

Original Research

A Correlation between Stress Level and Hypertension in Females: A Hospital Based Observational Study

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ABSTRACT:

Introduction

The world wide most common cardiovascular disease is known as Hypertension. Around, in 30% of globe population, the number of hypertensive adults will reach 1.5 billion by 2025. Advanced severity and high prevalence of hypertension are in elderly women than in elderly men. **Methods & Results:** This study was conducted to observe stress levels in women with hypertension. Total 20, 10 hypertensive and 10 age matched controls were part of the study. DASS 42 a standard questionnaire was used to assess depression, anxiety and stress. Data was analyzed by SPSS 20.0. Student t test was used to observe significance of difference between the groups. We observed significantly high depression, anxiety and stress levels in females with hypertension when compared with healthy controls. **Conclusion:** Our results show that there is need of more studies in this area for better indulgent of association of stress and hypertension and also to develop better intervention for hypertension.

Key words: anxiety, hypertension, women, cardiovascular.

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INTRODUCTION

The most frequent cardiovascular disease is recognized as Hypertension¹. Around, in 30% of world population, the number of hypertensive adults will reach 1.5 billion by 2025². The general dangers for hypertension are older age, having a family history, being overweight or obese, low physical activity levels, and tobacco use. The etiology of hypertension remains idiopathic. The hypothesis said that psychological stress is a critical hazard for essential hypertension^{3,4}. For adapt the physical and social environment, a specific set of behavioral and hormonal responses were induced in individuals with this stressful experiences.⁵ progress of hypertension is associated with high job stress⁶⁻⁹. In addition, some studies specified that combination of psychological stress and elevated BP were different by sex¹⁰. Higher severity and prevalence of

hypertension are in elderly women than in elderly men. Because of the differences in antihypertensive treatment patterns between males and females, it is harder to achieve BP control between them. Differences reason are hard to analyze, but could be due to poor treatment intensity, irrelevant drug choices, lack of consent, treatment resistance because of biological factors, or to other factors (e.g., central obesity, and so on)¹¹. This study was undertaken to observe stress levels in women with hypertension.

MATERIALS AND METHODS:

This study was organized at D.B. Government Hospital Churu at department of medicine; in our study we include total 20 persons, 10 hypertensive and 10 age matched controls were included in study after obtaining written

informed consent. The subsequent criteria were followed while selecting the cases.

1. Females- age group of 30-50.
2. Females-stage 1 and stage 2 hypertension.
3. Not suffering with any other systemic illness.
4. ready to participants.

Assessment of stress levels: Depression, anxiety and stress scale (DASS-42): DASS 42 is a standard questionnaire to assess depression, anxiety and stress¹³.

Table 1: Demographic parameters and depression, anxiety and stress levels in cases and controls (Data presented are mean ± SD. *P<0.05, **P<0.01, ***P<0.001)

Parameter	Cases	Controls	P value
Age (years)	37±5	38±4	0.6274
Height (cm)	156.62±10.11	154.27±8.89	0.5877
Weight (kg)	62.4±8.36	61.4±7.61	0.7871
Depression	22.58±6.74	12.64±6.84	0.0042**
Anxiety	11.83±4.91	6.41±2.47	0.0059**
Stress	15.44±6.36	7.98±4.13	0.006**

DISCUSSION

We all know that Stress whether emotional, social, cultural or occupational may lead to illness and it is a part of daily experience that is dealt due to the association of both stress and illness¹⁴. According to the survey done in 1979 stated that emotional stress, worries and anxiety are the chief reasons to cause high blood pressure followed by overweight (26%) and hereditary (12%)¹⁵. Now a day’s women had proved to be more versatile in elucidating their job at home and the work place is prone to many health complications and life-style disorders like diabetes and hypertension. This study is taken up to observe the levels of stress in women with hypertension. We observed significantly high depression, anxiety and stress levels in females with hypertension when compared with healthy controls. A study stated that stress leads to a transient sympathetic mediated increase in blood pressure but had given no clear explanation whether continuing and repetitive stress leads to fixed hypertension or not. Further studies in this area may give clear and valuable information regarding the association of stress and hypertension.

CONCLUSION

We concluded significantly higher depression, anxiety and stress levels in females with hypertension. Our study shows the need of more studies in this area for better

understanding of association of stress and hypertension and also to develop better interventions for hypertension.

REFERENCES

1. Mathers C, Stevens G, Mascarenhas M. Global Health Risks: Mortality and Burden of Disease Attributable to Selected Major Risks. Geneva:World Health Organization; 2009.
2. Kearney PM, Whelton M, Reynolds K, et al. Global burden of hypertension: analysis of worldwide data. *Lancet* . 2005; 365:217–223.
3. Henry JP. Stress, salt and hypertension. *Soc Sci Med* 1988; 26: 293–302.
4. Steptoe A. Psychosocial factors in the development of hypertension. *Ann Med* 2000; 32: 371–375.
5. Greiner BA, Krause N, Ragland D, Fisher JM. Occupational stressors and hypertension: a multi-method study using observer-based job analysis and self-reports in urban transit operators. *Soc Sci Med* 2004, 59: 1081–1094.
6. Markovitz JH, Matthews KA, Whooley M, et al. Increases in job strain are associated with incident hypertension in the CARDIA Study. *Ann Behav Med*. 2004; 28:4–9.
7. Guimont C, Brisson C, Dagenais GR, et al. Effects of job strain on blood pressure: a prospective study of male and female white-collar workers. *Am J Public Health*. 2006; 96:1436– 1439.
8. Tobe SW, Kiss A, Sainsbury S, et al. The impact of job strain and marital cohesion on ambulatory blood pressure during 1 year: the Double Exposure study. *Am J Hypertens*. 2007; 20:148– 153.
9. Ohlin B, Berglund G, Rosvall M, Nilsson PM. Job strain in men, but not in women, predicts a significant rise in blood pressure after 6. 5 years of follow-up. *J Hypertens*. 2007; 25:525–531.
10. Steptoe A, Willemsen G. The influence of low job control on ambulatory blood pressure and perceived stress over the working day in men and women from the Whitehall II cohort. *J Hypertens* 2004; 22: 915–920.
11. Edelgard Anna Kaiser, Ulrich Lotze, Hans Hendrik Schäfer Increasing complexity: which drug class to choose for treatment of hypertension in the elderly? *Clin Interv Aging*. 2014; 9: 459–475.
12. Bethesda. The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure. National Heart, Lung, and Blood Institute (US); 2004.
13. Lovibond, P.F. & Lovibond, S.H. The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy*. 1995; 33:335-343
14. Pollock K. On the nature of social stress: Production of modern mythology. *Soc Sci Med* 1988; 26:381-392.
15. Urban Behavioral Associates, Inc and Louis Harris and associates. Inc: The public and high blood pressure- six year follow-up survey of public knowledge reported behavior. Washington, DC, US Dept of Health and Human services (DHHS), Public Health Service, National Institute of Health 1891; publication No.81-2118.