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ORIGINAL ARTICLE

Hypertension: Impact of Lifestyle Modifications on Blood Pressure Control

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ABSTRACT

Objective: The objective was to find out what variables and changes in lifestyle were linked to better control of blood pressure in individuals who were given antihypertensive medication.

Study Design: Cross-sectional study

Methods: Total 360 patients of both genders were presented in this study. Individual questions were used to conduct an initial assessment of the patients' lifestyles. At4,8, and 12 weeks, participants were asked to fill out a follow-up survey. After the data was imported into EpiInfo and analysed using SPSS version 24, binary logistic and multivariate logistic regression were employed to identify relevant variables.

Results: There were majority 215 (59.7%) males and 145 (40.3%) females among all cases. Mean age of the cases was 48.9 years and had mean BMI 25.7 kg/m^2. 160 (44.4%) patients were educated. 190 (52.8%) cases had poor socio-economic status. Mean duration of hypertension was 4.8 years. Approximate 33.3% of the population followed recommendations to alter their way of life. The independent factors that were found to have a significant impact on the likelihood of sticking to lifestyle modification practices were having a high level of education (AOR = 0.202 95% CI (0.079-0.358)), having a good understanding of the subject (AOR = 3.232 95% CI (1.62- 6.287)), believing in one's own abilities (AOR = 3.49895% CI (1.62- 6.287)), having a strong social support system (AOR = 8.498 95% CI (4.164- 16.274)), and having a positive relationship with one's doctor (AOR = 2.305 95% CI (1.208- 4.537)).

Conclusion: One-third of individuals adopted the lifestyle modifications. Information, self-efficacy, social support, and patient–physician relationships important. Hypertension patients should be educated and empowered to change their lifestyles by healthcare groups.

Keywords: adherence, lifestyle modification, hypertension

INTRODUCTION

One of the main causes of death worldwide, hypertension is also a key contributor to cardiovascular disease and premature death. Because hypertensive patients seldom exhibit distinct symptoms in the early phases of the condition, a proper diagnosis is often delayed until serious consequences arise. Because of a lack of knowledge and patient compliance, hypertension is especially challenging to manage well, as is maintaining treatment following a diagnosis. One of the most modifiable risk factors for cardiovascular disease and stroke is hypertension[2]. Reducing the risk of stroke by 42% and coronary heart disease by roughly 14% can be achieved with the proper management of hypertension.the third Nonetheless, hypertension and cardiovascular disease are linked to a number of lifestyle variables, including cigarette smoking, obesity, diabetes, dyslipidaemia, and others. Optimal treatment of hypertension takes into account the patient's age, sex, race, nutrition, exercise, cigarette usage, co-morbidities, use of antihypertensive medication treatment, compliance, and attainment of blood pressure control; thus, lifestyle is an important concern in hypertension management.The frequency of systemic arterial hypertension and its correlation with modifiable risk factors in young individuals were investigated by Bruno et al.[4] and colleagues[5]. High blood pressure levels were found to be mostly caused by male sex, obesity, and dietary habits; hence, these factors should be addressed by healthy lifestyle interventions.

Hypertension is on the rise for many different reasons in both industrialised and developing nations. Some of these factors include changes in the population's eating habits, an increase in the prevalence of sedentary lifestyles, a higher body mass index (BMI), and the possibility of harmful alcohol intake[6]. An rise in the prevalence of hypertension in developing country urban districts has been linked to urbanisation and the associated changes in lifestyle, such as increased intake of salt, alcohol, and fats and decreased exercise or physical activity. Approximately 13% of both men and women in Ghana experience hypertension[8]. People residing in urban regions are more prone to have inadequate management of their blood pressure, according to a new study conducted at a multidisciplinary hospital in Ghana. This finding implies that urbanisation contributes to hypertension in the nation. Previous studies in the metropolitan regions of Accra found that neither men nor women exercise very much[9].

