

Readiness of Lifestyle Modification among Hypertensive Patients in a Regional Community at Karachi, Pakistan

Authors: Hina Murad, Shazeena Virani, Abdul Rashid Khan, Muhammad Imran, Fazila Issani, Shahzeb Nazar Ali
Corresponding Authors: Sami Khokhar & Adeel Eliyas

Abstract: Introduction: According to a report from the WHO, worldwide raised blood pressure is estimated to cause 7.5 million deaths, about 12.8% of the total of all deaths. About 70 million American adults have high blood pressure that is 1 of every 3 adults⁵. The current study was conducted in Shireen Jinnah Colony Karachi Pakistan in May 2016, to assess the readiness of lifestyle modification among hypertensive patients.

Methodology: This cross-sectional study was conducted using a close ended questionnaire consisting of 12 questions. A convenient sampling technique was used (n=50). Participants diagnosed with hypertension since 2 years were included in this study. The questions were asked after taking a written consent.

Results: Out of 50 participants 20 were females and 30 were males. All of the participants were between 20 and 60 years of age. Out of 50 participants 84% respondents implement lifestyle modifications to maintain their blood pressure and only 16% respondents do not implement any lifestyle modification to maintain their blood pressure. Furthermore, 40% do not follow any specific diet. Only 38% participants said that they perform regular exercise.

Conclusion: Hypertension can be prevented and treated if people adhere to a healthy lifestyle like taking low sodium and fat diet, performing physical activities and avoiding sedentary lifestyle. Knowledge should be provided to modify their lifestyle. Controlling hypertension will also help to reduce the burden of non-communicable diseases in Pakistan.

Key Words: Awareness, Hypertension, Lifestyle Modification, Patients.

1 INTRODUCTION

Hypertension (HTN) is a term used to describe high blood pressure (BP). It is a condition that occurs as a result of repeatedly elevated blood pressure exceeding 140 over 90 mmHg whereby a systolic pressure above 140 with a diastolic pressure above 90. However, normal blood pressure is below 120/80; readings between 120/80 and 139/89 is called pre-hypertension [1]. It is a major risk factor for stroke and coronary heart disease, and is a major contributor to the onset and progression of chronic heart failure and chronic kidney failure [2].

Blood pressure is a major of two pressures i.e. systolic and diastolic pressure. Systolic pressure is the force of blood on arteries which occurs as a result of heart contraction and diastolic pressure is the force of blood on arteries as the heart relaxes. Hypertension is grouped into two main categories. These include primary and secondary hypertension. When there is no apparent cause of hypertension then the condition is called as primary, essential or idiopathic hypertension. It affects ninety to ninety five percent of persons suffering from the disease. Hypertension which occurs as a result of other medical condition or as a result of side effect of medication then it is termed as secondary hypertension which contributes five to ten percent of cases. Factors such as age, high salt in-

take, low potassium diet, sedentary lifestyle, stress as well as genes have been found as contributing to hypertension [3].

There was an estimated 972 million people with hypertension in the year 2000. 65% lived in developing world with the number predicted to grow to 1.5 billion by 2025 [4].

According to a report from the WHO (2010), worldwide raised blood pressure is estimated to cause 7.5 million deaths, about 12.8% of the total of all deaths. It is a major risk factor for coronary heart disease and stroke [5]. About 77.9 million American adults have high blood pressure that is 1 of every 3 adults [6].

The Canadian Hypertension Education Program (CHEP) recommends that Hypertensive patients and normotensive individuals at increased risk of developing hypertension consume a diet that emphasizes fruits, vegetables and low-fat dairy products, dietary and soluble fiber, whole grains and protein from plant sources and that is reduced in saturated fat and cholesterol [7].

2 LITERATURE REVIEW

The prevalence of hypertension in general population is about 20-30%. It is most common with increase of age. Patients with hypertension might have low HDL (high density lipid/good cholesterol), compromised glucose tolerance, increased triglycerides, and increased urate. These factors may lead to an increased threat of cardiovascular disease and diabetes mellitus. Individuals should be advised about lifestyle modifications to maintain or prevent the BP [8].

In a study conducted at outpatient care unit Brazil,

- Hina murad, Shazeena Virani, Abdul Rashid Khan, Muhammad Imran, Fazila Issani & Shahzeb Nazar Ali are currently doing internship of BScN in Dr. Ziauddin Hospital, North Campus, Karachi, Pakistan. E-mail: honey.solitary@gmail.com
- Sami Khokhar is an assistant professor in Ziauddin College of Nursing, North Nazimabad, Karachi, Pakistan.
- Adeel Eliyas is a senior nursing instructor in Ziauddin College of Nursing, North Nazimabad, Karachi, Pakistan.

complications of HTN were assessed among hypertensive individuals and it was discovered that the prevalence of renal failure was greater in men than women and the prevalence of stroke was greater among white men than white women. Adequate control of BP may result in the reduction of complications of HTN [9].

