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### **Health Education in Primary Health Care in the Prevention and Early Detection of Hypertension in Rural India**

**Izhar Husain<sup>1</sup>, Arif Habib<sup>2</sup> and Mohit Sharma<sup>1</sup>**

<sup>1</sup>Department of Management, Shri Venkateshwara University, Gajraula, U.P. India

<sup>2</sup>Department of Public Health, King Khalid University, K.S.A

E Mail - [izharhusain@gmail.com](mailto:izharhusain@gmail.com), [ahabib@kku.edu.sa](mailto:ahabib@kku.edu.sa), [dr.mohitsharma@ymail.com](mailto:dr.mohitsharma@ymail.com)

#### **ABSTRACT:**

Hypertension (HT) is also called as a “Silent Killer” for its asymptomatic feature until complications develop. HT is a public health emergency and may lead to various dreadful consequences involving heart, brain and kidney. HT can be prevented and controlled by awareness of risk factors and healthy life style especially through primary healthcare. Current study aims to analyses the existing level of health education in primary healthcare to prevent and early detect HT in rural India. It is a descriptive cross-sectional study conducted in 12 primary health centers in 6 blocks of district Rampur, Uttar Pradesh, India. Two stage sampling was used. Data was collected from 874 respondents through a pre-structured questionnaire with prior consent and analyzed using SPSS 20v. Only 127(14.5%) subjects knew their hypertensive status. More than half 474, (54.2%) and 464(53.1%) had no awareness of HT and its risk factors. (80%) respondents, diagnosed with HT didn't take medicine regularly. (42%) and (66%) hypertensive patient got no advice on BP monitoring and regular medication respectively. Knowledge of HT and risk factors was low among population in rural India. Health education should be prioritized in primary healthcare to reduce behavioral risk factors.

**KEYWORDS:** Awareness; Knowledge; Hypertension; Health Education; Primary Health Centres; Rural India

#### **\*Corresponding author**

**Izhar Husain<sup>1</sup>**

Research Scholar, Department of Management,

Shri Venkateshwara University, Gajraula, U.P., India

E Mail - [izharhusain@gmail.com](mailto:izharhusain@gmail.com), Mob No. - 9027246159

## **INTRODUCTION:**

HT is a metabolic/physiological risk factor and a result of modifiable behavioral risk factors like unhealthy diet, lack of physical activity<sup>1</sup>. It is responsible for cardiovascular diseases (CVDs) and its complications. Out of approximately 17 million deaths per year by CVDs globally, around 9.4 million deaths are attributed to the complications of HT. HT causes 45% and 51% of deaths due to heart disease and stroke respectively worldwide<sup>2</sup>. In India hypertensive disease caused 261694 deaths in 2013 with the rise of 138% since 1990<sup>3</sup>. Overall prevalence of HT in India was found to be 29.8% with 25% in (rural) and 33.8% in (urban)<sup>4</sup>. In 2016, U.P. witnessed 23.7% deaths due to CVDs which were the highest in the group of (40-69) years<sup>5</sup>. HT can be prevented and early detected if the proper measures are taken in primary health care which is the essential service of Primary Health Centres (PHCs). But due to scarcity of effective policies these services at PHCs appear to be in the pitiable state. At the present transitional stage of disease epidemiology and demography PHCs warrant immediate rectification to prevent and early detect HT and its complications<sup>6</sup>.

### ***Aims & objectives:***

The present study aims to analyze the state of health education in the primary health centres for the prevention and early detection of HT in rural area of Uttar Pradesh, India.

## **MATERIAL AND METHODS:**

A two-stage stratified random sampling technique, with proportional allocation to choose about (10%) of patients visiting to 12 rural PHCs, was adopted. In the first stage, simple random sampling was used to select the PHCs from 6 blocks. In the second stage, the sample of subjects selected from each chosen PHC, using simple random sampling without replacement comprising of 874 patients and probability proportional to size sampling procedure to meet the feasible acceptance of the results. A descriptive cross sectional survey was conducted by using pre-structured questionnaire to collect the information from 874 patients of district Rampur, Uttar Pradesh. Data was collected in two domains (knowledge, attitude, and perception of patients and level of health education at PHCs) with a focus on prevention and early detection of HT at PHCs. All the considered questions were adequately reliable with Cronbachs Alpha of 0.75. Data was collected during June-July 2017 under the guidance of the researcher who gave a brief introduction regarding the objectives and relevance of the study. It was ensured that all respondents understood each and every question and completed the questionnaire timely. The responses were collected and analyzed by

SPSS 20v .The results have been presented in the form of frequencies and percentages.The comparison was done by chi square test.

