



ISSN 2278 – 0211 (Online)

## Hypertension among Indian Women

**Poonam Sheokand**

Internship, Institute of Hotel Management  
Ministry of Tourism, Government of India, Kurukshetra, India

### **Abstract:**

*The objective of the report was to determine trends in hypertension prevalence in women. Hypertension is an important risk factor for cardiovascular disease in women, but is often underestimated and undiagnosed and there is an ongoing misperception that women are at a lower risk of cardiovascular disease than men.*

*A survey was carried out, in which a questionnaire was prepared containing questions regarding general information, anthropometric measurements, clinical information, dietary information and nutritional knowledge and distributed in 30 women (35-50 year old) for response.*

*We observed that mostly (56.66%) of subjects were at high risk of obesity and 43.34 per cent were at moderate risk of obesity. We observed that mostly (56.66%) of subjects were suffering from hypertension from 2 to 4 years, 26.67 per cent were suffering from hypertension from 6 months to 1 year and 16.67 per cent were suffering from hypertension from 5-8 years.*

*Most (63.33%) of subjects thought that the cause of hypertension was stress, 46.67 per cent thought obesity was a cause, 40 per cent thought that ageing was the cause, 30 per cent thought diabetes was a cause, 16.67 per cent thought genetic was a cause, 13.34 per cent thought that sedentary life style was a cause and 10 per cent thought that high intake of salt was a cause.*

**Key words:** *Hypertension among women, cardiovascular disease, salt intake, daily intake, prevalence of hypertension in India, anthropometric measurements, dietary information, nutrition knowledge, hypertension and stress, hypertension and salt, hypertension and ageing, blood pressure*

### **1. Introduction**

Cardiovascular disease claims more women's lives than any other disease. Hypertension is an important risk factor for cardiovascular disease in women but is often underestimated and undiagnosed and there is an ongoing misperception that women are at a lower risk of cardiovascular disease than men.

Even though substantial progress has been made in the awareness, treatment, and prevention of CVD in women in the last decade, hypertension is often underestimated and undiagnosed. It is no longer true that CVD is a 'man's disease'. Heart disease is the leading cause of death in women in every major developed country and most emerging economies.

Hypertension, also referred to as high blood pressure, is a condition in which the arteries have persistently elevated blood pressure measured indirectly by an inflatable cuff and pressure manometer-sphygmomanometer.

Every time the human heart beats, it pumps blood to the whole body through the arteries. Blood pressure is the force of blood pushing up against the blood vessel walls. The higher the pressure the harder the heart has to pump. Hypertension can lead to damaged organs, as well as several illnesses, such as renal failure (kidney failure), aneurysm, heart failure, stroke, or heart attack.

The classification of blood pressure most commonly used is that of the World Health Organization Expert Committee (WHO, 1978).

Average Blood Pressure	
For young people	120/80mmHg
For old people	140/90mmHg

Table 1

Level of Severity	Systolic Blood Pressure (mmHg)	Diastolic Blood Pressure (mmHg)
Mild Hypertension	140-160	90-100
Moderate Hypertension	160-200	100-120
Severe Hypertension	Above 200	Above 120

Table 2

Hypertension may be classified as essential or secondary. Essential hypertension is the term for high blood pressure with unknown cause. It accounts for about 95% of cases. Secondary hypertension is the term for high blood pressure with a known direct cause, such as kidney disease, tumors, or birth control pills.

### 1.1. Etiology

More than 90% of people with hypertension have no identifiable cause of elevated blood pressure and are said to have 'primary', or 'essential', or 'idiopathic' hypertension. Rest of the people with hypertension do have an identifiable cause and are said to have 'secondary' hypertension.

Secondary hypertension may be due to

- Renal diseases such as glomerulonephritis, chronic pyelonephritis, polycystic kidney disease, renal vascular disease.
- Use of oral contraceptives in women.
- Endocrine disease such as hyperaldosteronism, acromegaly, Cushing's syndrome, hypothyroidism.
  
