THE KNOWLEDGE PROFILE OF PATIENTS WITH HYPERTENSION

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ABSTRACT: *A sample of 62 patients at a hypertension clinic at a tertiary care hospital was interviewed to establish which factors contributed to poor knowledge. Patients were interviewed to establish basic demographic data, their own risk factors, various psycho-social factors as well as their knowledge of the disease process and risk factor management. A step-wise logistic regression was done to establish which factors were predictive of the knowledge of patients with hypertension. It was found that a good quality of life (p=0.003); normal sex-life (p=0.00); home language of English or Afrikaans (p=0.002); educational status (p=0.00) and annual income (0.01) were predictive of patients' knowledge. Patients with a better quality of life had better knowledge than those with a poor quality of life (p=0.05).*

KEYWORDS: HYPERTENSION, KNOWLEDGE, EDUCATION, LANGUAGE, SOCIO-ECONOMICS, QUALITY OF LIFE

INTRODUCTION

For effective management of hypertension, risk factor control and adherence to a prescribed medication regimen, are essential (Green et al, 1975). To do these, patients need an understanding of the disease process and its management (Sotile, 1996). It is well recognised that knowledge does not imply adherence (Glanz, 1997). However patients need basic knowledge of disease management before they can begin to adhere to medical advice (Glanz, 1997). Once patients' knowledge of the disease and it's management has improved various strategies to increase adherence can be implemented (Sotile, 1996). Patients need to know "what to do" before the more behaviour specific "how to do" can be addressed (Bloomfield 1993).

This study was done

- to identify the knowledge level of hypertensive patients regarding their disease
- to identify the factors contributing to poor knowledge and which of these factors were modifiable

The study was done at a hypertension clinic in a tertiary care hospital.

METHOD

Patient selection

Sixty-two patients were interviewed. All the patients attended a hypertension clinic at a tertiary care hospital. All patients gave informed consent prior to being interviewed.

The purpose of the interview was to establish the basic demographic data of the patients, their own risk factors, their knowledge of the disease process and risk factors as well as various psycho-social factors.

Permission to do the study was obtained from the human ethics committee of the University of the Witwatersrand. The ethical clearance number was M970624.

Materials

The questionnaire which was used in the interview was one validated and shown to be reliable by Eales (1998) in a similar study on post CABG patients. Changes were made to the questionnaire to make it suitable for hypertensive patients. The questions on knowledge were scored by two physiotherapists experienced in this field and loaded according to their importance. The reliability of the questionnaire was re-established by having two physiotherapists fill in the questionnaire on the same patients at the same time. The total score obtained for the questionnaire was expressed as a percentage. The questionnaire required only the most basic knowledge of the patients, namely a definition of high blood pressure, risk factors and simple risk factor modification. As such it was felt that only patients who scored 60% and above had good knowledge. Those with below 60% were considered to have poor knowledge.

Statistical Analysis

An analysis of variance was done to establish the variables affecting knowledge.

A step-wise logistic regression was then done to establish which of the above variables were predictive of poor knowledge in this group of patients. Fisher's exact test was used to establish any differences in variables between the group who scored over 60% and the group who scored under 60% on the knowledge score. Significance was set at the 95% level (p=0.05).

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RESULTS

The demographic data of the patients is shown in Table 1.

TABLE 1. Demographic Data

Sex	Female 50 Male 12	**Family**	Lived with partner - 34 Lived with family - 23 Lived alone - 5
Age	57 range 29 - 77	**Annual Income**	> R15000 - 31 < R15000 - 31
Population Group	White - 8 Black - 13 Coloured - 32 Asian - 9	**Educational Level**	< Grade 7 - 21 < Grade 9 - 26 > Grade 9 - 15
Home Language	Afrikaans - 28 English - 21 An African language - 11 Another language - 2	**Employment**	39 - unemployed or retired 23 - employed
		Physically Active	20 - active 42 - inactive

The majority of the patients were female. The majority spoke either English or Afrikaans. Half the patients earned less than R15000 per annum. Only 20 of the patients were physically active at the time of the study.

Table 2 illustrates the risk factors present in this group of patients.

