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Original Research Article

COMPARATIVE STUDY OF THE PREVALENCE AND FACTORS AFFECTING OCCUPATIONAL STRESS AMONG HIGH AND HIGHER SECONDARY SCHOOL TEACHERS IN URBAN AND RURAL SCHOOLS IN THIRUVALLUR BLOCK OF THIRUVALLUR DISTRICT, TAMIL NADU

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ABSTRACT

Background: Teachers play a vital role in shaping society, yet they are increasingly subjected to occupational stress, which can negatively impact their health, job satisfaction, and student outcomes. Limited region-specific data exist in South India, particularly in Tamil Nadu. This study aimed to estimate the prevalence of occupational stress and identify associated factors among high and higher secondary school teachers in Thiruvallur district.

Materials and Methods: A community-based cross-sectional study was conducted from July 2019 to January 2020 among 396 randomly selected teachers from 44 urban and rural schools. Data were collected using a structured questionnaire for demographic and occupational details, and the Perceived Stress Scale (PSS-10) for stress assessment. Teachers were categorized into mild, moderate, and severe stress groups. Data were analyzed using descriptive statistics and Chi-square tests to determine associations.

Results: Among the teachers, 21% reported mild stress, 26% moderate stress, and 53% severe stress. Severe stress was significantly associated with marital status ($p=0.047$), pension insecurity ($p=0.0001$), gastritis ($p<0.001$), and hypertension ($p<0.001$). Major occupational stressors included pressure for result production (74%), student discipline (67.9%), and lack of parental cooperation (52%). Stress prevalence showed no significant differences between rural and urban teachers, gender, age, designation, or years of service.

Conclusion: This study highlights a high prevalence of severe occupational stress among teachers, driven primarily by academic and health-related factors. Addressing systemic, administrative, and health determinants is crucial to fostering supportive work environments that safeguard teacher well-being and enhance educational outcomes.

Keywords: Occupational stress, Perceived Stress Scale, School teachers, Tamil Nadu, Teaching profession.

INTRODUCTION

Education serves as a cornerstone for national development, fostering knowledge, skills, attitudes, and character essential for a purposeful life. The success of an education system, particularly at the high and higher secondary levels, hinges largely on the performance and well-being of its educators. Teachers play a pivotal role in shaping the intellectual and moral fabric of future generations and are thus considered one of the most important professional groups contributing to a nation's

progress. However, this profession is increasingly characterized by high occupational stress, which poses serious implications not only for teachers' health and job satisfaction but also for student outcomes and national development.[1]

Stress, as defined in both general and medical terms, represents a state of imbalance in physical and mental well-being due to overwhelming demands. Occupational stress specifically refers to the physical and emotional strain arising from work-related factors, impairing productivity, health, and job satisfaction.[2-5] Teachers face unique stressors such as student behaviour management, workload, expectations for academic outcomes, and tasks extending beyond school hours. These cumulative stressors significantly contribute to occupational stress in the teaching profession, which has been acknowledged by global bodies such as the International Labour Organization and the World Health Organization as a growing epidemic.[6-8]

While teacher stress is a well-recognized phenomenon globally, there remains a paucity of robust evidence on effective stress mitigation strategies, especially within the Indian context.[9]

The Indian education sector, despite its vital role in economic and social advancement, is challenged by high competition for employment, frequent misalignment between individuals' career interests and occupational roles, and inadequate systemic support for managing stress.

In particular, teachers often find themselves overburdened by work demands and time constraints, with limited avenues for performance appraisal or stress expression.[9] Although several national and international studies have assessed occupational stress among educators, there is a notable dearth of region-specific research. Particularly in South India, and more specifically in Tamil Nadu, limited evidence is available on the prevalence and determinants of stress among school teachers. The Thiruvallur district, despite being a populous and educationally significant region, remains underrepresented in the literature.

This study, therefore, aims to assess the prevalence of occupational stress among high and higher secondary school teachers in Thiruvallur district and to identify the associated risk factors. By addressing this research gap, the study seeks to contribute meaningful insights into an area of critical importance for educational policy and teacher well-being.

MATERIALS AND METHODS

A community-based cross-sectional study was conducted over a period of seven months, from July 2019 to January 2020, among high and higher secondary school teachers in the Thiruvallur block of Thiruvallur district, Tamil Nadu. The study population included teachers handling classes from 6th to 12th standard in both rural and urban schools. All high and higher secondary school teachers who were present at the time of the survey and provided informed consent were included in the study. Teachers who were absent during the survey or those who refused to participate were excluded.

