

**ROLE OF LIFE STYLE PATTERN ON THE DEVELOPMENT OF BLOOD PRESSURE AMONG BHAGALPUR URBAN PEOPLE**SAPNA KUMARI<sup>1</sup>, VIMI SINGH<sup>1</sup> AND ROHIT VERMA<sup>2</sup><sup>1</sup>University Department of Food & Nutrition, SM College, Bhagalpur (Bihar)<sup>2</sup>PG Dept. Of Biotechnology, TMBU, Bhagalpur (Bihar)

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**ABSTRACT**

Worldwide, high blood pressure is a major cause related to heart diseases, strokes and mortality. It is one of the major risk factors for cardiovascular disease and a major cause of premature death. Hypertension is difficult to diagnose until medical complications occur, since patients rarely present with specific symptoms in the early stages of the disease. Hypertension is also difficult to manage effectively, as is consistent treatment after it is diagnosed, due to lack of awareness and patient compliance. Bhagalpur is a old town of state Bihar and the town area is divided into 51 different wards. As these wards includes the endemic habitants or migrants both, a new town culture and life style arises during the course of time. Most of the people are working in different fields involving both men and women and associated with job related tensions. In the present study, the 250 men and 205 women were selected for the survey of their life style that can lead to the development of high blood pressure. The life style includes physical exercise pattern, pan/tobacco chewing habit and smoking. The purpose of this study was to identify factors associated with lifestyle of the surveyed sample population of Bhagalpur town related to the development of blood pressure. It was observed that life style factors are directly associated with the development of hypertension of this particular selected area of Bhagalpur town.

**Key Words:** Bhagalpur, Hypertension, Life style, Patient, Blood pressure.

**INTRODUCTION:**

The role of life style is directly associated with the development of hypertension especially within urban population. Today's fast life and lack of mental peace of urban areas individuals elevate the chances to develop hypertension. The increases in fast-food consumption at urban regions promote the onset of hypertension as these foods contain more salt and fatty substances. The life style gets modified as such in urban areas that the individuals are not able to do regular exercises such as jogging or meditation. Bhagalpur is one of the oldest cities of Bihar having a population of 30,37,766 according to 2011

censuses. Among them 16,15,663 are males and 14,22,103 are females. The urban Bhagalpur population includes 6,02,532 out of which 3,20,277 are males and 2,82,255 are females (Census report, 2011). The rapid changes in lifestyles and migration from rural to urban regions is also influencing a concurrent increase in the risk of hypertension in many countries (Singh, *et al.*, 2000). The prevalence of hypertension has risen rapidly in South East Asia. The prevalence of hypertension in adults (15 years or older) was estimated to be 23% in urban and 18% in rural areas (Jafar, *et al.*, 2003).

**MATERIALS AND METHODS:**

The urban region of Bhagalpur is investigated for the evaluation of impact of lifestyle on the development of hypertension. A total of 250 men and 250 women were investigated from the different munici-

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pal wards of the Bhagalpur town. The different life style pattern related questions were asked from each individual as the standard questionnaire for the hypertension development. The parameters taken in the present study includes, exercise pattern and the addition towards Pan/tobacco chewing. The different age group people were evaluated for these two parameters.

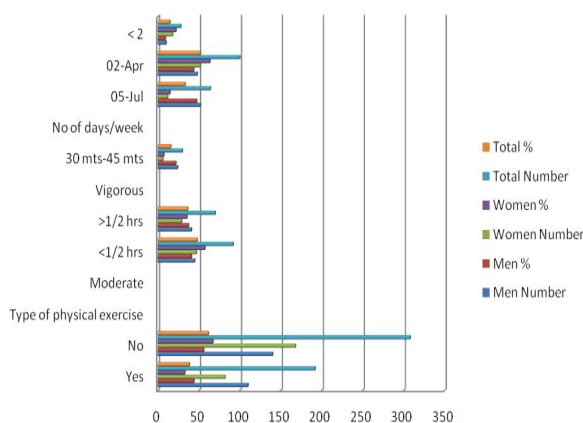
### RESULT and DISCUSSION:

The data surveyed is recorded and tabulated as per gender, age group, frequency of events in both absolute numbers and in percentage.

