CAN THE SOCIOECONOMIC LEVEL INFLUENCE THE CHARACTERISTICS OF A GROUP OF HYPERTENSIVE PATIENTS?

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A total of 440 hypertensive patients participated in the study (57 years old ±12, 66% women, 51% white, 57% married, 52% with primary school and 44% with income from 1 to 3 minimum salaries) to characterize biosocial, beliefs, attitudes and knowledge variables, absence to consultation and treatment interruption, and to associate the socioeconomic level to the variables studied. An index of accumulated goods, from the possession of household appliances converted in minimum salaries/mo., was elaborated in order to evaluate the economic status. The hypertensive people who disagreed with "there is nothing you can do to prevent high blood pressure" presented significantly higher levels of accumulated goods; those who affirmed never getting late to their consultations presented lower levels of accumulated goods; in the subjective well-being evaluation, sadness was associated to a lower accumulated goods index (p<0,05). Results showed that low economic status was associated with factors that can influence the attitude and adherence to anti-hypertensive treatment.

DESCRIPTORS: nursing; hypertension; socioeconomic status

¿PUEDE EL NIVEL SOCIOECONÓMICO INFLUENCIAR LAS CARACTERÍSTICAS DE UN GRUPO DE HIPERTENSOS?

Se han estudiado 440 hipertensos (57±12 años, 66% mujeres, 51 % blancas, 57% casadas con educación primaria y 44% con renta de 1 a 3 sueldos mínimos) para caracterizar las variables biosociales, creencias, actitudes y conocimientos, faltas a las consultas e interrupción del tratamiento y asociar el nivel socioeconómico con las variables estudiadas. Para evaluar la condición económica, se elaboró un índice de bienes acumulados, a partir de la posesión de electrodomésticos convertidos en valores de sueldo mínimo/mes. Los hipertensos que discordaron con "no hay nada que hacer para evitar la tensión alta" presentaron un índice mayor de bienes acumulados y los que dijeron nunca haber llegado atrasados a sus consultas presentaron un menor índice de bienes acumulados (p<0,05). Los resultados mostraron que la situación económica presenta pocas variables para caracterizar a los hipertensos estudiados.

DESCRIPTORES: enfermería; hipertensión; condición económica

O NÍVEL SOCIOECONÔMICO PODE INFLUENCIAR AS CARACTERÍSTICAS DE UM GRUPO DE HIPERTENSOS?

Estudou-se 440 hipertensos (57±12 anos, 66% mulheres, 51% brancas, 57% casadas, 52% com ensino fundamental e 44% com renda de 1 a 3 salários mínimos) para caracterizar variáveis biossociais, crenças, atitudes e conhecimento, falta à consulta e interrupção do tratamento, e associar o nível socioeconômico com as variáveis estudadas. Para a avaliação da condição econômica, elaborou-se índice de bens acumulados a partir da posse de eletrodomésticos convertidos em valor de salários mínimos/mês. Os hipertensos que não concordaram com "não há nada que se possa fazer para evitar a pressão alta" apresentaram índice de bens acumulados significativamente mais elevados; os que afirmaram nunca chegar atrasado às suas consultas apresentaram índice de bens acumulados mais baixos e, na avaliação de bem-estar subjetivo, a tristeza se associou com índice de bens acumulados mais baixo (p<0,05). Conclui-se que baixa condição econômica se associou com variáveis que podem influenciar na atitude e adesão ao tratamento.

DESCRITORES: enfermagem; hipertensão; condição

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INTRODUCTION

Arterial hypertension is a very prevalent disease, affecting between 15% and 30% of Brazilian adults and more than 50% of the elderly population, and represents and important public health problem. Together with smoking, diabetes and dyslipidemia, hypertension constitutes an important risk factor for cardiovascular diseases, which are responsible for about 30% of deaths around the world[1-2]. In a report, the World Health Organization estimates that 35 million of the 58 million deaths in 2005 were due to chronic diseases and approximately 17.5 million to cardiovascular diseases[3].

The objective of anti-hypertensive treatment is to reduce cardiovascular morbidity and mortality and, despite evidence of its efficacy, it has been found that arterial hypertension control in general is hardly satisfactory. The not very effective hypertension control is directly related with patients' low adherence to treatment and various factors interfere in this context. Among aspects inherent to patients, variables like age, gender, ethnic origin, education level, socioeconomic level, occupation, civil status, living habits, health beliefs, knowledge and attitudes towards treatment stand out.

