



Assessment of Knowledge Regarding Risk Factors and Complications of Hypertension among Hypertensive Population In Urban Field Practise Area of Osmania Medical College, Hyderabad.

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Abstract

Background: Hypertension is defined as an average systolic blood pressure 140 mm Hg or greater, diastolic blood pressure 90 mm Hg or greater. Hypertension is an important worldwide public-health challenge because of its high frequency and risk factor for cerebrovascular, cardiovascular and kidney disease (Wolz et al, 2000).

The World Health Organization (WHO) has estimated that about 62% of cerebrovascular disease and 49% of ischemic heart disease burden worldwide are attributable to suboptimal blood pressure levels. Hypertension is one of the most important modifiable risk factors for cardiovascular diseases (WHO 2012).

Objectives: To assess Knowledge regarding the risk factors and complications of hypertension among hypertensive population in urban field practice area of Osmania Medical College, Hyderabad.

Methodology: A cross sectional study was conducted among hypertensive population in urban field practice area of Osmania Medical College, Hyderabad during October 2015 to November 2016. A sample of 376 was derived and cluster sampling was done. Taking the awareness as 50%, confidence interval 95% and relative precision of 15%, sample of 376 was arrived.

Results: Majority of the study population belonged to the age group of 50-69 years with mean age of 50.8065 ± 13.3727 and were females. The mean duration of hypertension was 6.3871 ± 5.2476 .

Majority of them knew that high salt intake (100%) and obesity (86.1%) are the risk factors for hypertension. Majority (78.99%) of them did not know that hypertension is risk factor for cardio vascular and cerebro vascular disease.

Conclusions: The knowledge regarding hypertension being the complication for cardio vascular and cerebro vascular diseases cannot be considered adequate.

Keywords: Hypertension, Cardio vascular disease, Cerebro vascular disease.

Introduction

Hypertension is an important public-health challenge worldwide. Prevention, detection, treatment, and control of this condition should receive high priority. Hypertension is defined as an average systolic blood pressure 140 mm Hg or greater, diastolic blood pressure 90 mm Hg or greater¹.

Currently developing countries especially India, are in the phase of epidemiological transition largely due to demographic, nutritional, environmental and life style changes². Hypertension is an important worldwide public-

health challenge because of its high frequency and risks factor for cerebrovascular, cardiovascular and kidney disease (Wolz et al, 2000). The World Health Organization (WHO) has estimated that about 62% of cerebro vascular disease and 49% of ischemic heart disease burden worldwide are attributable to suboptimal blood pressure levels where by high blood pressure is estimated to cause 7.1million deaths annually, accounting for 13% of all deaths globally (WHO, 2006)³.Hypertension is one of the most important modifiable risk factors for cardiovascular diseases (WHO 2012)⁴.

Global burden of hypertension by Kearney et al, 2005 projected that the number of, adults with hypertension will increase by 60% to a total of 1.56 billion (1.54 billion–1.58 billion) in 2025. Most of this rise can be attributed to an expected increase in the number of people with hypertension in economically developing regions, where by between 2000 and 2025, the worldwide prevalence of hypertension was predicted to increase by 9% in men and 13% in women because of projected changes in the age distribution of the population. Specifically, a larger proportion of the world population is expected to be older by 2025.

Need for the study

The significant increase in the prevalence of hypertension can be attributed to change in the lifestyle and inadequate knowledge regarding the risk factors that cause hypertension. The knowledge regarding the risk factors and complications of hypertension plays a very major role in decreasing the prevalence of the disease in the community.

The knowledge regarding the risk factors and complications of hypertension among hypertensives plays a very major role in decreasing the cardio vascular and cerebro vascular disease burden on the community and it

also improves life expectancy and enables to lead a better quality of life.

Hence this study is taken up to evaluate the knowledge regarding risk factors and complications of hypertension among the hypertensive population residing in urban field practice areas of Osmania Medical College, Hyderabad.

Objectives

To assess Knowledge regarding risk factors and complications of hypertension among hypertensive population in urban field practice area of Osmania Medical College, Hyderabad.