#### Physical Exercise:

**Table 1.0 Pattern of physical exercise behaviour**

Exercise Pattern	Men		Women		Total	
	Number	%	Number	%	Number	%
Yes	110	44.0	82	32.8	192	38.4
No	140	56.0	168	67.2	308	61.6
Type of physical exercise						
Moderate						
<1/2 hrs	45	40.9	47	57.3	92	47.9
>1/2 hrs	41	37.3	29	35.4	70	36.4
Vigorous						
30 mts-45 mts	24	21.8	06	7.3	30	15.7
No of days/week						
5 - 7	52	47.3	12	14.6	64	33.3
2 - 4	48	43.7	52	63.4	100	52.0
< 2	10	9.0	18	22.0	28	14.7



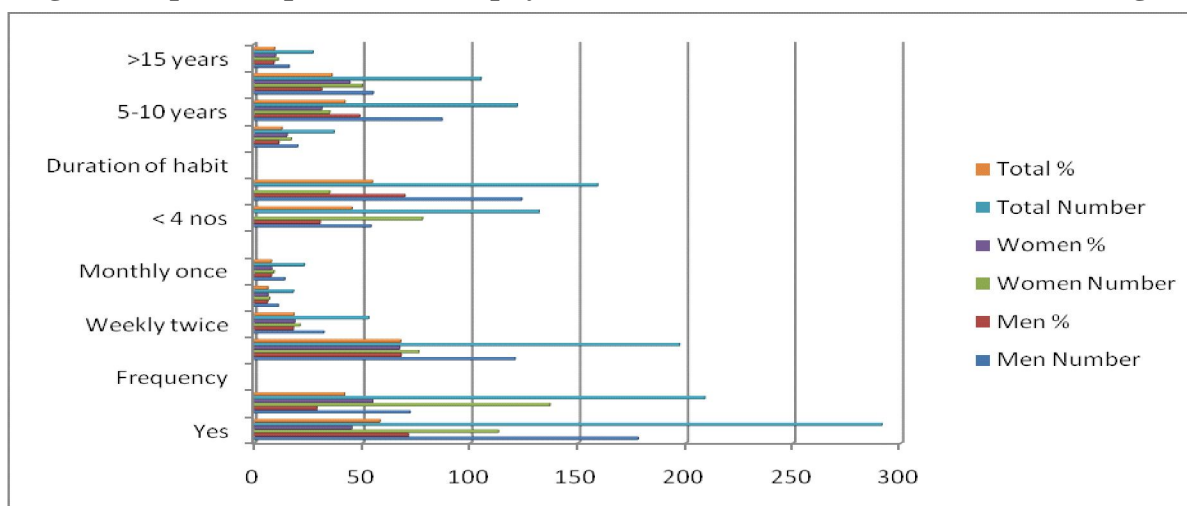
**Fig.1 Pattern of physical exercise behavior**

Under the domain work, 68.8 per cent men and 71.2 per cent women were found to have moderate activities like brisk walking, carrying light load for at least 10 minutes continuously. The vigorous activity like lifting heavy loads, digging and construction work was seen in 31.2 per cent and 28.8 per cent men and women respectively. With respect to work related physical activity, men and women were engaged in moderate level activity. With respect to transport, it was dreadful to note that about 66.4 per cent of men and 69.6 per cent of women were not active and only 33.6 per cent and 33.4 per cent were found to use bicycle or walk at least for 10 minutes to travel from one place to other.

Figure -1.0 typically illustrated that most of the hypertensive were inactive with respect to recreational activities in selected population. About 54.4 per cent of men and 64.0 per cent of women in selected town population were found to have moderate level recreational activities like brisk walking, yoga etc. Hallal et al., (2012) stated that walking was a common, accessible, inexpensive form of physical activity and was an important component of total physical activity in adult populations.