Adherence is a complex behavioral process that is strongly influenced by the environment, the health system and health care. Studies in our means have shown the influence of the socioeconomic profile, represented by low income and low education level, on hypertension control, indicating that people with less favorable socioeconomic conditions display higher pressure levels[4-5]. In this sense, in the international sphere, a significant relation has been found between income and education level on the one hand and arterial hypertension on the other. Thus, the socioeconomic status presents an inverse relation with pressure levels and hypertension rates, showing that, the lower the income, occupation and education levels, the higher pressure levels tend to be[6-7].

Social, economic and family concerns are factors that influence the rise in pressure levels. Nurses' activities involving hypertensive patients must consider their characteristics and factors that intervene and complicate treatment adherence, based on the population's actual needs. In our means, hypertensive patients have been attended on a large scale at Basic Health Units. However, little is known about these clients' characteristics and whether socioeconomic aspects interference in adherence and in the consequent control of arterial hypertension. In view of these aspects, this research aimed to study a group of hypertensive patients followed at three Basic Health Units in São Paulo City, with a view to: a) characterizing these patients in terms of biosocial variables, beliefs, attitudes and knowledge about the disease and treatment, absence from consultations and treatment interruption; and b) associating the socioeconomic level, represented by the accumulated goods ratio, with the study variables.

POPULATION AND METHOD

A descriptive and exploratory field study was carried out, with a quantitative approach, using a random sample of the patient population with arterial hypertension which attends three Basic Health Units in the West of São Paulo City. In total, 440 male and female patients were studied, older than 18, diagnosed with arterial hypertension as described in their patient file and followed at the service for at least six months. After receiving clarifications about the research objectives, they signed the free and informed consent team. This study was part of the Public Policy Project "Adult care policy: prevention, identification and control of arterial hypertension in the Butantã Teaching Health District" (FAPESP Process 2003/06454-1), approved by the Municipal Health Secretary's Research Ethics Committee.

For data collection, a form was used with biosocial data, treatment interruption, absence from consultations, beliefs and knowledge about the disease and attitudes towards treatment. In the attempt to assess the patients' feelings about their life, they were asked to appoint on a seven-face diagram what face represented their feeling about their life as a whole at that moment. The first face was the happiest and the seventh the saddest. This instrument, the Andrews Scale[8], has been used for the global assessment of subjective results and quality of life.

In assessing the economic condition, the accumulated goods ratio was elaborated. The calculation of this ratio considered the quantities the patients indicated they possessed at home for the following electric appliances: telephone, color TV, vacuum cleaner, washing machine, refrigerator, double door refrigerator and freezer. Next, the prices of these appliances were added up. The total was divided by twelve to obtain the monthly income of accumulated goods. Finally, this amount was converted into minimum wages in force at that time to reach the purchasing power equivalence ratio in minimum wages.

To assess blood pressure levels, three measurements were performed at intervals of 1-2 minutes, applying the indirect method, using an automatic device (OMROM- HEM 705 CP) validated

according to international protocols, with the patient sitting down and using an appropriate cuff for the patient's arm size. The blood pressure measurement procedure complied with the V Brazilian Arterial Hypertension Guidelines[1]. Patients with the mean of pressure values obtained from three measurements below 140 mmHg for systolic pressure and 90 mmHg for diastolic pressure were considered as controlled.

All data were processed in Statistical Package for Social Sciences software, version 7.5. The relation between the variables was assessed through the Chi-square test and Fisher's exact test. This item includes qualitative variables, such as: gender, skin color, civil status and education. Quantitative variables, i.e. the accumulated goods ratio, are presented in tables with mean and standard deviation. A significance level of 0.05 was adopted.

RESULTS

Table 1 - Accumulated goods ratio (mean±SD, minimum wages) in relation to the biosocial variables of hypertensive patients attended at Basic Health Units. São Paulo, SP, 2006

Variables	Accumulated goods ratio	P-value
Age		0.2682
<60 years (n=233)	1.24±0.37	
> 60 years (n=207)	1.20±0.34	
Gender		
Female (n=291)	1.21±0.32	
Male (n=149)	1.26±0.41	
Race		0.5446
White (n=227)	1.23±0.34	
Non white (n=212)	1.21±0.38	
Civil status		0.1136
Single (n=54)	1.18±0.40	
Married/fixed partner (n=247)	1.25±0.34	
Separated (n=31)	1.11±0.34	
Widowed (n=25)	1.22±0.35	
Education level		0.1013
Illiterate - reads/writes (n=132)	1.18±0.32	
Primary education (n=228)	1.23±0.38	
Secondary education (n=68)	1.27±0.32	
Higher education (n=10)	1.26±0.44	
Accumulated goods ratio	1.22±0.36	

