ORIGINAL RESEARCH PAPER
Volume - 12 | Issue - 07 | July - 2023 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

SELF-REPORTED STRESS AMONGST URBAN ADULTS

Anatomy

Rupali Gajare* Associate Professor, Anatomy Department, Rajiv Gandhi Medical College, Kalwa, Thane-400 605, Maharashtra, India *Corresponding Author

Atul Gajare Consultant, Orthopaedic, Maharashtra, India

ABSTRACT

This cross-sectional, observational study was conducted on 96 participants (37 females: 38.54% and 59 males: 61.46%) in metropolitan city by administering a pre-tested and pre-validated online questionnaire, using the snow ball sampling technique, to determine self-reported stress by urban adults. The average ages of females and males were 34.0 +/- 6.58 years and 37.62 +/- 13.65 years, respectively, with no significant gender difference in average age (Z=1.740; p=0.081) marital status (Z=0.953; p=0.342) and occupation. The gender differences in physical symptoms, such as headache, tensed muscles, soreness of neck and back muscles, easy fatiguability were not significant, but there were significant gender differences in psychological and psycho-somatic manifestations, such as, phobia, irritability, anger, eating disorders and getting upset easily. Adaptive acute stress responses in healthy individuals do not cause adverse health effects. However, persistent stressors may cause disease in biologically vulnerable individuals, especially if they have inadequate coping skills.

KEYWORDS

Coping abilities, Gender differences, Stress, Urban adults

INTRODUCTION

Hans Selye, later called "Father of Stress Research", [1] used term "stress" to represent the effects of anything that seriously threatened homeostasis. The "stressor" is actual or perceived threat to an organism, while the response to the stressor is called "stress response." All living creatures face threats to homeostasis, which must be countered with adaptive responses. [2] Since effective homeostatic mechanisms are available for coping with short-term stressors, acute stress responses, do not cause adverse health effects, especially in young, healthy persons. However, persistent and prolonged stress responses may impair health, particularly in older adults with co-morbidities.[3] Stress is a lifestyle predicament, [4] which, when not controlled effectively, can have adverse consequences because several personal and occupational stressors can potentially create undesirable effects on health.

The human central nervous system generates integrated coping responses rather than solitary and separate responses. When faced with short-term stressors, individuals are likely to show increased autonomic and hormonal activities that maximize the potential for muscular exertion. However, when an active coping response is not available, the body may launch a vigilance response that involves arousal of the sympathetic nervous system, together with active inhibition of muscular exertion and shunting of blood away from the periphery. [2] Chronic stress causes chronic sympathetic stimulation of cardiovascular system, which leads to sustained increase in blood pressure, ultimately causing hypertrophy of left ventricle, damaged arteries and plaque formation. [2] Chronic stress may cause exacerbations of autoimmune disease [5] and also suppress immunity by directly affecting cytokine profiles. Sickness behaviour, which is a highly organized mechanism for combating infection, promoting resistance and facilitating recovery, [6] can become maladaptive when continuously activated. [2]

While stress responses vary according to situations, there are also individual differences in stress responses to the same situation. Some individuals tend to show stress responses associated with active coping, while others tend to show sympathetic-associated stress responses. [7, 8] This propensity to show a specific pattern of stress responses across a variety of stressors is termed "response stereotypy". [9] Genetic inheritance is one of the determinants of individual differences in response stereotypy. [10] According to the "weak organ" hypothesis, stress tends to attack a weak point. The stress response exhibits a variety of individual variations, which may operate as protective or detrimental factors for the individual. [11]

Transformations in managerial roles, working hours, work-life balance and employee attitudes, together with extremely competitive and stressful environments are the consequence of rapid expansion of multinational organizations. [12] Due to globalization, smaller organizations compete for their share of the global market and fewer employees work for long hours in environments where they feel less secure. [13] When the experienced level of stress exceeds the ability of the individual to cope with the stress, the negative effects of stress emerge. [13] Stress management practices in Indian industry include – offering flexible working hours, conducting stress management workshops and undertaking awareness programmes. [14] However, mechanisms for dealing with stress that are suitable in one work environment may be ineffective in another and coping strategies aimed at reducing stress in work environments have been found unsuccessful, although they were effective in reducing stress in interpersonal relationships. [15,16]

