

ANALYSIS OF HYPERTENSION PERCEPTION OUTLOOK IN A RURAL HYPERTENSIVE POPULATION: AT THE BASIC HEALTH UNIT LEVEL

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ABSTRACT

Objective: To find out the knowledge and preferences of a rural hypertensive populace.

Study Design: A cross-sectional study.

Place and Duration of Study: Conducted at the Basic Health Unit (BHU) Mangat Neecha in March, 2018.

Material and Methods: Systematic, probability sampling was done. A total of 143 hypertensive patients regardless of age labeled as hypertensive: Visiting from each of the 12 villages under charge of each Lady Health Worker; within the BHU Mangat Neecha bracket were included in the study. Informed consent was taken from all the patients who participated in the study and the data were analyzed using SPSS 20.

Results: Eighty-four (58%) patients who did not know of their normal blood pressure, 100 (70%) patients either did not know or were not told of their high BP by their healthcare provider. Sixty four (45%) patients did not consider hypertension a serious life threat. Only 29 (20%) patients could correctly identify the SBP (Systolic Blood Pressure 120 mmHg) number and another 16 (11%) the DBP (Diastolic Blood Pressure), 32 (22.3%) patients agreed having resorted to alternative cures for their illness like homeopathy etc. Eighty four (58%) patients had the perception of hypertension being a normal part of ageing and 60% (n=86) considered it incurable. While 100 (70%) patients agreed the role of medication in BP control and 133 (93%) supported the claim of exercise being of help, only 16 (11%) patients gave weight age to dietary/behavioral changes as an integral part of attaining adequate blood pressure control.

Conclusion: Our results suggested existence of inadequate knowledge and awareness about hypertension amongst the hypertensive patients at grass roots level. In general, they fail to recognize hypertension as a very serious health concern owing to lack of percolating public healthcare awareness initiatives. Therefore, extensive patient education and counseling is necessary to improve the adherence of patients to antihypertensive medications as well as better equip them to understand its affects on decreasing their cardiovascular event risk.

Keywords: Awareness, Hypertension, Healthcare, Lifestyle, Policy, Perception, Policy, Rural.

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INTRODUCTION

Hypertension (HTN) stands a global health risk with far ranging impact on quality of life and its duration. American College of Cardiology and American Heart Association collectively defined hypertension with age adjusted markups at 140/90 mmHg and set the treatment cutoff at 130/80 mmHg with two-pronged approach of lifestyle interventions and medication¹. According to the last conducted national health survey in Pakistan: 18% Pakistanis over 15 years of age are affected by HTN. The report further revealed

that only 50% of this hypertensive population is diagnosed and out of the affected only half have access to treatment. Despite these alarming figures no effective national level drive/initiative was undertaken: Since the Pakistan Hypertension League (PHL) of 1997. Given the regional dynamics, the most neglected rural segment of the society has developed dangerous dependence on myths and hoaxes often falling into the hands of quacks. Given their swindling resources, poor healthcare access and lack of education, silent killers like HTN usually go unaccounted for. While simple steps towards primary prevention for this marginalized community can both prolong life and decrease their cardiovascular risk significantly².

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Even in bigger countries, the controlled rates of HTN unfortunately, are not all that encouraging with only 35% HTN control achieved in the US, 24% in Australia and the statistics of the South Asian region are even grimmer with only 8% and 6% control rates in China and India³. Furthermore, HTN continues to be a big strain on the economy of different countries. Medical Expenditure Panel Survey (MEPS) found that an amount of \$109.1 billion is spent on US individuals with hypertension⁴. This can be brought under control by employing primary and secondary preventive measures. Dearth of these healthcare initiatives is in part responsible for poor patient compliance to their antihypertensive drugs⁵.

Fifty percent to seventy five percent of the patients either diagnosed with or currently under treatment of HTN demonstrate inadequate blood pressure control according to a study⁶⁻⁸. Surprisingly men in developed nations tend to have even higher BP than their underdeveloped counterparts⁹. This too in today's world, despite the emergence of new trends and compliance assessment models based on patient doctor interactions with increased communication, structured approach to compliance and better coordination have shown considerable promise in helping improve patient adherence to anti-hypertensive measures¹⁰. This neglect on the compliance front is in part due to a global lack of adequate awareness encompassing both developed nations and third world countries alike^{11,12}.

