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The Effect of the Motivational Interview Method on the Lifestyle of Hypertensive Individuals

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Abstract

This study aims to analyse the effect of motivational interviews on the lifestyle of hypertensive individuals. This study was conducted with hypertensive individuals between the ages of 24 and 45, registered in seven family health centres in Aksehir, Konya, Turkey. The 75 individuals who agreed to participate were allocated into two groups: experimental and control. Both the groups were administered the pre-test, then the experimental group was visited for a total of 5 times: four visits at three-week intervals and one visit after one month. The study was completed by administering the post-test to both groups and data were analysed using SPSS 17.0. Statistically significant differences were found between the pre-test and post-test scores of the experimental group in terms of blood pressure and BMI. In conclusion, motivational interviews can be used in ensuring healthy nutrition and regulation of their exercise level and blood pressure for hypertensive individuals.

Keywords: Hypertension, lifestyle, blood pressure, body mass index, nursing.

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1.Introduction

Hypertension is an important risk factor for diseases that reduce the quality of life and are the main causes of death. Hypertension contributes to 9.4 million deaths, i.e., 16.5% of all deaths, every day around the world [18]. The prevalence of hypertension was found to be 31.8% in the Prevalence, Awareness and Treatment of Hypertension in Turkey (Paten-T), in which field research was completed in 2003 (Altun *et al.* 2005). In the Turkey Health Survey (2010), 13.2% of individuals aged 15 and older were found to have hypertension [15]. Although the effects of controlling blood pressure on human health are well known, non-adherence to antihypertensive treatment is still a significant problem in ensuring the control of hypertension. A large number of patients do not receive sufficient medical care and have difficulty in making the changes in their lifestyle stipulated for reducing hypertension, due to non-adherence [18]. Only half the individuals with hypertension recognise that they are hypertensive, and only half of these individuals receive antihypertensive treatment. However, half of the individuals receiving antihypertensive treatment were able to control their hypertension, while the other half stopped receiving services related to hypertension within the first year after diagnosis [5, 17]. Behavioural risk factors such as unhealthy nutrition, excessive alcohol intake, lack of physical activity, overweight and continuous exposure to stress contribute to the increase in the prevalence of hypertension. Therefore, changes should be made in the lifestyle of all hypertensive individuals, regardless of receiving medication or not, since these changes can reduce or eliminate the need for antihypertensive treatment [8, 18].

This experimental study conducted with hypertensive individuals between the ages of 25 and 45 aimed to analyse the effect of motivational interviews on the individuals' lifestyle. This study was conducted with hypertensive individuals registered in the family health centres in Aksehir, Konya, Turkey, who met the inclusion criteria. The inclusion criteria were being literate, between the ages of 25 and 45, able to communicate, not diagnosed with cancer, living within the borders of Aksehir, and volunteering to participate in the study. Eighty individuals who met the inclusion criteria were allocated to the experimental and control groups through one-to-one randomisation after they were first numbered by tossing a coin. However, the study was completed with 75 participants, (37 in the experimental group and 38 in the control group), since three participants from the experimental group and two from the control group left the study. The study was conducted between 6 February and 24 June 2014.

2.Results

Table 1. The socio-demographic characteristics of the participants

	Intervention group			**Control group**		
	Min	**Max**	**Mean value**	**Min**	**Max**	**Mean value**
Age	30.00	45.00	44.00	25.00	45.00	43.50
Gender	Intervention group			Control group		
	n		%	*N*		%
Female	31		83.8	34		89.5
Male	6		16.2	4		10.5
Marital status						
Single	9		24.3	3		7.9
Married	28		75.7	35		92.1
Education level						
Literate	5		13.5	1		2.6
Primary school	25		67.6	32		84.2
Secondary school	-		-	2		5.3
High school	5		13.5	1		2.6
University	2		5.4	2		5.3