The sample size was calculated based on the findings from a previous study titled "Occupational Stress Among High School Teachers in Coimbatore" published in the Asian Journal of Applied Science and Technology (AJAST), Volume 1, Issue 4, May 2017, by M. Hemalatha and P. Rajeswari.[10] The reported prevalence of occupational stress in that study was 43.1%. Using a relative precision of 5% and a 95% confidence level, the sample size was computed using the formula $N = Z^2PQ/d^2$, where $Z = 1.96$, $P = 43.1$, $Q = 56.9$, and $d = 5$. The calculated sample size was 376.84, which was rounded off to 377.

A total of 44 high and higher secondary schools (16 urban and 28 rural) were identified within the Thiruvallur block, which was selected as the study site. These schools represented 37% urban and 63% rural institutions. The list of eligible schools and teachers was obtained from the office of the Chief Educational Officer. From these schools, teachers were selected using a simple random sampling technique until the required sample size was met. Ultimately, 396 teachers were included in the study, with 250 (63%) from rural schools and 146 (37%) from urban schools, maintaining proportional representation based on the school distribution.

Data were collected using two instruments. The first was a pretested and pre-designed structured questionnaire developed based on a review of national and international literature. This tool was used to collect information on demographic and occupational risk factors associated with stress. The second was the Perceived Stress Scale (PSS) developed by Sheldon Cohen, which comprises 10 items, including 6 negatively stated and 4 positively stated questions. Each item was scored on a 5-point Likert scale ranging from 0 (never) to 4 (very often), yielding a total possible score between 0 and 40. Based on the total score, participants were categorized into three stress levels: mild (0–13), moderate (14–26), and severe (27–40).

Prior to data collection, permission was obtained from the heads of the selected schools. Informed consent was obtained from each participant, ensuring confidentiality and voluntary participation. The questionnaires were distributed to the teachers and collected upon completion. Data were entered and compiled in Microsoft Excel and analyzed using SPSS version 22.0. Descriptive statistics such as means and percentages were calculated, and inferential statistics including the Chi-square test and other appropriate tests were used to examine associations between stress levels and the associated factors.

Ethical approval for the study was obtained from the Institutional Ethics Committee (IEC) of Meenakshi Medical College Hospital and Research Institute

(MMCH&RI). The investigator and the guide declared no conflicts of interest in relation to this research.

RESULTS

A total of 396 high and higher secondary school teachers participated in the study. The majority (68.1%) were employed in rural schools, while 36.9% worked in urban areas. More than half (56.8%) were from private institutions, 33.1% from government schools, and 10.1% from government-aided schools. Most teachers (80.1%) followed the State Board syllabus, with the remainder (19.9%) engaged in CBSE curricula.

Permanent staff accounted for 68.9% of participants. In terms of designation, 53.8% were Bachelor Teaching Assistants, 36.1% were Postgraduate Assistants, and 10.1% were Secondary Grade Teachers. The study population was predominantly female (63.6%), with most teachers belonging to the 41–50 years age group (34.1%). The majority were married (84.1%), and among them, 36.1% had a spouse in the same profession.

Teaching experience was evenly distributed, with 18% having 11–15 years and 22% with 16–20 years of service. Nearly half (46%) taught science subjects, whereas language (10.1%) and English (10.9%) were least represented. With respect to workload, 73% reported 21–32 hours of regular classes weekly, and 74% conducted at least one special class per week.

Health morbidities were frequent: gastritis (44.9%), hypertension (42.9%), and diabetes (37.9%) were the most common, followed by joint pain/myalgia (28%), allergy (15.9%), and varicose veins (11.1%). Only 7.6% reported no health problems. Stress assessment using the Perceived Stress Scale revealed that 53% of teachers had severe stress, 26% moderate stress, and 21% mild stress. Severe stress was more prevalent among unmarried teachers (63.8%), whereas among married teachers, 46.9% reported severe stress. (Figure 1) Marital status showed a significant association with stress levels (p=0.047). Severe stress was also more frequent among those lacking pension assurance (54.3%) compared with those assured of pension benefits (p=0.0001). Teachers with comorbid gastritis (57.9%) and hypertension (58.2%) demonstrated significantly higher stress levels (both p<0.001).

Occupational stressors most frequently cited were pressure related to result production (74%), student discipline (67.9%), and lack of parental cooperation (52%). Administrative/managerial challenges (23%) also showed significant association with stress (p=0.016), while peer relations, non-academic duties, and curriculum completion were less influential. [Table 1]

Analysis of stress levels across demographic and occupational subgroups revealed no significant associations with age, gender, location (urban vs. rural), designation, subject handled, or years of service. However, class assignment was strongly associated with stress (p<0.00001). Teachers handling higher grades (11th–12th) had the highest prevalence of severe stress (53.5%), while those managing middle grades (6th–8th) reported higher proportions of moderate stress. [Table 2]

Overall, the findings underscore a high prevalence of stress among school teachers, with strong associations to marital status, pension insecurity, comorbid conditions, and academic stressors such as student discipline, administrative challenges, and performance pressures.