Also, important information like sound understanding of high BP with stress on SBP being a significant risk factor for the development of cardiovascular disease, has not yet cemented its place in the affected populations. Such negligence has led HTN to acquired the shape of a healthcare challenge¹³⁻¹⁶. While it is imperative to note that HTN knowledge relates well to BP control, as more aware patients are less inclined to miss doses and display noncompliance¹⁶.

No such study has been conducted in Pakistan at the Basic Health Unit Level, which is the baseline healthcare installation of our government's health department and organizational structure. Given these dynamics an honest assessment of the grassroots viewpoint was necessary, to allow for the presentation of a ground reality and to frame awareness drive on them. As, existing literature in Pakistan on hypertension outlook cannot serve as truly representative of the rural segments of our society. Therefore, the rationale of this study was to identify and gauge the dynamics of HTN knowledge and preferences amongst rural hypertensive populace visiting the lowest graded healthcare installation Basic Health Unit (BHU).

MATERIAL AND METHODS

A cross-sectional study was conducted at the Basic Health Unit Mangat Neecha, district Hafizabad during a period of 1 month March, 2018. An ethical committee review was obtained from the District Administration of Health Services. The District Officer-Punjab Health Facilities Management Company, District Hafizabad; allowed for the conduction of this study and sanctioned formal permission.

A questionnaire was designed based on existing knowledge and keeping in view the holistic and homeopathic approaches in rural settings. The language was simplified to accommodate the modest education level of the target community. It was translated into Urdu language to allow for better comprehension by the patients. The questionnaire was subsequently pilot tested and validated. Training was accorded to the paramedics to allow for proper data collection. Training was based on the principles of data so that the data is actually representative of the patient's awareness level. The lady health workers were designated with the task to extend our reach to the patients from 12 villages under the Union Council Mangat Neecha. Each lady health worker was instructed to follow the hypertensive lists of patients analyzed from the outpatient records of at the BHU. Sample size of

143 was calculated. Patients were systematically selected. Sample size was derived from total registered hypertensive in the BHU records. The division was done so as to make the study more suitable to all segments of the union council. The reevaluation of the blood pressure readings on their latest visit was given precedence by the Medical Officer and staff of BHU of all the patients from the 12 villages, to meet the inclusion criterion. People from both genders

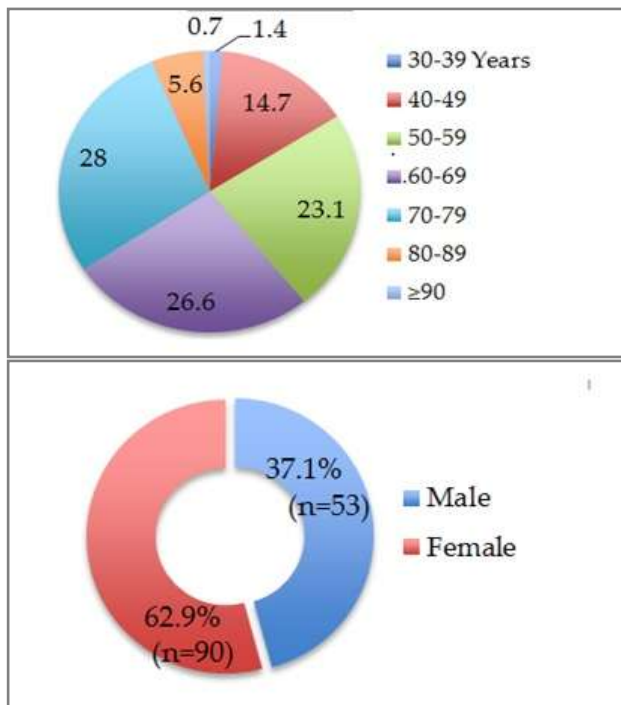


Figure-1: Sample age and gender distribution of data.

were included in the study. Regardless of etiology i.e. primary or secondary hypertension and all hypertensive patients were included in the study. All non-hypertensive patients, hypertensive patients outside of UC Mangat Neecha were excluded from the study.

