Knowledge, Attitudes and Practice of Non Pharmacologic Therapy among Hypertensive Patients in Bishoftu, Ethiopia

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Abstract

Back ground: Non-drug therapy of hypertension is needed more than ever but its application remains much below optimum. It's unknown whether patient's has good knowledge, attitude and practice of non pharmacological treatment to control their hypertension. **Study objective:**   This study was conducted from March, 2014 to May, 20014 to assess the knowledge, attitude and practices of hypertensive patient on life style modification to control hypertension at Bishoftu General Hospital. **Methodology:** Patients with hypertension (n=60) identified from a cohort of patients attending the outpatients department of Bishoftu Hospital, a general hospital situated in the town of Bishoftu, and then invited to participate in the study. A prospective cross sectional descriptive study design was used to determine the knowledge, attitudes and practices of these patients with respect to importance of lifestyle modification in the management of hypertension. This was achieved by either administering a questionnaire or making interview. A descriptive and inferential statistical method was employed to analyze the data. **Results:** The largest number of respondents fell in the 45-60 year old age groups (48.3%). Females (53.3%) made up a significant majority of the study population. One point seven percent (1.7%) of the respondents ate fried meat regularly, 18.3% consume salt regularly, while 3.3% ate beef, pork and lamb regularly. The significant number of participants led sedentary lifestyles according to the physical activity score, with 33.3% having little or no activity. At the time of the study 70% had blood pressure (BP) levels above 140/90 mmHg with only 51.7% knowing what their normal BP should be. 65% believed that exercise lowers BP and 55.0% believed that a balanced diet is important in controlling hypertension while 85% knew that adding salt to food affects BP. 73.3% believed that alcohol affects blood pressure and also 56.7% believed smoking affects BP. Physician advice provision were assessed; accordingly percentage of patient received advice are: 90% on salt, 58.3% on alcohol, 50% on exercise, 46.7% on smoking and finally 41.7% on balanced diet. **Conclusion:** The results of this study suggest that although patients do receive advice on lifestyle modification, it is not enough and effective in changing patient behavior, knowledge and practice. Therefore, the clinicians should give adequate time to provide relevant information on the value of life style modification in the control of their blood pressure.

Keywords: hypertension, life style, knowledge, attitude, practice

Introduction

Hypertension remains a major global public health challenge as the leading risk factor for cardiovascular morbidity and mortality [1]. The estimated total number of adults with hypertension in 2000 was 972 million; 333 million in economically developed countries and 639million in economically developing countries. The number of adults with hypertension in 2025 will be expected to increase by about 60% to a total of 1·56 billion [2].

It has been suggested that the prevalence of cardiovascular disease and hypertension is increasing rapidly in sub-Saharan Africa [3, 4]. According to WHO data HTN deaths in Ethiopia reached 9,743 or 1.190/0 of total deaths. It holds 13th rank among top 20 cause of death in Ethiopia. In the case of Bishoftu General Hospital, total number of hypertensive patients is 684 according to data obtained from the hospital record office. The current prevalence in many developing countries, particularly in urban societies, is said to be already as high as those seen in developed countries. The higher prevalence of hypertension in urban areas compared to rural areas strongly implicates differences in lifestyle as an explanatory factor. Higher levels of obesity and increased salt and fat intake from consuming more processed foods and engaging in jobs with minimal physical activity are likely explanations for higher hypertension in urban populations [4, 5].

Appropriate lifestyle changes often called non-pharmacological approaches are the cornerstone for the prevention of hypertension. They are also important for its treatment, although they should never delay the initiation of drug therapy in patients at a high level of risk [3,6,7]. Appropriate lifestyle changes may safely and effectively delay or prevent hypertension in non-hypertensive subjects, delay or prevent medical therapy in grade I hypertensive patients and contribute to blood pressure (BP) reduction in hypertensive individuals already on medical therapy, allowing reduction of the number and doses of antihypertensive agents [4]. Beside the BP-lowering effect, lifestyle changes contribute to the control of other CV (cardiovascular) risk factors and clinical conditions [8, 9]. The recommended lifestyle measures that have been shown to be capable of reducing BP are: (i) salt restriction, (ii) moderation of alcohol consumption, (iii) high consumption of vegetables and fruits and low-fat and other types of diet, (iv) weight reduction and maintenance and (v) regular physical exercise[5]. In

addition, insistence on cessation of smoking is mandatory in order to improve CV risk [6]. These approaches are known to have no adverse effects and are less expensive than pharmacological therapy.

