The Incidence and Prevalence of Hypertension in Patients Attending OP of Annapoorna Medical College and Hospital, Salem

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Abstract
Hypertension is a major health problem which affects most of the people in the world and it needs so importance because it causes major risk factors which cause various complications.

Objectives
1. To know the incidence and prevalence of hypertension.
2. Assessment of patient’s knowledge, attitude and practice regarding hypertension.

Materials and Method: The study is to be conducted among the patients attending OP of annapoorna medical college and hospital, salem, spread over three month April –June 2019. A total of 200 patients could be studied over this period. The aim of this study was to explore the prevalence and awareness of hypertension A suitably designed and validated KAP questionnaire was administered to hypertensive patients. This questionnaire was filled in at face to face interview along with inform consent. Results. Around 18.2% of patients using tobacco are hypertensive. Person more than 35 years are hypertensive than those less than 35 years.

Conclusion: There is significant burden of hypertension in areas around annapoorna medical college and hospital, salem. Independent risk factors of hypertension are age, education, and levels of cholesterol. The patient should be educated about the importance of the physical activity.

Keywords: Hypertension, KAP.

Introduction
Hypertension is a health problem in majority of the public due to its increase prevalence all around the globe. Around 8 million deaths or 13.8% of the total of all deaths which occur in the world due to high blood pressure. It is obvious that it increase to 1.56 billion adults with hypertension in 2030. Raised blood pressure is a major risk factor for chronic heart disease, stroke, and coronary heart disease. Elevated BP is the risk factor of stroke and coronary heart disease. Other than coronary heart disease and stroke, its complications include heart failure, peripheral vascular disease, renal impairment, retinal hemorrhage, and visual impairment.

Non communicable diseases, especially Coronary Artery Disease (CAD) including hypertension is a major risk factor that accounts for almost 45% to 50% of deaths CAD are nowadays increasingly seen in working people in age group of 30-65 years. Blood pressure is the single most useful test for identifying individuals with CAD. Studies in the past show a prevalence of hypertension to be 4-8% in adults and a little higher in urban population 16.6%. Such a high morbidity and mortality has generated concerns among general population.
Blood pressure generally tends to rise with age. Heredity and obesity also play a important role in the development of hypertension. The common modifiable risk factors for hypertension is due to consumption of high fat and sedentary life style, smoking, alcoholism, stress, etc. These factors are related to each other such that appearance of one factor paves the way for CAD. Therefore prevention of primary risk factors and its early diagnosis and treatment will delay non-communicable diseases and CAD. In India according to current trends number of deaths by non-communicable diseases would increase from 4.8 million in 1990 (45% of all deaths) to 8.5 million in 2020 (73% of all deaths).

**Objectives**

1. To know the incidence and prevalence of hypertension among the patients attending annapoorna medical college and hospital salem.
2. Assessment of patient’s knowledge, attitude and practice regarding hypertension.

**Materials and Method**

The study is to be conducted among the patients attending op of annapoorna medical college and hospital salem spread over three month April – June 2019. A total of 200 patients could be studied over this period. The subjects were interviewed and clinical examination was done including measurement of blood pressure, height and weight, after obtaining their consent. Blood pressure was measured by mercury sphygmomanometer. Two readings were taken at an interval of 10-15 minutes and the lower reading was considered for the purpose of this study. Height in centimeters and weight in kilograms was measured with standard clothing. According to JNC 7 criteria, if systolic BP is >140 or equal to 140 mm hg or if diastolic BP >90 or equal to 90mm hg or if already on anti-hypertensive treatment was considered to be hypertensive. The aim of this study was to find the prevalence and awareness of hypertension.

A total of 200 hypertensive patients with or without comorbid condition were included. Adults of age more than 30 years were selected and this study was done by simple random sampling method. To find out whether the patient are aware of complication of uncontrol hypertension. A total of 21 questions were framed, with 8 questions related to knowledge about hypertension, 6 questions to assess the attitude of the patient towards hypertension and 7 questions regarding practice.

| JNC 7, the Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure; SBP, systolic blood pressure; DBP, diastolic blood pressure. |
|---|
| SBP (mmHg) | DBP (mmHg) |
| Normal | <120 | <80 |
| Prehypertension | 120-139 | 80-89 |
| Stage 1 | 140-159 | 90-99 |
| Stage 2 | >160 | >100 |

**Analysis**

**Table 1** Sociodemographic characteristics of the study subjects.

| Variable | Subgroups | n=1180 | Non hypertensive | % | n=200 | Hypertensive | % |
|---|---|---|---|---|---|---|---|
| Gender | Male | 455 | 85.6 | 76 | 14.4 |
| | Female | 725 | 85.4 | 124 | 14.6 |
| Age | Less than 35 years | 580 | 95.3 | 28 | 4.7 |
| | More than 35 years | 600 | 77.8 | 172 | 22.2 |
| Religion | Hindu | 1152 | 85.6 | 193 | 14.4 |
| | Others | 28 | 80 | 7 | 20 |
| Education level | Literate | 966 | 88.6 | 124 | 11.4 |
| | Illiterate | 214 | 73.7 | 76 | 26.3 |
| Occupation | Stressless | 1001 | 85.1 | 179 | 14.9 |
| | Stressful | 179 | 89.5 | 21 | 10.5 |
Table 2 Risk factors of study subjects