- Associations between risk factors in individual and hypertension
- Age
- Sex
- Ethnic, Racial and Migrant Differences
- Heredity
- Psychosocial and socioculture influences
- Exercise and activity
- Obesity

## 2. Review of Literature

Hypertension is the most common cardiovascular disease and is assuming epidemic proportions in developing countries as well. It affects nearly 26% of the population worldwide. Prevalence of hypertension in India, for the last three decades has increased by about 30 times among urban residents and by about 10 times among rural residents. Studies have been done in India in order to find out the risk factors, effect of hypertension morbidity and mortality etc.

Hence, several studies are reviewed below:

- Suwarna Madhukumar et al. studied that prevalence of hypertension in rural areas in bangalore was 8.06%. Of the 121 hypertension patients 104 (85.95%) were aware of their disease and only 68 (65.38%) were taking regular treatment.
- Gupta R, Guptha S, Gupta VP, and Prakash H. Observed that there was a high prevalence of hypertension was found in an Indian urban population. Isolated diastolic hypertension was the commonest subtype. Significant determinants of hypertension were age, smoking and body mass index.
- Sathya Prakash Manimunda et al. observed the prevalence of tobacco, alcohol consumption, and overweight/obesity was 88, 54, and 37 per cent respectively. The increasing trend in the prevalence of hypertension with increasing age and decreasing educational status. The prevalence of hypertension was 50.5 per cent.

- L. Kannana and T.S. Satyamoorthy stated that 189 individuals (25.2%) were found to have hypertension including 93 known hypertensives. Among 357 adult males, 81 (22.6%) and among 393 adult females 108(27.4%) were found to have hypertension. The odds ratio for hypertension among Smokers were 2.4 (1.52-3.61) and was statistically significant ( $P<0.003$ ), similarly alcohol use, obesity, tobacco chewing, diabetes and oral contraceptive use were statistically significant. The prevalence rate of hypertension was 25.2%. The prevalence rate was higher (27.4%) among females. Increase in age, family size, occupation, alcohol, smoking, chewing tobacco, obesity, oral contraceptives use and diabetes mellitus have been found to have association.
- R Gupta et al. stated that increased systolic and diastolic BP dispersion over a 7-year period in this urban population is associated with unchanged hypertension prevalence, decline in stage I hypertension and upsurge in more severe grades. Increasing environmental factors, particularly obesity, appear important.
- Shyamal Kumar Das,<sup>1</sup> Kalyan Sanyal,<sup>2</sup> and Arindam Basu<sup>3</sup> stated that a large number of pre-hypertensive individuals according to the JNC-VII criteria, who are young and need special attention to avoid early progression to hypertension and possibly coronary artery disease that is common in India. Age and sex specific increase of prevalence of systolic and diastolic hypertension in both women and men indicate significant role of environmental factors.

### 3. Material and Methodology

#### 3.1. Material used for investigation

- Weighing machine
- Measuring tape
- Sphygmomanometer

#### 3.2. Development of questionnaire

- General information
- Anthropometric measurements
- Clinical information
- Dietary information
- Nutritional knowledge

#### 3.3. Statistical tools used for analysis of data

- Tabulation
- Analysis of data

### 4. Results and Discussion

We observed that mostly (56.66%) of subjects were at high risk of obesity and 43.34 per cent were at moderate risk of obesity. We observed that mostly (56.66%) of subjects were suffering from hypertension from 2 to 4 years, 26.67 per cent were suffering from hypertension from 6 months to 1 year and 16.67 per cent were suffering from hypertension from 5-8 years.

Most (63.33%) of subjects thought that the cause of hypertension was stress, 46.67 per cent thought obesity was a cause, 40 per cent thought that ageing was the cause, 30 per cent thought diabetes was a cause, 16.67 per cent thought genetic was a cause, 13.34 per cent thought that sedentary life style was a cause and 10 per cent thought that high intake of salt was a cause.

Most (70%) of subjects felt fatigue, 60 per cent suffered from headaches, 56.67 per cent felt vision change, 30 per cent suffered irregular heartbeat, 30 per cent suffered irritation and 20 per cent had lack of sleep due to hypertension.

