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The study of impact the training program on behavior self-regulating blood pressure in patients of hypertension in Shiraz, based on Health Belief Model in 2016.

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ABSTRACT: Background and objectives: The present study aims to set your blood pressure in hypertension patients using the Health Belief Model in Shiraz were designed and implemented. Materials and methods: This study intervention clinical trial on hypertension patients of 100 people that their age was higher than 30 years in the centers Shiraz health that two centers for completely random selection and one of those centers, as the intervention group and another as the control group; was done. The test subjects with complete satisfaction and during the eight meeting of educational one-hours based on Health Belief Model, with lectures and the question and answer are required to receive content. Data with software SPSS19 and analysed using chi square independent t-test, Mann-Whitney, Anova and were considered a significant level of 0.5. Results: Based on the results of the research, the average BMI the people of test group 22.44 ± 3.30 and control group was 22.27 ± 3.05 , that independent t-test the significant difference not showed between two groups. The results also showed that after the intervention and three months later, in the experimental group compared to the control group significant increase in the extent of structural Perceived susceptibility, perceived intensity, perceived benefits, self-efficacy, guide to action and there were behavior the self-regulation except for the perceived barriers, and the level of blood pressure. Conclusions: the findings of this study, Indicated the ability of Health Belief Model in self-regulation and reducing the amount of blood pressure, hypertension patients.

KEYWORDS: hypertension, health belief model, self-regulation, education.

I. INTRODUCTION

Hypertension is one of the most important risk factors for the incidence of atherosclerosis, heart failure, stroke, kidney failure and the brain in most countries of the world and the second rank in most times burden of diseases is devoted to itself. Due to the high incidence of hypertension and its complications are serious and important body organs on the prevention, control and treatment is very important [1, 2].

The World Health Organization announced in 2013 that 45 percent of deaths caused by heart disease and 51 percent of stroke deaths due to complications of hypertension occurred [3].

According to the statistics report from the American Heart Association, the main cause of death in 61762 of Americans in 2009 hypertension and 779 million in the United States in 2013, have been diagnosed with hypertension[4].

Increase 65.4 percent of hypertension in men and 81.6 percent in women in Asia shows that the prevalence of hypertension in this region compared to other parts of the world is greater[5].

The prevalence of hypertension is based on research done in Iran, is on the rise[6]. During the Barikani study, the prevalence of hypertension in Iran announced that 32 percent among almost 60% of people do not have any knowledge of their disease, and only 48 percent have been treated to that of this amount was 21 percent have blood pressure Controlled[7].



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The World Health Organization during a report has announced that almost half of people with hypertension have no knowledge of their disease, and only 25 percent of them are treated and less than 12.5 percent of them are controlling their disease[3, 8].

over 45 prospective cohort study that was conducted throughout the world, it became clear that the systolic blood pressure and cerebral stroke related direct and linear. In these studies concluded that per 10 mm Hg increase in systolic blood pressure, cerebral stroke risk 80 percent of increased[9].

In spite of the existence of different drugs to control blood pressure are still reported statistics for the control it is disappointing, even success rate in the USA of 27% and in the UK, France and Germany even less than this amount[10].

In chronic diseases such as high blood pressure, which is such a dangerous and serious complications in the wake of self-care and control is of special importance that one of its components is self-efficacy that with the ill person, it can play an important role in the recovery and prevention of complications of the disease[3].

Unfortunately, most research in the field of hypertension to have paid medicinal and less deference to their own self-regulatory issue is presented by the patient as much in control of their blood pressure self-regulatory matters[1].

behaviors self-regulating hypertension is more related to a person's lifestyle that changing the it can to improve the situation of the disease and the prevention of complications arising from it. These behaviors include regular blood pressure control, reducing salt intake, not smoking, exercising, avoiding the mental pressures _ the healthy mental, nutritional, weight loss and taking medication, according to the order of the sort the physician[1]. Many factors involved in getting blood pressure that are filled with some of those factors include: age, sex, race and heredity are non-changeable and some factors like the life style that includes the type of nutrition, smoking and alcohol, not having a proper activity, changeable and intervention[9].