**Table 2.0: Pan/Tobacco chewing pattern in urban population of Bhagalpur**

Pan/Tobacco chewing	Men		Women		Total	
	Number	%	Number	%	Number	%
Yes	178	71.2	113	45.2	291	58.2
No	72	28.8	137	54.8	209	41.8
Frequency						
Daily	121	67.9	76	67.2	197	67.7
Weekly twice	32	17.9	21	18.6	53	18.2
Weekly once	11	6.1	07	6.2	18	6.2
Monthly once	14	7.8	09	8.0	23	7.9
Quantity/week						
< 4 nos	54	30.3	78	69.0	132	45.3
> 4 nos	124	69.6	35	31.0	159	54.7
Duration of habit						
< 5 years	20	11.2	17	15.0	37	12.7
5-10 years	87	48.8	35	31.0	122	42.0
10-15 years	55	31.0	50	44.3	105	36.0
> 15 years	16	9.0	11	9.7	27	9.3

**Fig 1.0 Graphical representation of physical exercise behaviour Pan/Tobacco chewing:**

There was not much difference noticed among urban (71.2 per cent) men in pan chewing practice. Among women 45.2 percent were consuming tobacco products, pan chewing was more common. This habit was observed as more common among women when compared to all others tobacco products.

According to Rani *et al.*, (2003) the prevalence of both chewing tobacco/pan masala was significantly higher in rural, poorer and uneducated populations compared to urban, wealthier, and more educated populations, respectively, both in men and women, though the differentials for chewing tobacco were smaller. The present study outcomes also agreed the above results. The results were slightly higher than the studies by Joshi *et al.*, (2010) which observed 37.2 per cent of urban population of Gujarat was ever tobacco chewers and by Preeti and Raut (2012) which stated that tobacco use among men was 46.5 per cent and among women was 13.8 per cent in India. The prevalence of chewing might vary widely between different states and had a strong association with individual's socio-cultural characteristics. The Figure -1.0 illustrated that daily consumption of tobacco was more common in both men (67.9 per cent) and women (67.2 percent). The weekly twice

consumers were recorded to follow by daily consumers as men (17.9 percent) and women (18.6 percent). When observing the quantity consumed by the selected urban subjects revealed that 39.3 per cent of men and 69.0cent per cent of women were consuming pan less than four numbers in a week time. Nearly 69.6 percent of the surveyed town men were eating more than four numbers of tobacco products while about 31 percent women were found to be habitual for taking more than four numbers of tobacco products. Most of the men were found to be using tobacco product for last 5 to 10 years (48.8 percent) followed by 10 to 15 years (31.0 percent). About 9 percent men were habitual since more than 15 years in men along with 11.0 percent with less than 5 years addiction. In women, greatest per cent (41 per cent) was observed to be in 10-15 years duration succeeded by more than 15 years (44.3 per cent) followed by 5 to 10years (31.0per cent) and a least (9.7 percent) for more than 15 years. There was not much difference noticed among urban (71.2 per cent) men in pan chewing practice. Among women 45.2 percent were consuming tobacco products, pan chewing was more common. This habit was observed as more common among women when compared to all others tobacco prod-

ucts.

Among urban hypertensive, majority of 43 per cent men were having this habit for more than 15 years followed by 10 -15 years (31 per cent) and five to ten years (26 per cent). In women, majority (43 per cent) were having pan chewing habit for 10-15 years, succeeded by more than fifteen years (24 per cent). About 18 per cent consumed pan for less than five years and 15 per cent had the pan chewing practice for 5-10 years.

On the whole, pan chewing habit was concerned, even though it was common for both men and women but, men was found to be more predominant among selected sample population of 250 males and 250 females. Greatest per cent of men were having this for 5 to 15 years addiction group.

