

Assessment of job stress among non-teaching staff: A cross-sectional study at a teaching hospital, Central India

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ABSTRACT

Introduction: Job stress plays an important role in the maintenance of organizational performance. A key aspect of job stress is increased workload, role conflict, poor job control, lack of support from coworkers, and interpersonal conflict. Most studies in the field of job stress have focused on the private sector. The objective of this study was to assess the job stress among non-teaching staff at a government teaching hospital.

Methods: The present cross-sectional study was carried out in a government teaching hospital in central India between Jan 2020 to March 2020 among 90 participants purposively chosen for the study. The new Job Stress Scale was used to assess the extent of stress among the participants. Approval from Institutional Ethical Committee was obtained before commencing the study. Data was analyzed by SPSS version 20

Results: The present study found that the most problematic dimensions of job stress variables were the dimension of role conflict with as many as 51% of participants had experienced role expectation conflict. Moderate levels of stress affected 47.78 percent of participants.

Conclusion: We can infer from this finding that we need to have a formal job description written for their non-teaching staff so that their role should be unambiguous.

Key words: Co-worker Support, Job stress, New Job Stress Scale, Non-teaching staff, Role Conflict.

INTRODUCTION

Job stress is increasingly recognized as a serious, worldwide public health concern. There are different ways of defining stress. It is an inability of an individual to meet the demands of the job due to the imbalance in the 'person-environment perceptions.¹ Chen J. C. and Silverthorne C. labeled job stress as "work-related

psychological pressure and the worker's ability to respond and grip the specific situation at workplace skillfully".² National Institute of Occupational Safety and Health defined job stress as a detrimental physical, mental, or emotional condition which occurs due to a total mismatch between the employee's ability to perform, inefficient resources, and high work demands which are not within the reach of an employee.³ Job stress can have both aspects, good and bad.⁴ Good stress or eustress encourages individuals to strive for excellence. However, when job demand cannot be met it turned into bad stress or distress due to lack of productivity, a loss of confidence, and the inability to perform routine tasks.⁵

Stress can have various effects on the individual as well as on the organization.⁶ It adversely affects physical and mental health. It is also responsible

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for non-communicable diseases like stroke, cardiovascular diseases, etc.⁷ Job stress is also a threat to the quality of life, self-esteem, confidence, and personal development⁸. It also affects employees' job performance and productivity which can cause a significant cost to the organization.⁹ It reduces quality and quantity of work, increases absenteeism, increases conflicts.⁸ It has been reported that 60% of academic staff has been suffering from job stress.¹⁰

Key factors of stress are increased workload, job insecurity, autonomy, role conflicts, shift work, low salaries, technology change, low morale, lack of recognition.⁴ Furthermore, Rose described eleven stressors that cause stress such as work overload, role ambiguity, role conflict, the responsibility of people, participation, lack of feedback, keeping up with quick technological change, being innovative, career growth, organizational structure, and environment, and recent episodic events.⁶ Workplace factors are an important source of job stress. Some factor that are intrinsic to the job includes long hours, work overload, time pressure, difficult task, poor physical work conditions, etc.⁸ Another important source of job stress is the relationship at work.¹¹ Poor relations with coworkers, boss are found to be responsible for job stress. Interactions between job and home stress disturb work-life balance which in turn increase job stress.¹² Factors that cause job stress are also responsible for job satisfaction. Increased stress can cause decreased job satisfaction.¹⁰

Highlighting these facts, many studies have been conducted regarding job stress but it was focused only on the private sectors. Studies have not dealt with job stress and its assessment among non-teaching staff in a governmental teaching hospital. Therefore, this study seeks to assess job stress among non-teaching staff in a government teaching hospital. Operational definition of non-teaching staff was as contractual and permanent employees of all grades involved in academic, library, and laboratory work and those who were appointed for non-teaching work.

METHODS

A cross-sectional study was conducted among non-teaching staff at a teaching hospital in central India. About 120 non-teaching staff were working in the present teaching hospital. Using Slovin's formula $n = N / (1 + N e^2)$, where n is desired sample size, N = total population (120), e = margin of error (0.05),

the desired sample size was 92.3. But we could enroll only 90 participants in the present study after excluding subjected with co-morbidity and disability. The convenience sampling method was used for the selection of the participants.

Employees of all grades are involved in the present study. Grade II employees are senior clerks, administrative officers. Grade III employees are those who were involved in clerical work in administration. Grade IV employees involved in sweeping and cleaning work. Those with co-morbidities like diabetes, hypertension, or other non-communicable diseases and disabled were excluded from the study.

