

How to Cite:

Bandaru, S. D., Mishra, S., Manivasagam, S., Rahmath, A., Goothy, S. S. K., & Choudhary, A. (2022). Assessment of depression, anxiety, and stress levels in prehypertensive females. *International Journal of Health Sciences*, 6(S5), 11303–11306. <https://doi.org/10.53730/ijhs.v6nS5.11850>

Assessment of depression, anxiety, and stress levels in prehypertensive females

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Abstract--Background: it is needed to assess the depression, anxiety, and stress in these individuals as a part of the intervention. Earlier studies in this area assessed only with less sample size. Objective: The present study was undertaken to assess depression, anxiety, and stress in the pre hypertensives with large sample size. Materials and methods: A total of 100 cases with pre-hypertension and 100 controls of similar ages and gender were recruited in the present study. Depression, anxiety, and stress are negative emotional states. They can be assessed using DASS 42 questionnaire which is a standard questionnaire and available freely to use. Results: Age is significantly different between the groups. Other demographic data were not significant between the cases and controls. Depression, anxiety, and stress scores were significantly high in the cases when compared with

the control group ($P < 0.001$). Conclusion: The study highlights that negative emotional states like depression, anxiety and stress are significantly high in the prehypertensive when compared with healthy controls.

Keywords---Depression, Anxiety, Stress, Pre-hypertension.

Introduction

Hypertension is the leading cause of death throughout the world. Prehypertension is defined as systolic blood pressure between 120-139 mmHg and diastolic blood pressure between 80-89 mmHg. Thus, an individual with prehypertension is more prone to develop hypertension. No medical treatment is required for individuals with prehypertension, but the lifestyle must be modified to a holistic lifestyle. Negative emotional states like depression, anxiety, and stress are more common in prehypertensive individuals.¹ Hence, it is needed to assess the depression, anxiety, and stress in these individuals as a part of the intervention. Earlier studies in this area assessed only with less sample size. Hence, the present study was undertaken to assess depression, anxiety, and stress in the pre hypertensives with a large sample size.

Materials and Methods

Study design: Case-control study

Study participants: A total of 100 cases with pre-hypertension and 100 controls of similar ages and gender were recruited in the present study. Cases were recruited by the following criteria.

Inclusion criteria: Willing males and females with pre-hypertension, within the age group Of 30-40 years and not following any therapy or treatment were included in the study.

Exclusion criteria: Participants with any severe complications were excluded from the study.

Assessment of depression, anxiety, and stress: Depression, anxiety, and stress are negative emotional states. They can be assessed using DASS 42 questionnaire which is a standard questionnaire and available freely to use.

Ethical consideration: The current study protocol was approved by the institutional human ethical committee.

Statistical analysis

Data was analyzed using SPSS 20.0 version. A student t-test was used to observe the significance of the difference between the groups. P value less than 0.05 was considered significant.

Results

Results were presented in table no 1. Age is significantly different between the groups. Other demographic data were not significant between the cases and controls. Depression, anxiety, and stress scores were significantly high in the cases when compared with the control group ($P < 0.001$).

Table 1: Demographic and depression, anxiety, and stress scores of the participants

Parameter	Cases	Controls	P value
Age (years)	34±0.3	35±0.2	0.0061**
Height (cm)	164±3.50	166±3.80	0.6991
Weight (kg)	72±2.60	76±2.20	0.2416
Depression score	16±0.20	7±0.30	0.0001***
Anxiety Score	14±0.30	6±0.20	0.0001***
Stress Score	25±0.90	12±0.40	0.0001***

Data were presented as mean and SEM. ** $P < 0.01$ is significant, *** $P < 0.001$ is significant

Discussion

The present study was undertaken to assess depression, anxiety, and stress in the pre hypertensives with large sample size. Age is significantly different between the groups. Other demographic data were not significant between the cases and controls. Depression, anxiety, and stress scores were significantly high in the cases when compared with the control group ($P < 0.001$). The study highlights that negative emotional states like depression, anxiety, and stress are significantly high in the prehypertensive when compared with healthy controls. The prevalence of depression, anxiety, and stress was reported to be high in pre-hypertensive individuals.^{3,4} Increase in negative emotions has an adverse effect on the quality of life as well as it also causes the pre-hypertension to hypertension. In contrast, other studies reported that there is no relation between depression, anxiety and stress, and prehypertension.⁵ As negative emotions cause adverse effects, they should become part and parcel of the clinical examination in the diagnosis of pre-hypertension. Earlier diagnosis helps to adopt effective management techniques that can be prevented the development of hypertension in these individuals.

Conclusion

The study highlights that negative emotional states like depression, anxiety and stress are significantly high in the prehypertensive when compared with healthy controls.

Conflicts of interest: None declared

Source of funding: Self-funding

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