Occupation				
Unemployed	32	86.5	33	86.8
Civil servant	2	5.4	-	-
Self-employment	3	8.1	3	7.9
Worker	-	-	2	5.3
Family type				
Nuclear family	32	86.5	37	97.4
Extended family	5	13.5	1	2.6
Regular income				
I have an income	23	62.2	23	60.5
I don't have an income	14	37.8	15	39.5
Social security				
Yes	34	91.9	38	100.0
No	3	8.1	-	-
Total	37	100.0	38	100.0

The low-salt nutrition rate rose from 16.2% to 86.5% in the experimental group, and from 11 participants to 14 participants in the control group. Of the experimental and control groups, 25.3% and 24.8% frequently consumed white meat, respectively. In the experimental group, the rate of those frequently consumed white meat rose to 32.4%, the consumption rate of vegetables and fruits rose to 32.4%, and none of the participants were frequently consuming fatty foods such as fries. In the experimental group, the rate of those going on a specific diet programme for hypertension rose from 13.5% to 83.8%, and the rate of those not going on any diet fell from 86.5% to 16.2%. No significant change was observed in the control group.

Table 2. Nutrition and exercise of hypertensive individuals

	Intervention group				**Control group**			
	First assessment		**Last assessment**		**First assessment**		**Last assessment**	
Habit of using salt	*n*	%	*n*	%	*n*	%	*n*	**%**
Normal	26	70.3	4	10.8	24	63.2	20	52.6
Very salty	5	13.5	1	2.7	3	7.9	4	10.5
Low salt	6	16.2	32	86.5	11	28.9	14	36.8
Total	37	100.0	37	100.0	38	100.0	38	100.0
The frequently consumed foods	*n**	%	*n**	%	*n**	%	*n**	%
Red meat	12	10.8	3	2.7	8	7.1	8	7.0
White meat	28	25.3	36	32.4	28	24.8	27	23.7
Vegetable protein	15	13.5	34	30.6	20	17.7	22	19.3
Carbohydrate	17	15.3	2	1.9	21	18.6	20	17.5
Fat (fries)	9	8.1	-	-	2	1.7	2	1.8
Vegetables and fruits	30	27.0	36	32.4	34	30.1	35	30.7
Total	111	100.0	111	100.0	113	100.0	114	100.0
Exercise type	*n*	%	*n*	%	*n*	%	*n*	%
Slow-pace walking	7	87.5	20	80.0	5	62.5	6	75.0
Fast-pace walking	1	12.5	5	20.0	2	25.0	1	12.5
Football	-	-	-	-	1	12.5	1	12.5
Total	8	100.0	25	100.0	8	100.0	8	100.0
The frequency of exercise								
Once a week	1	12.5	1	4.0	2	25.0	4	50.0
Twice a week	-	-	1	4.0	-	-	-	-
Three times a week	3	37.5	11	44.0	1	12.5	-	-

Four times a week	-	-	2	8.0	1	12.5	1	12.5
Five times a week	-	-	6	24.0	-	-	-	-
Every day	4	50.0	4	16.0	4	50.0	3	37.5
Total	8	100.0	25	100.0	8	100.0	8	100.0
The duration of exercise								
5 minutes	1	12.5	-	-	-	-	-	-
15 minutes	1	12.5	-	-	1	12.5	1	12.5
20 minutes	1	12.5	3	12.0	2	25.0	1	12.5
30 minutes	3	37.5	9	36.0	2	25.0	3	37.5
45 minutes	1	12.5	7	28.0	-	-	3	37.5
60 minutes	1	12.5	6	24.0	3	37.5	-	-
Total	8	100.0	25	100.0	8	100.0	8	100.0

*The participants were asked to specify their first three choices.

The BMI arithmetic mean reduced from 33.29 to 33.08 in the experimental group and rose from 32.5 to 33.0 in the control group. A statistically significant difference was found between the first and last BMI values of the experimental and control group ($p < 0.05$).