If you have a good control on the disease process, nothing can cause other diseases and reduce the effectiveness and ability of the person with that each of these factors can be a person's quality of life affect the patient so that the patient's person of the various aspects of physical, mental-psychological, such as social, economic, health and work be impaired[5]. Health belief model has six, the perceived intensity of the perceived sensitivity, perceived benefits, perceived obstacles, perceived self-efficacy and practice guide. This model is designed for people who expect a certain behavior. In structure the perceived sensitivity we want to feel the danger of the person the subject of the structure desired, perceived severity the severity of the risk and seriousness of the side effects of a person's own opinion, after having perceived interests believe useful and applicable preventive behavior, then the perceived barriers to preventive factors of preventive behaviour, positive symptoms in later action guide that they receive from the environment in structure of self-efficacy and its ability of the individual towards the preventive behaviours have been changed to finally take the necessary measures[9].

Iranian lifestyle nit people cardiovascular diseases have increased and this issue requires more attention in the areas of prevention and control. In Iran, about 30-50% of your high blood pressure do not notice. That this lack of awareness has a relationship with an increased age[11, 12]. Therefore, the present study self-regulation of blood pressure in patients with hypertension in Shiraz, was performed in 1394.

II. METHODS

This study was checked semi-experimental study. Shiraz was based on the Health Belief Model in 1394. The plan was conducted in Shiraz University of Medical Sciences, Shiraz health centers to assess the educational impact on their behaviour blood pressure in hypertensive patients city Shiraz was based on the Health Belief Model in 1394. In order to carry out the plan, Of all the health centers of Shiraz city, two centers, one of which centers on a randomly chosen as the experimental group and the control group were considered. The subjects of the patients with hypertension, age greater than 30 years, and at least one year had passed since filing their health and have been recorded in the Office of patients with hypertension were selected. Before the study, a researcher and research subjects aim of this plan is to ensure that information is strictly confidential are, and The participants have to complete satisfaction in the project. Educational group intervention was paid eight one-hour training session based on the health belief model, With presentations and questions and answers to issues such as the definition of the disease, methods of diagnosis, early and late complications of the disease, the amount of salt and oil consumption, risk factors and ways to prevent it are discussed. The questionnaire used in this study during the third stage before training, immediately after training and three months after the training was completed, the questionnaires completed by the researchers through interviews with subjects blood pressure level before the training, the three months after the intervention was measured immediately. The questionnaire consisted of 9 questions on demographics, behaviours 14 questions related to blood pressure regulation, 4 questions related to perceived susceptibility, perceived severity of 10 questions, 9 questions related to



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perceived barriers, 6 questions about perceived benefits 6 questions related to self-efficacy and the 8 question is the guide to action. Validity and reliability of the questionnaire was based on article reviews the factors related to self-regulation of blood pressure in patients with hypertension city in 1389. It is spring[13].Content validity of the questionnaire was confirmed based on the opinions of experts education and health promotion. . Also, due to the credit equivalent using interview techniques using two interviewers measured on ten subjects in which the validity of the acceptable reliability ($r = 0.82$). In order to assess the internal consistency (reliability)questionnaire, pilot study on 30 patients referred to health centers in the blood pressure of demographic characteristics similar to the target population was carried out based on the results of this preliminary study questions the intraclass correlation coefficients (Cronbach's alpha) was equal to 75/0[13].According to the findings divine Rod and colleagues[14, 15], The standard deviation self-care behaviors in this group of patients 57/2 and 41/1 reported, using a statistical formula to compare between the two communities and taking into account the 5% maximum error of the first kind, the study 90% 2 effect size minimum required sample size of 44 patients (22 patients in each group) Bravrdshdkh Given the high prevalence of the disease is considered a sample of 100 people. (two groups of 50 persons).

$$n = \frac{(z_{1-\frac{\alpha}{2}} + z_{1-\beta})^2 s_1^2 + s_2^2}{d^2}$$

Workers are given 19 SPSS software using chi-square and through tests, t-test, Mann-Whitney and Wilcoxon and Repeated Measurement Anova were analyzed and significance level of 05/0 was considered.