Prior to commencing the study, ethical clearance was sought from the Institutional Ethical Committee of the corresponding medical college attached to the teaching hospital, and confidentiality was maintained throughout the process. All non-teaching staff present at the time of data collection and willing to give informed consent were included in this study.

The predesigned questionnaire used in this study was based on a New Job Stress Scale.¹³ This scale was more practical as it has been specially designed for the Indian population. The Cronbach's Alpha value for this scale was 0.81, so the scale was reliable. New Job Stress Scale consists of five scales (27 items). These are the job stress scale (nine items), role expectation conflict (five items), coworker support (four items), and work-life balance (four items). This scale used a five-point Likert scale for dimensions like job stress scale, role conflict, and work-life balance whereas a six-point Likert scale for coworker support.

The New Job Stress Scale ranges from 22-114. The scale used six-point Likert scales ranging from 1-Strongly Disagree, 2-Disagree, 3-Rather Disagree, 4-Rather Agree, 5-Agree, and 6-Strongly Agree. The three dimensions tested were the job stress scale, role expectation conflict, and work-life balance. For the co-worker's support dimension, a six-point Likert scale was used consisting of 1-Never, 2-Very Occasionally, 3-Sometimes, 4-Often, 5-Very Often, and 6-All the Time. A higher score on the scale means a higher level of stress. For the data analysis, the score of the Job Stress Scale was divided into mild stress for the score 23-37, moderate stress for the score of 38-74, and high stress for the score of 75-110.

Responses of the employees to all the items in the new job stress scale were recorded and an overall score of

each scale was used for outcome analysis. Data was tabulated in excel and analyses were performed using SPSS 20 for frequency, percentages, and descriptive statistics.

RESULTS

The study participants were 90 non-teaching staff of a teaching hospital in central India. Participants ranged in age from 26 to 58 years, with a mean age of 42.06 years. Most participants 82(91.11%) were male and 8 (8.89%) were female. Also, most participants,70(77.78%) were grade III employees. Most participants had years of service more than 20 years 33 (36.67%), 0 to 5 years were 20(22.22%), 6 to 10 years were 14(15.56%) and 11 to 15 years were 16(17.78%). The 50(55.56%) participants had completed their graduation. Married participants in this study were 80(88.89%) while 10 (11.11%) participants were unmarried.

It shows that severe stress was experienced by 5(33.33%) participants of age group 20-30 years, 8(9.76%) were males, 8(11.43%) grade III employees, and 5(25.00%) participants had work experience of 0-5 years. It was found that every study participant suffers from some level of stress. More than 50% of the non-teaching staff suffers from moderate to severe stress. (Table 1)

The minimum score was 43 and the maximum was 91 with a mean±SD of 58.83±12.928.

Based on the division of job stress variables in four dimensions (job stress scale, role conflict, work-life balance, and co-worker support), the mean value of each dimension were 22.82 for the job stress scale dimension, 13.81 for the role conflict dimension, 12.36 for co-worker support dimension and 9.83 for work-life balance dimension. (Table 2)

Study participant's responses to the job stress questionnaire showed that many of them feel bad when they take a leave (55.56%), while 52.22% of participants feel that they are tired of the company demand, whereas 41.11% of participants feel so burdened that even a day without work seems bad to them. For the domain of role conflict, it has been found that high stress in the 55.56% of participants might be because they were unable to satisfy the demands of colleagues and juniors. About 48.89% of participants have stress due to different expectations from the seniors and their juniors. Most participants 73.33% get assistance from co-workers only sometimes. Overall, 65.56% of participants feels that they can balance between time at work and time at other activity and they feel that the job and other activities were currently balanced. (Table-3)

Table 1: Distribution of study subjects' socio-demographic data toward job stress

	Level of job stress			Total
	Mild	Moderate	Severe	
Age (Years)				
20-30	5 (33.33)	5 (33.33)	5 (33.33)	15 (16.67)
31-40	14 (48.28)	12 (41.38)	3 (10.34)	29 (32.22)
41-50	8 (34.78)	15 (65.22)	0 (0)	23 (25.56)
≥51	12 (52.17)	11 (47.83)	0(0)	23 (25.56)
Total	39 (43.33)	43 (47.78)	8 (8.89)	90 (100)
Gender				
Male	37 (45.12)	37 (45.12)	8 (9.76)	82 (91.11)
Female	2 (25.00)	6 (75.00)	0 (0)	8(8.89)
Total	39 (43.33)	43 (47.78)	8 (8.89)	90 (100)
Grade of employee				
II	3 (37.50)	5 (62.50)	0(0)	8 (8.89)
III	32 (45.71)	30 (42.86)	8 (11.43)	70 (77.78)
IV	4 (33.33)	8 (66.67)	0 (0)	12 (13.33)
Total	39 (43.33)	43 (47.48)	8 (8.89)	90 (100)
Work experience (Years)				
0-5	8(40.00)	7(35.00)	5(25.0)	20(22.22)