The analysis of the participants' biosocial characteristics showed that most of them were women (66%), white (52%) and had a partner (56%). As to education, although practically half of them indicated primary education, about a third had little or no education, represented by illiterate people and those who knew how to read and write without attending school. What the age range is concerned, although little more than half (53%) was younger than 60, the general mean of the hypertensive patients under study (57±12 years) was very close to 60 years. The total socioeconomic power, evaluted by the accumulated goods ratio, evidences low purchasing power, as the mean was little more than one minimum wage (1.22±0.36). Data from Table 1 show that there was no statistically significant association (p>0.05) between the accumulated goods ratio, expressed in minimum wages, and the biosocial variables.

Table 2 - Accumulated goods ratio (mean±SD, minimum wages) in relation to hypertension control, treatment interruption and absence from hypertension consultations in Basic Health Units. São Paulo, SP, 2006

Variables	Accumulated goods ratio	P-value
Hypertension control		0.8555
No (n=240)	1.23±0.37	
Yes (n=200)	1.22±0.34	
Treatment interruption		0.6517
No (287)	1.23±0.37	
Yes (153)	1.21±0.32	
Absence from consultations		0.9513
No (316)	1.22±0.37	
Yes (124)	1.22±0.32	

Hypertension control, assessed by pressure levels under 140/90 mmHg, was found in 45% of the patients under study. Moreover, 35% mentioned that they had already interrupted treatment at least, while a bit less (28%) mentioned absence from consultations. Data in table 2 show that the accumulated goods ratio neither influenced hypertension control, nor the interruption of treatment and absence from consultations, as there was no significant association (p>0.05) between them.

Table 3 - Accumulated goods ratio (mean ± SD, minimum wages) in relation to beliefs and knowledge about the disease among hypertensive patients attended at Basic Health Units. São Paulo, SP, 2006

Variables	Accumulated goods ratio	P-value
There is nothing I can do to avoid high blood pressure. Do you agree?		0.0235 *
Yes (n=139)	1.17±0.35	
No(n=297)	1.25±0.36	
If my father or mother has high blood pressure so can I. Do you agree?		0.8194
Yes (n=364)	1.23±0.35	
No (n=71)	1.22±0.40	
Young people do not have high blood pressure. Do you agree?		0.9531
Yes (n=342)	1.23±0.34	
No (n=92)	1.22±0.36	
High blood pressure has no symptoms. Do you agree?		0.87
Yes (n=260)	1.23±0.38	
No (n=176)	1.22±0.34	
Your blood pressure is high when it exceeds 140x90 mmHg. Do you agree?		0.5016
Yes (n=383)	1.23±0.35	
No (52)	1.19±0.40	

* p<0.05

With respect to beliefs and knowledge on arterial hypertension, it was observed that a large majority believed that hereditariness influences the appearance of hypertension (84%), that young people also suffer from hypertension (79%) and that high blood pressure is higher than 140/90 mmHg (88%). The lowest answer percentage went to the absence of symptoms of arterial hypertension (60%). Data in table 3 show a significant association ($p<0.05$) between the accumulated goods ratio and beliefs on arterial hypertension for "there is nothing I can do to avoid high blood pressure" only. Patients with a lower accumulated goods ratio agreed that there was nothing they could do to avoid high pressure, while those who did not agree displayed significantly higher ratios (1.17±0.35 vs. 1.25±0.36, $p<0.05$).

Table 4 - Accumulated goods ratio (mean±SD, minimum wages) in relation to the attitudes towards treatment of hypertensive patients attended at Basic Health Units. São Paulo, SP, 2006

