Original Article

Medicine

Hypertension in Working and Non working Women Attending OPD of a Tertiary Care Private Sector Hospital in Karachi

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ABSTRACT

Objective: To compare the frequency of hypertension in working and non- working women attending OPD of a Private sector hospital of Karachi.

Study Design: Comparative Cross Sectional Study

Place and Duration of Study: A comparative cross sectional survey of women visiting medical OPD was conducted in a private sector hospital of Karachi from January 2010 to November 2011.

Materials and Methods: Study was conducted on working and non working women having age 20 years and above coming for treatment in OPD of a Private sector hospital of Karachi from January, 2011 to November 2011. Taking ethical consideration, data was collected by interviewing method. Besides socio-economic data, Blood pressure, weight and height were measured to calculate BMI for defining obesity. BMI more than 30 were considered obese. Data was analyzed by using statistical package SPSS version 16.0. Chi square test was applied to see the significance difference in both the groups at $P<0.05$.

Results: Over all 540 women included in the study, 250(46.3%) were working women and 290 were non-working (53.7%). Among the working women 88(35.2%) were hypertensive whereas among non working women 173 (59.7%) were hypertensive ($p<0.000$). Most of the hypertensive working women were of the age group 40-49 years (44.4%) whereas hypertensive non working women were of age group 30-39 years. Among the working women 38% were obese while in non working women 56% were obese.

Conclusion: Our study shows that hypertension and obesity is more common in non working women as compare to working women and its shows that it's not the working which is the risk for developing hypertension rather there are other factors which increases the risk of hypertension and there is need of further studies.

Key words: Hypertension, working women, nonworking women, obesity

INTRODUCTION

According to the Pakistan Bureau of Statistics, female labour force participation has jumped from 16.3% in 2000 to 24.4% in 2011. Employment to female population during the same period rose from 13.7% to 22.2%[1]. Thus it is essential to examine the effect of employment on the health of women so that the risks factors could be identified. In an American article, it is stated that mortality rate is lower in employed women of all ages and occupations and women who are working have a better perceived health as compared to non working women (do not work outside the home). In working women the incidence of cardiovascular disease has not increased due to their active participation in the work force. Working seems to have a beneficial effect on the woman's family as well they were confide in their husbands and report helpful or supportive responses from them.[2]

In a study it was determined that 6-Sulfatoxymelatonin levels were 62% lower and FSH and LH were 62% and 58% higher, respectively, in night shift–working women during daytime sleep than in day shift–working women during nighttime sleep ($P \leq 0.0001$)[3]. According to Science News report, in mid 1960, it was determined that working women were badly effected by high blood pressure and heart attacks but current researches disproved it. In real way working women enjoy lower blood pressure than non- working women[4]. In the same survey report, among the older group, working and nonworking women recorded lower blood pressure, whereas in younger groups, the prevalence of hypertension was recorded on increase for stay-at-home women. The increase was 15.3% among young, nonworking black women as compared to only 1.7 % among young, nonworking white women.[4]

In another study[5], working hours and environment at work place are more important than the type of work as compared to non working woman with burden of work with low socioeconomic status and no time for rest. They were also at risk of brunt of day to day stresses and develop more hypertension than working women. However other studies showed that longer working hours may increase the risk of development of hypertension due to time available for recovery and sleep which are associated with disruption of physiological processes[6, 7]. In some studies, it was

concluded that due to increase in working hours may result in development of hypertension risk related to lifestyles and behaviors, including smoking and unhealthy diet.[8, 9] If the working environment is reward imbalance, which are believed to be biological arousal[10], these risk factors, in turn, may lead to permanent physiological changes, such as hypertension.[11, 12].So a non working women just doing domestic work, commonly have no time for rest, develops more psychological stresses and resulted in development of hypertension. It is estimated by health experts of Government and private sector that in America 65% adults are overweight and out of these 31% are obese and at risk for chronic diseases such as diabetes and hypertension. It was proved in a study that any rise in obesity chances of increase in the prevalence of hypertension [13].

