

Determination of Stress Factors in General Population.

Amanjot Kaur Chauhan¹, Sangeeta Narang², Priyanka Gupta³, Rajesh Ranjan⁴

¹Assistant Professor, Department of Community Medicine, MMIMSR, Mullana, Ambala.

²Assistant Professor, Dept. of Community Medicine, ESIC Medical College & Hospital, Faridabad.

³Assistant Professor, Dept. of Community Medicine, Saraswathi Institute of Medical Sciences, Pilkhuwa, Hapur, UP.

⁴Associate Professor, Dept. of Community Medicine, Saraswathi Institute of Medical Sciences, Pilkhuwa, Hapur, UP.

Received: April 2019

Accepted: April 2019

Copyright: © the author(s), publisher. It is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: Stress is an important reference point in health studies and it is related to both an individual's general health status and different illnesses, including mental disorders, cancer, cardiovascular disease, drug abuse, chronic diseases, etc. Hence; under the light of above mentioned data, the present study was planned to assess various determinants of stress factors among general population. **Methods:** A total of 200 subjects were included in the present study. A self-framed questionnaire was given to all the subjects for obtaining complete demographic and clinical details of all the subjects. Second part of the questionnaire included assessment of information in relation stress related personal life parameters. The Nordic Questionnaire for Psychological and Social Factors at Work (QPS Nordic) in order to assess perceived stress was given to all subjects and asked to respond. All the answers were graded into three categories as follows: Category A: None or minimal stress, Category B: Stress to some extent, and Category C: Very much stress. All the results were recorded in Microsoft excel sheet and were analyzed by SPSS software. **Results:** Among subjects less than 30 years of age, 25 subjects had category B stress, while 20 subjects had category C stress. Significant results were obtained while assessing the distribution of stress among males and females. Also significant results were obtained while assessing the distribution of stress among employed people. **Conclusion:** Stress is particularly common in employed subjects, especially males.

Keywords: Determinants, Perception, Stress.

INTRODUCTION

Stress is an important reference point in health studies and it is related to both an individual's general health status and different illnesses, including mental disorders, cancer, cardiovascular disease, drug abuse, chronic diseases, etc. Since stress is a cross-cultural symptom for many different types of health problems, understanding stress across different sociodemographic, cultural and social groups could help to prevent stress-related problems and major health concerns worldwide.^[1-3] Stress, broadly defined as a situation "in which environmental demands, internal demands, or both, tax or exceed the adaptive resources of an individual, social system, or tissue system," is pervasive in today's society, with nearly a third of Americans rating their average stress levels as extreme.^[4-5] Hence; under the light of above mentioned data, the present study was planned to assess various determinants of stress factors among general population.

Name & Address of Corresponding Author

Dr. Sangeeta Narang
Assistant Professor,
Dept. of Community Medicine,
ESIC Medical College & Hospital,
Faridabad.

MATERIALS AND METHODS

The present research was conducted in the department of social and preventive medicine of the medical institute and it included assessment of various determinants of stress factors among general population. A total of 200 subjects were included in the present study. Ethical approval was obtained from institutional ethical committee and written consent was obtained after explaining in detail the entire research protocol. A self-framed questionnaire was given to all the subjects for obtaining complete demographic and clinical details of all the subjects. Second part of the questionnaire included assessment of information in relation stress related personal life parameters. The Nordic Questionnaire for Psychological and Social Factors at Work (QPS Nordic) in order to assess perceived stress was given to all subjects and asked to respond. All the answers were graded into three categories as follows: Category A: None or minimal stress, Category B: Stress to some extent, and Category C: Very much stress.

All the results were recorded in Microsoft excel sheet and were analyzed by SPSS software. Chi-

square test was used for assessment of level of significance.

RESULTS

In the present study, a total of 200 subjects were analyzed. Mean age of the subjects of the present study was 45.8 years. Majority of the subjects belonged to the age group of 30 to 50 years. 60 percent of the subjects of the present study were males while the remaining were females. 135 subjects in the present study were employed while the remaining 65 were unemployed.