People with hypertension have the best chance of successfully controlling their blood pressure (BP) if they begin taking medication for the condition and continue to do so consistently[10]. The availability of powerful antihypertensive medications has not eliminated the difficulty of regulating blood pressure, but[10]. People whose hypertension is uncontrolled are at a higher risk of developing cardiovascular illnesses (CVDs). The situation is exacerbated because neither awareness nor treatment rates are high compared to control levels. When medication isn't cutting it, or when a change in lifestyle isn't enough, lowering blood pressure is a top priority. Comprehensive therapy that involve lifestyle changes have been recommended to reduce mortality and disability caused by CVDs and effectively manage blood pressure[11].

Patients with hypertension benefit from moderate aerobic activity for 30 minutes every day, or 2.5 hours weekly.This may lower blood pressure by 2.5 mm Hg during diastole and 4 mm Hg during systole, according to[12]. It is important to promote a low-calorie diet, along with increased physical activity and behavioural adjustments, to patients who are overweight or obese so that they can lose weight. Cutting back on alcohol consumption is a surefire way to lower blood pressure.

An unhealthy diet is a known risk factor for hypertension, so it's important to remind people with the disease to eat less fat and saturated fat at all times[10] Ideally, we should all cut our salt intake in half, but at the at least, we should all strive to keep our daily salt consumption below 5 g (or 90 mmol). Cut out salty processed foods, snacks and takeaway if you want to cut back on salt in your diet. The same goes for salt that you add to food when cooking or

eating. Cigarette smokers with hypertension have a 2–6 times increased risk of myocardial infarction and a 3 times increased risk of stroke.

It is possible to lessen the severity of hypertension symptoms by enhancing health and reducing blood pressure through healthy behavioural changes. A patient's risk of cardiovascular issues and medication consumption can be reduced by making small lifestyle adjustments for 6-12 months if they have stage one hypertension.About 70% of hypertension patients still have uncontrollable blood pressure even after taking medication. Only 23.6% of people in the Amhara area of Dessie actually followed a program to improve their lifestyle, according to a research[10-12]

MATERIALS AND METHODS

This Cross-sectional study was conducted at Qazi Hussain Ahmed medical complex Nowshera and comprised of 360 patients. All hypertensives had chronic follow-up. All hypertension patients over 18 with six-month chronic follow-up were included. A critically ill hypertensive was excluded. The quantitative data was acquired using a conventional interviewer-administrator questionnaire. Height, weight, and other measures were obtained. Patients were only interviewed at their initial consultation for data collection. Get the patient's card number and ask if they were questioned to avoid repeat visits. Private interviews boost confidence and support. A BSc nurse oversaw the chronic follow-up unit's competent nurses' data collecting. Before collecting data, participants agreed on the study's goal. Data was entered, cleaned, and exported using Epi Info for SPSS 24.0 analysis. Data was frequency and cross-tabulated for accuracy, consistency, and no missing data. Mean and percentage were used to summarise descriptive analysis for independent and dependent (outcome) categorical variables. The independent factor-dependent variable association was determined by binary logistic regression. A p = 0.2 significance level selected variables for multiple logistic regression.Multiple logistic regression analysis checked for confounding variables and assessed the significant dependent variable's impact. The relationship's existence and intensity were assessed using odds ratios, p-values, and 95% confidence intervals.

RESULTS

There were majority 215 (59.7%) males and 145 (40.3%) females among all cases. Mean age of the cases was 48.9 years and had mean BMI 25.7 kg/m^2. 160 (44.4%) patients were educated. 190 (52.8%) cases had poor socio-economic status. Mean duration of hypertension was 4.8 years.(table 1)

Table-1: Demographics of the presented cases

Variables	Frequency	Percentage
Gender		
Male	215	59.7
Female	145	40.3
Mean age (years)	48.9	
Mean BMI (kg/m^2)	25.7	
Education status		
Educated	160	44.4
Non-educated	200	55.6
Socio-economic status		
Poor	190	52.8
Middle/high	170	47.2
Mean duration of HTN (years)	4.8	

We found good adherence of lifestyle in 120 (33.3%) cases and poor adherence in 240 (66.7%) cases.(table 2)

