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STUDY OF RISK FACTORS ASSOCIATED WITH HYPERTENSION AMONG URBAN AND RURAL COMMUNITIES AT BAHAWALPUR

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ABSTRACT

Background: Hypertension may be a longstanding problem in Pakistan, yet little is understood about its prevalence and risk factors, particularly in rural and urban areas. Distinguishing geographical variations in hypertension is vital to reinforce the health of adult Pakistanis no matter where they live. Aim of this study to know risk factors of hypertension among rural and urban population. Methodology: It is a cross sectional study done in which 300 hypertensive persons residing in urban and rural communities of Bahawalpur were enrolled. Data was collected through simple random sampling technique using a questionnaire. Data was collected on risk factors of hypertension. Then collected data was analyzed using SPSS v 20.0. Results: out of 150 participants of urban community, 55 (36.7%) were 46-55 years old while among 150 participants from rural areas, 52 (34%) were 46-55 years old. There were 104 (70.7%) female and 46 (30.6%) male from urban areas. Males from urban and rural areas were 46 (30.6%) and 56 (37.3%) respectively. In urban public 60 (40 %) participants were found illiterate and 70 (46%) rural participants were found illiterate. In current study 30 (20%) participants from urban community and 40 (26.6%) from rural community also had diabetes mellitus as associated disease. It was found that family history and anxiety were the most common risk factors i.e. 105 (70%) and 90 (60%) people from urban community having positive family history of hypertension and stress factor respectively. Similarly among rural respondents 80 (53%) and 95 (63.3%) were having positive family history of hypertension and stress factor respectively. Conclusion: This study showed that there were more hypertensive female as compared to male. Young people of rural areas were more common as compared to young people of urban areas. There were many cases who were unaware of their hypertensive condition, also many were not using proper medicine despite of their acknowledgement. Previous family history, anxiety/stress, high salt intake and smoking were the main risk factors observed.

KEYWORDS: Hypertension, rural, urban, risk factors, diabetes mellitus, family history.

INTRODUCTION

Hypertension is a disorder during which the blood pressure is constantly high, previously known as non-arterial hypertension.[1] Individual is taken into account as hypertensive, when one's blood pressure is repeatedly 140/90mmHg or more than,140/90 mmHg. Persistently raised blood pressure decreased the life expectancy, if left untreated.[3] Hypertension is among the most prevalent disease in the world.[4] It has been assessed that until 2025,1.56 billion peoples will have this disease.[5] According to the National Health Survey of Pakistan it has been informed that eighteen percent of grown person (more than 45years of age) are hypertensive.[6] Hypertension because of its wide spread throughout the world, and its related impact on health of people is considered as huge task for health providers.[7] It has been evaluated that raised blood pressure has correlation with different diseases such as cardiac diseases, brain stroke and renal failure. Risk of hypertension is more in those who are obese, fat lover, alcoholic and heavy smokers. Normal BMI and increased physical activities may not contribute to increase the risk of hypertension.[8] Research work done revealed that occurrence of hypertension amongst grown up subjects in industrialized nations is 25% and in unindustrialized states is 10-20%.[9] This prevalence has been reported to be 21-37% in adult population and 65% for elderly; 17% in Sri Lanka and 17.9% for Pakistan.[3] Various studies done revealed that disease burden is gradually increasing, as it has been expected that until 2025, 1.56 billion people will be hypertensive.[10]

Communal analyses have acknowledged that disease burden is raised 30 times in city occupiers and 10 times amongst the rural area.[11] According to the National Health Survey of Pakistan twenty three percent of city dwellers and eighteen percent of rural adult population is hypertensive.[12] various risk factors play a role in

development of hypertension namely age, smoking, extra salt intake, consumption of alcohol, increase BMI, diabetes mellitus and history of hypertension in parents and family.[13]

Hypertension is a chief communal health issue in Pakistan. Distinguishing geographical variations in hypertension is vital to reinforce the health of adult Pakistanis no matter where they live. Aim of this study to know risk factors of hypertension among rural and urban population. The study could help the policymakers to have a baseline data for planning to prevent hypertension and also public health personnel to make further studies and research and give awareness of reasons of high blood pressure to metropolitan and rural populations according to their requirements and circumstances.

METHODOLOGY

Study design: Cross sectional study.

Place of study: The place of study was one of the urban union council and one rural union council of Bahawalpur.

Study Population: Hypertensive people residing in urban and rural areas of district Bahawalpur.

Sample size: The sample size of the study was 300 hypertensive people, 150 participants from urban community and 150 participants from rural community.

Sampling Technique: Multistage random sampling technique was used.

Data Collection: A preformed questionnaire was used after data collection. The hypertensive people living in urban and rural areas of at Bahawalpur were interviewed after taking consent.

Inclusion Criteria: age 35 years and above year with essential hypertension were selected.

Exclusion Criteria: Patients with secondary hypertension due to chronic liver disease, chronic renal failure and hormonal problems were not included.

RESULTS

Out of 150 participants of urban community, 55 (36.7%) were 46-55 years old while among 150 participants from rural areas, 52 (34%) were 46-55 years old. There were 104 (70.7%) female and 46 (30.6%) male from urban areas. Males from urban and rural areas were 46 (30.6%) and 56 (37.3%) respectively. In urban public 60 (40 %) participants were found illiterate and 70 (46%) rural participants were found illiterate. In current study 30 (20%) participants from urban community and 40 (26.6%) from rural community also had diabetes mellitus as associated disease. It was found that family history and anxiety were the most common risk factors i.e. 105 (70%) and 90 (60%) people from urban community having positive family history of hypertension and stress factor respectively. Similarly among rural respondents 80 (53%) and 95 (63.3%) were having positive family history of hypertension and stress factor respectively.