Methodology

A community based cross sectional study was conducted among hypertensive population in urban field practice area of Osmania Medical College, Hyderabad during October 2015 to November 2016. The Urban field practice area (Harrazpenta) is located at 3 kilometers from Osmania Medical College. This includes 29 urban areas with total population of 45585. (Source: household register maintained at UHC).

Sample size calculation

Assuming that the knowledge regarding risk factors and complications of hypertension is 50%⁵, with a 95 percent confidence interval, relative precision of 15%, the sample size was estimated to be 171. Since the sample selection procedure was cluster sampling a design effect of 2 was used to estimate the final sample size using the following formula.

$$N = \text{design effect} \times \frac{(1.96)^2 (p \times q)}{l^2}$$

Where,

- N = Number of eligible participants included in the study
- p = prevalence of adherence to Hypertension treatment
- q = 100 - p

- 1 = allowable relative error, here taken as 15% of p i.e., 7.5
- design effect, here taken as 2,
- Hence, the sample size is

$$\begin{aligned} N &= 2 \times (1.96)^2 (50 \times 50) \\ &\quad (7.5)^2 \\ &= 342 + 10\% \text{ (attrition)} \\ &= 376 \end{aligned}$$

Estimated sample size is 376 Hypertensive subjects in 30 clusters across Harazpenta area. In each cluster around 13(12.5) Hypertensive subjects were interviewed (376/30=12.5).

Sampling Technique: Cluster sampling.

Procedure:

Step1: Listing of all areas in the Harazpenta, which is the urban field practice area of Community Medicine Department, Osmania Medical College, Hyderabad.

Step2: Cumulative population of each area was determined.

Step3: The sampling interval was determined using the formula: Total Cumulative Population/30 clusters

Step4: A random number was then selected which was less than or equal to the sampling interval. This identifies the 1st cluster. By adding the sampling interval to the random number, 2nd cluster was identified. Subsequent clusters were similarly identified till 30 random clusters were formed.

Selection Criteria: The subjects for the study were selected based on the following criteria, after a written informed consent was obtained following national guidelines.

Inclusion criteria:

- Diagnosed Hypertensive subjects who were on drug treatment for more than 1year were included in the study.

Exclusion Criteria:

- Children.
- Individuals less than 20years
- Individuals more than 80years
- Seriously ill patients
- Individuals who are not willing to give consent.

Ethical Considerations: Ethical clearance was obtained in November 2015 from the Institutional Ethical Committee (IEC), Osmania Medical College, Koti, Hyderabad. The study was started after obtaining the ethical clearance.

Data Collection: Sample size being 376 and selected clusters being 30, total of 13 Hypertensive subjects are selected from each cluster. A central location of the selected cluster was identified with the help of a local person and using the center of the cluster as a starting point; a spin bottle method was used to identify the direction of proceeding for the survey. All consecutive houses on the right side of the road were visited until the required number of 13 Hypertensive subjects was reached. Diagnosed Hypertensive subjects who were on treatment for more than 1year are interviewed personally in their local language by using a pre-designed, pre-tested, semi structured and pre-coded proforma which was prepared in consultation with the faculty. The questions were partially closed ended. The duration of the interview, on an average was 20 minutes for each participant.

Data was entered by using MS excel and analyzed by using Epi Info 7.2.1.0.

Operational definitions for Hypertensives: Considered those who self reported with a prescription for Hypertension treatment from a modern medical practitioner.

Results

Majority of the study population belonged to the age group of 51-60 years with mean age of 50.8065 ± 13.3727

and were females. The mean duration of hypertension was 6.3871 ± 5.2476 .