In a study, obesity increases the risk for hypertension. The association between weight change and risk for hypertension was strong in younger than older > 55 years of age[14]. The prevalence of overweight and obesity combined issued by 6 fold for 6% in 1983 to 35% in 1999 which is strongly associated with hypertension[15]. Study results show that hypertension and hypertension risk factors are common in developing countries particularly in urban areas as compared to developed countries[16]. In South Asian region the prevalence of hypertension is increasing. Non working outside house is associated high risk in hypertension and obesity[17]. Eating behavior is the main factor which effects increasing in weight and development of obesity[18]. The women who experiencing burn out had significantly more scored on eating with emotional and uncontrolled then the women without burn out[19].

Therefore, this study was designed to assess the hypertension in working and non working women of Karachi so proper preventive measures could be developed for high risk class of our society.

MATERIALS AND METHODS

A comparative cross sectional survey of women visiting medical OPD was conducted in a private sector hospital of Karachi from January 2010 to November 2011. Taking ethical consideration data was collected by interviewing method. All working and non working women were included having the age of 20 years regardless of marital and socioeconomic status. However doctors who were doing their post graduation in this hospital were also included. Blood pressure of all the participants was taken. It was measured by mercury sphygmomanometer and was defined as hypertensive on the basis of systolic to diastolic blood pressure of 140/90mmHg. Similarly, weight and height were also measured to calculate BMI for defining obesity. BMI more than 30 were considered as obese. Women were considered working who were working outside home. All those women who were doing any business in home or working as tutor at home were not included as working women. Data was analyzed by using statistical package for social sciences SPSS version 16. Chi square test was applied to see the significance difference in both the groups at $P<0.05$.

RESULTS

Over all 540 women participated in the study. Out of these, 250 (46.3%) were working women and 290 were non-working (53.7%). The mean age was 32.9 ± 4.6 years. In the first group that is working women, out of 250, only 88 (35.2%) were hypertensive and rest of them i.e, 162 (64.8%) were non hypertensive. Whereas in the second group comprising of non working women, out of 290, majority i.e. 173 (59.7%) were hypertensive and only 117(40.3%) were non hypertensive (Table 1). On comparing both the group, hypertension was found statistically significantly higher in non working women at $P<0.000$. (Figure 1).

Out of 540 participants of both the groups, 261 participants were hypertensive. Most of the Hypertensive working women were of the age group 40-49 years (44.4%) followed by 30-39 and 50-59 years of age. (Figure2). Similarly most of the non working hypertensive women were of age group 30-39 years followed by20-29 and 50-59 years of age. (figure3).

According to the analysis of the data, obesity was determine at less level in working women as compared to non working women. It was observed that only 38% of the working women participated in our study were obese as compared to 56% obese in non working women. This data was found statistically significant at $P < 0.000$ by applying chi-square test. (Table 2)

Among the working women most of the women were belongs to professionals 105/250 i.e. 42%, followed by non clerical category 64/250 i.e.26%. Among the non working women majority of them belongs to were also professionals 151/290 i.e. 52.1% followed by teachers 52/290 i.e. 17.9%. According to comparison with hypertensive cases in working and non working women with occupation, professionals were on the high side in both the groups.(Table 3)

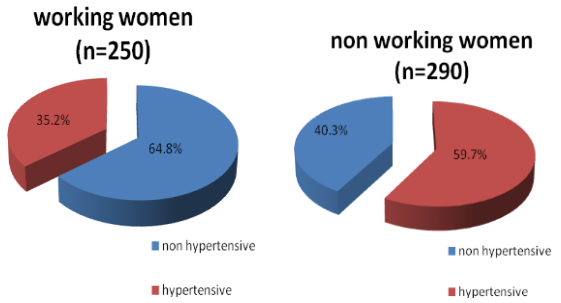

Figure No.1: Distribution of working and non-working women v/s hypertensive or non-hypertensive