In spite of emerging empirical evidence of the efficacy of life style modification in blood pressure control, little is known about knowledge, attitude, and awareness of patients with hypertension to implement these lifestyle modifications in Ethiopia. Therefore, this study assessed knowledge, attitude and practice of lifestyle modification for BP control among patients with hypertension in Bishoftu general Hospital.

Methods
Study Design and study Area
A cross-sectional descriptive study design was used to assess knowledge, attitudes, and practise of hypertensive patient who attend OPD clinic of Bishoftu hospital with hypertensive case with respect to the importance of lifestyle modification in the management of hypertension. The study was conducted at Bishoftu hospital, a general hospital in the town of Bishoftu, located 47.9km south east of Addis Ababa a capital of Ethiopia.. A total of 60 hypertensive patients who were receiving treatment at the hospital over a period of 2 month (March to April 2014) were recruited based on the flow rate of patients during the study period.

Data Collection tools and Procedure
The data was collected using semi structured questionnaire and interview with respect to the importance of lifestyle modification in the management of hypertension. The knowledge, attitude and practice questionnaire was pretested on patients in a similar set up who were not the part of the study and modified as necessary for clarity, sensitiveness and completeness. The questionnaire has four parts. Part I sought information on demographics such age, gender, race, education level and employment status. Part II sought information on physical exercise. Part III sought information on lifestyle, and part IV knowledge, attitudes and perceptions of the patients on hypertension and life style change role in management of hypertension.

A scoring system was developed for each knowledge, attitude and practice questions. The knowledge part of the questionnaire has 6 questions. The practice part of the questionnaire has 6 questions. Three categories were defined on the bases of the score obtained by each participant; yes for those who know or advised and No for those who believe no or didn't get advice, while I don't know for those who don't know.

Data Analysis
The questionnaires were coded and analysed with SPSS version 16.0 (Statistical Program for Social Sciences). The quantitative data were summarized using frequency and cross tabulations. Association between dependent and independent variables was assessed using Chi square test. A p value equal or less than 0.05 was considered as statistically significant.

Ethical clearance
Patients identified as hypertensive were either given a patient information sheet inviting them to participate in the study or asked orally to participate in study.

Results
Socio-demographic characteristics
In this study sixty patients with hypertension were identified and interviewed through questionnaire administration. From the total of 60 patients a response rate of 100% was achieved. The largest number of respondents fell in the 45-60 age groups (48.3%). On the basis of ethnic composition, the majority of the interviewed respondents were Oromo ethnic group (60%), followed by Amhara (30.0%) and others 10% were from different type of ethnic group. A majority (43.3%) of the respondents had schooling below high school level; with only 10% having received high school education and 28.3% had either Diploma or Degree while 18.3% are not educated (Table 1).

Physical exercise
Assessment of the level of patient physical activity on the basis of walking briskly or running revealed that 33.3% of the patients reported to practice "little or no activity", while 15.0% reported occasional activity and about 51.7% walked briskly or run three or more times a week. Forty eight percent (48.3 %) reported that their daily activities involved walking or some other forms of exercises. However, 31.7% of the respondents primarily spent their days sitting. Forty five percent (45%) also reported that they never take part in any vigorous exercise, whereas 15% engaged in vigorous exercise between three and five times a week and 13.3% six or more times a week. Patients who walk or do other exercise lead by 48.3%, while those who sit follow by 31.7% on their basis of daily activity (Table 2 and figure 1).

Nutritional Information

When respondents reported about their daily diet, 26.7% of respondents did not eat cheese and eggs at all, and 16.7% ate them rarely, and 3.3% regularly. Respondents who ate fried meat regularly were 5%, 16.7% occasionally and 26.7% rarely. With fish, a vast majority (95%) ate this rarely or not at all, with only 3.3% eating fish regularly. 3.3% of the respondents ate poultry on a regular basis. 3.3% have beef, pork and lamb on a regular basis and 18.3% cooked food with salt regularly and 80% avoid adding salt to their food. The alcohol intake results indicated that 26.7% of respondents drank alcohol, with 20% having 1-2 drinks per day and 6.7% having more than 3 drinks per day.

