

Persoonskenmerken en essentiële hypertensie

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SUMMARY

Essential hypertension is of unknown etiology, assumed to be of a multifactorial origin: family history, constitutional, developmental, physiological, psychological, environmental and dietary factors are all presumed to contribute to blood pressure response and regulation.

A distinction should be made between transient increases in blood pressure levels and, sustained hypertension. Although this has not been proven a fact in humans, it is reasonable to conclude that repeated, pronounced and longlasting increases in blood pressure may increase the risk of sustained hypertension.

The psychosocial characteristics of individual patients in the clinical setting can have great relevance to both treatment indications and the understanding of pathogenesis. They do not, however, allow for general conclusions regarding the etiology of essential hypertension. This should be investigated in prospective epidemiological research.

The one most often researched psychosocial variable affecting high blood pressure is that of social class. A wide variety of measurements have been made on socioeconomic status (SES), income and education. As a result, a formerly positive association between the two has now been reversed: there is no proof that hypertension is more prevalent in lower classes than in higher ones.

Life events and daily hassles could well play an important role in the etiology of essential hypertension. Research has shown that extreme situations such as military combat, natural disaster, bereavement and so forth can lead to blood pressure elevation for a sustained period of time. Less serious circumstances, too, can contribute to transient blood pressure elevations. The less serious circumstances researched ranged from long exposure to noise to complex social phenomena such as unemployment and heavy work loads.

While there is some evidence linking stressful life events with the diagnosis of hypertension, the results are equivocal. The exact moment of the onset of hypertension is often unknown and is, therefore, especially problematic. The Holme-Rahe technique of measuring life change units utilizes standard weights for each event and is suited for large scale studies. The main difficulty with it, is that a particular event may be perceived differently by different subjects. However a number of modifications to this technique have been proposed which take individual perception of events into account (Rahe 1974).

Dohrenwend and Dohrenwend (1974) have summarized a number of

dimensions relevant to the study of life events. These are: intensity, duration, frequency, (un)predictability and (un)controllability as perceived by the individual. There has been a growing conviction in recent years that belief about one's personal control are implicated in stress and coping. How these beliefs influence stress and coping is not clear however. Believing that an event is controllable does not always lead to a reduction in stress and believing that an event is uncontrollable does not always lead to an increase in stress.

The current emphasis in 'stress and illness' research is on moderating variables. The low correlations between life events and physical symptomatology has prompted attempts to specify the variables responsible for buffering the illness-provoking effects of stress. The list of variables includes constitutional strengths, psychological characteristics, coping behaviour and social support.

It is generally argued that people will fare better when faced with stressful life events if they receive social support. However, the generalization that social support will protect one against psychological and physical health problems requires further research. Social support has been hampered by a lack of clarity in defining and conceptualizing its effects on health. The literature on social support in relation to the etiology of essential hypertension is scarce and generally limited to the aspects of social disconnection (e.g. loss or lack of social ties due to death, separation, or singleness Schaefer et al 1981). The mechanism by which social support mediates its buffering effects is not known. It may take place on several levels. It may reduce the objective environmental stress factors, affect only the perceived stress factors and reactions, or increase the coping resources of an individual.

It has been indicated that hypertension is more prevalent in some occupational groups, such as air traffic controllers (Cobb, 1973), telephone operators (Miasnikov, 1961), bus and tramdrivers (Holme, 1977) and prison personnel (Kalimo, 1980). These studies suggest that the blood pressure of those who must work under permanent mental stress may be elevated. It is possible that jobs which require a permanent mental load or mental overload influence blood pressure. Hypertensives are often described as people who feel threatened most of the time; they are constantly on guard for unexpected and unpleasant events (Graham, 1972). Weiner, Singer and Reiser (1962) have reported that hypertensives tend to defend themselves against potentially emotional clinical interviews by insulating themselves; they become detached or uninvolved. From research by Zimmerman (1978) and Minsky (1978), it appeared that hypertensives use more 'passive' coping strategies in varying situations. Normotensives use 'active' strategies. Handkins and Munz (1978) have shown that people with essential hypertension systematically perceive certain situations differently from normotensives. Situations considered by normotensives as stress-inducing (at issue were) problematic interpersonal

relations), were not observed and assessed as such by hypertensives. In other words, the hypertensives denied the threatening nature of these situations. This was also the case in an experiment done by Sapira (1971). There is thus evidence that hypertensives may misperceive or deny the aversive qualities inherent in threatening and 'potentially hostile' interpersonal encounters: 'a defensive style that may promote submissive, deferential and inhibited behaviour in hypertensives by permitting a more benign appraisal of situation typically calling for assertive responding' (Manuck 1984).