TABLE 2. Risk Factors

Type	Present-(no patients)	Absent-(no patients)
Hypercholestralaemia	22- (35%)-	40-(65%)
Current smoker	14-(23%)	48-(77%)
Physically active	20-(32%)	42-(68%)
Family history	37-(60%)	25-(40%)
Stressed	33-((53%)	29-(47%)
Presence of diabetes	8-(13%)	54-(87%)
BMI>30	32-(52%)	30-(48%)
Drink alcohol	17-(27%)	45-(73%)

Very few of this group of patients were smokers and very few drank alcohol. Slightly more than 50% of the patients were obese and slightly more than 50% were stressed.

Table 3 illustrates the psycho-social factors measured in this group of patients.

TABLE 3. Psycho-Social Factors

	Good-(no patients)	Poor-(no patients)
Control of emotions	19-(31%)	43-(69%)
Sex-life	23-(37%)	39-(63%)
Social support	41-(66%)	21-(34%)
Quality of life	26-(42%)	36-(58%)
Satisfaction with treatment	56-(90%)	6-(10%)

Forty-two percent of the patients said that they had a good quality of life. Two thirds of the patients felt that they had enough social support. The majority of the patients were satisfied with their treatment at the clinic.

Table 4 illustrates the knowledge score of this group of patients. The patients are divided into those with good knowledge and those with poor knowledge.

TABLE 4. Mean knowledge score of hypertension

	No patients	Define high BP Total (4)	Manage disease Total(7)	Chronic disease Total(1)	Conseq of disease Total (2)	Actual BP Total (2)
Above 60%	12-(19%)	1	4.4	1	1.6	1.3
Below 60%	50-(81%)	0.5	3	0.8	1	1

Very few of the patients in both groups were able to define high blood pressure. In addition neither group knew how to manage their condition.

Table 5 illustrates the knowledge score of the risk factors and the management of hypertension in this group of patients.

TABLE 5. Mean knowledge score of risk factors and management

	Above 60%	Below 60%
No patients	12	50
Obesity & Diet Total(5)	4.2	3
Alcohol Safe intake Total(4)	2.2	1
Salt Safe intake Total(4)	3.5	3
Age & Menopause Total(2)	2	1
Smoke-Effect heart & lungs Total(5)	4.	53
Stress & Control Total(2)	2	2
Exercise Dist & Freq Total(5)	0.2	0.1
Med Total(2)	2	1.5

Although both groups had some idea of risk factor management neither group had any idea of how to exercise.

- The mean knowledge score of the whole group was 47% ranging from 5% to 74%.
- The mean knowledge score of the patients above 60% was 64%
- The mean knowledge score of the patients below 60% was 44%

The results of the step-wise logistic regression analysis done to establish which factors predict knowledge are presented in Table 6.

TABLE 6. Factors predicting knowledge

Factor	Coefficient	Std Err	t	p
Quality of life	-8.78	2.84	-3.08	0.003
Sex-life	12.39	3.14	3.9	0.000
Language	-10.83	3.36	-3.22	0.002
Education	-12.13	2.92	-4.15	0.000
Income	-12.57	4.76	-2.63	0.011

None of the factors predictive of knowledge are modifiable. However components of quality of life are modifiable.

Table 7: Differences in quality of life in the groups with knowledge above 60% and below 60%.

TABLE 7. Differences in quality of life

	Good knowledge	Poor knowledge	Total
Good quality of life	8	18	26
Poor quality of life	4	32	36
Total	12	50	62

There was a significant difference in quality of life between the patients with good knowledge and those with poor knowledge. (p=0.05).

DISCUSSION

Only 12 patients in this study were considered to have sufficient knowledge of the management of their hypertension. This is similar to other findings (Ley 1985 and Green et al 1975). Health behaviour change cannot take place with a lack of knowledge of hypertension (Prochaska et al 1992). The "core" knowledge needed as a basis for health behaviour modification is "what is hypertension; how is it measured; what is normal blood pressure; what causes hypertension: why it must be treated and what can be done to control it" (Hill 1989). Between 35% - 92% of patients do not understand the information that is given to them. If comprehension, memory and satisfaction is increased adherence improves (Ley 1985).

Both groups of patients (that is those with knowledge and those without knowledge) had difficulty in defining hypertension and they were mostly unsure of their blood pressure readings (See Table 4). They had some idea of diet, salt ingestion and obesity as risk factors for hypertension. The knowledgeable group scored somewhat better (See Table 5). Similar results were found for smoking and stress. As many of these patients did not drink alcohol for religious reasons their knowledge of acceptable alcohol ingestion levels was poor. Both groups mostly knew how many tablets they were taking even though they were not sure of the effect of the medication. They said that they adhered to their medication regimen.