Stage of hypertension and comorbid condition

The stage of hypertension of the respondent is depicted in table 3. Accordingly one third of the patients are on stage 1and there are also patients at stage urgency (13.3%). Among patients involved in this study 28.3% was with comorbid disease like renal disease, diabetes mellitus, and peptic ulcer disease.

Among respondent asked to tell about their weight and height only 23.3% knows their weight and height correctly and 23.3% knows their weight only while 1.7% knows their height. Current medication prescribed were assessed and thus medication prescribed from ACE inhibitor group (Enalapril and Captopril) lead with Vasodilator group (Nifedipine) by 43.3% each and followed by Diuretics (Hydroclorthiazide and furosemide) 31.7%, β-blocker (Atenolol) 15% and finally centrally acting (methyldopa)1.7%. Notable these drugs were prescribed either alone or in combination but counted individually.

Knowledge, attitude and practices of patients about BP and exercises

Patients were assessed about their Knowledge, attitude and practices of exercises for reduction of blood pressure. Majority of patients believe (65%) physical exercise has a role in regulation of blood pressure. However, forty three percent of the patients didn't get advice from health care professional (table 4).

Knowledge, attitude and practices of patients on salt, alcohol and smoking

As shown in table 5 majority of the patient believe that adding salt to the diet affects blood pressure. Similarly about seventy three percent and fifty six percent of patients believe alcohol and cigarette smoking can affect their blood pressure. However, the information health care profession provided for them vary, high for salt and less for the others.

Chi square and level of significance between independent and dependent variable

The effect of three independent variables were observed i.e sex, age and Employment status on dependent variable like overall physical activity practice, knowledge of salt, and alcohol effect on BP as depicted on Table 6. Consequently, respondent's age and employment status significantly affect knowledge and believe wether this variable affect BP. In addition, practices of overall physical activity were significantly affected by sex distribution in society.

Discussion

This cross-sectional descriptive study was conducted at Bishoftu General Hospital to assess the current knowledge, attitudes and practice of hypertensive patients with regard to the importance of lifestyle modification in controlling their hypertension. Knowledge, attitude and practice were assessed from administered questionnaire. The gender based prevalence of hypertension was 46.7% in male and 53.3% in female. This outcome is similar in gender distribution with many other researches in which female hypertensive patient account more as they are: less involved in activity, have high stress and work burden. Moreover, patient aged between 45-60year lead in number among interviewed individuals.

The results suggest that patients are not well knowledgeable about hypertension in general and the lifestyle modifications required controlling it. However, less than 57.7%, on average, reported having received such advice in lifestyle modification from medical professionals usually spending less than five minutes while significant number (33.3%) didn't receive any advice. Reduced salt intake advice was reported most frequently (90%), followed by reduced alcohol intake (58.3%), exercise advice (50%) and smoking (46.7 which is in contrast to the Oliviera, et al[10]. study conducted in America where exercise advice was reported most frequently (75%), followed by advice to reduce salt intake (69%), change eating habits (62%), and reduce alcohol intake (44%). Though in this study 57.7% of the patients were told about lifestyle change, very little detail was told with respect to counselling regarding how to do about these lifestyle changes; even only 23.3% patients know their BMI (body mass index) and out of this 57.1% are obese or have high BMI. So this study shows most of the respondents' lead sedentary life that did not know their weight. The reason behind may that physician didn't consider that peoples life styles are on change proportionally with country's progress and accordingly life style change that should be advised didn't updated ; Thus sedentary life and proper diet among patients didn't

considered as major problem in controlling hypertension[11].

The effect of reduced dietary salt on CVD events remains unclear, [12] although the long-term follow-up of the Trials of Hypertension Prevention (TOHP) trial showed a reduced salt intake to be associated with lower risk of CV events[13]. According to this study most patient (85%) believe that dietary salt restriction reduce blood pressure and 90% of them were advised by health professional. So Health professional should have rather advised patients about another risk factor that affect blood pressure greatly.