Among subjects less than 30 years of age, 25 subjects had category B stress, while 20 subjects had category C stress. Significant results were obtained while assessing the distribution of stress among males and females. Also significant results were obtained while assessing the distribution of stress among employed people.

Table 1: Demographic and clinical data

Parameter		Number
Age group (years)	Less than 30	55
	30 to 50	65
	More than 50	80
Gender	Males	120
	Females	80
Employment status	Unemployed	65
	Employed	135

Table 2: Assessment of perceived stress

Parameter		Number	Category A	Category B	Category C	p-value
Age group (years)	Less than 30	55	10	25	20	0.25
	30 to 50	65	20	20	25	0.82
	More than 50	80	20	45	15	0.01*
Gender	Males	120	40	55	25	0.00*
	Females	80	10	45	35	0.02*
Employment status	Unemployed	65	25	20	20	0.11
	Employed	135	25	70	40	0.00*

DISCUSSION

Modern day life usually demands more work than relaxation. Consequence of such situation may be grim in terms of health. Stress, in general terms, is defined as any kind of disturbance in physiological homeostasis.^[5] Thus, PS is the homeostatic alteration caused by psychological factors which may include various social and emotional stressors. The concept of PS has slowly evolved from a neurobiological to a neuro-physiological basis. This development is evident from the methods of qualitative and quantitative assessment of stress, which have improvised from the classical questionnaire based evaluation of stress to current molecular screening methods. Initially, PS was considered purely from a psychiatry viewpoint. As a consequence, various questionnaires were used

and are still used for the psychological assessment of an individual.^[6-8]

In the present study, a total of 200 subjects were analyzed. Mean age of the subjects of the present study was 45.8 years. Majority of the subjects belonged to the age group of 30 to 50 years. 60 percent of the subjects of the present study were males while the remaining were females. 135 subjects in the present study were employed while the remaining 65 were unemployed. Keller A et al examined the relationship among the amount of stress, the perception that stress affects health, and health and mortality outcomes in a nationally-representative sample of U.S. adults. Data from the 1998 National Health Interview Survey were linked to prospective National Death Index mortality data through 2006. Separate logistic regression models were used to examine the factors associated with current health status and psychological distress. Cox proportional hazard models were used to determine the impact of perceiving that stress affects health on all-cause mortality. Each model specifically examined the interaction between the amount of stress and the perception that stress affects health, controlling for sociodemographic, health behavior, and access to healthcare factors. 33.7% of nearly 186 million (n=28,753) U.S. adults perceived that stress affected their health a lot or to some extent. Both higher levels of reported stress and the perception that stress affects health were independently associated with an increased likelihood of worse health and mental health outcomes. The amount of stress and the perception that stress affects health interacted such that those who reported a lot of stress and that stress impacted their health a lot had a 43% increased risk of premature death. High amounts of stress and the perception that stress impacts health are each associated with poor health and mental health.^[9]

Among subjects less than 30 years of age, 25 subjects had category B stress, while 20 subjects had category C stress. Significant results were obtained while assessing the distribution of stress among males and females. Also significant results were obtained while assessing the distribution of stress among employed people. Key components of the stress system are the hypothalamic-pituitary-adrenal (HPA) axis and the autonomic nervous system (ANS), which interact with other vital centers in the central nervous system (CNS) and tissues/organs in the periphery to mobilize a successful adaptive response against the imposed stressor(s). Dysregulation of the stress system (hyper- or hypo-activation) in association with potent and/or chronic stress can markedly disrupt the body homeostasis leading to a state of cacostasis or allostasis, with a spectrum of clinical manifestations.^[9-11] Liu JJW et al conducted a review to substantiate the efficacy of reappraisal interventions on stress responsivity compared to