While the mean systolic blood pressure value of the experimental group was found to reduce from 150.00 to 130.00 mm Hg, the mean systolic blood pressure value of the control group was observed to remain at 140.00 mm Hg. While the mean systolic blood pressure value of the control group was observed to remain at 90.00 mm Hg, the mean systolic blood pressure value of the experimental group was found to reduce from 90.00 mm Hg to 80.00 mm Hg.

The low-salt nutrition rate rose from 16.2% to 86.5% in the experimental group, and from 11 participants to 14 participants in the control group. Of the experimental and control groups, 25.3% and 24.8% frequently consumed white meat, respectively. In the experimental group, the rate of those frequently consumed white meat rose to 32.4%, the consumption rate of vegetables and fruits rose to 32.4%, and none of the participants were frequently consuming fatty foods such as fries. In the experimental group, the rate of those going on a specific diet programme for hypertension rose from 13.5% to 83.8%, and the rate of those not going on any diet fell from 86.5% to 16.2%. No significant change was observed in the control group.

The rate of exercising rose from 16.2% to 62.2% in the experimental group. The number of those walking at a slow pace rose from 7 to 20, and those exercising three, four, and five times a week rose from 3 to 11, 0 to 2 and 0 to 6, respectively. Four participants were found to exercise every day. While the number of participants exercising for 5, 15, 20, 45 and 60 minutes was 1 for each, the number of those exercising for 30 minutes increased to nine participants, for 45 minutes increased to seven participants, and for 60 minutes increased to six participants at the end of the study.