6-10	9 (64.29)	5 (35.71)	0 (0)	14 (15.56)
11-15	8 (50.00)	8 (50.00)	0 (0)	16 (17.78)
16-20	0 (0)	7 (100.00)	0 (0)	7 (7.78)
≥21	14 (42.42)	16 (48.48)	3 (9.09)	33 (36.67)
Total	39 (43.33)	43 (47.48)	8 (8.89)	90 (100)
Marital status				
Married	34 (42.50)	43 (53.75)	3 (3.75)	80 (88.89)
Unmarried	5 (50.00)	0	5 (50.00)	10 (11.11)
Total	39 (43.33)	43 (47.48)	8 (8.89)	90 (100)

Note: Figures in parenthesis denote percentages

Table 2: Mean values for various dimensions (n=90)

Job Stress Scale	22.82
Role Conflict	13.81
Coworker Support	12.36
Work-Life Balance	9.83

Table 3: Dimension wise job stress among study subjects (n=90)

	Strongly disagree	Disagree	Undecided	Agree	Strongly Agree
Job stress					
I have a lot of work and fear that very little time to do it.	12 (13.33%)	28 (31.11%)	7 (7.78%)	27 (30.00%)	16 (17.78%)
I feel so burdened that even a day without work seems bad	16 (17.78%)	37 (41.11%)	18 (20.00%)	8 (8.89%)	11 (12.22%)
I feel that I never take a leave.	20 (22.22%)	39 (43.33%)	16 (17.78%)	10 (11.11%)	5 (5.56%)
Many people at my office are tired of the company demand.	16 (17.78%)	8 (8.89%)	11 (12.22%)	47 (52.22%)	8 (8.89%)
My job makes me nervous.	25 (27.78%)	28 (31.11%)	10 (11.11%)	22 (24.44%)	5 (5.56%)
The effect of my job on me is too high.	15 (16.67%)	36 (40.00%)	15 (16.67%)	12 (13.33%)	12 (13.33%)
Many times, my job becomes a big burden.	27 (30.00%)	36 (40.00%)	14 (15.56%)	13 (14.44%)	0 (0.00%)
Sometimes when I think about my job, I get a tight feeling in my chest.	34 (37.78%)	32 (35.56%)	10 (11.11%)	8 (8.89%)	6 (6.67%)
I feel bad when I take a leave.	21 (23.33%)	50 (55.56%)	8 (8.86%)	5 (5.56%)	6 (6.67%)
Role conflict					
I'm not able to satisfy the different demands of various people above me.	18 (20.00%)	32 (35.56%)	27 (30.00%)	6 (6.67%)	7 (7.78%)
I'm not able to satisfy the conflicting demands of my colleagues and juniors.	12 (13.33%)	50 (55.56%)	10 (11.11%)	9 (10.00%)	9 (10.00%)
I'm not able to satisfy the demands of clients and others, because they are opposite to each other.	12 (13.33%)	27 (30.00%)	26 (28.89%)	18 (20.00%)	7 (7.78%)
The expectations of my seniors are different from my juniors.	12 (13.33%)	8 (8.89%)	14 (15.56%)	44 (48.89%)	12 (13.33%)
I am concerned about the different expectations of different people.	10 (11.11%)	39 (43.33%)	20 (22.22%)	12 (13.33%)	9 (10.00%)