Prenatal stress affects pregnancy by means of increased inflammatory activity, behavioural changes, such as, reduction in nutrition, physical activity and sleep, [17] as well as reduced ability of the immune system to respond to challenge. [18] Prenatal stress increases the stress reactivity of infants, [19] which is linked to emotional temperament later in life. [20] As compared to infants from pregnancies in which, the mothers did not report significant stress, infants from stressed pregnancies are harder to pacify and are more temperamental. [21]

Previously, it was erroneously assumed that stress-related disorders were seldom seen in people from oriental cultures because it was supposed that they barely experienced stress. [22] As a consequence of rapidly changing cultural dynamics, urban populations experience a cultural shock, which produces a high degree of mental and social stress that causes psycho-social problems like depression, alcoholism, and delinquency. [22] In some cultures, celebration of stressful events, such as, adolescent puberty rituals, changes in social status and retirement provide mechanisms by which an individual can cope with stress. The impoverished fringe populations living in developing countries are more likely to cope with stress because coping behaviour takes place in a social context [23] and many of these communities have intact culture-specific social networks. [24] In 1966, cultures were defined in terms of "maze ways", which comprise patterns of beliefs, values, and commitments, as well as expected behaviours that have an effect on individual behaviour. These maze ways may contain gender-specific pathways as well as various pathways for diverse cultural and ethnic sub-groups. The types of stressors that an individual encounters and the range of acceptable coping strategies are predominantly determined by an individual's position in the maze way. [25] The objective of the present study was to determine the self-reported stress by urban adults.

MATERIALS AND METHODS

This cross-sectional, observational study was conducted in a metropolitan city using snow ball sampling technique. A pre-tested and pre-validated questionnaire was administered via Google forms to adults, of either gender. Informed consent was taken on the Google forms. The questionnaire was designed to elicit information on socio-demographics and variety of personal and occupational stressors. The data were adapted to Microsoft Excel spreadsheet (Microsoft Corporation, Redmond, WA, USA) and analyzed using SPSS

statistical software Windows Version 25.0 (IBM Corporation, Armonk, NY, USA). Categorical data were presented as percentages while continuous data were presented as mean and standard deviation (SD). The 95% confidence interval (CI) was presented as: [Mean-(1.96)*Standard Error)] to [Mean+(1.96)*Standard Error)]. The standard error of difference between two sample means and the standard error of difference between two sample proportions were computed. Statistical significance was determined at $p<0.05$.

RESULTS AND DISCUSSION

Socio-demographic profile: In all, there were 96 participants (37 females: 38.54% and 59 males: 61.46%) in the study. The average age of females was 34.0 +/- 6.58 years (95% CI: 31.88 – 36.12 years) while that for males was 37.62 +/- 13.65 years (95% CI: 31.43 – 41.10 years). There was no significant gender difference in average age ($Z=1.740$; $p=0.081$) marital status ($Z=0.953$; $p=0.342$) and occupation (Table-1). A Gujarat-based study [26] found that the prevalence of stress was significantly higher ($p<0.001$) in homemakers, as compared to that in working women and students. As compared to their younger counterparts, older adults tend to lessen negative events or avoid them entirely and are therefore less likely to experience stress when faced with the same challenging situation. [27] It has been reported that females have a propensity to "tend and befriend", which supports the observation that females outperform males under stressful conditions and outlive males. [11] However, women frequently carry out repetitive tasks and are more exposed to stress from unpaid work [28] and furthermore, being female in a male-dominated working environment may be a risk factor for higher levels of job-related stress among female employees. [29] Occupational stressors, such as, family-to-work and work-to-family conflicts, traverse a variety of occupations. In work-family conflict, domestic demands invade the workplace. [30]

Table-1: Gender Differences In Occupation

Occupation	Females (n=37)	Males (n=59)	Z value	'p' value
Professional	11 (29.72%)	15 (25.42%)	0.462	0.645
Service	09 (24.32%)	12 (20.34%)	0.459	0.645
Academics	04 (10.81%)	09 (15.25%)	0.619	0.535
Business	02 (05.40%)	04 (06.78%)	0.270	0.787
Homemaker	12 (32.43%)	…	…	…

