

The Investigation of Nutritional Status in Hypertensive Elderly Patients According to the Behavioural Intention Model in Health Care Centers of Chaharmahal and Bakhtiary Province

Masoome Alidosti, Fatemeh Amini¹, Elahe Tavassoli², Akbar Babaei Heydarabadi³

Department of Health, Behbahan Faculty of Medical Sciences, Behbahan, ¹MSc Nursing, Shahrekord University of Medical Sciences, ²Department of Public Health, School of Health, Shahrekord University of Medical Sciences, Shahrekord, ³Department of Public Health, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran

Abstract

Background: Nowadays, the population of old people is growing worldwide and the diseases and complications related to it, especially hypertension may lead to many disabilities and impose high costs on the society. This study is conducted to assess the nutritional knowledge, attitude and performance of hypertensive elderly patients by means of behavioural intention model. **Methods:** In this descriptive-analytical study in 2012, 100 elderly persons, referred to Farsan health center were selected randomly. The data collection was performed by a questionnaire consisted of four sections: Knowledge, attitude, performance and demographic data. **Result:** 79 people (79%) of the participants were female and 21 (21%) were male. 93% of them were unemployed and 78% were married. 60% of the participants had not a family history of hypertension and 93% had never been trained about hypertension. 62% of the studied elderly patients had hypertension for about 5 years. Although the mean score of knowledge and performance was low, the mean score of attitude (belief subscales of the model) was high. The mean scores in men and women were compared and no statistically significant difference was observed ($P > 0.05$). **Conclusion:** According to the results of this study, i recommended to plan and implement proper educational programs to promote hypertensive elderly patients' knowledge, attitude and performance. By this way, we may reduce the complications of this disease.

Key words: Elderly, hypertension, nutrition

INTRODUCTION

Longevity and increase in the mean age of people is one of the main issues in the health of society.^[1] Only by having a healthy life and special cares we can make elderly a desirable and pleasant period. The health of old people is one of the public health issues in many countries and it needs correct and accurate policies and plans.^[2,3] By investigating the status of diseases in elderly people, we find out that lifestyle modification may play an important role in disease prevention. For example, a study showed by Knoops *et al.* study showed that lifestyle modification in elderly people leads to 50% decrease in mortality of and getting chronic diseases.^[4]

A study showed by Samadi *et al.* study on assessment of the need for training lifestyle to old people showed that unfortunately their healthy lifestyle knowledge, attitude and performance was relatively low.^[5]

Hypertension is one of the prevalent diseases of elderly which is related to the lifestyle and nutrition. These two elements are the underlying factor for many diseases and complications such as vascular disorders, heart failure, renal dysfunction and stroke. Therefore, it is necessary to control blood pressure to prevent its consequences.^[6,7] The increase in the population of elderly people and also increase in the number of those living with hypertension indicates the necessity of more investigations and interventions of families and the whole society to control it.^[8,9]

Address for correspondence: Fatemeh Amini, Shahrekord University of Medical Sciences, Shahrekord, Iran. E-Mail: m_alidosti@hlth.mui.ac.ir

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Theories and models may be used to assess habits and lifestyle. Theories and models present a systematic view of events or successes and are a systematic process to analyse successes and defeats. One of these models is behavioural intention theory. According to this model, the most important determinant of one's behaviour is behavioural intention which considers one's probable judgment about the type of behaviour. A person's intention to do behaviour is a combination of attitude toward that behaviour and subjective norms. Attitude toward a behaviour includes one's beliefs and the results of behaviour and subjective norms evaluation which include normal beliefs that are formed in a person or family and attitude for obedience.^[8,10]

Behavioural intention model may be very important in the assessment of people's viewpoint about health behaviours. According to the studies, one of the best models to study attitudes and behaviours is behavioural intention, model.^[11] Since during our literature review we could not find any comprehensive study on hypertension related nutritional behaviours, this study was conducted to determine nutritional behaviours, based on behavioural intention model in hypertensive elderly patients in Farsan city.

METHODS

In this descriptive-analytic study conducted in 2011, the study population was hypertensive elderly patients. One of the cities of Chaharmahal and Bakhtiary province (Farsan) was chosen randomly. In this city, 2 health care centres were chosen randomly and using sample size formula, 100 people were selected to participate in this study by simple random sampling model. The inclusion criteria were the age of 60 years and above and having a profile in the health care centre as a hypertensive patient. The exclusion criteria were relocation from the area under that health care centre and refusing to fill all parts of the questionnaire. To participate in this study, consent was also needed and participants were assured about the confidentiality of their information.

The data collection tool was a researcher made questionnaire based on the behavioural intention model. By reading scientific books and articles, this questionnaire was designed in a way that meets the research aims. To test the validity of the questionnaire, it was assessed and reviewed by 6 specialist doctors and health education professors. To test its reliability also, the questionnaire was filled by 15 people from the same society who did not participate in the research. By internal consistency method and Cronbach's alpha test, the reliability of questions was calculated to be 0.76.

The questionnaire included demographic information (sex, job, education level, marital status, duration of having hypertension, hypertension history in family and history of hypertension related trainings), 16 questions about knowledge, 5 questions about subjective norms, 8 questions about belief norms, 7 questions about attitude toward behaviour consequences, 8 questions about viewpoint about behaviour and 9 questions

about performance. In knowledge questions, every correct answer was scored 1 and wrong answers, as well as 'I don't know' were scored zero. For questions of behavioural intention model which were in the 5 choice Likert scale (from completely agree to completely disagree) the scoring was from 0 to 4 and for performance questions which were in form of 4 choice self-reporting (no, sometimes, usually, always) scoring was from 0 to 3. Finally, scores of all sections (knowledge, aspects of the model and performance) were changed to percentage, and therefore, the lowest score was 0 and the highest was 100. The collected data was analysed by SPSS 15 software (SPSS Inc., Chicago, IL, USA). To determine the association between sex and education level, training courses, the source of information and behavioural intention, Fisher's exact test and to determine the association between sex and history of hypertension in family and the duration of having hypertension, Chi-square test and in order to compare the mean score of knowledge, subscales of behavioural intention model and performance in men and women, independent *t*-test were used.

