

# ASSESSMENT OF HYPERTENSION AMONG THE PATIENTS FROM DISTRICT PESHAWAR WITH REFERENCE TO THEIR AWARENESS LEVEL AND EDUCATION

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## ABSTRACT

**OBJECTIVE:** The present study assess the frequency of hypertension among various groups in District Peshawar with particular reference to their awareness level about hypertension and role of education in the control of disease.

**STUDY DESIGN:** A cross sectional study.

**PLACE AND DURATION:** The study was conducted from 5<sup>th</sup> March, 2013 to 22<sup>nd</sup> January, 2014 at the Department of Rural Sociology, University of Agriculture Peshawar, Pakistan.

**METHODOLOGY:** The data were collected through structured questionnaire (mainly) from 298 hypertensive patients from 1<sup>st</sup> May to 15<sup>th</sup> June, 2013. The results were drawn after the analysis of data through frequencies, percentages and chi-square statistics.

**RESULTS:** The study found prevalence of hypertension was on rise and reported high among the families that had hypertension history (83%), along with the persons who were more males (57.7%) than females (42.3%), living in rural areas (79.5%), illiterates (47%) or had education up to intermediate or higher level (22.8%), married (74.2%), and had 40.86 years average age. At the same time, a highly significant association (0.000) of hypertension was found with awareness about hypertension which included knowledge about hypertension, its signs, symptoms, causes and precautions of disease in connection with awareness about disease. In case of education, higher level of education was again found significantly associated with knowledge and precautions about hypertension.

**CONCLUSIONS:** The frequency of hypertension is high among patients of all groups studied. Even the awareness about hypertension and education of patients having very little impact in the control of disease.

**KEY WORDS:** Hypertension, Education, Awareness

## INTRODUCTION

Hypertension is a most common disease throughout the world. Around one billion people globally have the hypertension.<sup>1</sup> Two third of this lives in the developing countries. It causes not only high risk for premature cardiovascular diseases but also the major cause of death of around 8 million people around the world. Around 54 percent of all strokes and 47 percent of ischemic heart diseases are also due to hypertension.<sup>2</sup> A 62.3 percent increase in deaths caused by hypertension has been found from 1990 to 2013.<sup>3</sup> World Health Organization estimated around 1.56 billion adults will be living with hypertension by 2025.<sup>4</sup> This made hypertension as one of the five foremost dangers to human life on earth. The deaths result due to cerebrovascular accidents are about 51 percent whereas the same due to heart attack are 45 percent. Both are attributed to hypertension or high blood pressure.<sup>5</sup> Hypertension is basically a state which describes the upper called systolic and lower limit

called diastolic of blood pressure needed to lead a normal life. In medical science, high blood pressure is a condition when the blood pressure of an adult is persistently at or more than 140 mmHg in case of systolic and 90 mmHg in connection with diastolic at least on two separate occasions.<sup>6-8</sup>

Hypertension is generally called a disease of developed world and well off families, however, it is also increasing at a faster rate in developing countries and in poor families with the passage of time. Asia is no exception in the prevalence of this disease, where it is high as 35 percent.<sup>9</sup> Like other countries, hypertension is a serious problem in Pakistan, as mostly it is not only uncontrolled but there is also no awareness about the disease among the very large majority of the people particularly the illiterates and rural. Those who got control on the disease to some extent are 12.5 percent only. Access to medical facilities is a major issue for the majority population in Pakistan. Those who have medical facility available in a range of 5 kilometers are 30 percent only. The ratio rise further when we move towards rural and hilly areas. A very large majority of population in such areas do not have even knowledge about hypertension rather than its causes, symptoms, and precautions.<sup>10,11</sup> The present study assess the frequency of hypertension among various groups in District Peshawar with particular reference to their awareness level about hypertension and role of education in the control of disease.

## METHODOLOGY

It is a cross sectional study based on data collected from hypertensive patients of Hayat Abad Medical Complex (HMC) Peshawar. Being the major hospital in the province, HMC was one of the places from where one can access the patients from the whole District Peshawar. Those selected for the study were

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patients who had hypertension or hypertension related diseases had more than 20 years of age and were admitted or visited the hospital at the time of the survey i-e from May 1<sup>st</sup>, 2013 to June 15<sup>th</sup>, 2013. Data were collected through structured questionnaire which contained some personal open-ended questions also. The questionnaire was designed on the basis of literature review and pre-tested before final data collection. The prevalence of hypertension in questionnaire was measured through the questions relating to age, sex, area of residence, marital status, hypertension history in the family and education of the sampled hypertension patients whereas awareness about hypertension was probed through respondents knowledge about hypertension, its signs, symptoms, causes and precautions. The questions relating to education dealt with respondents' perception about role played by education in getting knowledge and consciousness about blood pressure.