Coworker support	Never	Very Occasionally	Sometimes	Often	Very Often	All the Time
Have the people working with me ever given any information or advice to me?	2 (2.22%)	33 (36.67%)	36 (40.00%)	14 (15.56%)	5 (5.56%)	0 (0.00%)
Have the people working with me ever understand me and given advice?	0 (0.00%)	21 (23.33%)	49 (54.44%)	15 (16.67%)	5 (5.56%)	0 (0.00%)
Has anyone given me a clear and helpful feedback about my work?	0 (0.00%)	17 (18.89%)	49 (54.44%)	17 (18.89%)	7 (7.78%)	0 (0.00%)
Has anyone given me assistance in my work?	0 (0.00%)	0 (0.00%)	66 (73.33%)	20 (22.22%)	4 (4.44%)	0 (0.00%)
Work-life balance	Strongly disagree	Disagree	Undecided	Agree	Strongly Agree	Strongly Agree
I am able to balance between time at work and time at other activities.	13 (14.44%)	59 (65.56%)	12 (13.33%)	0 (0.00%)	6 (6.67%)	6 (6.67%)
I have difficulty balancing my work and other activities.	11 (12.22%)	31 (34.44%)	24 (26.67%)	21 (23.33%)	3 (3.33%)	3 (3.33%)
I feel that the job and other activities are currently balanced.	2 (2.22%)	59 (65.56%)	14 (15.56%)	6 (6.67%)	9 (10.00%)	9 (10.00%)
Overall, I believe that my work and other activities are balanced.	11 (12.22%)	56 (62.22%)	11 (12.22%)	3 (3.33%)	9 (10.00%)	9 (10.00%)

DISCUSSION

This study set out with aim of assessing job stress among non-teaching staff at a government teaching hospital. The result of this study showed that every one of non-teaching staff experienced some level of stress in their workplace. In this study, the most problematic dimensions were role conflict with as many as 51% of participants had role expectation conflict. The results of this study indicated that job stress was a major part of an employee's work environment. The present study contributed to the existing knowledge about job stress with the Indian perspective by using the new Indian job stress scale. The present study provided additional evidence to the determinants of job stress.

Previous studies had used Osipow standard questionnaire, Occupational stress inventory, National Aeronautics and Space Administration- task load index (NASA-TLX), Job Satisfaction survey, National Institute for Occupational Safety and Health (NIOSH) Generic Job Stress Questionnaire for the assessment of occupational stress. Very few studies related to job stress had used New Indian Job Stress Scale which is specially designed for the Indian population.

The findings of the current study was consistent with those of Belias D. et al, and Vijayan V who showed that role conflict was negatively correlated with job satisfaction ($P < 0.01$) as more participants had role conflict than other determinants.^{14,4} The finding

observed in this study mirror those of the previous studies that found conflict with supervisors, workload was cause of job stress. However, the findings of the current study did not support the previous research by Ebrahimi and Kargar (2018) who found a significant relationship between age, sex with occupational stress ($P = 0.030$, $P = 0.009$ respectively).¹²

An emerging issue from this study about the non-teaching staff was under constant stress due to increased workload and increased job expectations. Another emerging issues from these findings showed that stress was generally equally distributed to employees of all grades irrespective of the year of services.

In general, most work-life conflict and stress might be experienced in workplace contexts associated with role conflict due to ambiguous job descriptions and organizational charts, as well as informal environments. Also, role conflict, which might be occurred due to interference of a person's different roles in the organization and family, have a greater effect on job stress. Finally, if work-life imbalance arises as a result of role conflict, and the individual might not be supported by his or her family and supervisors, job stress negatively impacts his or her performance.

The main strength of the present study was the content the New Indian Job Stress Scale covered. It particularly offered a good overview of stress

perceived by employees both physically and mentally. The main limitation of the present study was the small sample size of study participants. Small sample size was chosen because of the small area of the study and the difficulty in obtaining a greater number of non-teaching staff due to consideration of exclusion criteria of the present study. A small sample size may hinder existing effects between variables. In particular, the analysis of stress was problematic, and the accuracy of the findings depends entirely on the accuracy of the responses given by participants. Further study is required to determine how exactly stressors affect job performance. Therefore, a larger population needs to be studied to analyze the impact of job stress on employees' job performance. Several other factors influencing job stress need to explore to have an in-depth view of determinants of job stress. This study provides some important implications. Theoretically, this study confirms that job stress is an important predictor of job performance at the workplace. Periodic

examinations of non-teaching staff can be used it to determine stress and may implement a work-life balance initiative.

CONCLUSION

The findings suggested that more than 50% of the non-teaching staff suffer from moderate to severe stress. In general, job stress harmed the performance of non-teaching staff at a teaching hospital. It implied that as occupational stress increases, the performance of non-teaching staff decreases. The result of this study indicated that role conflicts was the major contributor to job stress among non-teaching staff. We can infer from these findings that we need to have a formal job description written for their non-teaching staff so that their role should be clear and not ambiguous. If this issue is properly addressed, role stress will decrease which in turn will result in a decrease in job stress as a whole. When work stress is lowered, it will lead to job satisfaction and improvement in their performance.

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