III.EXPERIMENTAL RESULTS

Results showed that the mean age of the study group $40/5 \pm 25/41$ control group $43/5 \pm 27/41$ years, the average BMI Afradgrvh test $30/3 \pm 44/22$ and control ($05/3 \pm 27/22$ was the independent t-test dispute between the two groups was not significant(TableA). Demographic data show that the chi-square test, there was no significant difference between the two groups. The results indicated that significant differences between the intervention and control groups in terms of perceived susceptibility, perceived severity, perceived benefits, perceived barriers, self-guided and self-regulation of behaviour, there is no level of blood pressure But immediately after the intervention and after three months the intervention group and the control group increased significantly on any of the items listed except for perceived barriers and level of blood pressure showed And structural barriers, and blood pressure in the intervention group and the control group had a significant reduction (Table B).

A: Distribution of subjects according to the level of demographic information.

Mercurial	experimental group		Control group		P-value	
	Number	Percent	Number	Percent		
Job	employed	30	60%	28	56%	0.637
	Unemployed	20	40%	22	44%	
Education	illiterate	0	0	1	2%	0.771
	elementary	10	20%	9	18%	
	middle	14	28%	16	32%	
	High school	16	32%	13	26%	
	University	16	20%	11	22%	
Marital status	Single	5	10%	4	8%	0.880
	Married	40	80%	42	84%	
	Divorced	3	6%	2	4%	
	Widow	2	4%	2	4%	
Genus	Male	18	36%	22	44%	0.769
	female	32	64%	28	56%	
History of illness on person	yes	4	8%	2	4%	0.315
	no	46	92%	48	96%	
family history of hypertension	yes	12	24%	10	20%	0.378
	no	38	76%	40	80%	

B: Comparison of the mean scores of susceptibility, severity, benefits, barriers, operating manuals, self-efficacy, behaviour Khvdzmy and blood pressure in women before, immediately after and three months after intervention between case and control groups

Mercurial	Time	Case (N =50)			Control (N = 50)			P-vlaue ²
		Mean	SD	P-vlaue ¹	Mean	SD	P-vlaue ¹	
Perceived sensibility	Before interventio	5.65	2.36		5.07	2.58		0.358
	Immediately after	9.82	17.3	<0.001	6.67	2.50	0.24	<0.001
	Three months after	12.33	2.25	<0.001	7.10	2.59	0.32	<0.001
Perceived Severity	Before interventio	13.22	22.31		12.63	1.84		0.827
	Immediately after	20.50	2.65	<0.001	13.65	1.71	0.45	<0.001
	Three months after	26.82	2.28	<0.001	13.49	1.80	0.31	<0.001
Perceived Profits	Before interventio	9.73	2.34		9.22	1.99		0.196
	Immediately after	13.23	3.54	<0.001	9.83	1.95	0.25	<0.001
	Three months after	16.92	4.31	<0.001	10.11	2.05	0.25	<0.001
	Before interventio	24.53	3.76		23.30	2.98		0.707
	Immediately after	18.65	4.72	<0.001	22.17	2.85	0.35	<0.001

Perceived Barriers	Three months after	10.60	5.01	<0.001	21.98	3.01	0.38	<0.001
Guide to action	Before interventio	9.50	4.01		9.70	4.28		0.293
	Immediately after	16.82	4.02	<0.001	10.60	4.40	0.55	<0.001
	Three months after	20.55	3.95	<0.001	10.80	4.46	0.49	<0.001
Self-efficacy	Before interventio	8.07	2.83		8.33	2.25		0.596
	Immediately after	10.93	2.99	<0.001	9.05	2.11	0.33	<0.001
	six months after	16.30	2.46	<0.001	9.75	2.46	0.54	<0.001
Behavior self-regulation	Before interventio	4.68	1.90		3.67	2.18		0.965
	Immediately after	10.93	2.37	<0.001	4.80	2.19	0.32	<0.001
	Three months after	12.87	2.60	<0.001	5.40	2.47	0.65	<0.001
Level blood pressure	Before interventio	178.32	2.30		175.25	2.45		0.965
	Immediately after	168.14	2.45	<0.001	177.12	2.45	0.14	<0.001
	Three months after	152.11	2.55	<0.001	179.22	2.45	0.24	<0.001