Variables	Accumulated goods ratio	P-value
Do you forget to take your medication?		0.1947
Never (n=208)	1.26±0.37	
Rarely/sometimes (n=161)	1.19±0.32	
Always (n=61)	1.21±0.37	
Do you always take your medication at the same time?		0.1175
Never (n=52)	1.16±0.33	
Rarely/sometimes (n=91)	1.17±0.36	
Always (n=286)	1.25±0.35	
Do you take your medication when you travel?		0.3972
Never (n=9)	1.32±0.47	
Rarely/sometimes (n= 25)	1.30±0.47	
Always (n=398)	1.22±0.34	
Do you get new medication before the old one is finished?		0.4588
Never (n=11)	1.31±0.33	
Rarely/sometimes (n=42)	1.27±0.44	
Always (n=380)	1.22±0.35	
Do you take your medication when your blood pressure is under control?		0.7157
Never (n=52)	1.23±0.29	
Rarely/sometimes (n=91)	1.19±0.39	
Always (n=286)	1.24±0.36	
Do you decide on your own to stop taking your medication?		0.067
Never (n=277)	1.25±0.36	
Rarely/sometimes (n=129)	1.20±0.36	
Always (n=27)	1.09±0.29	
Do you arrive late for consultations?		0.0275*
Never (n=330)	1.20±0.35	
Rarely/sometimes (n=95)	1.30±0.36	
Always (n=3)	1.31±0.32	
Do you follow dietary guidelines?		0.8644
Never (n=9)	1.25±0.35	
Rarely/sometimes (n=185)	1.22±0.35	
Always (n=188)	1.22±0.37	

*$p<0.05$

As to the patients' attitudes towards hypertension treatment, positive attitudes were found, such as always taking one's medication when traveling (92%) and purchasing new medication before the old one is finished (88%). Moreover, little less than half indicated rarely following dietary guidelines (44%) and, less frequently (27%), rarely taking medication always at the same time. The relation between the accumulated goods ratio and attitudes towards treatment showed an association with late arrival for medical consultations, with significantly lower rates for patients who were never late in comparison with patients who were always late (1.20±0.3 vs. 1.31±0.32, $p<0.05$) (Table 4).

Table 5 - Accumulated goods ratio (mean ± SD, minimum wages) in relation to the distribution of answers about feelings related to their life as a whole, among hypertensive patients attended at Basic Health Units. São Paulo, SP, 2006

How do you feel about your life as a whole	Accumulated goods ratio	Variation coefficient	P-value 0.0094*
1 (n=94) 	1.20±0.34	28.3%	
2 (n=106) 	1.28±0.36	28.1%	
3 (n=71) 	1.25±0.32	25.6%	
4 (n=50) 	1.16±0.36	41.8%	
5 (n=24) 	0.98±0.35	35.7%	
6 (n=11) 	1.12±0.39	34.8%	
7 (n=24) 	1.25±0.39	31.2%	

*$p<0.05$, face 5 vs. 2, 3

To assess quality of life, the patients were asked to appoint the face that best expressed their feeling about their life as a whole or their feeling of subjective well-being, in a diagram with seven possibilities, ranging from the happiest to the saddest face. Thus, as shown in table 5, practically half (53%) indicated faces 1 and 2, representing the happiest or most satisfied expressions. Only 9% marked faces 6 and 7, indicating sadness. A significant association ($p<0.05$) was found between the accumulated goods ratio and the feeling expressed by these patients. It was evidenced that the lowest ratio (0.98±0.35 minimum wage) corresponded to face 5, with a tendency towards sadness. The purchasing power for

face 5 was statistically different from that of faces 2 and 3. Therefore, faces 1, 2, and 3, which represented greater happiness and satisfaction with life on the whole, presented much higher ratios. According to the variation coefficient, that is, sample dispersion, face 5 was equivalent to 35.7%, and differed from face 2 (28.1%) and face 3 (25.6%). These data show that the patients with low purchasing power, represented in face 5, tended to be more sad than happy.

DISCUSSION

What the patients' biosocial characteristics is concerned, the fact that most of them were women may indicate that women are more concerned with their health, attend health services more and participate more than male patients. Ethnic origin also deserves attention, as it has already been demonstrated in our means that black and mulatto hypertensive patients adhered less to treatment and displayed lower blood pressure control levels than white patients[9]. On the other hand, the control of a group of hypertensive patients attended at a basic health unit in Mogi das Cruzes, SP, was not associated with ethnic origin[10]. Research[7,11] also shows that arterial pressure tends to be higher in patients with lower education levels and that having a partner, as expressed by their civil status, can facilitate the treatment process.

Blood pressure control, absence from consultations and treatment interruption are objective variables that can indicate the patients' level of treatment adherence. Although less than half (45%) of the patients under study had their blood pressure level under control, this level is even a bit higher than the results found in other research, i.e. around 30%[12-13].

