



THE STUDY OF ASSOCIATION BETWEEN HYPERTENSION AND LIFESTYLE MODIFICATIONS IN NON-PREGNANT FEMALES VISITING MEDICAL OPD IN DHQ HOSPITAL GUJRANWALA

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Abstract:

Introduction: Increasing prevalence of hypertension is of serious concern as it is associated with increase morbidity and mortality. DASH (dietary approaches to stop hypertension) and physical activity have an important role in management of this disease. Females in our country are generally underestimated in clinical setup so we chose them for study. Prior studies emphasize on lifestyle changes but do not explore the reason why most of the patients don't follow these modifications. This study will help to find those reasons.

Materials and methods: A cross sectional study was done among randomly selected 100 non-pregnant females visiting medical OPD, DHQ hospital Gujranwala. Data was collected on a questionnaire and analyzed by using SPSS package version 21.

Results: Results of the study show that most of the patients do not follow lifestyle changes because of their own negligent behavior. In addition to this other factors such as any comorbid condition, poor socioeconomic status, psychological issues and low literacy are also responsible.

Conclusions: Literate females can better follow lifestyle modifications as compare to illiterate females.

Key words: Hypertension, females, lifestyle modifications, effect of literacy.

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INTRODUCTION:

Hypertension is a major contributor and leading cause of morbidity and mortality because of its strong association with cardiovascular diseases, stroke and renal failure [1]. Hypertension is defined as mean systolic blood pressure (SBP) \geq 140 mmHg and a mean diastolic blood pressure (DBP) \geq 90 mmHg [2]. Broadly we classify hypertension in two groups. Primary, in which etiology of disease is not known, and secondary, that is because of some renal disease, pheochromocytoma, aldosteronism and other causes [3]. As far as management and treatment of hypertension is concerned, lifestyle modifications have an important role. DASH (Dietary Approaches to Stop Hypertension) diet [4] and exercise are now considered as having a significant role in controlling this disease. In addition to these many individuals require antihypertensive drugs like ACE Inhibitors, diuretics, calcium channel blockers to maintain their blood pressure within an acceptable range [5][6].

Worldwide, hypertension is one of the major causes of death among females. Females are usually underestimated in clinical setups and are generally less adherent to drug therapy and in adapting lifestyle changes [7]. Because of these gender differences we chose female population for our study.

Globally, in 2000, 26.6% of males and 26.1% of females were suffering from hypertension and it is

expected that this prevalence will increase up to 29.0% in males and 29.5% in females by 2025 [8]. In Pakistan, overall prevalence of hypertension was 26% in 2002, the prevalence among males was 34% and among females, it was 24%. [9].

Prior studies on hypertension mainly focused the effects of lifestyle modifications in prevention and control of the disease but they don't tell why hypertension is prevailing inspite of emphasis on the modifications as well as drug therapy. So we opt this study to try to dig out the reasons why patients don't follow these simple lifestyle changes even after diagnosed as hypertensive, whether there is lack of information or negligence in patient's behavior.

MATERIALS AND METHODS:

A community based cross sectional study was conducted among 100 females visiting Medical OPD DHQ Hospital Gujranwala in June 2015. Random sampling was done. Non pregnant females of age group between 30 – 81 years were selected and pregnant females, males were excluded from our study. Only the females who responded were included and those who did not respond were excluded. Self-structured questionnaire consisting of demographic profile and 13 questions was used for data collection. Patients were informed about all the research process, verbal consent was taken and a self-administered questionnaire was filled. Data was analyzed by using SPSS package version 21.

RESULTS:

Table 1: Demographic profile of sample population (n=100)

Variables	Percentage
Age	
< 45 years	31 %
46 – 60 years	51 %
> 60 years	18 %
Educational Status	
Formal education	51 %
Illiterate	49%
Occupation	
House wife	81 %
Work outside	19 %

Table 1 shows demographic profile of sample population. Among 100 females 31% lie in age below 45 years, 51% females fall in age between 46 to 60 years, 18% were having age greater than 60 years. 51% females had formal education whereas 49%

females were illiterate. As far as the occupation of female is concerned, most of the females (81%) were housewives and the rest of the females (19%) were doing some job.

Table 2: Response of patients towards the lifestyle interventions

Lifestyle Interventions	Response of patients yes	Response of patients No
Reduction in salt intake	55 %	45 %
Reduction in saturated fat intake	23 % (out of 50 % who used to take fat)	29 % (out of 50 % who used to take fat)
Increase in fruit, salad, vegetable intake	40 %	60 %
Beef intake	36 %	64 %
Exercise	28 %	72 %
Reduction in smoking	2 % (out of 9 % who used to smoke)	7 % (out of 9 % who used to smoke)
Blood Pressure checkup	58 %	42 %
Medication	54 %	46 %
Follow-up	38 %	62 %

Table 2 shows response of patients towards adaptation of lifestyle changes to regulate their blood pressure. Out of 100 females of sample population, 55% reduced salt intake, 40% increased fruit salad and vegetable intake, 28% females were having some physical activity / light exercise, 58% used to check their blood pressure, 54% took their medication regularly and only 38% were visiting their physician for follow-up whereas 62% and 46% females were

not having follow-up and medication respectively. Out of 50% females who used to take saturated fat in any form before being diagnosed as hypertensive, only 23% reduced this intake while 29% did not stop taking saturated fat. Among 100 females only 9% used to smoke before they diagnosed as hypertensive. Out of those 9% only 2% stopped smoking whereas 7% continued to smoke even after diagnoses.