Mostly (56.67%) of subjects didn't have any member in the family suffering from hypertension and 43.33 per cent did have hypertensive patient in the family. Current blood pressure of 50 per cent of subjects was at mild stage, 43.37 per cent of subjects were at moderate stage and 6.66 per cent subjects were at severe stage. 63.33 per cent of subjects were not taking medicine and 36.67 per cent of subjects were taking medicine for hypertension.

Mostly (80%) were taking 3-4 gm salt/day, 13.34 per cent were taking 5-6 gm of salt/day and remaining 6.66 per cent were taking salt/day. The subjects were taking higher per cent of RDA of nutrients- sodium (162%), fat (145.6%), and energy (105.44%). The subjects were taking lesser % of RDA of nutrients- iron (93.47%), vitamin A (95.25%), and protein (97.3%).

### 5. Summary and Conclusion

The objective of the report was to determine trends in hypertension prevalence in women. A survey was carried out, in which a questionnaire was prepared containing questions regarding general information, anthropometric measurements, clinical information, dietary information and nutritional knowledge and distributed in 30 women (35-50 year old) for response.

Dietary intake of 30 subjects (35-50 year old of women) by 24 hour recall method for 3 consecutive days was recorded in order to find out the dietary behavior of subjects.

In conclusion, we observed that subjects were not aware about their diet and were not following any hypertensive diet. They were eating more than normal amount of salt (162.14%) that should be restricted to less than 2000 mg.

They were taking high intake of fat (145.6%) and energy (105.4%) and as a result 16.66% of subjects were overweight and 26.67% of subjects were obese due to that 6.66% were at severe stage and 43.34% were at moderate stage of hypertension and still 63.34% of subjects were not taking any treatment.

## 6. References

1. Khanna, K., Gupta, S., Passi, S.J., Sethi, R., Mahna, R. and Puri, S., (2005) Textbook of Nutrition and Dietetics, Delhi.
2. Madhukumar, S., Gaikwad, V. and D, S., An Epidemiological Study of Hypertension and Its Risk Factors in Rural Population of Bangalore Rural District, *Al Ameen J Med Sci* (2012)5(3 ):264 -270.
3. Pradeepa R. and Mohan V; Hypertension and pre hypertension in developing countries. *Indian J Med Res* 2008;128: 688-690.
4. Das, S.K., Sanyal, K. and Basu, A., Study of urban community survey in India: growing trend of high prevalence of hypertension in a developing country, *Int J Med Sci.* 2005; 2(2): 70–78.
5. Manimunda, S.P., Sugunan, A.P., Benegal, V., Balakrishna, N., Rao, M.V. and Pesala, K.S., Association of hypertension with risk factors & hypertension related behaviour among the aboriginal Nicobarese tribe living in Car Nicobar Island, India, *Indian J Med Res* 133, March 2011, pp 287-293.
6. Tiwari, R.R., Hypertension and epidemiological factors among tribal labour population in Gujarat. *Indian J Public Health* 2008; 52: 144-6.
7. Gupta, R., Guptha, S., Gupta, V.P. and Prakash, H., Prevalence and determinants of hypertension in the urban population of Jaipur in western India, *J Hypertens.* 1995 Oct; 13(10):1193-200.
8. World Health Organization. Global Data Base on Body Mass Index. BMI classification. Available from: [http://apps.who.int/bmi/index.jsp?introPage=intro\\_3.html](http://apps.who.int/bmi/index.jsp?introPage=intro_3.html), accessed on November 27, 2009.
9. Gupta, R., Sharma, A.K., Gupta, V.P., Bhatnagar, S., Rastogi, S. and Deedwania, P.C., Increased variance in blood pressure distribution and changing hypertension prevalence in an urban Indian population, *Journal of Human Hypertension* (2003) 17, 535–540.
10. Yusuf, S., Reddy, K.S., Ounpuu, S. and Anand, S., Global burden of cardiovascular diseases. Part I: general considerations, the epidemiologic transition, risk factors, and impact of urbanisation. *Circulation* 2001; 104: 2746–2753.