Neither group considered a lack of regular exercise as a risk factor, nor as an important modifier of their disease. Both groups of patients scored less than 1 out of a possible 5 points (See Table 5). Neither did they know how much to exercise. Patients become aware of the health benefits of exercise within a few weeks of regular exercise (Benetos et al 1997). The contribution of regular exercise to weight control and the impact of weight control on hypertension management needs to be stressed in any risk factor modification or rehabilitation programme (Hill 1989). Although these patients had some idea of the diet that they should follow they seldom considered obesity as a risk factor (See Table 5).

Neither group came from an exercise background. This may be cultural or could be as a result of the lack of adequate schooling for this community during the apartheid era. Bloomfield (1993) showed that white Americans were more likely than black Americans to consider lack of exercise as a risk factor.

Predictive factors contributing to the knowledge of the patients were their quality of life, their sex-life, language, education and income (Table 6). Patients who did not understand either English or Afrikaans because it was not their home language had poorer knowledge of the disease (p=0.002). As most of the interactions in the hospital take place in either of the above languages any advice or information that was being given was probably not being understood. In addition any information available in the media is most likely to be available in English or Afrikaans.

Black patients in South Africa tend not to ask questions, largely due to the cultural differences between them and the health-care provider (de Villiers 1991). The health provider-patient relationship can affect knowledge and behaviour. From observations at the clinic the interactions are very brief and patients tend to be passive. Patients do not understand what the health-practitioner is talking about and so do not adhere (Heggenhougen 1986). It requires far more than brief interactions to bring understanding to patients. Much more focussed intervention is required to ensure adherence (Sotile 1996). To promote adherence health-care providers must -educate about the condition and treatment; develop an individualised regimen; provide reinforcement and support; promote social support; and collaborate with other health professionals (Hill 1989). Key to the above behaviours is the promotion of self-responsibility in the patients. (Eales et al 1998).

Patients from poorer educational (p=0.00) and socio-economic backgrounds (p=0.01) also had poorer knowledge. These patients often have a multiplicity of problems to cope with. They may be sole bread -winners and be responsible for the care of the family (Green 1975). They are often confused about what they have to do to change their behaviour (Green 1975). The patients in this sample were also unsure of what to do.

If the patients are confused it is very unlikely that family members understand the problems. As such they will not offer the support that is important for good adherence (Hill 1989 Sotile 1996).

It is important to understand patients' beliefs about their condition as if they do not understand exactly what it is that needs to be done they do not believe that they have to adhere. For education to be effective it has to concentrate on the here and now of benefits (Brown and

Segal 1996). Long -term consequences such as stroke do not mean as much. An example of short -term benefits are feeling fitter and coping with activity more easily (Brown and Segal 1996)

In this study patients' quality of life (p=0.003) and a perceived normal sex life (p=0.00) were predictive of good knowledge. Patients who consider their quality of life to be good and their sex lives as normal are possibly more confident, assertive and self- responsible. Because of more knowledge they are more likely to change their health behaviour.

The quality of life score was significantly different between the two groups (p=0.05). Patients with knowledge scores above 60% had better quality of life than those who scored below 60%. Although quality of life is a non-modifiable variable there are components of quality of life that can be modified. Modifiable factors are an increase in functional capacity and a decrease in symptoms (Wenger 1984). In hypertension it would be important to improve patients' functional capacity. Hypertensive patients very often do not have symptoms.

The rehabilitation outcomes in chronic diseases such as hypertension should focus on improving the quality of life of patients (Eales et al 1998). In order to increase quality of life one needs to focus on the components of quality of life mentioned above. To improve the health status of hypertensive patients the rehabilitation programme should focus on increasing functional capacity. In order to do this, patients have to adhere to a basic risk factor modification programme to control their high blood pressure. Risk factor management cannot occur without the patients understanding their condition. This makes education of the patient a critical health-provider activity (Hill 1989).

CONCLUSIONS

Although patients had been hypertensive for some considerable time (a mean of 10 years) their knowledge of the disease process and management was poor. Only 12 patients were considered to have sufficient knowledge to begin managing their disease. Factors predictive of knowledge were quality of life, sex life, language, education and income. Quality of life was significantly different between the group with good knowledge and the group with poor knowledge. With poor knowledge patients have difficulty managing their disease, as knowledge is the basis for change in health behaviour. So one would strive to make patients knowledgeable about their condition because this should improve their quality of life.

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