

Prevalence of Pre Hypertension Among the Women Aged 20-60 Years in Coastal and Non Coastal Areas

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ABSTRACT

Background: Prehypertension is a warning to individuals with resting blood pressures between 120/80 mmHg and 139/89 mmHg of an insidious progression of blood pressure towards hypertensive levels ($\geq 140/90$ mmHg). Prehypertension is associated with increased cardiovascular risk and end organ damage compared with individuals who are normotensive.

Aim: To assess the prevalence of pre hypertension.

Setting and Design: The study was conducted in coastal areas and non-coastal areas by using a descriptive design.

Materials and Methods: A total of 514 samples were included in this study. Among this, 220 samples belongs to coastal areas and 294 samples belongs to non-coastal areas by using convenience sampling technique.

Statistical Analysis Used: The collected data was organized, tabulated, analysed and interpreted by using descriptive and inferential statistics based on the objectives of the study.

Results:

In coastal areas, among 220 samples, with regard to pre hypertension, 123 (55.90%) samples are with SBP pre hypertension and 7(3.18%) samples are with DBP prehypertension. In non-coastal areas, among 294 samples, with regard to pre hypertension, 97 (32.99%) samples are with SBP pre hypertension and no woman was found with DBP prehypertension.

Conclusion: The above results shown that pre hypertension values are higher in the coastal areas than in the non-coastal areas.

Keywords: Non Coastal Area, Coastal Area, Prehypertension

I. INTRODUCTION

Prehypertension, defined as blood pressure between 120 – 139 / 80 – 89 mmHg, is a major public health concern. The condition is very prevalent (30% of the adult population), is often associated with other cardiovascular risk factors and independently increases the risk of hypertension and subsequent cardiovascular events. The mechanism of elevated risk for cardiovascular events associated with prehypertension is presumed to be the same as that of hypertension. In the general population, prehypertension can be lowered by lifestyle modifications, but often not reliable. The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC-7) recommendation for prehypertension management with optimal weight

control (largely through diet and exercise) remains the mainstay, except for individuals with diabetes, chronic kidney disease, and perhaps known coronary artery disease, because of the short-term cost considerations and unproven long-term prognosis. (Hypertens Res 2008; 31: 1681–1686)

Hypertension is a major cause of cardiovascular disease (CVD). The excess risk of CVD may extend to those with prehypertension (blood pressure [BP] 120–139/80–89 mm Hg). (1) The risks were increased if BP was low, as in low-range prehypertension (120 to 129/ 80 to 84 mm Hg), and were further increased with high-range prehypertension (130 to 139/85 to 89 mm Hg). (2, 3)

Need for the Study

One in three adults worldwide has high blood pressure. Hypertension increases the risk of heart attack, stroke, kidney failure and much other associated co morbidity. Treating raised blood pressure and maintaining it below 140/90 mmHg is associated with a reduction in cardiovascular complication. The theme for World Health Day (WHD) 2013 is “high blood pressure”. The goal of WHD 2013 is to reduce heart attacks and strokes. Keeping in line with the WHO-Government of India, Country Cooperation Strategy, the WHO 2013 events in India are aimed at raising the awareness amongst national policymakers, program managers and other stakeholders on the need to strengthen the Indian health system to make it competent enough to respond to hypertension and related co morbidities (4).

A cross sectional community based study was conducted in 10 coastal and 10 non coastal areas to assess the prevalence of hypertension in Nellore district. A total of 5000 samples were included in this study. Among this, 2500 samples belongs to coastal areas and 2500 samples belongs to non-coastal areas. In coastal areas, with regard to blood pressure, 460(18.4%)samples were found to have stage-1 hypertension, 139 (5.56%) samples had high normal blood pressure, 648 (25.92%) samples were found to be normal, 656 (26.24%) had optimal blood pressure, 112 (4.48%) samples had stage –II hypertension, least samples 15(0.6%) belongs to stage-3 hypertension, 413(16.52%) had grade-1 systolic hypertension, and 57(2.28%) samples had grade-2 systolic hypertension. In non coastal areas, with regard to blood pressure, 1419 (56.7%)

were found to have stage-1 hypertension, 637(25.5%) samples had high normal, 198 (8.0%) samples had stage –II hypertension, 161 (6.4%) samples were found to be normal, 67 (2.7%) had optimal, 18 (0.7%) samples under the criteria of stage –III hypertension, 6(0.2%) having grade-1 systolic hypertension, and 4(0.2%) samples having grade-2 systolic hypertension.(5)

1. Statement of the Problem

“A study to assess the prevalence of pre hypertension among women aged 20-60 years in coastal and non coastal areas at Nellore district.”