## **RESULTS:**

Out of 874 respondents, 509 (58.2%) were males and 365 (41.8%) were females. Interval of age was 35-70 years. Complaints of respondents included breathing problem in 176 (20.1%) cases followed by dizziness in 144(16.5%) and tachycardia in 136(15.6%) and complaint of HT in 117 (13.3%) subjects. Only 127 (14.5%) respondents knew their hypertensive status. More than half 476, (54.4%) respondents were illiterate, while 118(13.5%) and only 49(6%) had completed up to primary and middle-level education respectively. We made a comparison test between the level of education and the knowledge of HT and it was found that the result was significant at 99% confidence interval as it has been seen that with the level of education, the knowledge of HT increases. (59%) and (26%) subjects had smoked and consumed alcohol in lifetime. More than half 474(54.2%) and 464(53.1%) had no awareness of HT and its risk factors. Out of 410 respondents who were aware of risk factors 231(26.4%) had perceived that the cause of HT was increase intake of salt followed by smoking 129 (14.8%) and fatty foods 50(5.7%). Out of total respondents only 180(20.6%) measured B.P 1-2 times in a month while 664(76%) never checked their BP. Among aware subjects,87/400 (21.8%) and 87/410 (21.2%) respondents reported to have knowledge of HT and its risk factors respectively by PHC doctors. Only 245 (28%) subjects had been diagnosed with HT in lifetime and out of those only 77(31.4%) had been diagnosed by PHC doctors. Out of 245 respondents, 195(80%) who were diagnosed with HT in lifetime didn't take medicine regularly and out 195, 156(80%) respondents didn't feel that regular medication for HT is necessary.

## **DISCUSSION:**

Awareness of hypertensive status in current study is less than the studies by Anchana et al., K. RAnanthachari et al.,Roy et al.<sup>4, 7-8</sup> which showed (25%), (24.1%) and (32.7%)awareness of the hypertensive status respectively it might be due to the difference between rural area and urban slums and higher literacy rate in south India and Delhi in comparison to Uttar Pradesh. Knowledge of HT400 (45.8%) in current study is lesser than the study by Chandramanietal<sup>9</sup>. which showed (73%)had the knowledge of HT and higher than the study done in Karnataka and TMU, Moradabad U.P, which showed (13.4%) subjects had knowledge of HT and(27.7%) had good score of knowledge respectively<sup>10-11</sup>.The study revealed that there is a strong association between the level of education and knowledge of HT as p value  $\leq 0.01$  it also suggested that education level plays an

important role in the knowledge and awareness among rural population. Present study is also endorsed by the studies done by Chandramani et al.<sup>9</sup> and Shankar et al.<sup>10</sup> According to the studies in Jharkhand and Karnataka (31.9%) and (75.6%) respondents were aware about the relation of HT with salt intake which is higher than our study which might be due to the fact that current study included respondents from rural areas only<sup>9-10</sup>. A study by Swati Khan<sup>12</sup> revealed that (5.57%) subjects believed that fat was responsible for HT and can be prevented by controlling diet/fat which is in line with our study. A study revealed that the knowledge of risk factors of HT is poorer among people aware of their hypertensive status<sup>13</sup>. Results shows that the proportion of health education by PHC in order to prevent and early detect the HT was very low in comparison to private health facilities which implies the lack of required focus on health education and capacity building of existing healthcare workforce. Current study found 245(28%) subjects who were diagnosed with HT in lifetime which is higher than the prevalence of HT (25%) by Anchala et al.<sup>4</sup>, (11%) by Swati Khan<sup>12</sup>, (17.9%) by Anindo et al.<sup>14</sup>, (21.6%) by Prem kumar et al.<sup>15</sup>, (14.1%) by Kishor et al.<sup>16</sup> and (25.9%) by Goswami et al.<sup>17</sup> Another study by Chow C et al.<sup>18</sup> found 40.8% prevalence of HT which is higher than current study because in this study only rural population is included. According to Chinnakali et al.<sup>19</sup> about 54.7% respondents were diagnosed with HT at government health facilities either at primary health centers (PHCs) or a government hospital which is higher in comparison to current study. It might be attributed to the higher literacy rate and better public health services in south India than northern part. Study showed that a big chunk of hypertensive patients were not given any advice to modify behavioral risk factors, regular BP monitoring and regular medication which deducts the lack of attentiveness in PHC towards the prevention and early detection of HT and other CVDs. **(Table-1)** According to Siraj et al.<sup>11</sup> 4.0% were having their blood pressure monitored at 15 days interval which is less than the data found in our study it may be due to the bigger time interval used in current study and inclusion of hypertensive as well as normotensive subjects. Study done in rural Karnataka and Tamil Nadu showed (50%) and (24.1%) had good compliance and prevalence of adherence respectively which is more than our findings (20%)<sup>10, 20</sup>. It might be because of low awareness of HT complication among studied population which becomes graver combined with insufficient health education status in PHCs.

**Table No.1 :- Status of Health Education at PHCs among patients who complained of HT (N=117)**

	<b>Advice by doctors of PHCs</b>	<b>Number (N)</b>	<b>Percentage (%)</b>
1	Advice for modifying behavioral risk factors i.e. avoid unhealthy diet, smoking, use of alcohol etc.	30	26%
2	Advice for measuring BP regularly	49	42%
3	Advice for regular medication for HT	77	66%

## **CONCLUSION:**

Awareness of HT and its associated behavioral risk factors was very low among rural population of northern India. Due to the scarcity of human and other resources and lack of evidence based policy PHCs are also not able to deliver effectively in term of health education for prevention and early detection of HT and other non-communicable diseases (NCDs).

## **RECOMMENDATION:**

There is a need of interdisciplinary, community centered and holistic approach to reduce behavioral risk factors i.e. harmful use of alcohol, physical inactivity, obesity and high salt intake, is essential for prevention and early detection of HT. Community Health Workers (CHWs) could play a significant role in opportunistic screening of HT and its awareness among population. Healthcare services especially in PHCs should be strengthened by regular capacity building to achieve the objectives of Universal Health Coverage.

**RELEVANCE OF THE STUDY:** Present study critically analyses and provides evidence regarding level of health education for HT in the PHCs of rural India.

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