

Prevalence of hypertension and knowledge regarding life style modification of hypertension among office workers in a selected office, Shillong, Meghalaya

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Abstract

Introduction: Hypertension is a global public health problem and one of the leading causes of morbidity and mortality. Early detection of hypertension can prevent the complications of hypertension. Appropriate lifestyle changes have become the cornerstone in the prevention and control of hypertension.

Methodology: A cross sectional study design was conducted among the office workers in a selected Government Office (GMTD BSNL Office), Shillong Meghalaya from 1st March to 27th March 2021. Total of 104 office workers were selected using non-probability convenient sampling technique. Data was collected by using bio-physical measurement and self-administered questionnaires. Data was analysed using descriptive and inferential statistics.

Results: The present study reveals that among 104 participants, prevalence of Hypertension were 43(41.34%), Pre -hypertension were 44 (42.31%) and Normotensive were 17(16.35%).

From the study, it was found that out of 104 participants, 52(50%) had moderate adequate, 42(40%) had adequate

and 10(10%) had inadequate knowledge regarding life style modification of hypertension. Among 43 hypertensive participants, 3(7%) had inadequate knowledge, 23(53%) had moderate adequate and 17(40%) had adequate knowledge regarding life style modification of hypertension. Significant association was found between Knowledge of hypertension with level of education and family history of hypertension.

Keywords: Hypertension, Prevalence, Knowledge, Life style modification of Hypertension.

Introduction

Hypertension is a global public health problem and one of the leading causes of morbidity and mortality³. Hypertension is a major contributor to the global disease burden. The estimated world population that is 972 million (26.4%) people had hypertension in 2000 and the prevalence is expected to increase to 29.2 % by 2025 in economically developing countries.⁵

According to study conducted by Dubey M, Choudhary Y, Bhatia P, et al. (2016), it was found that the prevalence of hypertension among office workers was

high with 53.33% hypertensives and 25% prehypertensive³.

According to the Joint national committee 7 (JNC7), Normal blood pressure is a systolic blood pressure <120 mmHg and diastolic blood pressure <80 mmHg. Hypertension is defined as systolic blood pressure level of more than or equal to (\geq) 140mmHg and /or diastolic blood pressure more than or equal to (\geq) 90mmHg and current use of antihypertensive medication¹⁰. The systolic blood pressure between 120-139mmHg and diastolic blood pressure between 80-89 mmHg is defined as "pre hypertension"⁸. Prehypertension subjects are at more risk of developing Hypertension¹⁰.

In India, hypertension is the major health problem. Lifestyle measures including reduction of salt intake, stopping tobacco intake, and reduction of body weight in those who are obese, are part of the management of all patients with hypertension².

Methodology

A cross sectional study design was adopted among the office workers in a selected Government Office (GMTD BSNL Office), Shillong Meghalaya. Total of 104 office workers were selected in a study using non-probability convenient sampling technique. The study was conducted from 1st March to 27th March 2021. The research tool consists of bio-physical measurement (height, weight, Blood Pressure), socio-demographic characteristics and structured knowledge questionnaires was validated by expert from various departments of Nursing, cardiology, Medicine and Community Medicine. Purpose of the study was explained, confidentiality was assured and informed consent was taken from the office workers. Reliability of the tool was established by using Karl Pearson's Coefficient Correlation formula and reliability of weighing machine, BP apparatus and height -scale

(measuring tap) were done by calibrating the instruments. The pilot study was conducted and found to be feasible to be carried out in the main setting as proposed. Data was collected by bio-physical measurement. weight, height and blood pressure of all participants were measure and recorded. Weight was measured using a weighing machine, which was place on a level surface and participants was asked to stand on it without any footwear and with light covered clothing. Prior to the measurement, the scale will be calibrated to the zero level. Height was measured using a measuring tape with an accuracy of 0.1 cm, standing against a wall with bare foot. Blood Pressure was measured by using an Automatic blood pressure Monitor Device (OMRON-HEM 8712) for three times in 15 (fifteen) minutes intervals in sitting position in the left arm with a cuff of the appropriate size following standard recommended procedure. The average of three readings of blood pressure was calculated and considered for data analysis. Hypertensive subjects were defined as those with systolic blood pressure (\geq) equal to or more than 140mmHg and /or diastolic blood pressure (\geq) equal to or more than 90mmHg or those being treated for hypertension.