Regular alcohol use raises BP in treated hypertensive subjects while moderate consumption may do no harm; the move from moderate to excessive drinking is associated both with raised BP and with an increased risk of stroke[14]. In this study 73.3% of patient did know that too much alcohol increase blood pressure; among this 58.3% are informed by health professionals. Seventy three point three percent (73.3%) of respondent don't drink alcohol while the remaining patients used it 1-2 drink per day on average. Consequentially, this may be due to the fact that in society it is believed that 1-2 drink per day doesn't affect BP or even it's good for BP reduction. Moreover the respondent recruited in this study are 53.3% female and females consume alcohol less according to cultural of study area.

Although there is lack of epidemiological evidence implicating smoking as a cause for hypertension, smoking is an important risk factor leading to increased morbidity and mortality in hypertensive patients. Smoking independently raises BP, although epidemiologically the relationship between smoking and hypertension is often confounded by other factors such as alcohol consumption and lower consumption of fruits and vegetables (anti-oxidants) amongst smokers than non-smokers[15]. Knowledge and attitude of patient related to smoking is appreciable (56.7%) though significant number of respondent (26.7%) didn't know the relation between the two variables. Practically 93.3% of respondent involved in this study didn't smoke this shows that they avoid one of important and detrimental risk factor that cause CVD.

Conclusion

Diet and lifestyle modifications are universally accepted as a very important aspect for not only management of hypertension but for prevention of hypertension. All hypertensive patients irrespective of the severity should follow the instructions regarding diet and lifestyle modifications. The findings in this study suggest that there is inadequate levels of knowledge and practice of non-drug intervention to achieve the ultimate goal of improving health by controlling hypertension. Therefore, patient education should be strengthened on the importance of both non-drug and drug control of hypertension.

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Table 1: The socio demographic characteristics of respondents

Questions		Frequency	Percent
Sex	Male	28	46.7
	Female	32	53.3
	Total	60	100
Age in year	<18	1	1.7
	18-30	1	1.7
	31-45	12	20
	46-60	29	48.3
	>60	17	28.3
	Total	60	100
Race of Respondent	Oromo	36	60.0
	Amhara	18	30.0
	Tigre	1	1.7
	SNNP	3	5.0
	Other	2	3.3
	total	60	100
Educational level of patients	No education	11	18.3
	Grade 1-8	26	43.3
	Grade 9-12	6	10.0
	Diploma	10	16.7
	Degree or more	7	11.7
	Total	60	100

Table 2: The physical activity pattern of respondent

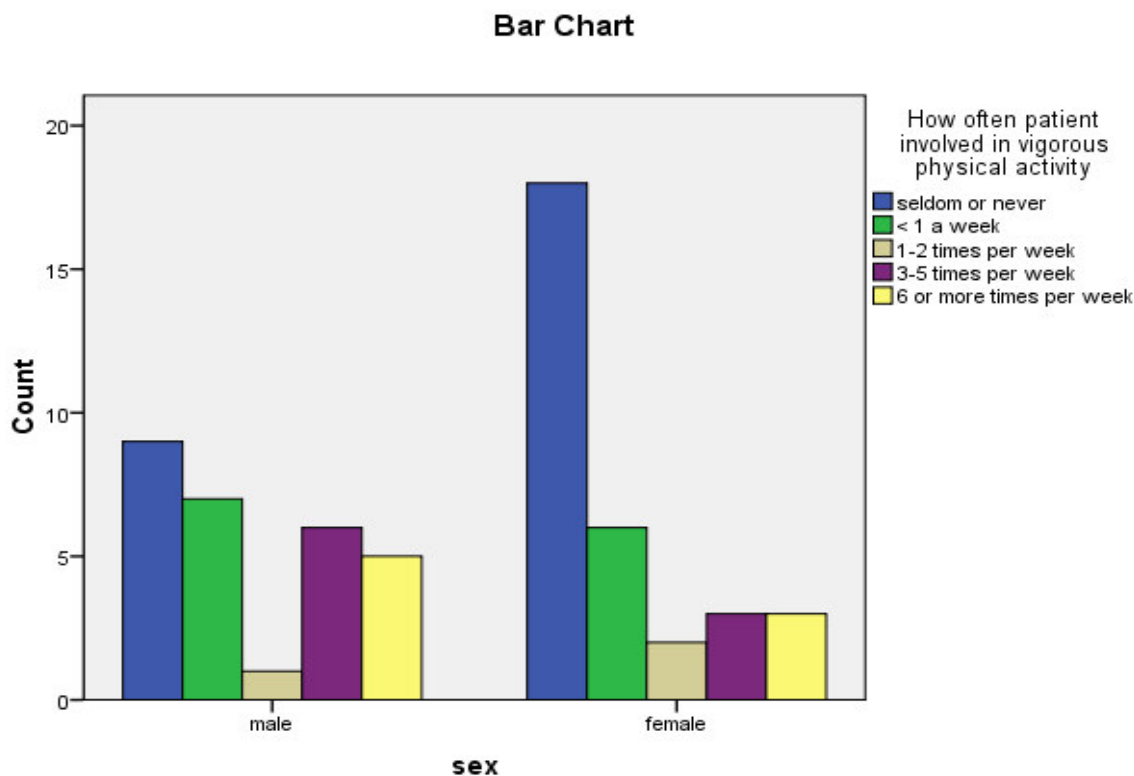|	Overall physical activity rating by walking briskly and running			
	Little or no	occasional (at least 3 times per week)	regular	total
Male	5 (8.3%)	7 (11.7%)	16 (26.7%)	28 (46.7%)
Female	15 (25.0%)	2 (3.3%)	15 (25.0%)	32 (53.3%)
Total	20 (33.3%)	9 (15.0%)	31 (51.7%)	60 (100.0%)