| Variable            | Subgroups | Non hypertensive | Hypertensive |
|---------------------|-----------|------------------|--------------|
| Tobacco Use         | Yes       | 124 (81.5%)      | 28 (18.5%)   |
|                     | No        | 1056 (85.9%)     | 172 (14.1%)  |
| Alcohol Use         | Yes       | 62 (74.6%)       | 21 (25.4%)   |
|                     | No        | 1118 (86.1%)     | 179 (13.9%)  |
| Total Cholesterol   | Raised    | 338 (78.9%)      | 90 (21.1%)   |
|                     | Normal    | 842 (88.4%)      | 110 (11.6%)  |
| HDL                 | Raised    | 1124 (85.3%)     | 193 (14.7%)  |
|                     | Normal    | 56 (88.8%)       | 7 (11.2%)    |
| Triglycerides       | Raised    | 241 (81.4%)      | 55 (18.6%)   |
|                     | Normal    | 939 (86.6%)      | 145 (13.4%)  |
| Body Mass Index     | Underweight| 131 (90.3%)     | 14 (9.7%)    |
|                     | Normal    | 372 (88.5%)      | 48 (11.5%)   |
|                     | Overweight| 179 (76.4%)      | 55 (21.5%)   |
|                     | Obese     | 498 (85.7%)      | 83 (14.3%)   |

Figure 1

Figure 2
Table 3: Attitude questions

| Question                                                                 | Yes | No  | Percentage |
|--------------------------------------------------------------------------|-----|-----|------------|
| Do you think regular medications will improve the disease                | 179 | 21  | 89.5       |
| Do you think medications alone can control HTN                           | 180 | 20  | 90         |
| Do you think diet control will improve the condition                     | 116 | 84  | 58         |
| Do you think salt reduction can control hypertension                     | 133 | 67  | 66.5       |
| Do you think regular physical activity is essential                       | 73  | 127 | 36.5       |
| Avoiding extra cooking oil                                               | 109 | 91  | 54.5       |

Table 4: Knowledge related questions

| Question                                                                 | Yes | No  | Percentage |
|--------------------------------------------------------------------------|-----|-----|------------|
| How did you come to know about your htn                                  | 169 | 31  | 84.5       |
| Do you have any relatives with history of htn-                           | 53  | 147 | 26.5       |
| Do you know what are the complications of htn                            | 48  | 152 | 24         |
| Do you know normal level of blood pressure                               | 104 | 96  | 52         |
| Do you know the symptoms of htn                                          | 65  | 135 | 32.5       |
| Do you think smoking and alcohol consumption cause htn                   | 114 | 86  | 57         |
| Do you think obesity is associated with htn                              | 93  | 107 | 46.5       |
| Do you know the names of your prescribed drugs                           | 60  | 140 | 30         |

Table 5: Practice related questions.

| Question                                                                 | Government | Private | Percentage |
|--------------------------------------------------------------------------|------------|---------|------------|
| Where you was first diagnosed with HTN                                   | 91         | 109     | 45.5       |
| Did you ever experienced any side effect                                | 6          | 194     | 3          |
| Did you ever taken double dose                                           | 129        | 71      | 64.5       |
| Are you avoiding extra added salt                                       | 122        | 78      | 61         |
| Are you doing any physical exercise daily                               | 33         | 167     | 16.5       |
| Are you taking your drugs regularly                                     | 129        | 71      | 64.5       |

Discussion

The prevalence of hypertension was 14.4% (200/1380) among study subjects. Table 1 shows the socio demographic characteristics such as age, sex, and religion of non hypertensive (n = 1180) and hypertensive (n = 200) groups. The hypertension was found out to be more in individual with age group more than 35 years. There was significant difference between the two groups with respect to age. The majority of hypertensive patients in my study are female 14.6%. Table 2 shows about the risk factors of both hypertensive and non hypertensive groups. From this study we can clearly see that there was no significant difference in tobacco intake. The hypertension was significantly higher in individual who consumes alcohol. Cholesterol levels were measured among study subjects.
Hypertension was found in 21% of subjects with raised total cholesterol level and 11.6% among those with normal values. Similarly there was difference in raised triglyceride levels in the both groups. A significantly higher number of study subjects were hypertensive overweight and obese group as compared to the other group. Table 3 is question related to knowledge in which we found out that patient is not aware of symptoms 67.5% and complications of hypertension 76% were as they are aware of normal blood pressure 52% and the side effects of smoking and alcohol in related to hypertension 57% from this table it clearly shows patient is not aware of control blood pressure. Table 4 shows that patients are aware of taking regular medication 89.5% and importance of diet control 58% and 63.5% are not aware of importance of physical activity which is useful for treatment for hypertension.

Conclusion
From this study we can concluded that the prevalence of hypertension is high in area around annapoorna medical college and hospital salem. So the people around this area are vulnerable to several chronic diseases and other unbearable health problem. Specifically females are more risk of being hypertensive than male. Independent risk factor for hypertension was found out to be increasing age. Weight management, increased fruits and vegetables consumption, physical activity and reduction in tobacco and alcohol use are required and recommended. The subject had poor knowledge on hypertension. So people requires awareness about complication of hypertension, regular use of medication and physical activities.

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