

Research Article

# 'Mental Health Study': The Rural Population Fares Better than the Medical Staffs & Students of the Area; A Cross Sectional Analysis

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## I N F O

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## A B S T R A C T

Mental health is a perennially neglected domain; more so, it is a comparative evaluation across different accessible strata.

**Aim:** The reporting cross-sectional study aimed at enumerating and comparing different stress factors amongst teachers, students, clerical staffs and local residents in a rural medical university and its field practice area.

**Result:** A total of 400 participants were studied over a period of 3 months belonging to four groups with equal number (50 each). Out of these 221(55.25%) recorded mild stress and 10(2.5%) recorded stress scores needing urgent intervention. For the student, new entrants (< 3 years of residential experience) had higher stress prevalence at 36(72%) as compared to their seniors at 27(54%) who had a history of > 3 year residential experience. For faculty, 38(76%) recorded moderately high stress score irrespective of their campus residency. For clerical and paramedical staffs, duration of residence was detrimental in stress generation. Moderate and severe stress was apparent in the less than 3 years resident category at 6(12%) and 1(2%) as compared to 1 (2%) and 0 (0%) in over 3 year groups. The natives of the rural area experienced lowest stress level, with an average stress score of 169.44, for males and 170.42 for female which was less than the cut off value of 178.

**Conclusion:** Rural residency with nativity status and longer duration of stay for working and student class were associated with less mental stress level where as new students and faculties of the health university experienced a higher score. The result points at initiating intervention strategy at work place for stress management.

**Keywords:** Mental Stress, Medical University Residents, Duration of Stay, Local Populace

## Introduction

Out of the four major components of health i.e. physical, social, mental and spiritual, the last two have faced isolation over last couple of centuries.<sup>1,2</sup> National Mental Health Survey of India 2015–2016 found out that, “Every sixth Indian needs mental health help;” whereas WHO (World Health Organization) in its recent report puts this figure at 7.5%.<sup>3,4</sup> As per a latest study reported in Lancet Psychiatry (2020), in 2017 India had 197.3 million (95% UI 178.4-216.4) people with mental disorders, which includes, 45.7 million (42.4-49.8) with depressive disorders and 44.9 million (41.2-48.9) with anxiety disorders.<sup>5</sup> Furthermore, as per a 1917 data, mental disorders were the second leading cause of disease burden in terms of Years Lived with Disability (YLDs) and the sixth leading cause of Disability-Adjusted Life-Years (DALYs) in the world in 2017, posing a serious challenge to health systems, particularly in low-income and middle-income countries.<sup>6</sup> Stress is the condition that results when person-environment transactions lead the individual to perceive a discrepancy, whether real or not, between the demands of a situation and the resources of the person’s biological, psychological or social systems. In medical terms, stress is the disruption of homeostasis through physical or psychological stimuli. Stressful stimuli can be mental, physiological, anatomical or physical.<sup>7</sup>

In the present study we tried to evaluate different stress factors and the levels of stress experienced among the faculty, staffs, students of a rural Medical university situated in Western Maharashtra, and the permanent residents in its practice area.

## Aim

The study was aimed at assessing the prevalence and compares the causes of mental health stressors in different study groups.

## Objectives

- Assessment of prevalence of anxiety and depression among different study groups.
- To find out their different contributors and associate them with socio-economic, academic, and health factors.

- To suggest measures to improve the situation.

## Methodology

A pilot tested cross sectional study was carried out under the stewardship of ICMR-STS project bearing reference no. - 21/509/08-BMS over a period of 3 months in a medical university in Western Maharashtra and its adjacent villages. 400 consenting participants were randomly selected from the study population. For maintaining equanimity, the participants selected were 100 each from the major groups and each group had equal participants (50 each) for their subgroups. The major groups were students, faculties, staffs and rural residents and their sub groups were duration of residence in campus (< or > 3 years) for university residents, and males and females for local village residents.

A self-administered questionnaire consisting of 4 components and scored on Likert scale of 1 to 4 (1=never, 2=rarely, 3=sometimes, 4=often) was administered to access general socio-demographic factors, behavioral components, physical signs and stress prone characters. The mean of the total score demonstrated normal Gaussian distribution was calculated. The standard deviation of  $\pm 1$ ,  $\pm 2$  and  $\pm 3$  were used to grade the severity of mental stress. The range for normal was between mean  $\pm 1$  SD (Standard Deviation), for borderline was between mean  $\pm 2$ SD, for moderate was between mean  $\pm 3$ SD and severe was  $> 3$ SD. Inferential Data analysis was done by Z test, through calculation of standard error (SE), where SE ( $p_1 - p_2$ ) and degrees of freedom was 1.

## Result

The participants score ranged from 76 to 304, with the mean at 177.5. Out of 400 participants 221 (55.25%) recorded mild stress and 10 (2.5%) recorded stress scores needing urgent intervention.

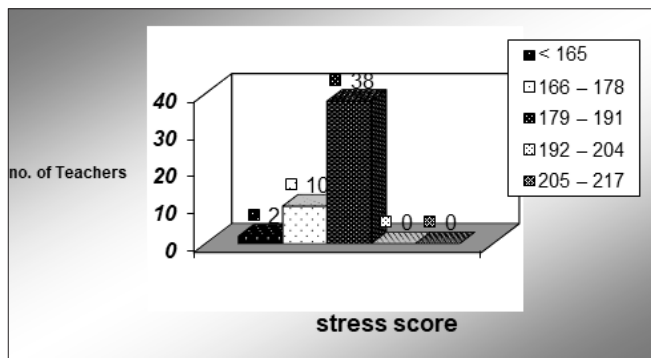
The break ups of the different grades of stress scores for studied participants are depicted in Table 1.