High blood pressure is the most common health problem in developed countries. Proper treatment of HTN and lifestyle modifications can reduce the risk of HTN complications which include heart attack, stroke, congestive heart failure, retinopathy and nephropathy [10].

A recent UK study showed that hypertension management delivered by practice nurses could provide improved clinical outcomes, where these resources are not available a physician needs to be able to give patients the basic information. The American Heart Association guidelines specifically recognize that physicians can have a powerful influence on their patient's willingness to make changes [11].

In recent study titled Chennai Urban Rural Epidemiology study, prevalence of HTN was studied among 2,350 participants. The overall prevalence of HTN in study population was 20%: 23.2% in men and 17.1% in women [12].

According to a study conducted in Finland; the lifestyle intervention based on group sessions in a rehabilitation centre setting achieved positive effects on BP of hypertensive persons and on some cardiovascular risk factors. The multidisciplinary lifestyle intervention in a rehabilitation centre setting produced significant reductions in BP among middle-aged employees with hypertension [13].

The study conducted in Olokoro, Nigeria revealed that 87.1% were unaware that regular exercise is part of lifestyle modification while 60% are unaware of the need for moderation of alcohol intake. More than 80% were unaware of the roles of vegetables, fruits, unsaturated oil and reduction in dairy food intake in the control of BP [14].

According to JNC 7 guidelines, all patients with hypertension should adopt lifestyle modification strategies regardless of whether they take antihypertensive medications. The adoption of healthy lifestyle is of critical importance for preventing and managing hypertension. The components of lifestyle modifications listed in JNC 7 guidelines are reducing weight, adopting the dietary approaches to stop hypertension (DASH) eating plan, reducing dietary sodium intake, engaging in physical activity, and moderating alcohol consumption [15].

3 METHODOLOGY

A quantitative cross sectional study design was used for this research. A non probability convenient sampling technique was used for this study. The sample size was 50. Participants diagnosed with hypertension since 2 years, above 18 years of age and able to answer were included in this study.

This study was conducted in Shireen Jinnah Colony, Karachi, Pakistan. The questions were asked by researchers after taking the written consent from participants of the study. The data collection tool was self developed, close ended questionnaire, consisting of 12 questions. The tool was reviewed by subject experts for its validity. The data was collected in the month of June, 2016. The data was analyzed by social package for statistical sciences (SPSS) version-20.

4 RESULTS

The frequency of respondents who smoked cigarette was assessed. Total 50 respondents answer this question; out of which 18% respondents smoke and 82% respondents do not smoke. This table shows that the respondents who do not smoke were greater than those who smoke.

Table-1: Have you ever smoked cigarette?

	Frequency	Percent
yes	9	18.0
no	41	82.0
Total	50	100.0

The type of diet which respondents take after having hypertension was asked from respondents. Where n=50, 10% respondents take low sugar diet, 26% respondents take low salt diet, 24% respondents take vegetarian diet and 40% respondents take no specific diet. This shows that most of the respondents, who have hypertension, do not follow low salt diet as shown below

Table-2: What is the type of diet you take?

	Frequency	Percent
low sugar	5	10.0
low salt	13	26.0
vegetarian	12	24.0
no specific diet	20	40.0
Total	50	100.0

The table-3 shows the percentage of participants who thinks that life style modifications maintain their blood pres-

sure. When n=50, 84% respondents do life style modifications to maintain their blood pressure and 16% respondents do not do any life style modification to maintain their hypertension. This shows that most of the respondents do life style modifications to maintain their blood pressure.

Table-3: Did the lifestyle modifications help you to maintain your blood pressure in normal ranges?

	Frequency	Percent
Yes	42	84.0
No	8	16.0
Total	50	100.0

5 DISCUSSION

This study assessed the practice of lifestyle modifications of patients with diagnosis of hypertension which was conducted in Shireen Jinnah Colony, Karachi. This study concluded that 82% of participants with known case of hypertension do not smoke cigarette as compared to the study of South- East Nigeria that 44.6% do not smoke to control blood pressure. Moreover, participants perform physical activity for different durations and the findings of study in Enugu Nigeria showed that 73% of respondents performed exercises from which 12.9% regularly do exercise [14].

According to a study conducted at Rajiv Gandhi Institute of Medical Sciences, lifestyle modification and utilization of DASH diet on daily basis had considerable effect on systolic and diastolic blood pressure. Lifestyle modification has vast health benefits and better outcome of chronic diseases. Similar results were obtained in our study, 84% respondents do life style modifications to maintain their blood pressure and consider it a best way to lower their blood pressure [16].