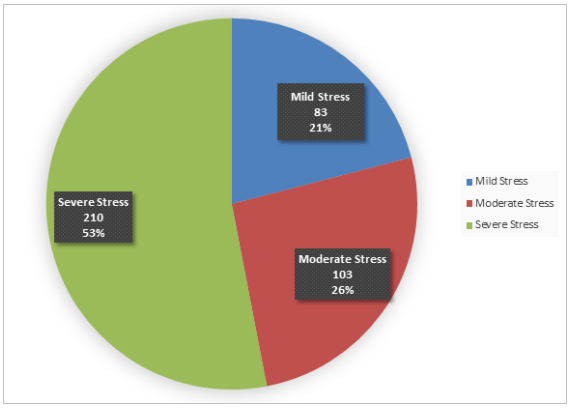

Figure 1: Prevalence of stress among the teachers (n = 396)

Table 1: Factors affecting Stress as perceived by teachers Vs Stress Scoring

Factors Affecting Stress	Total	Chi Square value	P Value
			Significant Ratio
Discipline of Students	269 (67.92%)	59.2827	**0**
Students Non Cooperation	174 (43.93%)	3.695	0.158
Curriculum Completion	123 (31.06%)	0.994	0.608
Result Production	293 (73.98%)	33.633	**0**
Administration and Management	91 (22.97%)	8.319	**0.016**
Colleagues / Peer	56 (14.14%)	0.203	0.904
Parents Non Cooperation	206 (52.02%)	1.105	0.576
Work timings and Attendance	186 (46.96%)	1.949	0.377
Non-academic work	115 (29.04%)	1.768	0.413

Table 2: Comparison of Severe Stress Prevalence between Urban and Rural School Teachers across Sociodemographic, Occupational, and Health Subgroups

Category	Severe Stress - Rural (%)	Severe Stress - Urban (%)	p-value
Male Teachers	24.5	24.2	0.997
Female Teachers	55.3	49.5	0.664
Spouse not a teacher	60.7	50	0.278
Unmarried Teachers	65.5	61.1	0.914
TN State Board	54.2	53.3	0.8868
CBSE Board	11.8	28.6	0.081
Teachers handling 9th–10th	56.4	51.5	0.603
Teachers handling 6th–8th	27.4	25.8	0.94
Assured Pension	26.8	32.7	0.211
Hypertension	57.6	58.6	0.573
Gastritis	61.9	50.8	0.342
Discipline as Stressor	56.2	43	0.086
Result Production as Stressor	52.3	56	0.709
Administration/Management	55.7	40	0.313

DISCUSSION

This cross-sectional study was carried out among high and higher secondary school teachers in Thiruvallur block, Thiruvallur district, Tamil Nadu, with the objective of estimating the prevalence and determinants of occupational stress.

Prevalence of Stress

The prevalence of stress in our study population was stratified into mild (21%), moderate (26%), and severe (53%). When compared with other studies, both similarities and differences were noted. Jeyaraj et al. (2013) assessed 185 teachers in aided higher secondary schools in Madurai, reporting mild stress at 15.7%, moderate stress at 41.6%, and severe stress at 42.7%. The proportion of severe stress was higher in our study. Among 120 government school teachers in the same study, the distribution was 20% mild, 62.3% moderate, and 17.7% severe stress, which differed substantially from our findings, except for mild stress which was similar at 21%.[9]

Hemalatha et al. reported mild stress at 16.9%, comparable to our results, but their severe stress prevalence was only 26.2%, far lower than the 53% we observed.[10] The difference may be attributable to the fact that their study was limited to high school teachers, while our study included both high and higher secondary teachers. Lokanadha Reddy et al. (2012) investigated university teachers in South India and found 74% had moderate to high stress, which closely aligns with our observation of 79% in these categories, possibly due to geographical comparability.[11]

Similarly, Lokanadha Reddy et al. (2012) found that 85% of 504 school teachers were stressed, compared to 100% in our study across different levels. However, their moderate stress category accounted for 15% versus 26% in our findings.[11]