Table 3: Response of Educated & Illiterate Females towards the lifestyle interventions

Lifestyle Interventions	Response of educated females		Response of illiterate females	
	Yes	No	Yes	No
Salt reduction	30 %	21 %	25 %	24 %
Increase in fruit, salad, vegetable intake	27 %	24 %	13 %	36 %
Exercise	20 %	31 %	8 %	41 %
Blood Pressure checkup	30 %	21 %	28 %	21 %
Medication	33 %	18 %	21 %	28 %
Follow-up	23 %	28 %	15 %	34 %

Table 3 shows the effect of education on adapting lifestyle modifications. The study shows that the

females who were having some formal education can better understand and manage their disease by

following lifestyle changes and their physician's advice as compared to illiterate females.

DISCUSSION:

In our study we found the reasons why patients do not follow lifestyle modifications to control their blood pressure. These reasons are discussed as follow:

Reasons for not reducing salt intake (n=45): Out of 45 females who did not reduce salt intake, 23 (51%) had negligent behavior towards themselves, 17 (37%) did not reduce because of taste of tongue, 2 (4.4%) can't afford separate cooking and 3 (6.6%) denied from having hypertension (HTN).

Reasons for not reducing saturated fat intake (n=50): 18 (36%) had negligent behavior, 6 (12%) did not reduce due to taste of tongue and 5 (10%) could not afford vegetable oil.

Reasons for not increasing fruit and salad intake (n=60): Most of the patients 55 (91.6%) were having poor socioeconomic status and could not afford fruit 3 (5%) were diabetic and 2 (3.3%) were having dental problem.

Reasons for not doing exercise (n=72): 33 (45.8%) were having negligent behavior, 12 (16.6%) complaint of breathlessness, 14 (19.4%) were having musculoskeletal disorders, 12 (16.6%) complaint of fatigue due to hectic routine, 1 (1.3%) said that there is no proper place to do exercise / walk.

Reasons for not reducing smoking (n=7): 5 (71%) were addicted to this habit and 2 (28.5%) complaint of indigestion on leaving smoking.

Reasons for not checking blood pressure (n=42): 26 (61.9%) were showing carelessness, 12 (28.5%) complaint of having no source of checkup and 4 (9.5%) denied from having the disease.

Reasons for not taking medicine (n=46): 9 (41.3%) could not afford, 13 (28.2%) had negligent behavior, 10 (21.7%) complaint of side effects and 4 (8.69 %) showed denial.

Reasons for not having follow-up (n=62): 37 (59.6%) had negligent behavior, 8 (12.9%) had poor socioeconomic status, 8 (12.9%) complaint of difficulty in traveling, 4 (6.45%) showed denial, 3 (4.83%) were afraid off doctors and 2 (3.2%) complaint of workload and fatigue.

WHO and European & Finnish national guidelines on the management of diabetes and hypertension put particular emphasis on lifestyle modifications to control blood pressure [10][11][12]. Lifestyle

interventions have a very important role in the management of HTN and sometimes, particularly in early cases, they are very effective in controlling blood pressure even without medication if followed strictly as told by the physician. Studies show that there is no instant response of these interventions rather these should sustain for at least four weeks to be effective [13][14][15][16]. One important factor that has a key role in the management of HTN is education/literacy skills of the patient that a physician must know. Various literature show that literacy is one of the key component for HTN control, disease self-management and patient's adherence to the medication and follow-up and this fact is supported by our study. But one thing should be taken into account that it is not only the negligence on the patient side but it has been seen that there is also some lack from physician side. They should properly educated their patients however physicians are often not aware of patients literacy skills [17][18][19][20]. These literacy skills can be measured in the health care setting by research tools like Rapid Estimate of Adult Literacy in Medicine (REALM) or Short Test of Functional Health Literacy in Adults (STOFHLA) [21][22]. But unfortunately in our country neither the WHO guidelines on management of hypertension are usually followed nor are the literacy skills of the patients judged effectively. So if we take measures to educate our females about their health it would definitely help to control the disease as the increasing prevalence of hypertension is a serious concern today because of its association with cerebrovascular diseases, stroke, renal failure and peripheral vascular disease [23].

CONCLUSIONS:

Our study supports the previous studies about relationship between literacy and control of chronic diseases like hypertension. We conclude from our study that educated females can better cope with their disease by adopting lifestyle interventions as well as adherence to the medications as compared to illiterate females.

Limitations: The study has several limitations. Sample population includes only non-pregnant females, sample size is very small, only the diagnosed cases of hypertension have been taken, only the females visiting District Head Quarter hospital have been selected for study and most of the sample population belongs to urban area. So these limitations must be considered when applying these findings and generalizing them.

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