Correlation between compliance regimens with health locus of control in patients with hypertension

Mohammad Taher[1], Zahra Safavi Bayat[2], Kianoush Niromand zandi[3]
Erfan Ghasemi[4], Hamid Abredari[5], Mahmood Karimy[6], Ahmad Reza Abedi[7]

Abstract

Background: Epidemiological changes leading to chronic diseases are becoming more important day by day. Hypertension is also known as a chronic disease. Worldwide prevalence of hypertension have caused serious complications. The disease has become a health problem in all communities. This research aims at analyze the correlation between compliance with the treatment regimen and health locus of control in hypertension patients.

Methods: In this study, 130 patients diagnosed with high blood pressure have been included using convenience sampling. Information has been gathered including demographic data, compliance with the treatment regimen and health locus of control. The patient's blood pressure was measured twice and the mean was compared with the first blood pressure recorded in medical records. Data were analyzed using SPSS 17.

Results: The results showed that there is a direct correlation between the adherence to the treatment regimen with internal health locus of control. In patients with internal health locus of control, better compliance with treatment regimen was detected.

Conclusion: Health locus of control is associated with treatment regimen. Considering health locus control can help nurses and managers in their health programs and also can motivate patients to participate in their self-care and improve patients care quality.

Keywords: hypertension, treatment, health, locus.

Cite this article as: Taher M, Safavi Bayat Z, Niroomand Zandi K, Ghasemi E, Abredari H, Karimy M, Abedi A.R. Correlation between compliance regimens with health locus of control in patients with hypertension. _Med J Islam Repub Iran_ 2015 (18 March). Vol. 29:194.

Introduction

Epidemiological changes leading to chronic diseases are becoming more important. Now, not only in developing countries but also in many developed countries, chronic diseases account for a major part of health problems (1). Hypertension is a chronic disease that requires lifelong self-care behaviors (2). Hypertension is a risk factor for heart and kidney diseases leads to heart attack and heart failure (3). Hypertension is one of the most important risk factors for atherosclerosis, heart failure, stroke and renal failure in many countries (4). Many people with hypertension are unaware of their condition and only one third

1. M.Sc. in Nursing, Nursing Department, Faculty of Nursing and Midwifery, Saveh University of Medical Sciences, Saveh, Iran. Tahermohammad38@gmail.com
2. (**Corresponding author**) M.Sc. in Nursing, Medical-Surgical Department, Faculty of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences, Tehran, Iran. Zahrasb16@yahoo.com
3. M.Sc. in Nursing, Medical-Surgical Department, Faculty of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences, Tehran, Iran. n.zandi@yahoo.com
4. PhD student of Biostatistics, Shahid Beheshti University of Medical Sciences, Tehran, Iran. ghasemi.erfan87@yahoo.com
5. M.Sc. in Nursing, Nursing Department, Faculty of Nursing and Midwifery, Saveh University of Medical Sciences, Saveh, Iran. hamid_abredari@yahoo.com
6. PhD of Health Education, Health Education and Health Promotion Department, Saveh University of Medical Sciences, Saveh, Iran.
7. PhD candidate in Nursing Education, Medical-Surgical Department, Faculty of Nursing & Midwifery, Arak university of Medical Sciences , Arak , Iran. abedi30@yahoo.co.uk

of the patients had normal blood pressure. Diet, smoking and medication compliance are factors affecting hypertension (5). According to reports by the World Health Organization, lack of compliance with treatment regimens is a major global concern (6). Compliance with the treatment regimen, is defined as an active process with a sense of responsibility to improve health. To ensure compliance with treatment regimen, health care providers should consider patient's beliefs as an important factor (7). Human behavior is influenced by many factors. Some events in life make patients' attitudes and behavior and some believe these events are controlled by outside troops (8). Health locus of control includes any activity that can be done to prevent health problems. Some people have an external locus of control of health, such as doctors, chance and fate responsible for their own health status. In contrast, people with the internal locus of control believe their responsibility for their health (9).