Further, Body Mass Index (BMI) was calculated by measuring the person's weight in kilogram divided by the square of person's height in metres ($BMI=kg/m^2$). Body Mass Index will be classified into underweight, normal, overweight and obese based on the World Health Organization guidelines.

Information on knowledge of hypertension regarding life style modification of hypertension was collected through a using self-administered knowledge questionnaires consisting of two sections. section I: Socio-Demographics characteristics, section II: A structured knowledge questionnaires consisting of 30 nos. of

questions. Each question was given one mark for a correct answer and zero for an incorrect answer and no negative marking. The maximum score was 30 and to interpret the knowledge the score was distributed as inadequate (≤ 14), Moderate adequate (15-22) and Adequate (≥ 23). Data was analysed using descriptive (frequency. Percentage) and inferential statistics (chi square). P value was less than ($<$) 0.05 considered as statistically significant.

Results

Frequency and percentage distribution of socio demographic characteristic of the participant

The study finding reveals that, out of 104 participants, majority of the participants 39 (38%) were age group of 41-50 years, 58(56%) females with regards to educational status, 44(42%) were graduate and 89(86%) were married. Majority 54 (52%) had annual income between 1-5 lakhs.

Out of 104 participants, majority of 81(78%) had no history of hypertension, 86 (82.69%) had no family history of hypertension, 91(87.5%) had no family history of diabetes and 93(89.42%) had no habits/ addiction to smoking, alcohol and tobacco form.

Finding related to the prevalence of hypertension of the participants

The study finding showed that out of 104 participants, 44(42.31) were pre-hypertension, 43(41.34%) were hypertension and 17(16.35%) were normotension

The study finding reveals that out of 43(41.34%) hypertension, 20 (19.23%) were newly diagnose hypertension and 23(22.11%) were known hypertension. Out of 20(19.23%) newly diagnose hypertension, 18(17.31%) were stage-1 hypertension and 2(1.92%) were stage-2 hypertension.

Frequency and percentage distribution of body mass index of the participants

The study finding reveals that out of 104 participants body mass index, 65(62.5%) were normal, 24 (23.07%) were overweight, 3(2.88%) were obese and 12(11.53%) were under weight.

Table 1: frequency and percentage distribution showing participants level of knowledge on life style modification of hypertension. N=104

| Level of knowledge score | Frequency (f) | (%) |
|---------------------------|---------------|-----|
| Inadequate (≤ 14) | 10 | 10% |
| Moderate adequate (15-22) | 52 | 50% |
| Adequate (≥ 23) | 42 | 40% |

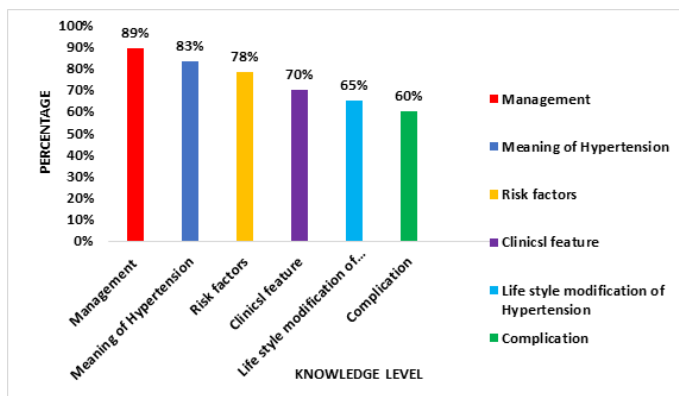
Table 1 shows that out of 104 participants, 52(50 %) had moderate adequate knowledge, 42(40 %) had adequate knowledge and 10(10%) had inadequate knowledge on life style modification of hypertension.

The study finding showed that out of 43 hypertensive participants, 23 (53%) of the participants had moderate adequate knowledge, 17(40%) had adequate knowledge and 3(7%) had inadequate knowledge on life style modification of hypertension.

Out of 44 Pre -hypertensive participants, 6(14%) had inadequate knowledge, 19(43%) of the participants had moderate adequate knowledge and 19(43%) had adequate knowledge on life style modification of hypertension.