Miller (1980) and Miller and Dworkin (1977) have speculated that essential hypertension may develop, when elevations in blood pressure serve as 'coping responses'. Miller has suggested that individuals who are unable to manage stress psychologically may learn to cope physiologically; that is by elevating blood pressure so as to produce the sedative-like effects that accompany baroreceptor stimulation. These elevations in blood pressure then continue to occur in stressful situations because they are reinforced by immediate reductions in stress emotions. In the long run, however, they could be expected to contribute to the hemodynamic disregulation (Schwartz, 1977) that occurs in the early stages of essential hypertension.

In a follow-up study on air traffic controllers, Jenkins (1984) showed that persons who remained normotensive reported the greatest amount of life change stress. Prevalence cases of hypertension reported the lowest life change distress and future cases recorded intermediate levels. Future hypertensives clearly showed the highest average level of work satisfaction and satisfaction with co-workers. Normotensives had the lowest averages on both these scales. These findings are thus in conflict with the usual stress theory. They are consistent, however, with the hypothesis that hypertensives perceive their world in a way quite different from normotensives. The hypertensives deny the negative aspects of circumstances around them. If psychosocial variables do not provide much help in understanding differences between hypertensives and normotensives, greater insights may be obtained by considering the ways in which people cope with the problems which confront them.

The role of personality in the etiology of high blood pressure has been a subject for discussion for many years. The question whether a 'hypertensive personality' exists - characterized mainly by the suppression of hostility (Alexander, 1939) - has been an important theme. Even when the first psycho-analytical and highly subjective descriptions were replaced by predefined instruments for measurements, the differences in nomenclature precluded comparison. In addition to the research into evidence for this 'repressed-hostility hypothesis', the relation to various psychological factors and traits has been explored, e.g. anxiety, agitation, obsessive and compulsive behaviour, neuroticism etc. (see Harrell, 1980). More recently the relation between hypertension and global orientations (Ostfeld and Eaker, 1985) and

copingstyles have been researched: items such as internal versus external locus of control (Wennerholm and Zarle, 1976; Naditch, 1974), assertiveness (Manuck, 1984) and type-A behaviour. In general, essential hypertension is associated with the development of cardiovascular diseases and type-A behaviour – in some but not all studies – has been linked to coronary heart disease. Although type-A behaviour is not a necessary characteristic of people with hypertension, it has been demonstrated that when type-A men are exposed to stress they experience a significantly larger rise in systolic blood pressure than type-B men (Dembroski et al 1977; Manuck 1978). The differences in reaction of the systolic blood pressure usually took place when the subjects researched were confronted with challenging situations. Obrist (1976, 1979) concluded that adrenergic influences are most often evoked and sustained, when subjects actively attempt to cope with a stressor.

There is no single projective study that clearly links high blood pressure with a specific personality pattern. Problems arise because projective tests are difficult to administer and score, and require a skilled interpreter. Although projective tests may offer a rich source of information to the clinician, their lack of objectivity in scoring, adequate standardization, and their questionable validity cause problems for the experimenter.

Yet neither the Rozenzweig P F, the Rorschach, and the Draw-a-person-test has failed to yield evidence that a 'hypertensive personality' exists.

Some investigators have developed rating scales by which they judge their subjects, personality characteristics. In many cases, not much is known about the validity, the reliability and the norms. However, a lot of paper and pencil inventories exist which are valid and reliable. Basically, all these paper and pencil inventories consist of a variety of statements about actions and feelings, to which an individual must respond by indicating whether these are characteristic of him or not. Because they are based on self-assessment, the tests are subject to such factors as an individual's memory, intelligence, motivational state, etc. All these can be sources of error. Most of the studies into personality characteristics have not yielded specific characteristics of people with essential hypertension. Many of the results appear to be incompatible with each other. This is partly due to a number of methodological inadequacy of the instruments and non-representative samples. Nevertheless, a reasonable consistent overall picture of the personality of persons with essential hypertension does emerge. According to Julius and Cottier (1983) this is characterized by submissiveness to other people, by an attempt to control behaviour so as to be socially acceptable and by difficulties in expressing hostile feelings.