On subgroup analysis 27 (54%) of students with more than 3 years of campus residency showed moderate stress level in comparison to 36 (72%) moderate stress score in < 3year resident students. Whereas in case of faculty with campus residency over 3 years, 38 (76%) reported moderate stress scores and only 12 (24%) had a normal scores level.

**Table I. Distribution participants with respect to grades of mental stress**

Stress Range	No. of persons	Percentage	Category
< 165	64	16%	Normal
166-178	105	26.25%	Borderline
179-191	221	55.25%	Mild stress
192-204	8	2%	Moderate stress
205-217	2	.5%	Severe stress
Total	400	100%	

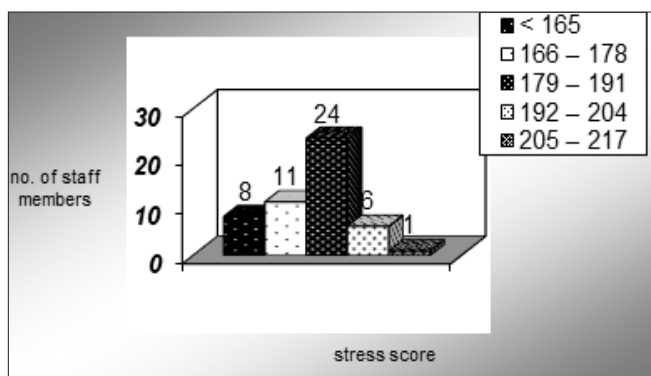
The detailed break ups of subgroup analysis for teachers with over 3 years residency is presented in Figure 1.



**Figure 1. Bar diagram showing stress score of Teachers residing over 3 years in campus**

Unlike the case with students, there were no differences in stress category for faculty with respect to residency. Both groups showed equal percentages in the different sub grades of mental stress i.e. 2 (4%) were in normal grade, 10 (20%) at borderline and 38 (76%) at mild stress with an average stress score of 182.28, which is above the cut off value of 178.

In clerical and paramedical staffs from > 3 years category, 18 (36%) were normal, 8 (16%) were at borderline, 24 (48%) were in mild stress and 1(2%) in severe stress category and their average stress score was 173.56 (Figure 2). For their counterpart the respective figures were 8 (16%), 11 (22%), 24 (48%), 6 (12%) and 1 (2%) and average stress score at 179.06, thereby reflecting a higher prevalence of mental stress in junior clerical and paramedic groups.



**Figure 2. Bar diagram showing stress score of clerical staff with reference to campus residency (Less than 3 yrs)**

In the male natives of rural area, 17 (34%) were in normal range, 15 (30%) were at borderline, 17 (34%) in mild stress and 1 (2%) in moderate stress, with an average stress score of 169.44. and for females the corresponding figures were, 13 (26%) normal range, 19 (38%) at borderline, 17 (34%) in mild stress and 1 (2%) in moderate stress, with an average stress score of 170.42.

## Discussion

A Z-test value of 4.2899 at 1% level of significance i.e.  $p < 0.01$  suggests that students were at greater stress and may be more prone to stress related diseases than the natives of Rural area. Similar observation were made by other researchers.<sup>8-12</sup>

Highly significant difference between stress levels of teachers (doctors) and rural natives were apparent from the Z-value at 6.583 ( $p < 0.01$ ). Similar observations were documented by other studies where doctors were as one of the most stressed groups.<sup>13-17</sup>

On comparison of mild (grade 2) stress scores of teachers and students the Z- value was at 2.0155 ( $p < 0.05$ ); implying thereby the existence of a significant difference between stress levels of teachers and students; hence putting them at increased risk of mental stress and its associated conditions.

High level of stress among teachers of both the study group was reported. Inter group evaluation showed no significant variation. Studies indicating doctors and teaching professionals as high stressed groups are aplenty.<sup>18-22</sup>

High levels of severe and very severe stress in recently employed (< 3 yrs) paramedics and clerics of the institute may be due to change of place, new working environment and difficulty in cultural and work adjustments. Similar observations were recorded by other researchers, putting recent employment and change of place as stress precipitators.<sup>23-25</sup>

Though the average stress score for both males and females among local natives were below the mean (cut off value=178), the females recorded a slight high average than the males thus putting them at more risk of developing stress and its related disorders.<sup>20-22</sup>

## Conclusion

There is increased level of mental stress in individuals who are away from family for less than 3 years as they are still in a phase of adoption regardless of age and gender and also profession. Depressive symptoms and perceived stress are public health concerns more so among faculty, doctors, students and paramedics. Stress at work is also associated with very high educational level and high occupational position. Common stressors documented were change of place, work environment, difficult people, daily hassles, medical illness and discrimination.

Employers should take note of these findings and draft policies incorporating better work culture, scopes for recreations, enhancement of interpersonal relationship. Employees, and seniors should also take initiatives in creating work place conducive for new entrants. A mentally healthy work force and student commune can bring stability to the institute and help built its reputaion.

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**Ethical Clearance:** ICMR-STs project bearing reference no. - 21/509/08-BMS.

**Source of Support:** ICMR

**Conflict of Interest:** None

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