Discussion:

This study was designed in Shiraz, as your target blood pressure in hypertensive patients using the health belief model . Health Belief Model with focuses on the individuals attitudes and beliefs is trying for to explain the causes of their their behaviors[16]. This model is, as a means operational for develop intervention strategies, as well as, helping to perception the behavior and educational needs of individuals is extra-understandable to the attitude[17]. In the present study perceived susceptibility and severity groups after the intervention and three months later than the control group had a significant increase, that According to people with intellectual understanding and to the extent that the situation to is serious for the individual, as well as, person's social and psychological status were common , the purpose of this study Rahimi and colleagues in Kermanshah[18], and Piezad and colleagues in Isfahan[19] were consistent with our finding. Also, Vazini and colleagues[20] which conducted the study in 2013 to change attitudes and behaviors and appropriate treatment of diabetes type II associated with the level of education and their knowledge There had increased significantly In the intervention group perceived benefits after training and three months later than the control group According to the belief, and that belief in the usefulness and applicability of self-regulation[9]. And the individual estimates and prefer that the benefits of people behavior on the obstacles and it costs more[21], in this structure proof of the claim that results not consistent with the findings of some studies[18, 22]. And the Another reasons for the perceived benefits of after training the experimental group than the control group significantly decreased the reduction of barriers number acquisition by participants in the intervention group than the control group for the adoption of self-regulation pressure knew . In this study, a Health Belief Model that had a significant decrease in the level of their knowledge score in experimental group after the educational program, After three months of doing it than the control group was perceived barrier structure. Also searchers[23-25], in their studies to the reached that



raising the level of education and a young age factors that perceived barriers to adoption of a healthy behavior and appropriate health, understanding and is established .because High levels of education increase the awareness and subsequently is increasing their participation in their treatment blood pressure. That is what is evident in this study The high rate of person's participation in education is above and age is low can be among the reasons for the reduction of perceived barriers score in the intervention group after the intervention and And also high structures score perceived benefits significantly after the educational intervention was compared to the control group is of other causes this decreasing. The results are not in line with our findings can be pointed to some studies[22, 26].

As well as , this present study The results revealed a significant increase in self-efficacy score and it was in the experimental group after intervention This finding is consistent with results Shamsi and cooperation[27] with education based on health belief model could increase efficacy and reduce your score is consistent therapy in pregnant women. But the results Ghaffari[28] and Kynzlr and colleagues[29], is inconsistent. Through studies of the health promotion model that have been studied, 86 percent of self- efficient importance support that as a determinant of health promoting behaviors[21]. The study in insulin therapy in the after self - efficient[18], and in another study[30], Self-monitoring of blood glucose as behaviors and techniques require high-level skills, The rate of self-efficacy did not optimal efficacy as a deep confidence about the ability and effectiveness of individual And that poor people in different situations and problems more difficult than they imagined reality Green is trying to solve problems and difficult situations soldier Zndd[31].

The results of the above two study findings on the self-efficient was incompatible, it seems The most important reason with regard to self-efficacy, the ability of participants, higher education and person's age in the study is compared to other possible causes. On the other independent variables in this study guide to action in the experimental group increased significantly compared to before the intervention and the control group. This finding study Sadeghi and colleagues[32], in Rafsanjan and Dstjany Farahani et al[33], at Arak consistent.

IV. CONCLUSION

According to passage the findings of this study showed that the implementation of the educational program based on the health belief model have a positive impact on behaviors self regulatory and reducing the amount of blood pressure in hypertension patients in the test group.

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