International Journal of Advanced Research in Biological Sciences
ISSN: 2348-8069
www.ijarbs.com
DOI: 10.22192/ijarbs Coden: IJARQG(USA) Volume 4, Issue 6 - 2017

Research Article

DOI: http://dx.doi.org/10.22192/ijarbs.2017.04.06.022

Survey on risk factor of hypertension in Thuraiyur (Tk), Tiruchirappalli (Dt).

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Abstract

Blood pressure generally goes up and goes down throughout the day; if it stays high for a long time can damage the heart and cause health troubles. Hypertension leads to deaths in some developing countries. Unhealthy behaviors increase the risk for high blood pressure. Thus, a prospective study was carried out to know the prevalence and risk factors of high blood pressure in patients attended in various hospitals located in Thuraiyur (TK), Tiruchirappalli (DT), Tamilnadu from December 2016 to March 2017. Analysis of results showed a prevalence of high blood pressure in male (51.53%) than the female (48.47%) during the study period and forth decade of life were most affected. The most frequently observed risk factors reported were smoking, alcohol consumption, high sodium in diet and absence of physical exercise. Here smoking (90.02%) in male and absence of physical exercise (87.37%) in female were the strong risk factor for high blood pressure.

Keywords: hypertension, risk factors, Thuraiyur.

1. Introduction

Blood pressure (BP) comprises both systolic and diastolic blood pressure and it is in high in adults by some factors such as age, gender, area, income, smoking tobacco, absence of physical activity, drinking too much of alcohol and diet (high in sodium and low in potassium). In case of diet, consumption of salt is notable risk factor for high blood pressure because of sodium increases volume of blood by high blood pressure (Elliott, 2005 and Haijar *et al.,* 2001 and He and Mac Gregor, 2002), while alcohol consumption increases Systolic Blood Pressure (Marmot *et al.,* 1994) but decreases Diastolic Blood Pressure (Haijar *et al.,* 2001). Consuming fruit and vegetable (due to their K content) (Whelton *et al.,* 1997) and regular physical exercise (NICE, 2011) may reduce BP. But the sedentary lifestyle increases the risk of high BP. Hypertension means high blood pressure. It can increases morbidity and mortality in developing countries (Kotseva *et al.,* 2009). Having hypertension tends to cardiovascular disease. Better control of high BP can lead to prevent cardiovascular disease (Gupta and Gupta, 2009). Epidemiological studies reveal that the prevalence of hypertension increasing quickly among urban population in India. Certain medical conditions such as prehypertension and diabetes act as risk factors and can increase the chance of hypertension. But high BP has no symptoms and many people don't recognize they have it. Aim of this present study was to provide information about the prevalence rate and risk factors of hypertension at Thuraiyur (TK) in Tiruchirappalli (DT).

2. Study Area

Data collected from Thuraiyur Municipality which is located in Tiruchirappalli district. It is located about 43 Kms northern side via Mannachanallur from Tiruchirappalli, 38 Kms from Perambalur in National Highways 45 and 58 Kms from Attur (Salem District).

3. Materials and Methods

3.1 Subject selection:

Patients with hypertension were studied. This survey was carried out in the general population. Some private hospitals in Thuraiyur were selected for data collection. Data collected from 392 subjects including governmental and institutional employees and nonemployees during the study period (December 2016 to March 2017). Data collected directly from patients with detailed questions. Subjects were excluded from the survey if they were not willing to complete all required questions.

3.2 Data collection:

Data collected by questionnaire. The survey questions included: Demographic characteristics which were comprised of, Age, Gender and Education status; Lifestyle information included Smoking, Drinking alcohol, Diet (sodium use) and Exercise.

3.3. Blood pressure measurement:

Trained technicians performed BP measurement in sampled institutions and followed standard guidelines. Measurement of BP was taken for all subjects with readings in a mercuric-column sphygmomanometer after resting for 5 minutes.

3.4. Definitions (Lenfant *et al.*, 2003):

Subjects were defined as hypertension if they had an average Systolic Blood Pressure ≥ 140 mmHg and /or average Diastolic Blood Pressure ≥90 mmHg.

4. Results and Discussion

Past 20 years, the rate of hypertension increasing in developing countries (Bromfield and Muntner, 2013). In this present study among 392 subjects, the prevalence of hypertension was higher among male (51.53%) as compared to female (48.47%) (Table 1). This study is comparable to a review of prevalence of hypertension by Momin *et al.*, (2012) where the prevalence of hypertension was significantly higher among male (32.5%) as compared to female (23.1%). From this study it is evident that male in the fifth decade (24.26%) of life was most affected, While in female, the sixth decade (25.26%) of life was most affected (Table 1). Although the causes of hypertension are mostly unidentified, lifestyle and heredity may develop high BP. This survey investigate these factors by asking subjects to indicate which of the risk factors they have the most common. The most frequently observed risk factors reported were smoking (90.02%), alcohol consumption (89.06%), high sodium in diet (male-74%; female-69%) and absence of physical exercise (male-73.07%; female-87.37%) (Table 2). Wu *et al.*, (2008) reported that regular smokers and alcohol drinkers had higher risk of hypertension. This present study also supports the same. According to this study absence of physical exercise also tended to get high BP. Dickson *et al.*, (2006) also pointed out that those who were exercised regularly can control the BP. This present study is the first attempt at providing information on the risk factors of high blood pressure in Thuraiyur taluk. Among four risk factors smoking and alcohol consumption were found only in male and both were frequently observed among illiterates. Among 90.02% of smokers 46.02% were illiterates and 44% were literates. Among 89.06% of alcohol drinkers 46.54% and 42.52% were observed in illiterates and literates respectively. In case of diet (high sodium use), among 74% of male, 38% were illiterates and 36% were literates and among 69% of female 35.6% were illiterates and 33.4% were literates. While absence of physical exercise, among 73.07% of male, 36.54% were illiterates and 36.53% were literates and among 87.37% of female 44% were illiterates and 43.37% were literates. In conclusion high frequency of hypertension found in this study area and also shed light on the presence of hypertension among young persons i.e., persons below 30 years of age. This finding is an important suggestion for public health authorities and should be considered for implicating programmes for controlling the development of hypertension by deliver health education at regular intervals.

Table 1: Prevalence of Hypertension in the study area.

Gender	Age group (%)					Occurrence (%)
	21-30	31-40	41-50	51-60	Above 60	
Male	16.34	22.28	24.26	20.30	16.83	51.53
Female	14.21	19.47	22.11	25.26	18.95	48.47

Table 2: Lifestyle information of hypertension persons.

Risk Factors	Illiterates (%)		Literates (%)	
	Male (61.39%)	Female (66.32%)	Male (38.61%)	Female (33.68%)
Smoking	46.02	-	44	-
Drinking Alcohol	46.54	-	42.52	-
Diet (High sodium use)	38	35.6	36	33.4
Absence of physical exercise	36.54	44	36.53	43.37

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DOI:10.22192/ijarbs.2017.04.06.022	

How to cite this article:
Sudha, R.and Vijayalakshmi, R. (2017). Survey on risk factor of hypertension in Thuraiyur (Tk), Tiruchirappalli (Dt).. Int. J. Adv. Res. Biol. Sci. 4(6): 150-153.
DOI: http://dx.doi.org/10.22192/ijarbs.2017.04.06.022