Therefore, the patient's beliefs have an effect on compliance with the treatment regimen. Locus of control is regarded as an important belief. This paper will examine the impact of beliefs on treatment regimen of patients with hypertension. The purpose of this study is to investigate the correlation between compliance to the treatment regimen with health locus of control in patients with hypertension

Methods

In this descriptive study done at Taleghani Hospital Heart Clinic, 130 patients with hypertension were selected using convenience sampling. Inclusion criteria in this study were: Hypertension diagnosed by a cardiologist, at least one medication prescribed for treatment of hypertension, three months have passed from diagnosis of hypertension. Data were collected using a questionnaire. Patients' blood pressure were controlled twice within five minutes and were recorded as mean blood pressure. The patients were asked to come back after a period of 7 to 20 days in order to monitor and record blood pressure. The mean blood pressures measured by the researcher were compared with the first blood pressure. Patient's blood pressure was recorded according to the instructions mentioned in "America Heart Association in 2010". Tools that were used in this study included: Demographic questionnaire covering 14 questions, which was made to examine the demographic characteristics, blood pressure and duration of hospital stay records. Health locus of control scale has been developed by Watson in the context of health locus of control theory in the 1970s. The scale consists of 18 items: Six items measuring internal locus of control, six items measuring powerful others locus of control, and six items measuring chance locus of control (10), Hypertension treatment regimen is a follow-up questionnaire designed in 2000 by Kim et al (11). It has 14 questions and checks three sub-scale drug regimen, follow the diet and follow the doctor's appointment (12). Reliability and validity of the questionnaire was checked by faculty members of Beheshti University of Medical Sciences. In addition, the researcher used a device to measure blood pressure with a manometer.

Statistical analysis

Data normality was confirmed by Kolmogorov-Smirnov and spearman correlation coefficient. Also, people who had a blood pressure equal to or above 140/90 were regarded as uncontrolled hypertension and people who had blood pressure below 140/90 was considered as controlled blood pressure.

Results

The results showed that there is a direct correlation between the adherence to the treatment regimen with internal health locus of control in patients with hypertension. Patients with uncontrolled hypertension have chance locus of control (p<0/001). People with internal locus of control had controlled blood pressure. In people with powerful other locus of control, the blood

2

Table1. Demographic variables and powerful, chance, internal locus of control

	Powerful other	Chance	Internal
	P-value	P-value	P-value
Sex	0/003	0/179	0/044
Education	0/486	0/024	0/001
Marriage	0/347	0/010	<0/001
Residence	0/565	0/210	0/561
Income	0/111	<0/001	<0/001
Smoking	0/010	<0/001	<0/004
Hospitalization Due To Heart Disease	0/010	<0/001	0/002

pressure was controlled. Patients with internal health locus of control had better compliance with treatment regimen. This study showed that there is a significant correlation between powerful other locus of control with age (p=0/003). It was found that women scored higher than men, meaning that women have more belief in external locus of control. People with powerful other locus of control or internal locus of control had less hospital admission. People with university education have less chance of having locus of control. In other words, the enhanced level of education reduced the rate of Locus of Control. In this study it was found that smokers had less belief in internal locus of control. Also, people who have high monthly income and are married have more internal locus of control (Table 1).

Discussion

As mentioned, health locus of control is associated with treatment regimen; so the hypothesis is confirmed. The relationship between health locus of control is different in each component. People with health locus of control do not have good compliance with treatment regimen. People with powerful other health locus of control reported better compliance with treatment regimens; as a result, they follow a treatment regimen. A study by Omeje & Nebo on patients with hypertension in 2011 found that people with locus of control are not good followers of treatment regimen (13). Based on a study by Zahednezhad et al (2011), there was a positive correlation between powerful other health locus of control and treatment compliance in patients with diabetes (14). This result is consistent with the current study.

The study by Roddenberry and Renk (2010) described that people with chance health locus of control "does not adhere to good hygiene behaviors (15). In the current study, people white chance health locus of control did not properly followed their treatment regimen and thus they had blood pressure above 140/90. Morowatisharifabad et al (2009) showed that internal locus of control is related to the level of education (16). Helmer (2012) showed individuals with chance health locus of control are heavy smokers (17) that is similar to the results of current study.