RESULT

79 people (79%) out of 100 participants of this study were women and 29 people (29%) were men. 93% of them were unemployed and 78% were married. 62% of the participants had hypertension for <5 years. 40% said that they have had the history of hypertension in their family. Most of the participants (93%) had never been trained about hypertension. The source of information about hypertension for many of them (48%) was doctors. Most of the participants (66%) were illiterate. Many of the participants were seriously intended to follow nutritional behaviours for hypertension control. Table 1 summarizes the frequency of studied variables and their association with participants' gender. According to the results, the duration of having hypertension in women was significantly higher than men [Table 1]. Although the mean score of knowledge and performance was low, the mean score of attitude (belief subscales of the model) was high and there was no statistically significant difference between the mean scores in men and women ($P > 0.05$) [Table 2].

DISCUSSION

According to the findings, most of the participants were illiterate and since the study population was elderly patients, it was not unexpected. Being illiterate affects people's information and training such that most of the participants of this study had never been trained. However people's literacy and abilities should not affect the educational programs. Many of the participants have had hypertension for <5 years and it has been shown in studies that systolic blood pressure has an increasing trend with the increase in age, in all ages, but diastolic blood pressure increases until the 50s and then during the age of 50–60 it will remain steady and after 60, reduces. Increased systolic blood pressure is the most prevalent form of hypertension in people beyond 50 years old and even the mild forms of that leads to a substantial increase in cardiovascular

Table 1: The frequency of studied variables and their association with gender

Variable	Gender n (%)		Total	P
	Women	Men		
Education level				
Illiterate	60 (78.9)	16 (21.1)	76	0.15
Primary school	16 (88.9)	2 (11.1)	18	
Guidance school	3 (50)	3 (50)	6	
Duration of hypertension				
<5 years	44 (71)	18 (29)	62	<0.001
5-10 years	26 (96.3)	1 (3.7)	27	
More than 10 years	9 (81.8)	2 (18.2)	11	
History of hypertension in family				
Yes	31 (77.5)	9 (22.5)	40	0.76
No	48 (80)	12 (20)	60	
Training about hypertension				
Yes	5 (71.4)	2 (28.6)	7	0.97
No	74 (79.6)	19 (20.4)	93	
Source of information about hypertension				
Radio and television	3 (60)	2 (40)	5	0.23
Physicians	35 (72.9)	13 (27.1)	48	
Health workers	36 (85.7)	6 (14.3)	42	
Family	5 (100)	0 (0)	5	
Intention for nutritional behaviours related to hypertension				
Disagree	4 (100)	0 (0)	4	
Agree	21 (67.7)	10 (32.3)	31	
Completely agree	54 (83.1)	11 (16.9)	65	

Table 2: Comparison of the mean score of knowledge, behavioural intention model subscales and performance of women and men

Studied variable	Group (mean±SD)		Independent t-test significance level (P)
	Women	Men	
Knowledge	19.07±8.11	16.82±10.67	0.37
Norm beliefs	77.49±28.66	92.11±32.62	0.07
Believe in the result of behaviours	77.93±30.95	77.55±15.53	0.93
Belief to the behaviour	70.13±9.91	70.23±10.05	0.96
Performance	31.27±10.91	30.68±10.67	0.82

SD: Standard deviation

incidences.^[12] Therefore, from the early stages, this disease should be considered seriously to prevent its complications.

Results also showed that majority of participated elderly patients had a definite intention to follow hypertension related nutritional behaviours and the mean score of attitude and their beliefs was high, but the mean score of knowledge and performance was lower than average. According to the results, it seems that due to have a little knowledge, the performance is affected and these patients do not have a desirable performance. In addition, since most of the participants had never been trained

about hypertension, lack training and information was obvious. Therefore, conducting training programs about nutritional behaviours for elderly people is necessary and it is possible to plan some training programs by using experts of educational models and the health education group in health care centres to promote health in the society and reduce the related costs. It has been shown that nursing interventions based on patient's participation in treatment and learning has a positive effect.^[13] Results of a study conducted by Savadkooh *et al.* also showed that after training, the self-efficacy of elderly people about following hypertension related behaviours was increased and it is an evidence of the positive effect of training in promotion of old people's health and preventing diseases to get chronic.^[14] Training the lifestyle modification and paying attention to the quality of life may remarkably increase old people's efficacy and independence and helps them to control the complications related to getting old and having various treatments.^[15] It seems that implementation of training programs leads to the promotion of self-efficacy and performance of hypertensive elderly and may be a good way to convict patients to make some behavioural changes and adhere to diet, treatment and physical activity and therefore, control their hypertension. The results of Baroogh's study showed that lifestyle (smoking, exercise, physical activity and obesity) has a significant association with hypertension and this result shows the necessity of doing interventions to change old people's lifestyle.^[16] One of the benefits of changing lifestyle in patients is reducing adverse effects of drug therapy.^[17]

CONCLUSION

According to the results of this study, we should promote old people's knowledge about hypertension and improve their performance to prevent its related complications.

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Conflicts of interest

There are no conflicts of interest.

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