Table-2: Frequency of good adherence among all cases

Variables	Frequency	Percentage
Adherence		
Good	120	33.3
Poor	240	66.7

The independent factors that were found to have a significant impact on the likelihood of sticking to lifestyle modification practices were having a high level of education (AOR = 0.202 95% CI (0.079-0.358)), having a good understanding of the subject (AOR = 3.232 95% CI (1.62- 6.287)), believing in one's own abilities (AOR = 3.49895% CI (1.62- 6.287)), having a strong social support system (AOR = 8.498 95% CI (4.164- 16.274)), and having a positive relationship with one's doctor (AOR = 2.305 95% CI (1.208- 4.537)).(table 3)

Table-3: Factors Associated with Adherence to Recommended Lifestyle Modifications Among Hypertensive Patients

Variables	AOR	95% CI	P Value
Good Education	0.202	0.079-0.358	<0.001
Good Knowledge	3.232	1.59- 6.187	0.002
Self efficacy	3.498	1.62- 6.287	0.003
Good socio-economic status	8.498	4.164- 16.274	0.001
Good relation with doctor	2.305	1.208- 4.537	0.002

DISCUSSION

The purpose of the study is to examine the factors that influence hypertension patients' adherence to lifestyle changes. Among hypertension patients, 33.3% had good adherence to lifestyle modification. Factors that were substantially linked with adherence to lifestyle modification included educational status, knowledge of responders, self-efficacy, relationship support, and patient-physician relation.

About one-third of those who took part in the survey really followed through with their plans to alter their way of life, according to the results. Compared to a prior study in the Oromia special zone's Amhara area (52.7%) and the Yekatite 12 Hospital in Addis Abeba (46.4%), this result is significantly lower[14] However, this was lower in a study conducted in Nigeria (16.4%), Dessie Specialised Hospital (23.6%), and the Addis Abeba Public Hospital (23%)[17] Potential causes of the disparity include cultural differences, variances in lifestyle modification styles, exposure to lifestyle information, disparities in sample size, and other similar factors.

Although the exact processes influencing blood pressure are still a mystery, long-term aerobic exercise may have antihypertensive effects through, among other things, lowering sympathetic activity and improving endothelial function.One randomised research found that exercise training decreased muscular sympathetic nerve activity and increased baroreceptor sensitivity in patients who had recently suffered a myocardial infarction[18].The year 19 Another study found that the levels of the vasoconstrictor thromboxane fell while the levels of the vasodilator prostacyclin increased in muscle biopsies of hypertensive individuals who participated in an exercise program both before and after the program[20]

Reducing salt intake, moderate alcohol consumption, weight loss in overweight or obese individuals, and a diet rich in fruits, vegetables, legumes, and low-fat dairy products while limiting snacks, sweets, meat, and saturated fat are all dietary modifications that are known to be beneficial in the treatment of hypertension. Some people may find that changing their diet helps bring their blood pressure down as well[21]

The purpose of our study was to employ self-reported survey questions to examine the relationship between lowering salt intake and controlling blood pressure. Reducing sodium consumption lowered blood pressure in people who were not severely sick, according to Aburto et al.[22]. This intervention had no negative impact on blood lipids, catecholamine levels, or renal function. Lowering sodium consumption was associated with lower blood pressure in children, according to moderate-quality evidence. Adults whose sodium consumption was lower had a lower risk of stroke and coronary heart disease, two leading causes of death.[22] Nearly four times as many people who scored higher on the self-efficacy scale as those who scored lower were able to maintain their healthy lifestyle improvements. This study's findings showed

believers had a fourfold higher likelihood of having high self-efficacy than low levels are in line with earlier research emanating from Addis Abeba[23] The The The thinking behind this could be that those with a strong sense of self-confidence are more inclined to follow through with the suggested lifestyle modifications.

Strong social support from friends, family, and neighbours increased the likelihood of plan adherence by eight times compared to participants with limited social support. Strong social support enhances the chance of adherent behaviour by a ratio of eleven, according to a study done in Addis Abeba. That conclusion is supported by these findings[23] The The A patient's mental and physical health may benefit from this social support system if it helps pay for necessary medical expenses, encourages family members to follow the prescribed salt-free diet, and lessens the impact of unneeded outside influences, such as prejudice and misinformation, on the patient's lifestyle choices.

CONCLUSION

One-third of individuals adopted the lifestyle modifications. Information, self-efficacy, social support, and patient–physician relationships important. Hypertension patients should be educated and empowered to change their lifestyles by healthcare groups.

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