Objectives of the Study

- To assess the prevalence of prehypertension among women of coastal and non-coastal areas.
- To identify the risk factors of prehypertension among women of coastal and non-coastal areas.
- To compare the prevalence of prehypertension between coastal and non-coastal areas.
- To find association between the prevalence of prehypertension with selected socio demographic variables.

II. METHODS AND MATERIAL

2. Detailed Research Plan

2.1 Research Approach Quantitative Approach.

2.2 Research Design Descriptive design.

2.3 Research Setting

The study was conducted in selected coastal and non-coastal areas at Nellore

The study was conducted at two parts:

- coastal areas: out of 19 areas 10 areas are selected by lottery method.
- Non coastal areas: out of 22 areas 10 areas were selected by the lottery method.

Coastal area means areas within 2km from mean low water mark (MLWM) or mean high water mark (MHWM).

Noncoastal area means areas far 2km from mean low water mark (MLWM) or mean high water mark (MHWM).

Coastal areas like: Kotha koduru, Mypadu , Mahalakshmi puram, Pallepalem, Kudithi palem, Indukur pet, Varukavi padu, Koruturu, Legunta padu, Komarika.

Non coastal areas: Papi reddy palem, Allipuram, Pallipadu, Mudivarthi, Kakupalem, Inamadugu, Kovur, Vidavaluru, Utukuru, and Vavilla.

2.4 Sampling Technique: Convenience sampling technique

2.5 Sample Size: A total of 514 samples were included in this study, among this, 220 samples belong to coastal areas and 294 samples belong to non-coastal areas by using convenience sampling technique.

2.6 Tools for Data Collection

Section A: It deals with demographic data including age, education, type of the family, occupation, monthly income, nature of the work, sleeping hours, exercise type & duration, food pattern, type & amount of oil used for cooking, type & amount of salt used, amount of vegetable used, habits & consumption of fast food, height, weight, BMI, stress, waist circumference, chest circumference and known hypertensive or not.

Section B: Staging of the blood pressure According to INDIAN HYPERTENSION GUIDELINES-III (IHG-III).

2.7 Method of Data Collection

A total of 20 areas were selected. In that 10 areas are coastal areas and 10 areas are non-coastal areas. Since the sampling was done during the day time, it was a household based study and questionnaires were administered to those in the household and the necessary information were collected to meet the objectives of the study. The medico social history and other required details were filled up in the Proforma. The following techniques were used as per the recommendations of INDIAN HYPERTENSION GUIDELINES-III (IHG-III).

2.8 Procedure for Recording B.P

- The individual is seated in a chair with his back supported and his arms bared and supported at heart level and was refrained from the use of tobacco in any form or ingestion of caffeine during the 30 minutes preceding the measurement.
- Palpate the brachial artery and position cuff 2.5 cm above brachial pulsation, wrap the cuff evenly around the upper arm and record both systolic and diastolic blood pressure.

- This procedure repeated for three days to the participants (Samples). In this the mean blood pressure reading is taken and classified according to INDIAN HYPERTENSION GUIDELINES-III (IHG-III).
- However the newly diagnosed hypertensive individuals were referred to the primary health center for further investigations and management. The known hypertensive cases were emphasized to continue their regular treatment.

III. RESULT AND DISCUSSION

3. Plan for Data Analysis

The data was analyzed by using Descriptive statistics and inferential statistics i.e. Mean, standard deviation, frequency, percentage, and Chi square test.

Table 1. Plan for data analysis

Data analysis	Methodology	Remarks
Descriptive statistics	Frequency, Percentage, Mean and standard deviation	To find out the frequency and percentage used for analyzing the demographic variables.
Inferential statistics	Chi-square Value	To find out the association between the selected demographic variables& the blood pressure and To find out the association between the Blood pressure and BMI.

3.1 Coastal Areas

The findings in the coastal areas described in the following headings.

Frequency and Percentage Distribution of Prehypertension in Coastal Areas.

IV. CONCLUSION

The above results shown that prehypertension is high in the coastal areas than in the non-coastal areas.