A sample size of 298 was determined from an average number of 1300 patients per month by applying the procedure drawn by Sekran<sup>12</sup> who also called a sample size from 50 to 500 as a suitable size in producing sound results. Purposive sampling method was used pick the samples i-e the hypertensive patients whereas all the ethical considerations were taken care of before, during and after data collection. The main emphasis in this regard was honesty, objectivity, integrity, confidentiality, social responsibility and non-discrimination. They have been reported more relevant for health related studies.<sup>13</sup> The results were mainly obtained through frequencies, percentage,

however, to measure the association between dependent variable i-e the perception about hypertension and two independent variables i-e education and awareness of the sampled respondents about the hypertension, the chi square test was also applied.

## RESULTS

Table I shows that 40.86 was average age of the sampled patients, where 56.7 percent of the total sampled hypertensive patients had age between 41-50 years. From the remaining, more (24.5%) belonged to 31-40 years age group than those from comparatively more younger age of 20-30 years (18.8%). A 57.7 of the total hypertension patients were males followed by 42.3 percent females. In connection with education, 47 percent of the patients were illiterates whereas among literates, the highest percentage (22.8%) was of those who had intermediate or higher level of education. From the other, those had primary to middle level education were more (15.4%) than matriculates (14.4%). A 74 percent of the total were married whereas the remaining 13, 9.4 and 2.7 percent were unmarried, widowed and divorced respectively. In case of rural-urban residence, 79.5 percent were from rural and 20.5 percent from urban areas of Khyber Pakhtunkhwa. Further, 83 percent of the selected patients also had positive family history of hypertension.

**TABLE - I: PREVALENCE OF HYPERTENSION IN THE STUDY AREA ON THE BASIS OF AGE, SEX, EDUCATION, MARRIAGE, AREA OF RESIDENCE AND FAMILY HISTORY (N=298)**

Personal Characteristics/Groups	No.
Age Groups	
20-30 years	56 (18.8%)
31-40 years	73 (24.5%)
41-50 years	169 (56.7%)
Average Age (Years)	40.86
Sex of the Respondents	
Male	172 (57.7%)
Female	126 (42.3%)
Educational Status	
Illiterate	140 (47%)
Primary to middle	47 (15.8%)
Matriculation	43 (14.4%)
Intermediate & above	68 (22.8%)
Marital Status	
Unmarried	41 (13.8%)
Married	221 (74.2%)
Widowed	28 (9.4%)
Divorced	8 (2.7%)
Area of Residence	
Rural	237 (79.5%)
Urban	61 (20.5%)
Positive Family History	247 (83%)

Awareness and Knowledge about Hypertension  
Awareness and education of human population were the two major factors contributed to hypertension. Table II describe the association of the perception of selected patients about hypertension with various statements describing the awareness

regarding hypertension. The hypertension was found significantly associated with the statements called you have awareness and knowledge about your disease (P=0.000), its sign and symptoms (P=0.000), causes (P=0.000) and precautions to put it under control (P=0.000).

**TABLE - II: ASSOCIATION BETWEEN AWARENESS ABOUT HYPERTENSION WITH HYPERTENSION (N=298)**

Awareness and Knowledge about Hypertension	Hypertension			Chi Square	P= Value
	Agree	Disagree	Uncertain		
You are well aware about your blood pressure					
Agree	141(80.6%)	27(62.8%)	26(32.5%)	$\chi^2=67.58$	(P=.000)
Disagree	28(16%)	16(37.2%)	36(45%)		
Uncertain	6(3.4%)	0(0%)	18(22.5%)		
Now you also know the hypertension from its signs and symptoms					
Agree	148(84.6%)	29(67.4%)	41(51.2%)	$\chi^2=36.87$	(P=.000)
Disagree	23(13%)	13(30%)	28(35%)		
Uncertain	4(2.4%)	1(2.6%)	11(13.8%)		
You are well aware about the causes that result hypertension					
Agree	95(54.3%)	13(30.2%)	13(16.2%)	$\chi^2=47.85$	(P=.000)
Disagree	70(40%)	30(69.8%)	51(63.8%)		
Uncertain	10(5.7%)	0(0%)	16(20%)		
You also know about the precautions one needs to keep hypertension under control					
Agree	141(80.6%)	23(53.5%)	28(35%)	$\chi^2=63.79$	(P=.000)
Disagree	30(17%)	18(41%)	34(42.5%)		
Uncertain	4(2.4%)	2(4.5%)	18(22.5%)		

#### Role of Education in Hypertension

Results in table III report association between education and the hypertension. A significant association in this respect was found with the statements called high education enabled you to get more awareness and information about hypertension

(P=0.000) and you are more consciousness about the precautions of hypertension (P=0.000). On the other hand, illiterate or low educated patients not only found not caring the hypertension (P=0.000) but also were not consulting to doctor (P=0.000).