Version 20 of the SPSS was used. Descriptive statistics like frequency along with percentage were employed to analyze the data to aid in quantitative assessment.

RESULTS

A population of one hundred and forty three hypertensive patients was included in the study

from all 12 villages of union council Mangat Neecha, regardless of HTN etiology i.e. primary or secondary HTN. The median age of patients was 68 (SD=2) years, with a range of 34-95 years. Nineteen (62.9%) patients were females. Eighty (56%) target population had primary education, 50 (35%) had secondary education, 13 (9%) had higher secondary education (fig-1 & 2).

On assessing the knowledge regarding HTN it was demonstrated that 83 (58%) of the sample

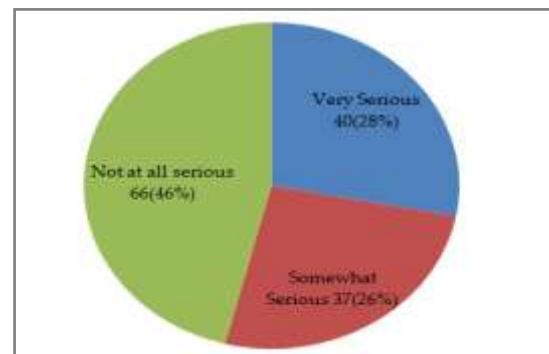


Figure-2: Has physician ever told you the degree of hypertension being a serious health concern? n(%).

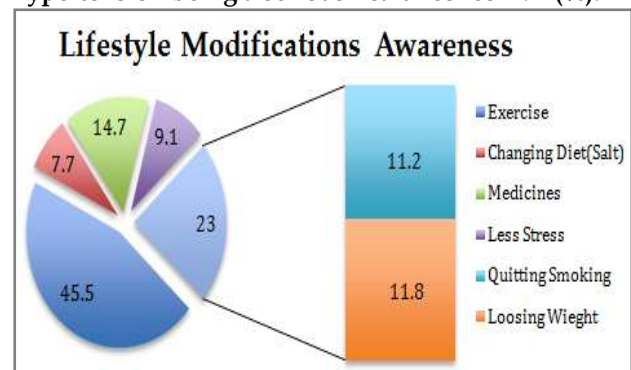


Figure-3: Awareness of lifestyle modifications.

did not have knowledge regarding the ideal BP reading for a normal individual. Of the 46 (32.2%) individuals who knew the normal cutoff. Six (4.2%) patients considered more than 140/80 mmHg as normal blood pressure. Only 27 (19.6%) could correctly identify the SBP and DBP as two components of blood pressure.

However, 126 (88%) patients affirmed that HTN posed a significant impact on their health impact. One hundred and four (72.7%) of the subjects agreed that lowering their blood pressure would lead to a significant improvement

of their health: However, 38 (26.6%) did not agree that any intervention will make any difference to their BP. On asking whether the Medical Officer had ever informed the subjects of their high BP, all of them (143, 100%) agreed to have been duly informed. We also asked whether the healthcare provider informed them about the ideal personal blood pressure reading and about 43 (30.1%) agreed that they had been told what their personal blood pressure reading should be (ideally) but a few did not register it properly, while 60 (42%) said, they were never informed by their healthcare provider of the (optimal) BP

Table-I: Systolic and diastolic blood pressure level awareness.

If told, what should your top number of blood pressure (systolic) be?	
Blood Pressure Options	n(%)
>140 mmHg	20 (14.0)
140 mmHg	5 (3.5)
<140 mmHg	2 (1.4)
Don't know	116 (81.1)
If told, what should your bottom number of blood pressure be (diastolic) be?	
>90 mmHg	11 (7.7)
90 mmHg	13 (9.1)
<90 mmHg	16 (11.2)
Don't Know	103 (72)

reading which is alarming. More than 100 (70%) did not know what their systolic and diastolic readings should be and neither were they informed by the Healthcare provider. About 98 (68.5%) of the patients agreed that their physician mentioned the role of SBP and its importance in controlling the BP. The SBP and DBP figures of 120/80 mmHg could only be correctly identified from option set by 30 (21%) patients (table-I).

