http://www.icmje.org/recommendations/>)]:

- substantial contributions to conception and design, acquisition of data or analysis and interpretation of data;
- drafting the article or revising it critically for important intellectual content.

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