Out of 17 Normotensive participants ,1 (6%) had Inadequate knowledge, 10 (59%) of the participants had moderate adequate knowledge and 6 (35%) had adequate knowledge on life style modification of hypertension.

Figure 1: bar diagram showing the percentage distribution of knowledge score on life style modification of hypertension on different domains. N=104



Data in figure 1 shows that out of 104 participants, 89% responded correctly on management of hypertension, 83% on meaning of hypertension, 78% responded on risk factors of hypertension, 70% on clinical feature, 65% on life style modification of hypertension and 60% responded correctly on complication of hypertension.

Association between the knowledge regarding hypertension and selected demographic variables

The study showed that there was a significant association between knowledge of hypertension with education and family history of hypertension as calculated p values were less than 0.05 (<0.05) and there was no significant association between knowledge of hypertension with age, gender, history of hypertension, history of diabetes and habit/addition as calculated p values were greater than 0.05 (>0.05)

Discussion

The major findings of the present study results were discussed in relation to the objectives of the study conducted and this was compared to the results of similar studies in the area of research.

In this study the objectives were to identify the prevalence of hypertension and to assess the knowledge regarding life style modification of hypertension among office workers in a selected office and to find the association between knowledge regarding hypertension with selected demographic variables.

According to the present study, the result shows that the overall prevalence of hypertension was found 41.34%. Out of which, newly diagnosed were 19.23% and known case of hypertension were 22.11% and 42.31% were prehypertension which is supported closely by a study conducted by Dubey M, Choudhary Y, Bhatia P et. al. (2016), to assess the prevalence of hypertension and its associated risk factors among office employees working at BSNL and LIC offices of Bhopal city with 240 employees of two offices. The study finding revealed that the prevalence of hypertension was found 53.33%, out of which 25.7% cases were newly diagnosed and 25% prehypertensive³.

In the present study, prevalence of hypertension was 41.34% and newly diagnose hypertension were 19.23% which was very similar with the study conducted by Savani NM, Chauhan RB, Chudasama RK to assess the prevalence and risk factors of hypertension among the bank employees of Rajkot City, Gujarat, India. It was found that, the prevalence of hypertension was 30.4% and 22.8% newly detected hypertension¹⁴.

The present study reported that 76% respondents agree that uncontrolled hypertension lead to heart, brain and kidney damage and 43% only agree retinal damage can occur if left untreated and there were association with educational status with knowledge of hypertension which is nearly similar to a study conducted by Ali AR Azeem Abdullahi and Jimoh A. on Knowledge of hypertension among the staff of University of Ibadan, Nigeria. Study was shown that 84% of the respondents quite agreed that stroke is one of the complications associated with hypertension although very few subjects associated hypertension to retinal failure. About 80% agreed very much that hypertension can lead to heart attack. The study has also found that level of education may have

positive impact on knowledge about the risk factors and complications of hypertension¹³.

Also, in this study, there is an association between education and knowledge of hypertension was found significant at p value < 0.05 which is supported by some studies, emphasised the positive relationship between education and knowledge of hypertension (Mlunda,2007, Egan et al.,2003, Samal et al., 2007)¹².

The present study shows 77% participants know that diabetes, cigarette smoking and obesity are some of the risk factors for hypertension whereas study conducted by Mbewe J. et al., reported only average (50%) respondent have heard about the hypertension associated diseases such diabetes mellitus¹⁵.

In this present study shows that knowledge score of hypertension, 40% had adequate, 50% had moderate adequate and 10% had inadequate on life style modification of hypertension. In the same time 89% participant responded that stress is also one of the risk factors and 67% participant know that palpitation, dizziness and dyspnea are common symptoms of hypertension whereas study conducted by Chi Mberengwa PT, Naidoo M reported that knowledge on hypertension was poor and 64.8% stating that stress was its main cause and 85.9% stated that palpitation was a symptom of hypertension

Conclusion

In present study shows that prevalence of hypertension was high and most of participants had moderate adequate knowledge regarding lifestyle modification of hypertension. So, there is need for further research to carry out for prevalence of hypertension with assessment of the knowledge related to life style modification of hypertension as early detection is very much important which will help prevention and control of hypertension.

Ethical Clearance

Taken from the Institute Ethics Committee (IEC) (Human Studies), NEIGRIHMS, Shillong, Meghalaya.

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