The assessment of beliefs, knowledge and attitudes towards treatment showed that a significant majority expressed positive aspects of the disease and treatment. The accumulated goods ratio was associated with the item "there is nothing I can do to avoid high blood pressure". Patients who agreed with this statement had a lower purchasing power. This finding may indicate greater lack of knowledge about the disease, lack of stimulus and self-esteem, related with barriers to treatment adherence. What the relation between attitudes towards treatment and the accumulated goods ratio is concerned, a positive association was found for "arriving late for the consultation". Data revealed that arriving late was a characteristic of patients with higher ratios in comparison with those who never arrived late. This is probably due to the fact that patients with higher purchasing power also have more professional commitments and activities, or because they do not give due attention to their treatment and compliance with scheduled appointments.

Arterial hypertension is a chronic disease that can exert a degenerative and progressive effect on patients, directly influencing their quality of life. The patients' assessment of their general well-being may picture this aspect. The subjective scale of well-being showed that most patients indicated the happiest faces. However, the condition expressed by sad faces was associated with lower accumulated goods ratios, which evidences a direct relation between socioeconomic condition on the one hand and satisfaction and general well-being on the other. Also, in this context, the interaction between emotions and arterial hypertension is undeniable[14].

The main result of this study evidenced little association between the accumulated goods ratio, which was used as an indicator of the patients' economic condition, and factors that can influence treatment adherence. In the analysis of literature on factors that can interfere in arterial hypertension and control of this disease, socioeconomic variables have stood out. It has been found that income, education and occupation level are inversely associated with blood pressure levels, prevalence of hypertension and treatment adherence, reflected in the hardly satisfactory control of the disease. In this research, variables like salary, which reflects the economic condition alone, did not influence the participants' profile. In the attempt to take a closer look at the issue, the accumulated goods ratio was elaborated, based on the possession of goods that define what social class the patients belong to, considering the durable goods they possess and have acquired over time, similar to what is used by the Brazilian Institute of Geography and Statistics. Despite the availability of a more elaborate numerical resource, the statistical analysis revealed few associations between the accumulated goods ratio and the study variables. One possible explanation for this result may be the fact that, in general, the study population's socioeconomic standards are low, without big differences between patients, which did not permit any division into classes.

A group's socioeconomic condition can affect the health context, mainly chronic diseases and more precisely cardiovascular diseases, with arterial hypertension as one of the main risk factors. In this sense, a research[15] that followed more than 10,000 French and Irish men during five years showed that the appearance of coronary diseases was associated with low levels of material resources, unemployment and low education levels. However, when adjusted for other greater risk factors, such as smoking, hypertension and the body mass index, economic risk factors lost relevance. Another study[16], which compared North American, Mexican and Chinese women living in the United States, revealed that the socioeconomic condition could not fully explain ethnic and racial differences in hypertension in that country, and the authors believe that the identified variations can act in the mediation of risk factors. In our means, a study[17] carried out in the region of Coroa do Meio, in the Aracaju district, State of Sergipe, evidenced that hypertension was an independent factor associated with higher age, central obesity, low height and the fact of living in an area with high socioeconomic conditions. These findings show that studies have appointed the need to expand the concepts inherent in the relations between the social, the economic and health-disease.

One course has already been indicated by the World Health Organization[18] in reports published in 2002, focusing on the concept of risk and health. Risk is defined as the probably of an adverse event or a factor increasing this probability. These reports highlight that, while some risks have been mitigated, others have significantly increased, due to their relation with consumption standards, such as food, smoking and alcohol drinking, crucial in global health. Diseases like cancer, cardiovascular diseases and diabetes have steeply increased, mainly in developing and less developed countries. In this sense, the socioeconomic context is emphasized because the impact the deleterious effects of health risks exerts in low income countries is much stronger.

FINAL CONSIDERATIONS

Arterial hypertension displays specific characteristics of the chronic disease process. The illness stands out by its extended natural history; multiple associated factors; long asymptomatic course; slow, extensive and permanent clinical course, besides the possibility of evolution towards complications. The disease generates transformations in the patients' lives and nurses play an important role in global hypertension care, mainly what treatment adherence is concerned, which is the big challenge for health professionals and patients. Thus, characterizing care clients' actual needs is extremely important and, in this sense, socioeconomic aspects need to be taken into account. The socioeconomic condition alone cannot be the sole responsible for low treatment adherence levels and the consequent hardly satisfactory control of the disease. Mainly in our means, where it constitutes an important social marker, its action will undoubtedly affect the problem of the disease and its treatment.

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