This study shows that most of the participants (84%) consider lifestyle modifications as a best way to maintain their blood pressure and similar results were present in a study conducted at South Ghana, according to which healthy lifestyle has a significant role to maintain the blood pressure. Another similar results were obtained in a study conducted at a Rehabilitation Centre of Espoo Finland, according to which there was a significant reduction in systolic and diastolic blood pressure after implementation of lifestyle changes in intervention group [13]. Furthermore, this study revealed that almost all the participants (96%) do not use alcohol and they do not

have any drug addiction which is contrary to the study of Kofi, according to which most of the participants (58%) consume alcohol.

A study conducted at USA in which various data sources were used states that lower sodium intake reduces blood pressure [17]. A minimum proportion of hypertensive patients in our study (26%) take low salt diet.

6 CONCLUSION

Hypertension can be managed by lifestyle modifications. In current study hypertensive residents of Shireen Jinnah Colony did not have sufficient knowledge about lifestyle modifications of hypertension. Effective knowledge can bring change in human behavior therefore knowledge should be provided to hypertensive patients so that they can modify their lifestyle to healthy one and maintain their blood pressure. Correct measures need to be taken from the point of diagnosis of hypertension by the members of healthcare team present in that community. Furthermore, the government and health policy makers need to assist the members of the healthcare providers in implementing effective health strategies for the prevention of hypertension so that hypertension and its complications can be controlled effectively in our environment.

CONFLICT OF INTEREST

There is no any conflict of interest in this study.

SOURCE OF FUNDING

Self.

ETHICAL CLEARANCE

This study was conducted after taking written consent voluntarily from participants of the study. The purpose, nature, benefits, confidentiality of the study was explained to participants of the study before collection of data.

REFERENCES

1. Kofi, J. O. (2011). Prevention and Management of Hypertension. Central Obstrobothnia . 1-53.
2. Kafle et. al. (2009). Lifestyle Management of Hypertension. Drug and Therapeutics Letters. 16(1), 1-4.
3. Winters, W. L. (2016). Hypertension. Encyclopaedia Britannica. Retrieved from <https://www.britannica.com/science/hypertension>
4. Kearney, P. M., Whelton, M., Reynolds, K., Muntner, P., Whelton, P. K., & He, J. (2005). Global Burden of Hypertension: Analysis of Worldwide Data. Lancet. 365, 217-223.

5. Nwankwo, T., Yoon, S., Burt, V., & Gu, Q. (2013). Hypertension Among Adults in the United States. National Center for Health Statistics. (133), 1-8.
6. Statistical Fact Sheet, 2013 Update. High Blood Pressure. (2013). American Heart Association.
7. Khan et.al. (2007). The 2007 Canadian Hypertension Education Program recommendations for the management of hypertension: Part 2 – therapy. *Can J Cardiol.* 23(7), 539-550.
8. Ng, K. H., Stanley, A. G., & Williams, B. (2010). Hypertension. Pathogenesis, Risk Factors and Prevention. *Medicine.* 38(8), 403-408.
9. Nobalt, A. C., Lopes, M. B., Lopes, G. B., & Lopes, A. A. (2004). Complications of Hypertension in a Referral Outpatient Care Unit. *Arquivos Brasileiros de Cardiologia.* 83(4), 314-319.
10. Sawicka, K., Szczyrek, M., Jastrzebska, I., Prasal, M., Zwolak, A., & Daniluk, J. (2011). Hypertension-The Silent Killer. *Journal of Pre-Clinical and Clinical Research.* 5(2), 43-46.
11. Nicoll, R. & Michael, Y. (2010). Hypertension and Lifestyle Modification. *The British Journal of General Practice* . 60(581), 879-880.
12. Trehan, N. (2013, April 11). Hypertension in South Asian Countries. Pakistan Health policy forum. *Heart File.* Retrieved from <http://www.heartfile.org/blog/1525>
13. Mattila, R., Malmivaara, A., Kastarinen, M., Kivela, S., & Nissinen, A. (2003). Effectiveness of multidisciplinary lifestyle intervention for hypertension. *Journal of Human Hypertension* . 17(3), 199-205.
14. Okwuonu C., Emmanuel C., Ojimadu N. (2014). Perception and Practice of Lifestyle Modification in the Management of Hypertension among Hypertensives in South-East Nigeria. *International Journal of Medicine and Biomedical Research* . 3(2), 121-131.
15. Chobanian et. al. (2004). The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure. U.S. Department of Health and Human Services: National Institutes of Health.
16. Prasanna, G. D., Gopinath, C., Reddy, K. B. Y., Rajasekhar, D., Chandrakanth, P & Sravanakumari, S. (2015). Effect of Lifestyle Modifications on Blood Pressure in Hypertensive Patients. *International Journal of Pharmaceutical Sciences and Research.* 6(12), 5159-5163.
17. Lenz, T., & Monaghan, M. (2008). Lifestyle Modifications for Patients with Hypertension. *Journal of the American Pharmacists Association* . 14(7), 40-50.