Psychological characteristics of hypertensives may either be a cause or a consequence of their disorder. Patients who suffer from sustained hypertension generally have peripheral arteriolar hypertrophy which is the

result of a long process. Personality or environmental factors which were involved at the beginning of this process may be absent when this person became a patient.

This dissertation concerns itself with the question of whether or not hypertensives differ from normotensives in personality traits, and if different social circumstances are involved. These questions are relevant to the need for the development of psychotherapeutic programs for borderline hypertensives. A better understanding of the role of personality and social factors in the etiology and maintenance of essential hypertension can be very helpful in treatment-indication.

As previously discussed in detail in chapter 2, a lot of research has been done in order to discover the hypertensive-personality. The results are often contradictory. It is impossible to derive clear conclusions due to methodological problems, the use of varying criteria for hypertension and the use of poorly validated personality-trait questionnaires.

In our first study, described in chapter 5, we selected 46 hypertensives and 49 normotensives. During the two measurement periods in the last half year the hypertensives had at least a mean systolic bloodpressure of over 160 and/or a mean diastolic bloodpressure of over 100 mm Hg, or they received anti-hypertensive medication. The following personalities were measured: type-A behaviour pattern (JAS), internal-external locus of control (Rotter-Scale), neuroticism (EPI), extraversion (EPI), assertiveness (SIG), anxiety (Taylor-Scale), anger (State Anger Scale) and defense mechanisms (DMI). Hypertensives were older and had a higher quetelet-index than normotensives. The personality traits could scarcely differentiate the hypertensives and normotensives. Only one major difference manifested itself namely that hypertensives had a higher anxiety-score than normotensives. Another small significance was detected for a subsample of hypertensives whose blood pressure was too high, for the last two years. They reported more contributing life events and scored higher on the defense mechanism termed 'turning against object'; i.e. they were more aggressive.

In the second study, 1200 respondents were involved. One hundred twenty-seven men were diagnosed as hypertensive. The following criteria were used: 1. systolic measurements of over 160 mm Hg and/or diastolic of over 100 mm Hg or, 2. classified by their physician as hypertensive patients who received anti-hypertensive medication. We selected 770 men who had normal blood pressure and had never been diagnosed as hypertensive. We measured the following personality traits: State-anxiety and state-anger, internal-external locus of control, assertiveness, type A behaviour-pattern. Coping strategies and defense mechanisms too, were measured. Besides psychological factors, we also assessed social factors such as living circumstances, work-related factors and the social support-system.

There were no differences in the psychosocial factors between the several subgroups of hypertensives who were selected on the basis of the variables anti-hypertensive medication and the time of the onset of hypertension. It was thus not necessary to treat these variables as confounders. Hypertensives were significantly older and had a higher quetelet-index. There was no difference with the normotensive group with regard to social class.

We were unable to differentiate hypertensives from normotensives on the basis of personality and social factors. Neither the univariate analysis of the relation between psychosocial factors and hypertension, nor the multivariate analysis revealed a significant result.

Through clusteranalysis over the hypertensive respondents we were able to create two subgroups. One group of hypertensives could be described (in relation to normotensives) as being highly anxious, with a high anger-state, external locus of control, aggressive and a high level of copingstrategy avoidance. The other subgroup consisted of hypertensives who were less anxious, had a lower state-anger and a more internal locus of control. They were less aggressive. In this respect, we could confirm our initial hypotheses on the existence of two groups. This distinction based on the same variables, however, could also be made in the group of normotensives. We concluded that there is evidence in the literature, confirmed by our studies, that there are several subtypes of hypertensives. It is also possible that there are different pathogenesis and that different psychosocial factors play a role in the etiology and maintenance of essential hypertension. In this respect it is no longer worthwhile to continue a cross-sectional analysis of personality traits without looking at these different subtypes. We therefore propose research in which the specific copingstrategies are studied intra-individually and longitudinally: 'What are the cognitive and behavioural efforts which normotensives who stay normotensive and future hypertensives use to master, reduce or tolerate stressful situations.'