Z = Standard Error Of Difference Between Two Proportions

Table-2: Gender Differences In Stress-related Symptoms

Symptoms	Females (n=37)	Males (n=59)	Z value	'p' value
Headache	05 (13.51%)	13 (05.08%)	1.041	0.298
Tensed muscles	13 (35.13%)	29 (49.15%)	1.347	0.177
Soreness of neck & back	13 (35.13%)	28 (47.46%)	1.187	0.234
Easily fatigued / tired	28 (75.67%)	38 (64.41%)	1.159	0.246
Anxiety / worry	12 (32.43%)	18 (30.51%)	0.197	0.841
Phobia	14 (37.83%)	09 (15.25%)	2.523	0.011 *
Irritability	24 (64.86%)	22 (37.28%)	2.632	0.008 *
Anger	11 (27.72%)	37 (62.71%)	3.145	0.001 *
Eating disorders	28 (75.67%)	21 (35.59%)	3.823	0.0001 *
Boredom	13 (35.13%)	19 (32.20%)	0.296	0.764
Upset easily	08 (21.62%)	32 (54.23%)	3.154	0.001 *
Unable to control emotions	08 (21.62%)	17 (28.81%)	0.781	0.435
Nervousness	06 (16.21%)	11 (18.64%)	0.303	0.764
Lack of confidence	14 (37.83%)	29 (49.15%)	1.085	0.275
Inability to cope	10 (27.02%)	27 (45.76%)	1.835	0.657

Multiple symptoms were self-reported by participants
Z = Standard error of difference between two proportions; *Significant

Stress-related symptom profile: The gender differences in physical symptoms, such as, headache, tensed muscles, soreness of neck and back muscles, easy fatiguability were not significant (Table-2).

However, there were significant gender differences in psychological and psycho-somatic profile, such as, phobia, irritability, anger, eating disorders and getting upset easily (Table-2).

Sleep disturbance, gastrointestinal symptoms, anxiety, fatigue and back pain are frequent complaints among working individuals. [31] The development of multiple physical and mental symptoms of stress may lead to an exhaustion disorder. [31]

CONCLUSION

In the present study, gender differences in physical symptoms, such as, headache, tensed muscles, soreness of neck and back muscles, easy fatiguability were not significant, but there were significant gender differences in psychological and psycho-somatic manifestations, such as, phobia, irritability, anger, eating disorders and getting upset easily. Stressful situations at the societal, community, and interpersonal level are experienced by all humans. Adaptive acute stress responses in young, healthy individuals generally do not cause adverse health effects. Cheerful individuals who are optimistic and have good coping responses may gain from such experiences and contend with chronic stressors. However, intense and persistent stressors may cause disease in individuals who are biologically vulnerable due to age, genetic, or constitutional factors, especially if the individuals have insufficient psychosocial resources and inadequate coping skills.