**TABLE III: ASSOCIATION BETWEEN ROLE OF EDUCATION AND HYPERTENSION (N=298)**

Awareness and Knowledge about Hypertension	Hypertension			Chi- Square Value	P= Value
	Agree	Disagree	Uncertain		
More education enabled you to get more information about hypertension					
Agree	155(88.6%)	32(74.4%)	32(40%)	$\chi^2=104.24$	(P=.000)
Disagree	12(6.9%)	4(9.3%)	0(0%)		
Uncertain	8(4.6%)	7(16.3%)	48(60%)		
Your more consciousness about precautions of hypertension is because of your education					
Agree	155(88.6%)	28(65.1%)	31(38.8%)	$\chi^2=86.50$	(P=.000)
Disagree	10(7.5%)	4(9.3%)	3(3.8%)		
Uncertain	10(7.5%)	11(25.6%)	46(57.5%)		
Hypertension care is low among illiterates or less educated persons					
Agree	133(76%)	26(60.5%)	22(27.5%)	$\chi^2=93.89$	(P=.000)
Disagree	29(16.6%)	7(16.3%)	7(8.8%)		
Uncertain	13(7.4%)	10(23.3%)	51(63.8%)		

4.	The consultation to doctor is very low among illiterates or less educated hypertension				
	Agree	147(84%)	31(72.1%)	26(32.5%)	$\chi^2=93.52$ (P=.000)
	Disagree	16(9.1%)	2(4.7%)	4(5)	
	Uncertain	12(6.9)	10(23.3%)	50(62.5)	

## DISCUSSION

The results as a whole reveal hypertension prevailed in all groups. However, the prevalence was more among old aged persons, males, illiterates, literates with intermediate or higher level of education, married, rural residents and those having positive hypertensive history in the family. It was mainly due to obesity, lack of exercise, tension, genetic factors, sedentary life style and unhygienic diet. The results support the findings of different studies published in past<sup>14-17</sup>.

The results depicted that the knowledge of the individual had a significant association with the high blood pressure. The patients were found well aware about the signs, symptoms, causes and the precautions of hypertension. This is attributed to location of the majority of the patients near Peshawar city. They had not only access to media but also to the other health related sources and agencies that included the three big hospitals along with many private clinics, hospital and very well-known hypertension specialists in Peshawar city as well. Despite this, the hypertension was on rise even in the rural areas. Same was found by Dawn et al. (2007),<sup>18</sup> Itamar et al. (2007)<sup>19</sup> and Prin et al. (2012).<sup>20</sup>

In connection with association between the education and hypertension, the results found education brought more awareness and consciousness about the hypertension, its causes and precautions. Moreover, education resulted a consciousness in patients about hypertension and its effects due to more awareness and precautions whereas less care and no consultation to doctor in connection with high blood pressure was found more among low educated and illiterates hypertension patients. The same were the findings of Dodani et al. (2004),<sup>21</sup> Jeffery et al. (2007),<sup>22</sup> Deborah et al. (2008)<sup>23</sup> and Benderly et al. (2013).<sup>24</sup> All the studies in one way or other termed education as a strong indicator in the awareness and control of the hypertension.

The study found hypertension as a major disease in the sampled area. It affected almost all groups but more to old aged, married, males and those living in rural areas, had hypertension history and were either illiterates or had more than intermediate level of education. Many patients were also well aware about signs, symptoms, causes, and precautions of the disease. Awareness was reported further enhanced after the disease. Similarly, hypertension prevailed among both the illiterates and literates patients in spite of more awareness and consciousness among the educated regarding major effects of the disease. However, the most vulnerable among these were illiterates as a very large number were of this group were not only unaware but also not consulting the doctors and caring the disease even if they know.

## CONCLUSION

The frequency of hypertension is high among patients of all

groups studied. Even the awareness about hypertension and education of patients having very little impact in the control of disease.

## RECOMMENDATIONS

Lack of awareness was still a major cause of the disease. A special attention in this regard is needed by the government, NGOs and community based organizations. It can further enhanced by using all mass media channels such as T.V, radio, newspapers, local leadership, clergies and opinion leadership through a campaign to inform common people especially living in rural areas about hypertension, its causes, signs, symptoms, precautionary measures, regular checkup and use of antihypertensive medications. Special attention should be given to change in life style by focusing more on healthy diet, regular exercise, reduction in stress, use of salt, extra weight, quit smoking etc. Extension of these information to general public can make further check on probable increase of the disease. Availability of doctors and medicines in rural areas especially can further help in controlling the hypertension disease in Pakistan.

## Contributions of Authors

Mushtaq Ahmad Jadoon: Designed research, questionnaire and report writing,

Zafar Khan: Literature review, questionnaire designing and data collection.

Alamgir Khan: Data collection, setting and entry whereas

Intikhab Alam and Kamran Ishfaq: Data analysis and tabulation along with report writing of some portion of the study.

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