V. REFERENCES

- [1] Chobanian AV, Bakris GL, Black HR, Cushman WC, Green LA, Izzo JJ, Jones DW, Materson BJ, Oparil S, Wright JJ, Roccella EJ. The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure: the JNC 7 report. *JAMA*. 2003; 289: 2560–2572.
- [2] Huang Y, Cai X, Li Y, Su L, Mai W, Wang S, Hu Y, Wu Y, Xu D. Prehypertension and the risk of stroke: a meta-analysis. *Neurology*. 2014; 82: 1153-1161.
- [3] Huang Y, Wang S, Cai X, Mai W, Hu Y, Tang H, Xu D. Prehypertension and incidence of cardiovascular disease: a meta-analysis. *BMC Med*. 2013;11:177.
- [4] Anchala R, Kannuri NK, Pant H, India: a systematic review and meta – analysis of prevalence, awareness, and control of hypertension. *J. Hypertens*. 2014; 32(6):1170-7.
- [5] Katari Kantha and Arumugam Indira, Prevalence of hypertension among the adults in coastal and non-coastal areas at Nellore *International Journal of Development Research* Vol. 5, Issue, 01, pp. 3134- 3139, January, 2015.
- [6] Arumugam Indira and Katari Kantha. Nutritional status of antenatal and postnatal mothers in selected rural areas at Nellore. *International Journal of Recent Scientific Research* Vol. 6, Issue, 2, pp.2796- 2800, February, 201.
- [7] Arumugam Indira *et.al*, Prevalence of Pre Hypertension among the Adults Aged 20-60 Years in Coastal and Non Coastal areas *International Journal of recent scientific*

Table 2: Frequency And Percentage Distribution of Prehypertention in Coastal Areas. N=220

Prehypertention	Frequency	Percentage
SBP (120-139)	123	55.90%
DBP (85-89)	7	3.18%

Pre Hypertension In Coastal Areas

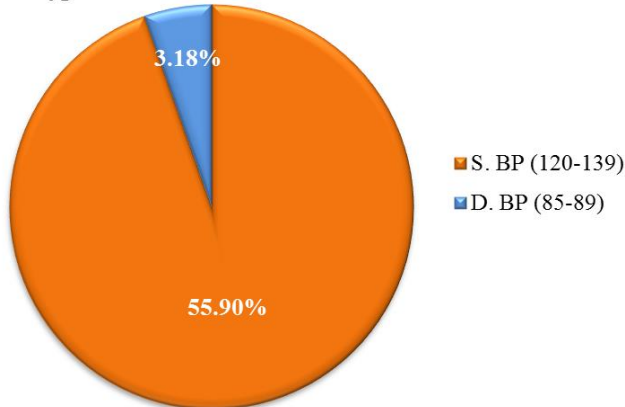


Figure 1. The Percentage Distribution of Prehypertention in Coastal Areas

In coastal areas, among 220 samples, with regard to pre hypertension, 123 (55.90%) samples are with SBP pre hypertension and 7(3.18%) samples are with prehypertension.

3.2 Non Coastal Areas

Table 3 : Frequency And Percentage Distribution of Prehypertention in Non-Coastal Areas. N=294

PREHYPERTENTION	FREQUENCY	PERCENTAGE
S. BP (120-139)	97	32.99%
D. BP (85-89)	-	-

In non-coastal areas, among 294 samples, with regard to pre hypertension, 97 (32.99%) samples are with SBP pre hypertension and no woman was in DBP prehypertension.

- research*.6(11), pp.7166-7170, November, 2015.
- [8] Kantha, K., & Indira, A. (2016). Prevalence of Hypertension among the Adults in Komerika Vs Uttukuru Nellore. *International Education and Research Journal*, 2(5).
- [9] Katari Kantha *et al.*, Knowledge of the Expectant Fathers Regarding safe Motherhood in Narayana Medical College Hospital, Nellore. *International Journal of Recent Scientific Research* Vol. 6, Issue, 4, pp.3423-3427, April, 2015.
- [10] Vanaja Kumari B *et al.*, Comparative Study to Assess the Knowledge Regarding Behavioural Problems of Underfive Children Among Employed and Unemployed Mothers. *International Journal of Recent Scientific Research* Vol. 6, Issue, 5, pp.4183-4187, May, 2015.
- [11] Katari Kantha *et al.*, Nutritional Status Of Infant Children In Selected Rural Areas At Nellore *International Journal Of Recent Scientific Research* Vol. 6, Issue, 6, Pp.4597-4601, June, 2015.
- [12] Katari Kantha, M Usha Rani, Alfia Parameswaran, Arumugam Indira The knowledge regarding eating disorders among adolescent girls *International Journal of Applied Research* 2016; 2(5): 864-866.
- [13] Katari Kantha, S Arundhathi, Arumugam Indira, Laleima Chanu Knowledge regarding management of dengue fever among staff nurses *International Journal of Applied Research* 2016; 2(6): 147-149.
- [14] K.Kantha. Prevalence of selected health problems among old age people at Rangampeta, Tirupati.
www.scopemed.org/?mno=217414 [Access: August 30, 2016]. doi:10.5455/nj.2014-06-9
- [15] Katari K, . Prevalence of hypertension among the adults in Indukurpet Vs Vidavalur, Nellore.. www.scopemed.org/?mno=233525 [Access: August 30, 2016].