REFERENCES

1. Tan SY, Yip A. Hans Selye (1907-1982): Founder of the stress theory. Singapore Med J. 2018;59(4):170-171.
2. Schneiderman N, Ironson G, Siegel SD. Stress and health: psychological, behavioral, and biological determinants. Annu Rev Clin Psychol. 2005;1:607-628.
3. Schneiderman N. Pathophysiology in animals. In: Dembroski TM, Schmidt TH, Blümhen G. (Eds.) Biobehavioral Bases of Coronary Heart Disease. Basel: Karger; 1983: 304-364.
4. Masih PP, Gulrez NK. Age and Gender Differences on Stress. In: Husain A, Khan MI. (Eds.). Recent Trends in Human Stress Management. New Delhi: Global Mission Publishing House. 2006: 97-104.
5. Harbuz MS, Chover-Gonzalez AJ, Jessop DS. Hypothalamo-pituitary-adrenal axis and chronic immune activation. Ann NY Acad Sci. 2003;992:99-106.
6. Dantzer R. Cytokine-induced sickness behavior: Where do we stand? Brain Behav Immun. 2001;15(1):7-24.
7. Llabre MM, Klein BR, Saab PG, McCalla JB, Schneiderman N. Classification of individual differences in cardiovascular responsivity. The contribution of reactor type controlling for race and gender. Int J Behav Med. 1998;5(3):213-229.
8. Kasprowicz AL, Manuck SB, Malkoff SB, Krantz DS. Individual differences in behaviorally evoked cardiovascular response: Temporal stability and hemodynamic patterning. Psychophysiol. 1990;27(6):605-619.
9. Lacey JL, Lacey BC. Verification and extension of the principle of autonomic response stereotyping. Am J Psychol. 1958;71(1):50-73.
10. Levine S. Infantile experience and resistance to physiological stress. Science. 1957; 126 (3270):405-406.
11. Quick JC, Henderson DF. Occupational Stress: Preventing suffering, enhancing wellbeing. Int J Environ Res Public Health. 2016;13(5):459.
12. Quick JC, Cooper CL, Nelson DL, Quick JD, Gavin JH. Stress, health, and well-being at work. In: Greenberg J. (Ed.), Organizational Behavior: The State of the Science (2nd Edn). Mahwah, NJ: Lawrence Erlbaum Associates. 2003.
13. Kuo BCH. Cultural variations in work stress and coping in an era of globalization. Cambridge Handbook of Culture, Organizations, & Work. Windsor, United Kingdom. University of Windsor. 2011: 418-441.
14. Jani JM. Stress Management Practices in Indian Industry. J Res Humanities Soc Sci. 2016;4(11):141-144.
15. Pearlin LI, Lieberman MA, Menaghan EG, Mullan JT. The stress process. J Health Soc Behav. 1981;22(4):337-356.
16. Schooler C. The structure of coping. J Health Soc Behav. 1978;19(1):2-21.
17. Coussons-Read ME. Effects of prenatal stress on pregnancy and human development: mechanisms and pathways. Obstet Med. 2013;6(2):52-57.
18. Rogers LK, Velten M. Maternal inflammation, growth retardation, and preterm birth: insights into adult cardiovascular disease. Life Sci. 2011; 89(13-14): 417-421.
19. Grant KA, McMahon C, Austin MP, Reilly N, Leader L, Ali S. Maternal prenatal anxiety, postnatal caregiving and infants' cortisol responses to the still-face procedure. Dev Psychobiol. 2009;51(8):625-637.
20. Gunnar MR, Porter FL, Wolf CM, Rigatuso J, Larson MC. Neonatal stress reactivity: Predictions to later emotional temperament. Child Dev. 1995;66(1):1-13.
21. Field T, Diego M, Hernandez-Reif M, Figueiredo B, Deeds O, Ascencio A, et al. Comorbid depression and anxiety effects on pregnancy and neonatal outcome. Infant Behav Dev. 2010; 33(1):23-29.
22. Gautam S, Jain N. Indian culture and psychiatry. Indian J Psychiatry. 2010;52 (Suppl 1): S309-S313.
23. Gross E. Work, organization and stress. In: Levine S, Scotch NA, (Eds.). Social stress. Chicago: Aldine. 1970: 54-110.
24. Erikson KT. Everything in its path: Destruction of community in the Buffalo Creek flood. New York: Simon & Schuster. 1976.
25. Wallace AFC. Religion: An anthropological view. New York: Random House. 1966.
26. Patel PA, Patel PP, Khadilkar AV, Chiplonkar SA, Patel AD. Impact of occupation on stress and anxiety among Indian women. Women Health. 2017;57(3):392-401.
27. Scott SB, Sliwinski MJ, Blanchard-Fields F. Age differences in emotional responses to daily stress: The role of timing, severity, and global perceived stress. Psychol Aging. 2013;28(4):1076-1087.
28. Lundberg U. Psychophysiology of work: Stress, gender, endocrine response, and work-related upper extremity disorders. Am J Ind Med. 2002;41(5):383-392.
29. Sterud T, Hem E, Ekeberg O, Lau B. Occupational stressors and its organizational and individual correlates: A nationwide study of Norwegian ambulance personnel. BMC Emerg Med. 2008;2;8:16.
30. Hammer LB, Kossek EE, Anger WK, Bodner T, Zimmerman KL. Clarifying work-family intervention processes: The roles of work-family conflict and family-supportive supervisor behaviors. J Appl Psychol. 2011;96(1):134-150.
31. Adamsson, A., Bernhardsson, S. Symptoms that may be stress-related and lead to exhaustion disorder: a retrospective medical chart review in Swedish primary care. BMC Fam Pract. 2018;19:172.