Table 1 showing frequencies of various variables:

Variable	Frequency	Percentage
Age in years		
<= 30	8	2.12%
31-40	50	13.3%
41-50	91	24.2%
51-60	113	30.05%
61-70	89	23.67%
71-80	25	6.65%
Total	376	100.00%
Mean \pm SD	50.8065 ± 13.3727	
Gender		
Female	245	65.15%
Male	131	34.85%
Total	376	100.00%
Duration of Hypertension (years)		
1-5	278	73.9%
6-10	62	16.4%
>10	36	9.5%
Total	376	100
Mean \pm SD	6.3871 ± 5.2476	
Diagnosis of hypertension		
During regular check up	24	6.38%
During Medical consultation for other cause	159	42.29%
During consultation for heart disease	24	6.38%
During consultation for symptoms related to hypertension	169	44.95%
Total	376	100.00%
Regularity of check ups		
Weekly	13	3.46%
Monthly	134	35.64%
Once in three months	60	15.96%
Once in 6 months	12	3.19%
Whenever I feel sick	157	41.76%

Total	376	100.00%
Modifiable risk factors for hypertension		
Tobacco, Alcoholism, High Salt Intake, Obesity	13	3.46%
Tobacco, Alcoholism, High Salt Intake, Obesity, Physical Inactivity, Stress	26	6.91%
Alcoholism, High Salt Intake, Obesity, Physical Inactivity, Stress	13	3.46%
High Salt Intake	39	10.37%
High Salt Intake, Obesity	230	61.17%
High Salt Intake, Obesity, Physical Inactivity	14	3.72%
High Salt Intake, Obesity, Physical Inactivity, Stress	15	3.99%
High Salt Intake, Obesity, Stress	13	3.46%
High Salt Intake, Stress	13	3.46%
Total	376	100.00%
Complications of hypertension		
Cardiovascular disease and Cerebro vascular disease	66	17.55%
Only Cardiovascular disease	13	3.46%
None	297	78.99%
Total	376	100.00%
End organ damage		
Kidneys	26	6.91%
Eyes	14	3.72%
Don't know	336	89.36%
Total	372	100.00%

Figure 1: Distribution of study population according to age.

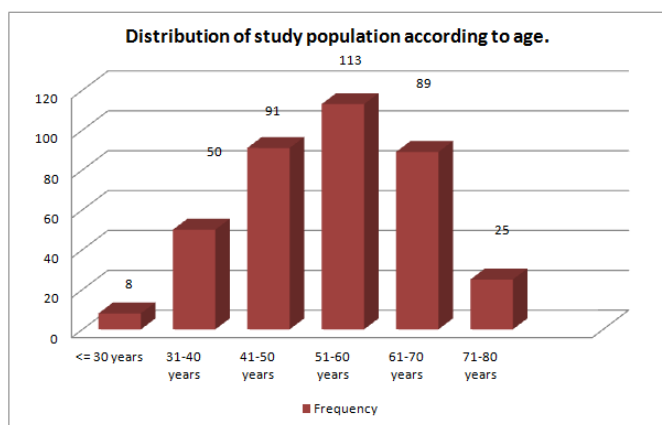


Figure 2: Distribution of study population according to gender.

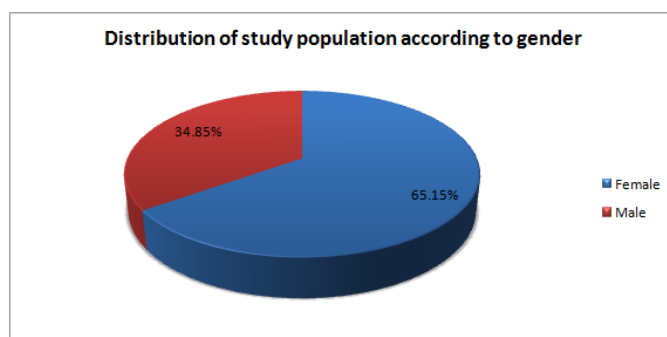


Figure 3: Distribution of study population according to duration of hypertension.