Factors Affecting Stress

Our study examined various factors associated with teacher stress, highlighting both significant and non-significant associations. Ali Qadimi et al. (2013) demonstrated that age did not influence occupational stress among 388 high school teachers in Mysore, a finding consistent with our results (p=0.853).[12] Mondal et al. identified gender differences in stress, but our study showed no such association.[13] Alfred et al. reported significance with years of experience and income among teachers in Vellore, whereas our findings did not replicate this pattern.[14]

Ansarul et al. studied 100 primary school teachers in Haridwar, showing stress in both private and government sectors. Similarly, our data revealed no significant differences across government, private, and aided institutions.[15] Naina et al. (2015) assessed 200 faculty members in Pune, finding predominantly low-to-moderate stress levels and 76% female respondents, compared with 63.6% women in our sample.[16] Mariya et al. (2012) reported that male teachers had higher stress than females in Uttar Pradesh, contrasting with our finding of no gender difference (p=0.716).[17] Arroba et al. also reported greater stress in women; however, our data showed no significant effect of gender or age on stress.[18]

Lewis et al. (1999) emphasized classroom discipline as a key stressor, which was also significant in our study (p=0.0001).[19] Pande et al. showed that teachers focused on outcomes experienced higher stress, consistent with our finding of 54.6% severe stress among those concerned with results.[20]

Pervez et al. (2002) reported differences in stress between primary and secondary teachers, and between government and private institutions, while our study did not demonstrate such associations.[21]

Mohanty et al. (2007) observed higher stress among male teachers and those with higher qualifications, but these variables were not significant in our data.[22] Our study also uniquely assessed marital status and spousal profession, aspects rarely explored in prior research.

Dhar et al. (2018) compared stress across occupational groups and confirmed its predominance among teachers, analyzing variables such as gender, management, and marital status, similar to our approach.[23] Manjula et al. (2007) found 70% of teachers stressed due to working hours and loss of classroom control; we also identified discipline and student cooperation as

major contributors, while long working hours categorized 56.5% of teachers as severely stressed.[24]

Nagra et al. (2013) highlighted adverse health outcomes of teacher stress, including gastrointestinal issues and hypertension.[25] Our findings also demonstrated significant associations of severe stress with gastritis and hypertension. Vijayadurai et al,[26] reported that administrative stressors were not associated with stress, in contrast to our findings where administration and management were significantly linked (p=0.016). Harish et al. also reported significant associations with management (p=0.01) and gender (p=0.01), the latter differing from our study which found no gender effect.[27]

Comparison between Rural and Urban

Hemalatha and Rajeshwari, in their study in Coimbatore, reported 51.2% rural and 48.8% urban representation, whereas our study included 63.1% rural and 36.9% urban teachers. Rani et al. (2012) studied 128 teachers in Haryana and found no associations of stress with age, gender, type of school, or locality. Our findings were consistent, showing no significant association of stress with age, gender, or management type, and no statistically significant urban–rural differences (p=0.774).

Jeyaraj et al. also reported higher severe stress in rural schools (27.6%) compared with urban schools (15.2%). Similarly, in our study, severe stress was slightly higher in rural schools (54.4%) than in urban (50.6%). In rural schools, mild and moderate stress were 9.7% and 16.8%, whereas in our study, rural teachers reported 20.4% mild stress and 25.2% moderate stress.[9]

Limitations of the Study

The sampling strategy followed the proportion of teachers in urban and rural settings, resulting in 63.1% rural and 36.9% urban distribution. The outcomes might have varied had equal representation (50% urban and 50% rural) been ensured.

CONCLUSION

This study demonstrated a substantial prevalence of stress among teachers, spanning mild, moderate, and severe levels, with the majority experiencing severe stress. It also identified a range of contributing factors, including school location, type of syllabus, nature of management, permanency of employment, classes taught, years of experience, subjects handled, and weekly teaching load. These determinants must be addressed and optimized to foster a supportive work environment that enhances teacher well-being, productivity, and professional growth. No significant differences were observed in stress levels between rural and urban teachers, indicating that occupational stress is a pervasive issue across both settings. As Darwin emphasized in The Origin of Species, survival is not determined by strength or intellect but by the ability to adapt and respond to changing environments. In this context, teachers must continually adapt to evolving student behaviours, shifting parental expectations, and dynamic administrative demands. By developing resilience and adaptive strategies, teachers can mitigate stress, maintain their professional effectiveness, and contribute more meaningfully to the educational process. Such efforts are crucial not only for safeguarding teachers' health but also for enhancing the learning experiences and outcomes of the student community.