Table I: Frequency distribution of various variable of respondents.

Variables	**Urban**		**Rural**	
Age	**Frequency**	**%age**	**Frequency**	**%age**
35 years or less	18	12	30	20
36-45years	35	23.33	50	33.3
46-55 years	55	36.6	52	34.6
More than 55	42	28	18	12
Total	150	100.0	150	100.0
Sex				
Male	46	30.6	56	37.3
Female	104	70.7	94	62.6
Total	150	100.0	150	100.0
Educational Status				
Illiterate	60	40	70	46.6
Under matric	48	32	40	26.6
Matric	19	12.6	25	16.6
Intermediate	10	6.6	10	6.6
Graduate	12	8.0	5	3.3
Post Graduate	1	0.6	0	0.0
Total	150	100.0	150	100.0
Occupation				
Gov. Servant	14	9.3	2	1.3
Businessman	12	8.0	18	12
Farmer	4	2.6	22	14.7

Laborer	16	10.7	12	8.0
House Wife	100	66	88	58
Jobless	4	2.6	8	5.3
Total	75	100.0	75	100.0

Table II: Frequency distribution of variable of respondents.

Variables	**Urban**	**Rural**
Family Type	**Frequency**	**Frequency**
Monthly income		
< 10000 rupee	34	25
10000-20000	80	90
>20000	36	35
Total	100	100
Blood Pressure		
140/90 mmHg	8	2
150/90-110 mmHg	82	68
160/100-110 mmHg	35	39
170/110-120 mmHg	9	23
180/120 & above	16	18
Total	150	`150
Diagnosis of Disease		
Known case	110	78
Unknown case	40	72
Total	150	150
Associated Disease		
Diabetes Mellitus	30	40
COPD	10	12
Total	40	52

Table III: Perception of patients about risk factor.

Risk Factors	**Urban**		**Rural**	
Hypertension	**Frequency**	**%age**	**Frequency**	**%age**
Family history of HTN	**105**	**70**	**80**	**53**
BMI high	60	40	90	60
Salt intake in excess	56	37.7	75	50
Smoking	30	20	51	34
Stress/anxiety	90	60	95	63.3
Fatty diet	24	16.0	2	1.3
Hypercholesterolemia	4	2.6	5	3.3

DISCUSSION

This study was performed to get data of prevalent risk factors among rural and urban community of district Bahawalpur. To get proper idea total 300 people were enrolled, 150 participants from urban community and 150 participants from rural community were included in the study. The comparison of risk factors between urban and rural communities are as follows. It was clear from study that out of 150 participants of urban community 18 (12%) were < 35 years of age, 35 (23.3%) were 36-45 years and 55 (36.6%) were 46-55 years old. And in rural community, out of 150 participants 30 (20%) were < 35 years of age, 50 (33.3%) were 36-45 years and 52 (34.6%) were 46-55 years old. The Maximum respondents of high blood pressure in this study lies between 46-55 years. Different studies globally showed that BP increases with increasing age of both gender. When the statistical test was applied between blood pressure and age, it was found significant and it was also reflected in this study.[8,9,10]

Study revealed that 105 (70%) participants of urban community population and 80 (53%) participants of rural community had family history of hypertension genetics had proven role in chronic diseases.[15] There might be environmental factors which have affecting the genes. Education is one of the most important factors that help

people to manage their health issues. Literate people can manage their diet and life style in a better way than illiterate and less educated persons. Study showed that 60 (40%) and 70 (46.6%) participants of urban and rural community were illiterate respectively. During study it was found that majority 100 (66%) of urban as well as 88 (58%) of rural females participants were housewives while remaining proportion of participants of both communities were working as businessman, farmer and some of them were government servant or jobless. This was in contrast to the result of the study, conducted by Aziz and coworkers (2005) who reported that 22.0% hypertensive women were housewives.[16] Study resulted that majority of both population had monthly income between 10000-20000 rupees. A similar study, carried out by Kaur et al. (2007) in Ludhiana, India asserted that 44.0% participants had monthly income less than 20000 rupees. When this date was planted of graph between blood pressure and income, it was found that income has no significant effect on blood pressure.[17] Significant role of exercise cannot be overlooked, it prevents population from chronic diseases like hypertension.[18] Study also assessed the body mass index of the participants. It was found that 60 (40%) participants of urban community and 90 (60%) participants of rural community had overweight. According to the previous studies done, obesity is a known threat for high blood pressure.[19] when the statistical test was applied between blood pressure and BMI it was significant in both communities. This insignificance of relation of blood pressure with BMI might be due to the small sample size in this study.

CONCLUSION

This study showed that there were more hypertensive female as compared to male. Young people of rural areas were more common as compared to young people of urban areas. There were many cases who were unaware of their hypertensive condition, also many were not using proper medicine despite of their acknowledgement. Previous family history, anxiety/stress, high salt intake and smoking were the main risk factors observed. To reduce the risk of hypertension public health awareness campaign should be conducted regarding lifestyle modifications in order to control this disease at early stages. It is suggests to adapt the food which is rich in fresh fruits, vegetables, whole grain, legumes, nuts and seeds, along with use of dairy products that have less lipids contents. This diet contains less sodium and more potassium than typical diet.

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