Bar Chart

Figure 1: the level of respondent physical activity per week

Table 3: Duration, comorbid condition and stage of hypertension of respondents

Questions		Frequency	Percent
Is there other chronic disease you suffer?	Yes	17	28.3
	No	43	71.7
	Total	60	100
Duration since hypertensive	0-5 year	36	60
	6-10year	13	21.7
	>10 year	11	18.3
	Total	60	100
What's your current BP reading?	Prehypertensive	10	16.7
	Stage1	20	33.3
	Stage 2	18	30.0
	urgency	4	6.7
	I don't know	8	13.3
	Total	60	100

Table 4: KAP of patients about blood pressure and exercise

Questions		Frequency	Percent
What's your ideal BP?	correct	31	51.7
	incorrect	10	16.7
	I don't know	19	31.7
	Total	60	100
Who advised on how to exercise?	No one	26	43.3
	Doctor	30	50
	Experience	4	6.7
	Total	60	100
Believe wether exercise reduce BP	Yes	39	65.0
	No	5	8.3
	I don't know	16	26.7
	total	60	100
Time spent by health professional to advice patient	None	20	33.3
	<5 minute	21	35
	5-10 minute	15	25
	>10 minute	4	6.7
	total	60	100

Table 5: KAP of patients on salt, alcohol and smoking

Questions		Frequency	Percent
Do you think adding salt affect BP?	Yes	51	85
	No	3	5
	I don't know	6	10
	total	60	100
Did HP teach you about danger of too much salt?	Yes	53	90
	No	7	10
		60	100
	Total		
Do you think alcohol affect BP?	Yes	44	73.3
	No	4	6.7
	I don't know	12	20.0
	Total	60	100
Did health professional teach you about too much alcohol?	Yes	35	58.3
	No	25	41.7
	Total	60	100
Do you think smoking affect BP?	Yes	34	56.7
	No	10	16.7
	I don't know	16	26.7
	Total	60	100
Did health professional teach you about danger of smoking?	Yes	28	46.7
	No	32	53.3
	Total	60	100
Do you smoke?	Yes	4	6.7
	No	56	93.3
	Total	60	100

Table 6: Chi square and level of significance between independent and dependent variable

	χ^2 and p-value between the variables			
Demographic variable	Overall physical exercise χ^2(p-value)	Salt χ^2(p-value)	Alcohol χ^2(p-value)	Smoking χ^2(p-value)
Sex	7.577(0.023)	0.244(0.885)	2.176(0.338)	1.257(0.534)
Age	13.772(0.088)	24.921(0.002)	18.621(0.017)	10.936(0.205)
Race	9.726(0.285)	6.16(0.629)	10.152(0.255)	8.86(0.354)
Marital status	3.601(0.731)	3.289(0.772)	2.302(0.890)	9.611(0.142)
Educational level	6.779(0.561)	8.485(0.388)	7.218(0.513)	11.918(0.155)
Employment status	17.546(0.025)	9.982(0.266)	7.55(0.479)	15.976(0.043)