control conditions. Differences in experimental methodologies (e.g., type of stressor used, timing of reappraisal intervention, and content of intervention instructions) will be examined to further delineate their effects on intervention outcomes. The literature searches were conducted on May 16, 2018 using PsycINFO, ProQuest Dissertations and Theses, and PILOTS databases with no date restriction. The search terms included stress, reframing, reappraisal, mindset and reconceptualising. A total of 14 articles with 36 independent samples were included in the meta-analysis, while 22 articles with 46 independent samples were included in the systematic review. Findings from both the meta-analysis and systematic review revealed that overall, reappraisal interventions are effective in attenuating subjective responsiveness to stress. Standard differences in means across groups are 0.429. However, reappraisal intervention groups did not outperform control groups on measures of physiological stress, with standard differences of -0.084. Moderator analysis revealed heterogeneous effects suggesting large variability in findings. On one hand, findings may suggest a promising avenue for the effective management of self-reported stress and optimization of stress responses.^[12]

CONCLUSION

Stress is particularly common in employed subjects, especially males. Therefore; it is recommended that health care centers should start conducting stress coping strategies courses and workshops for general population.

REFERENCES

- Pilowsky I, Spalding D. Method for measuring depression – validity studies on a depression questionnaire. *British Journal of Psychiatry*. 1972; 121: 411–&.
- Furukawa TA, Kessler RC, Slade T, Andrews G. The performance of the K6 and K10 screening scales for psychological distress in the Australian National Survey of Mental Health and Well-Being. *Psychological Medicine*. 2003;33(2):357–362.
- Board F, Persky H, Hamburg DA. Psychological stress and endocrine functions – blood levels of adrenocortical and thyroid hormones in acutely disturbed patients. *Psychosomatic Medicine*. 1956; 18: 324–333.
- Geers AL, Kosbab K, Helfer SG, Weiland PE, Wellman JA. Further evidence for individual differences in placebo responding: an interactionist perspective. *Journal of Psychosomatic Research*. 2007;62(5):563–570.
- Matthews KA, Katholi CR, McCreath H, Whooley MA, Williams DR, et al. Blood pressure reactivity to psychological stress predicts hypertension in the CARDIA study. *Circulation*. 2004; 110: 74–78.
- Gill SC, Butterworth P, Rodgers B, Mackinnon A. Validity of the mental health component scale of the 12-item Short-Form Health Survey (MCS-12) as measure of common mental disorders in the general population. *Psychiatry Research*. 2007;152(1):63–71
- Priyadarshini S, Aich P. Effects of psychological stress on innate immunity and metabolism in humans: a systematic analysis. *PLoS One*. 2012; 7: e43232.
- Singh A, Smoak BL, Patterson KY, Lemay LG, Veillon C, et al. Biochemical indexes of selected trace minerals in men – effect of stress. *American Journal of Clinical Nutrition*. 1991; 53: 126–131.
- Keller A, Litzelman K, Wisk LE, et al. Does the perception that stress affects health matter? The association with health and mortality. *Health Psychol*. 2012;31(5):677–684.
- Vallejo M. A., Mañanes G., Comeche M. I., Díaz M. I. (2008). Comparison between administration via internet and paper-and-pencil administration of two clinical instruments: SCL 90-R and GHQ-28. *J. Behav. Ther. Exp. Psychiat*. 39, 201–208.
- Warttig S. L., Forshaw M. J., South J., White A. K. New, normative, English-sample data for the Short Form Perceived Stress Scale (PSS-4). *J. Health Psychol*. 2013; 18, 1617–1628.
- Liu JJW, Ein N, Gervasio J, Vickers K. The efficacy of stress reappraisal interventions on stress responsivity: A meta-analysis and systematic review of existing evidence. *PLoS One*. 2019;14(2):e0212854. Published 2019 Feb 27. doi:10.1371/journal.pone.0212854

How to cite this article: Chauhan AK, Narang S, Gupta P, Ranjan R. Determination of Stress Factors in General Population. *Ann. Int. Med. Den. Res*. 2019; 5(4):CM04-CM06.

Source of Support: Nil, **Conflict of Interest:** None declared