Nurses need to consider the impact of these factors that are effective education for their patients. The study may also be used in reviews, planning, implementation and evaluation. Meanwhile, involving a patient in treatment programs lead to increased quality of clinical services and satisfaction in patients. Improvement of the internal health locus of control and will have a positive impact on patients' participation in their treatment programs Health locus of control can be used as predictor of health behavior. A person who believes in his behavior and attitude plays a role in health and disease, and external factors such as luck and destiny have no role in his health. The nurse managers can plan based on internal health locus of control.

Considering these factors, can be helpful in improving the treatment regimen of patients with hypertension.

Conclusion

The results of this study showed that health locus of control is an important health indicator with great impact on the control of chronic diseases. Health locus of

control reduces the complications of disease and will lead to reduced health care costs.

References

1. Parvizi S, Sepahvand F, Sanagu A, Razzaghi N. Adolescents' health: a qualitative study on adolescents in Khorramabad. IJN. 2008;21(54):61-72.

2. Ramli A, Ahmad NS, Paraidathathu T. Medication adherence among hypertensive patients of primary health clinics in Malaysia. Patient preference and adherence. 2012;6:613-

3. Mallat SG, Itani H, Tanios B. Current perspectives on combination therapy in the management of hypertension. Integrated Blood Pressure Control. 2013;6:69-

4. Barati M, Darabi D, Moghimbeigi A, Afsar A. Self-Regulation Behaviors of Hypertension and Related Factors Among Hypertensive Patients. Journal of Fasa University of Medical Sciences. 2011;1(3):116-22.

5. Nguyen H, Odelola OA, Rangaswami J, Amanullah A. A Review of Nutritional Factors in Hypertension Management. International journal of hypertension.;2013:12 pages.

6. Nair KV, Belletti DA, Doyle JJ, Allen RR, McQueen RB, Saseen JJ, et al. Understanding barriers to medication adherence in the hypertensive population by evaluating responses to a telephone survey. Patient preference and adherence. 2011;5:195-206.

7. Schneider MP, Krummenacher I, Figueiredo H, Marquis J, Bugnon O. Adherence: a review of education, research, practice and policy in Switzerland. Pharmacy Practice. 2009;7(2):63-73.

8. Roddenberry A, Renk K. Locus of control and self-efficacy: potential mediators of stress, illness, and utilization of health services in college students. Child Psychiatry & Human Development. 2010;41(4):353-70

9. Burker EJ, Phillips KM, Giza M. Factors related to health locus of control among lung transplant candidates. Clinical transplantation. 2012; 26(5): 748-

10. Wallston KA, Wallston BS, DeVellis R. Development of the multidimensional health locus of control (MHLC) scales. Health Education & Behavior. 1978;6(1):160-70.

11. Kim MT, Hill MN, Bone LR, Levine DM. Development and Testing of the Hill-Bone Compliance to High Blood Pressure Therapy Scale. Progress in Cardiovascular Nursing. 2000;15(3):90-6

12. Lambert EV, Steyn K, Stender S, Everage N, Fourie JM. Cross-cultural validation of the hill-bone compliance to high blood pressure therapy scale in a South African, primary healthcare setting. Ethnicity and Disease. 2006;16(1):286

13. Omeje O, Nebo C. The influence of locus control on adherence to treatment regimen among hypertensive patients. Patient preference and adherence. 2011;5:141-8

14. Zahednezhad H, Poursharifi H, Babapour J. Relationship betweeh Health Locus of Control, slip Memory and Physician–Patient relationship with Adherence in Type II Diabetic Patients. Journal of Shahid Sadoughi University of Medical Sciences.2012: 20:249-58.

15. Roddenberry A, Renk K. Locus of control and self-efficacy: potential mediators of stress, illness, and utilization of health services in college students. Child Psychiatry & Human Development. 2010;41(4):353-70.

16. Morowatisharifabad M, Mazloomy Mahmoodabad S, Baghianimoghadam M, Rouhani Tonekaboni N. Relationships between Locus of Control and Adherence to Diabetes Regimen. Journal of research in health sciences. 2009;9(1):37-44.

17. Helmer SM, Krämer A, Mikolajczyk RT. Health-related locus of control and health behaviour among university students in North Rhine Westphalia, Germany. BMC research notes. 2012;5(1):703.