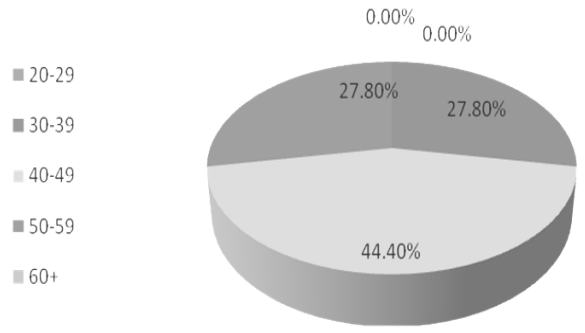

Figure No.2: Distribution of age of working hypertensive women (n-188)

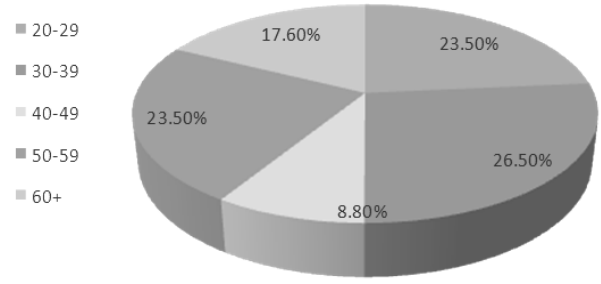

Figure No.3: Age of non working hypertensive women (n=173)

Table No.1: Frequency of working and non working women v/s hypertension

Class of women	Total participants	Hypertensive	Non hypertensive
Working women	250	88 (35.2%)	162 (64.8%)
Non working women	290	173 (59.7%)	117 (40.3%)

P<0.000 applying chi square test.

Table No.2: Frequency of working and non working women v/s obese

Class of women	Total participants	obese	Non-obese
Working women	250	95 (38%)	155 (62%)
Non-working women	290	162 (55.9%)	128 (44.1%)

P<0.000

Table No.3: Frequency of working and non- working women V/s Occupation

occupation	Working (250)	Non-working (290)
Professional	105	151
Teachers	43	52
Clerical	38	49
Non clerical	64	38

DISCUSSION

In our study, out of 540 women almost equal no of working 46% and non working 54% women were interviewed, hypertension was more common in non working women 58.6% as compared to the nonworking women 36% and this is consistent with international study conducted and reported at the annual meeting of the Society for Epidemiologic Research in Snowbird which also mention that hypertension is more common in nonworking women as compared to the working women[3]. But several other studies shows that hypertension is more in working women than non working women due to the duration of working hours , working environment and reaction to the environment. Hypertension was more common in the middle age group i.e. 30-39years in both working and nor working which is also consistent with results of international study[4]. Among the working hypertensive women most of them were doctors 27.8% followed by the teachers 16.7% and among the working non hypertensive women most of them were also doctors 40% followed by nurses 16.7% which was also justifiable by the research reports which states that it is not the working which is the risk for hypertension rather it's the working hours (duration) working environment, psychological stresses and imbalance reward which results into the hypertension [5,11,12] so considering this those women who remain at home as care taker is more liable to these risk and is at more risk of hypertension. Age and BMI is not associated factor for knee pain in working and non working women.[17] Further more in our study more women who were non working were obese 56% as compare to the working women 38%. It is similar to study[20] in which over 60% of adults were overweight and 1/3 of them were obese. In a study in Kuwait[21], the prevalence was 57.5% overweight and 42% obese. Obesity was more in non working women 46.8% as compared to working women. Prevalence of obesity increases with family size. In our study the obesity among the working women was 38% as compared to 56% in non working women. (P < 0.000). There is positive relationship of obesity with the hypertension which is also consistent with previous researches [13.]

CONCLUSION

Our study results showed that hypertension is more common in non working women as compare to working women. Similarly obesity is also on high side in non working women as compared to working women. So the non working women are at more risk of development of hypertension and obesity. Its shows that it's not the working but there are other factors which increases the risk of hypertension and obesity and there is need of further studies.

Limitation:

This study has been conducted in OPD of a private hospital where majority are belongs to middle and upper middle class. The results of a public sector

hospital where lower socio-economic class attended the OPD may be some different. Therefore a community based study should be done to over come on this issue.

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