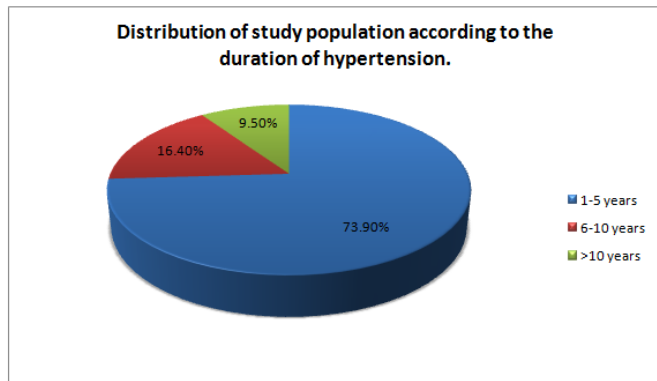


Figure 4: Distribution of study population according to diagnosis of hypertension.

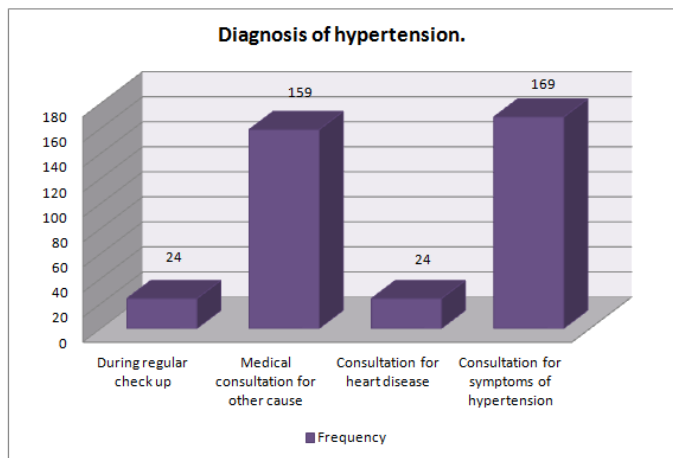


Figure 5: Distribution of study population according to regularity of checkups.

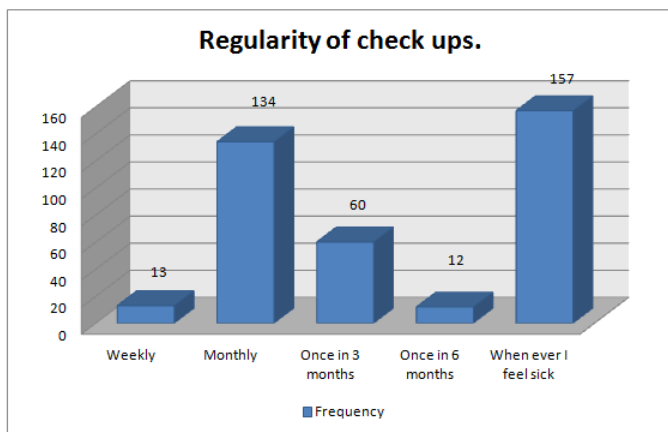


Figure 6 : Distribution of study population according to knowledge regarding risk factors of hypertension.

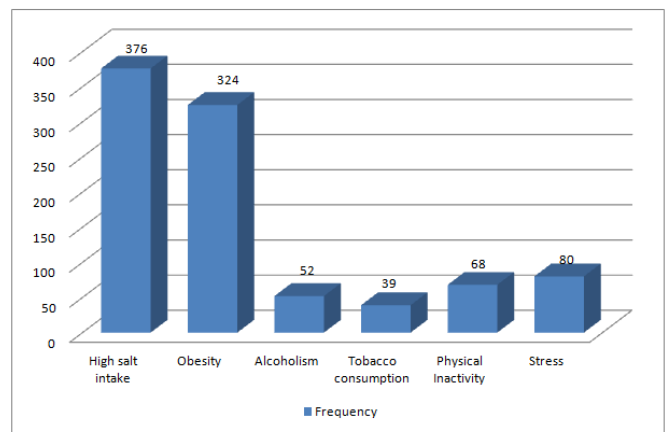


Figure 7: Distribution of study population according to knowledge regarding complications of hypertension.