On inquiring of the patients BP at the most recent visit to the healthcare provider, 77 (53.9%) claimed it was at 140/80 mm Hg while 35 (24.5%) claimed that they were unaware of their BP. Sixteen (11.5%) claimed that their BP was greater than 140/80mm Hg and 11 (7.7%) claimed that they were not informed of it whilst checking. Subsequently when asked what they thought

their BP measurement meant i.e. whether it was classified as high, borderline high, low or normal.

Ninty one (63.6%) patients responded that their blood pressure felt like it was normal

Table-II: Perceptions of subjects regarding hypertension in general and impact of lifestyle modifications.

Do you think that high blood pressure (hypertension) is a long life disease? n(%)	
Yes	89 (62.2)
No	45 (31.5)
Don't know	9 (6.3)
Do you think that high blood pressure (hypertension) is something you can cure?	
Yes	55 (38.5)
No	86 (60.1)
Don't know	2 (1.4)
Do you think your blood pressure has improved over the last 12 months?	
Yes	103 (72.0)
No	40 (28.0)
Don't know	0 (0)
Do you think that high blood pressure is an avoidable part of aging?	
Yes	83 (58.0)
No	58 (40.6)
Don't know	2 (1.4)
Can changing lifestyle/Behavior help to lower your blood pressure?	
Yes	133 (93.0)
No	8 (5.6)
Don't know	2 (1.4)
What is the single most important factor in controlling your high blood pressure?	
Taking medications	21 (14.7)
Exercise	65 (45.5)
Less stress	13 (9.1)
Quitting smoking	16 (11.2)
Changing diet(salt)	11 (7.7)

despite being above the normotensive redline which is an important finding as HTN rarely manifests itself symptomatically in the earlier stages of its inception. Sixty-four (44.8%) patients disagreed that the physician had not informed them that HTN was a serious health concern. Sixty-four (45%) patients did not second the physician's role in stressing their hypertensive condition being a grave health concern for them

(fig-V). For a rural population it is imperative to explain and stress on health education, as they often register and take the physicians viewpoints seriously.

On questioning the personal preferences regarding their HTN. One hundred (70%) patients were of the view that medication played a paramount role in keeping the blood pressure in line. The patients were also asked whether they preferred/ resorted to any other alternative medicine avenue like homeopathy etc. One hundred ten (77%) patients told that they did not prefer any alternative medicine or cures. Astonishingly, 31 (22%) of the patient accepted they had visited homeopathic doctors to attain a lasting cure.

Over 86 (60%) patients believed that HTN is a lifelong ailment and something that can never be cured. Eighty three (58%) were of the view that high blood pressure stood as an unavoidable component of the overall ageing process. When asked whether they felt their blood pressure had shown improvement over the course of the last 12 months, more than 100 (70%) said yes (table-II).

Despite, inadequate knowledge, on questioning their thoughts on the most important tool against hypertension as per personal preferences, 133 (93%) of the target population strongly opined that altering behavior and lifestyle can add significantly to attaining a lowered blood pressure.

Furthermore, 65 (45.5%) of the patients said exercise was the most important factor to aid in controlling blood pressure.

DISCUSSION

Our findings reveal that patients have a limited knowledge of the basics of HTN, however, the general outlook is somewhat positive if certain existing concepts are strengthened further. Concepts that affirm that high BP possessed the capability to seriously impact health. Over seventy percent patients opined that bringing their blood pressure under control will lead to improved health. Still the finding that

such a significant chunk of the population does not consider hypertension as a serious personal health concern, indicates that people are aloof of the correlations between HTN and other conditions such as cardiovascular disease, renal diseases, stroke, retinal hemorrhage etc. Doctors and other healthcare providers also seem less forthcoming in expediting efforts to educate the people about the basics of HTN: As the study indicates their indifference to do so. In comparison to other countries and bigger economies it is a proven fact that low income and divided social strata often lead to increased disease burden. The socio-economic status plays a critical role as part of environmental factors that affect disease development. As, even studies demonstrate that HTN is more commonly found to be highly prevalent in low-income countries¹⁷. Pakistan fits the low income UNDP criterion as well which in part also demonstrated itself as a factor for poor health awareness indices. This can be attributed in part to lack of resources and unplanned health education initiatives.