Conflict of interest: Nil

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REFERENCES

1. Farber, B. A., Crisis in education : Stress and burnout in the American teacher. The Jossey Bass education series. San Francisco, CA, US :Jossey-Bass. (1991). pp.xxi 351.
2. Comish, R., Daboval, J. and Swindle, B. (1994) Managing stress in the workplace. The National Public Accountant, 39, 24-27.
3. Cotton, P., & Hart, P. M. (2003). Occupational Well-Being and Performance: A Review of Organisational Health Research. Australian Psychologist, 38, 118-128. http://dx.doi.org/10.1080/00050060310001707117
4. Job stress. The American Institute of stress, Available at: http://www.stress.org/job.htm (accessed on March 15th, 2019).
5. Protecting Workers' Health Series No 3. Work Organization & Stress. World Health Organization 2003.
6. International Labour Organization. World Labour Report. International Labour Office, Geneva. 1993; 6-7. . Stress at work. National Institute for Occupational Safety and Health, available at URL- http://www.cdc.gov/niosh/ Accessed on March 15th, 2019.
7. World Health Organization. Raising Awareness of Stress at Work in Developing Countries; A modern hazard in a traditional working environment. Protecting Workers' Health Series No. 6. Geneva. 2007.
8. Stress. European Agency for Safety and Health at Work. Available at http://osha.europa.eu/en/topics/stress (Accessed on 15th October 2008).
9. Dr. S.S.Jeyaraj (2013) Occupational Stress among the Teachers of the Higher Secondary Schools in Madurai District, Tamil Nadu; IOSR Journal of Business and Management e- ISSN: 2278-487X. Volume 7, Issue 5 (Jan. - Feb. 2013), PP 63-76.
10. Mani, Hemalatha & Rajeswari, P. (2017). Analysis of Occupational Stress Among High School Teachers in Coimbatore District.
11. Lokanadha Reddy G. and Poornima R. (2012). Occupational Stress and Professional Burnout of University Teachers in South India,. International Journal of Educational Planning & Administration, Volume 2, Number 2 (2012), pp. 109-124
12. Ali Qadimi SM, Sheshadri SP, Niveditha K. Influence of age on job burnout and occupational stress among high school teachers in Mysore city. Int J Sci Res. 2013;2(2):46-49.
13. Mondal J, Shrestha S, Bhaila A. School teachers: job stress and job satisfaction, Kaski, Nepal. Int J Occup Saf Health. 2011;1(1):27-33.
14. Alfred J, Antony ST. A study to assess the level of stress among school teachers in selected schools of Vellore. IOSR J Nurs Health Sci. 2014;3(5):34-38.
15. Ansarul H, Sharma J. Occupational stress of primary school teachers in relation to their organizational commitment. Indian J Psychol Sci. 2012;3(2):56-61.

16. Naina J, Kulkarni P. Occupational stress among faculty members in higher education institutions in Pune. Int J Manage Soc Sci Res Rev. 2015;1(7):180-185.
17. Mariya S, Singh A. Demographic differences and occupational stress among secondary school teachers in Uttar Pradesh. Indian J Psychol Educ. 2012;2(1):62-70.
18. Arroba, T. and James, K. (1990), "Reducing the Cost of Stress: An Organisational Model", Personnel Review, Vol. 19 No. 1, pp. 21¬27. https://doi.org/10.1108/00483489010143267
19. R. Lewis, "Teachers Coping with the Stress of Classroom Discipline", Social Psychology of Education, 3, pp. 155-171, 1999.
20. N. Pande, and R.K.Naidu, "Effort and Outcome Orientations as Moderators of Stress - Strain Relationship", Psychological Studies, 31(2), 1986.
21. Pervez, Seema, and Rubina Hanif. "Levels and sources of work stress among women school teachers." Pakistan Journal of Psychological Research, vol. 18, no. 3-4, 2003, p. 97+. Accessed 20 Oct. 2020.
22. Mohanty. S (1992). Occupational stress and mental health in executives: a comparative study of the public and private sectors. fifth survey of educational research. P.hd Utkal University.
23. Dhar, N., & Magotra, R. (2018). A study of occupational stress among teachers teaching in JKBOSE & CBSE in Jammu District: A comparative study. International Journal of Advanced Research in Edu
24. Manjula, C 2007, 'A Study on Personality Factors Causing Stress among School Teachers', Language in India, vol. 12, no. 2, pp. 24-69
25. Nagra V. Occupational stress among school teachers. Global Online Electronic Int J. 2013;2(2):25-33.
26. Vijayadurai J, Venkatesh S. A study on stress among school teachers in Madurai district. Int J Bus Manage. 2012;2(1):82-86.
27. Harish J, Raghunathan G. Occupational stress and job satisfaction among government and private school teachers. Int J Sci Res. 2013;2(12):17-20.