### Smoking frequency:

Smoking frequency of the selected hypertensive is illustrated in Table -2.0

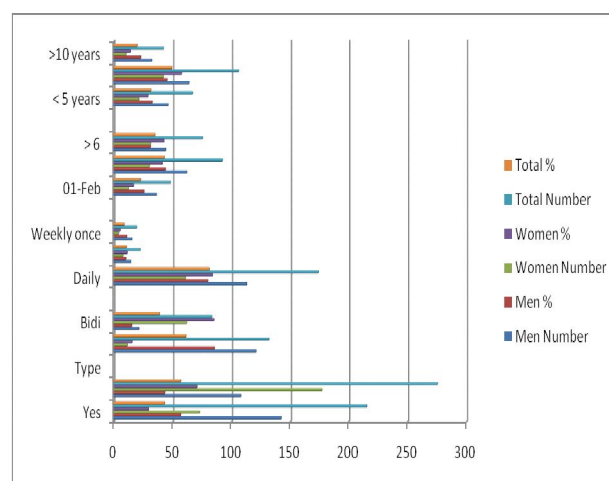
Smoking Habit	Men		Women		Total	
	Number	%	Number	%	Number	%
Yes	142	56.8	73	29.2	215	43.0
No	108	43.2	177	70.8	275	57.0
Type						
Cigarette	121	85.2	11	15.1	132	61.4
Bidi	21	14.8	62	84.9	83	38.6
Frequency						
Daily	113	79.6	61	83.5	174	80.9
Weekly twice	14	9.8	08	11.0	22	10.3
Weekly once	15	10.6	04	5.5	19	8.8
Quantity/week						
1-2	36	25.4	12	16.4	48	22.4
3-5	62	43.7	30	41.1	92	42.8
>6	44	30.9	31	42.5	75	34.8
Duration of habit						
<5 years	46	32.4	21	28.8	67	31.2
6-10 years	64	45.1	42	57.5	106	49.3
>10 years	32	22.5	10	13.7	42	19.5

The present result showed that the majority of the selected hypertensive subjects were having the smoking habit for 6-10 years with 45.1 per cent of men and 57.5 per cent of urban women. Even 22.5 per cent of men and 13.7 per cent of women were smoking for more than 10 years. About 32.4 -28.8 per cent of the men and women smokers respectively acquired this habit within five years. It was inferred that 25.4percent men and 16.4 percent women were consuming 1 or 2 cigarettes/ bidi per week followed by 43.7 men and 41.1 percent

women were consuming 3-5 cigarettes/bidi per week. The quantity was observed to be more than 6 numbers /week for men with 30.9 percent and women for 42.5 percent. Reducing these lifestyle risk factors might decline the prevalence of hypertension among both rural and urban areas.

Smoking was one of the predisposing factors for hypertension. Abtahi et al., (2011) observed that pre-hypertension prevalence was more prevalent among smokers than non-smokers and prevalence of grade 1 hypertension was 35 per cent in smokers and 30.3 per cent in non-smokers. Synchronizing with the above study Figure -2.0 visualized clearly that one in two selected sample men were smokers. The smoking habit was predominant in men than women with cigarette smokers (61.4 per cent) and bidi smokers (38.6 percent) of the total sample population. Figure -3.0 illustrated that women contribute for almost one third of total smoker population of the town, most of them were bidi smokers and older women were more habitual towards smoking while younger women consume it occasionally. The daily smoker includes 79.8 percent men and 83.5 percent women. Weekly twice smokers include 9.8 percent of men and 11.0 percent of women followed by weekly once consumers as 10.6 percent men and 5.5 percent of women.

**Fig 2.0: Smoking frequency among urban population of Bhagalpur.**



**CONCLUSION :**

The change in life style of urban population of Bhagalpur is one of the causes for the development of hypertension. All age groups of the Bhagalpur town area are under threat of developing hypertension due to lack of good life style and adversely affected with the habit of tobacco/pan chewing, both men and women are engaged in such bad daily routine that lead them to develop hypertension and related ailments.

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