Patients trend towards alternatives and holistic approaches are also a dangerous aspect in South Asian countries. An aspect that has emerged mainly due to the dearth of adequate health promotion and awareness. Furthermore, the importance of print, television and social media cannot be undermined in helping secure pertinent steps to educated people. State run Chinese media campaigns and health awareness models are an example to quote in this regard. Also, lifestyle modification stands as a key to controlling HTN. In case of HTN dietary modification e.g. reducing salt intake and turning to leafy greens can be instrumental to the affected community's survival. This diet control narrative is especially important to address, as rural population generally tends to ignore any dietary advice from their concerned healthcare providers. It is now a proven fact as many studies continue to demonstrate the positive impact of preventive measures on the cardiovascular risk profile and over all wellbeing in following the DASH protocol¹⁸.

Awareness drives worldwide continue to benefit governments by decreasing the burden of disease. Also, these studies aided the government in targeting the neglected areas of health policy thus bringing them at par with improved areas. In process ensuring deliverance of sound health-care services, at the national stage. Data from the National Health and Nutrition Examination Survey USA demonstrated that HTN control improved from 27.3% in 1988-1994 to 50.1% in 2007-2008 owing to decade long efforts to instill primary prevention and awareness amongst the masses⁷. The results and noteworthiness of such programs is evident from the accomplishments of other developed countries. All the way back in 1972 even, the National High Blood Pressure Education Program was started in US to improve public's knowledge of HTN and to reaffirm the implications of the threats mounted by this condition¹⁹. Their seriousness in such olden times alone stands testament to their commitment to curb this illness. So it is important that we also acquire capabilities and capitalize on effective strategies and interventions thus utilizing the resources we have at our hands to better address and prevent the development of disease²⁰. Furthermore the benefits of these initiatives are far ranging and many countries such as Germany are enjoying a decent control over their hypertensive population. In Germany a comparative account of 1998 health database to 2008-2011 database of hypertensive population: Controlled HTN and over all rampant HTN levels amongst the community segments, remained almost unchanged over a long period (30% vs 32%) and they were able to decrease the uncontrolled hypertension (BP140/90 mmHg) from 23% to 15% due to health education based interventions²¹. Also, countless surveys have been published worldwide for USA. Britain is also aiding in policy frameworks to better address their healthcare challenges²².

This account also compares studies abroad and tends to present a picture of our rural community. However, certain limitations must be mentioned. The number of patients included in

this study was less in comparison to the number of people actually suffering from HTN in general population. Although, the individuals from different sections of the union council were incorporated to make the sample more representative. It is important to note that Basic Health Unit-UC Mangat Neecha is within the 15 km radius of the main city, which out of 32 BHUs of the district is considerably close to the city but despite its proximity to relatively urban area and District Headquarter Hospital, Hafizabad its awareness markup is not satisfactory: Keeping this in view it may be inferred that awareness level of other union councils of District Hafizabad may be inferred to have a below par awareness level. However, it is still imperative to conduct independent studies at all UC levels to ascertain the on ground awareness levels not by inference but by factual data. Sample excluded patients who were too sick to participate in the study and were from outside the UC boundaries. The study was carried out in the rural segments of Pakistan and did not include patients from the more urbanized echelons of the district housing more educated individuals in general.

CONCLUSION

Our results suggested existence of inadequate knowledge and awareness about hypertension amongst the hypertensive patients at grass roots level. In general, they fail to recognize hypertension as a very serious health concern owing to lack of percolating public healthcare awareness initiatives. Therefore, extensive patient education and counseling is necessary to improve the adherence of patients to antihypertensive medications as well as better equip them to understand its affects on decreasing their cardiovascular event risk.

CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any author.

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