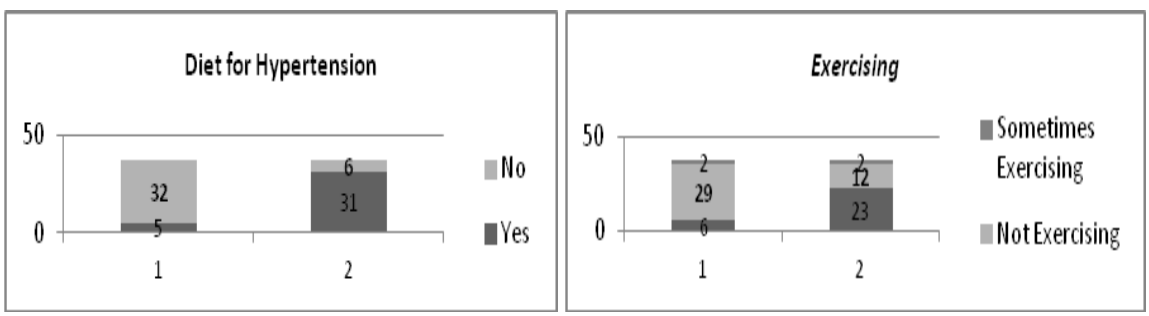

Figure 1. Diet and exercising state of hypertensive individuals

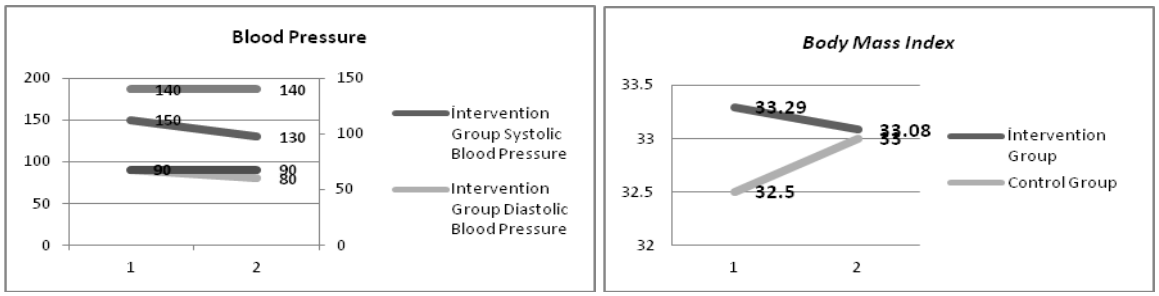

Figure 2. Blood pressure and body mass index of hypertensive individuals

3.Discussion

3.1.The effect of motivational interview on hypertensive individuals' lifestyle

The low-salt nutrition rate rose from 16.2% to 86.5% in the experimental group after the motivational interviews. Of the experimental and control groups, 25.3% and 24.8% frequently consumed white meat, respectively. In the experimental group, the rate of those frequently consuming white meat rose to 32.4%, and those following a diet programme specific to hypertension rose from 13.5% to 83.8% after the motivational interviews. Similarly, Anshel and Kang [2] found in their study on 67 police officers that the motivational interview is effective in changing nutrition habits, increasing physical activity, and regulating the blood lipid profile. Calhoun *et al.* [4] found in their study on 26 patients with Type II diabetes that motivational interviews led to a reduction in consumption of unhealthy food and an increase in the time allocated for physical activity. Resnicow *et al.* [12] observed an increase in consumption of fruits and vegetables after the motivational interview applied to 1,011 individuals. In the present study, the rate of exercising rose from 16.2% to 62.2% in the intervention group; and the rate of those exercising three times a week was 44.0%, while the rate of those exercising for 30 minutes was 36.0%. Similarly, Ackerman *et al.* [1] revealed in their study on 30 patients in the first step healthcare that motivational interviews helped to increase the density and duration of physical activity. Brodie and Inoue [3] conducted a study on 60 elderly people with heart failure, in which they allocated the patients into the standard care group, the motivational interview group, and standard care plus motivational interview group, and reported an increase in the variety and level of physical activity in the motivational interview and the standard care plus motivational interview groups.

3.2.The effect of motivational interview on hypertensive individuals' BMI

In the present study, a statistically significant relationship was found between the BMI values of the intervention and control groups ($p < 0.05$). Similarly, West *et al.* (2007) conducted a study through a multidisciplinary team approach on 217 females with Type II diabetes using motivational interviews, and found that a distinct weight control in the experimental group and that weight loss is maintained in the 6th, 12th and 18th months. Webber *et al.* [16] conducted a study on 20 females in which they allocated the females into two online groups and communicated with them via emails for eight weeks, and revealed that the motivational interview can be used as an effective method in ensuring weight control and increasing individuals' motivation. Methapatara and Srisurapanont [9] found in their study on 64 overweight or obese schizophrenic patients that motivational interviews carried out together with walking supported by pedometer is effective in ensuring weight control and reducing BMI values.

3.3.The effect of motivational interview on hypertensive individuals' blood pressure

In the present study, while no statistically significant difference was found between the blood pressure measurements of the control group after statistical comparisons ($p > 0.05$), the systolic and

diastolic blood pressures of the intervention group were found to have reduced and significant differences were found between the measurements ($p < 0.05$). Navidian *et al.* [11] revealed in their quasi-experimental study on 61 hypertensive patients that the motivational interview is effective particularly in reducing diastolic blood pressure. Rubak *et al.* [13] determined in their systematic review and meta-analysis in which they reviewed 72 randomised controlled studies that the motivational interview is effective particularly on systolic blood pressure. Hardcastle *et al.* [7] observed in their study on 334 patients in the first step healthcare that blood pressure and cholesterol level distinctly reduced in the group that had received motivational interviews. All these studies have shown that the motivational interview is very effective in blood pressure control, similar to the findings in the present study.

4.Conclusion

In conclusion, motivational interviews can be used in the acquisition of a healthy nutrition habit by hypertensive individuals, the increase in their exercise levels, and regulation of blood pressure. This method can also be used for increasing the adaptation to lifestyle changes of individuals with common chronic diseases, particularly hypertension. The patients' treatment adherence can be increased by carrying out a motivational interview while preparing discharge plans for them. Motivational interviews can be used to monitor patients with chronic diseases in primary health services by training the nurses working in the family health centres on the motivational interview method, and then the results can be analysed.

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