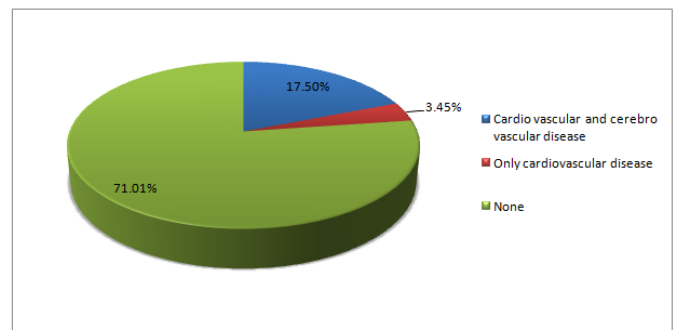
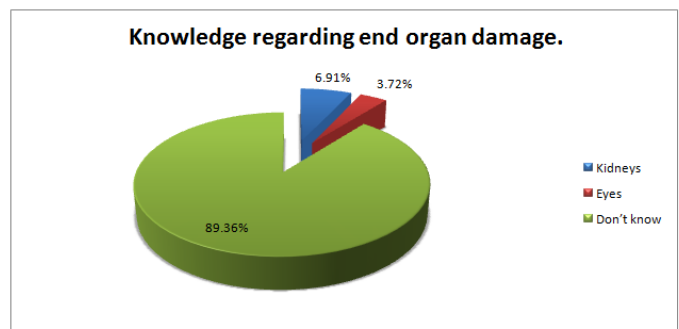


Figure 8: Distribution of study population according to knowledge regarding end organ damage.



Discussion

This study was carried out in the urban field practice areas of Osmania Medical College, Koti, Hyderabad. The study population or subjects were the ones who had developed hypertension and were on treatment. The knowledge regarding the risk factors of development of hypertension and its complications play a major role in prevention of hypertension and improving the quality of life among the

hypertensives. There is very limited research on hypertensive population in this particular area.

Knowledge regarding the risk factors for hypertension plays a very crucial role in development of this non communicable disease. Imparting appropriate knowledge regarding the risk factors of hypertension will play a major role in decreasing the incidence of hypertension in the near future. The study population had adequate knowledge regarding salt intake and obesity. But the knowledge related to other risk factors like stress, tobacco, alcoholism and physical inactivity was limited.

Life style modification along with behavior change communication will help in minimizing the damage that occurs due to the chronicity of risk factors which may lead to complications of hypertension like cerebro vascular and cardio vascular diseases. The other complications like hypertensive nephropathy and hypertensive retinopathy can be handled with life style modifications and behavior change communication.

Poor knowledge regarding the risk factors led to development of hypertension but continuing the same will land them in complications which severely impair the quality of life and also increases the economic burden on the individual's family and as well as the community. The economic burden will further affect the quality of life of other family members.

Hence it is very important to provide information to all the diagnosed hypertensive patients regarding the risk factors and complications of hypertension so that they can protect themselves from the complications. This should be the responsibility of the general physicians or community physicians who are prescribing medications for hypertension. Life style changes like yoga or meditation for coping up with stress, abstinence from alcohol and smoking, regular physical exercise for at least 30 min every day to remain physically active to maintain normal

blood pressure levels. These modifications will help in halting the progression the disease and thereby preventing complications.

Diagnosed hypertensive populations are having minimal knowledge regarding the risk factors and complications. The knowledge will be very less in the general population regarding the same.

Conclusions

- The knowledge regarding the risk factors among hypertensive population cannot be considered adequate as only high salt intake and obesity were only perceived as the risk factors of hypertension.
- The knowledge regarding the end organ damage and complications of hypertension is very minimal. This will contribute to the increase in the incidence of cerebro vascular and cardio vascular diseases.

Recommendations

- The level of knowledge was only assessed in the present study. Further studies can be taken up to identify the factors that are responsible for their knowledge and improve the same to ensure better quality of life.
- Health education should also include the knowledge regarding end organ damage and complications of hypertension.

Strengths

- Community based study.
- Diagnosed hypertensives were the study population. Most of the studies were and are being done in general population to estimate the prevalence of hypertension and its risk factors.
- The results of the study can be generalized to hypertensive population.

Limitation

- It has all the limitations of cross sectional study, associations could not be drawn.

Source of funding: NIL

Conflicts of Interest: None.

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