

Health Related Quality of Life Among Private School Teachers in Chengalpattu District, Tamil Nadu, India-A Cross Sectional Study

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ABSTRACT

Background: Teachers are the foundation of any civilized society, as they preserve information, wisdom, and ideals. The study was conducted to analyze the Health-Related Quality Of Life among private school teachers and associate the findings with various demographic and occupational parameters.

Methodology: This cross-sectional study was conducted among 300 private school teachers in Chengalpattu district from March-to May 2024. Sample size was determined by multistage random sampling technique. A semi-structured questionnaire consisting of background, occupation related details, and SF-36 to assess the HRQOL were used to collect data. Data was entered in excel and analysed using SPSS version 26.

Results: Out of 300 teachers, 233 were female and 152 were above the age of 40. Most affected domains were Bodily Pain and General Health Perception. In both these domains, very low mean levels of quality of life were significantly associated with teachers age more than 40 years old, those who got monthly income of more than 40k, married, teaching experience more than 20 years, those who travelled more than 60 minutes to reach school and those who had comorbidities.

Conclusions: At least one variable across all domains analysed was associated with lower quality of life scores. Administrators and policymakers must provide appropriate health education or health promotion programs and comprehensive prevention strategies for improving their HRQOL.

Key-words: HRQOL, teachers, SF-36, India

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INTRODUCTION

WHO defines Quality of Life as an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns.¹ **Health-related quality of life (HRQOL)** is an individual's or a group's perceived physical and mental health over time.² Teachers are the foundation of any civilized society, as they preserve information, wisdom, and ideals. In a country as enormous as ours, with such a diverse and uneducated populace, teachers are frequently a child's only source of learning. Teaching is regarded as one of the most significant occupations across the world. Teachers have always played an important part in the evolution of society. Apart from teaching, they spend several hours per week in classroom activities, instructors are frequently involved in extracurricular activities (for example, setting up and correcting exams and serving as school coordinators), resulting in a heavy workload.³ Furthermore, teachers have difficulty reducing their working hours due to pressures to increase teaching quality and societal expectations.⁴ One of the most common physical health issues that teachers deal with on the job is musculoskeletal pain. Teachers may have to retire early due to musculoskeletal problems. According to a study⁵, teachers have a significant prevalence of musculoskeletal pain, which has a detrimental effect on their quality of life overall and especially on the physical aspect. In addition to stress from their jobs, teachers deal with a range of stressful situations in the classroom.⁶ This includes opinions about things like a lack of professional recognition, difficulties upholding discipline in the classroom, a lack of support from peers, and additional work like surveys and government obligations. Their mental health may be impacted by each of these variables.

Another qualitative data from a different study⁷ demonstrated that teachers are under stress as a result of a lack of resources, ongoing supervision, professional boredom and exhaustion, competitiveness and ambition, students' problematic or irresponsible behaviour, high demands and expectations, and a lack of personal time, among other factors. The likelihood of school teachers engaging in "emotional labor" has grown due to their multitasking. Physical, mental, and social motives all influence the work environment and can lead to burnout, which can have detrimental effects on physical and mental health.

Seventy-four percent of deaths worldwide are caused by noncommunicable diseases (NCDs), which include diabetes, cancer, heart disease, stroke, and chronic lung disorders.⁸ Because of their stressful jobs and sedentary lifestyle, schoolteachers are susceptible to developing hypertension.⁹ It has long been established that type 2 diabetes affects a person's quality of life (QoL).¹⁰ Private school teachers face different professional obligations than those in government schools, including teaching more classes

per day, managing a larger student body, working longer hours, and not taking sufficient breaks from teaching. The number of years of teaching experience, age, and gender are other factors for consideration. Thus, understanding the quality of life of private school teachers is critical, as it is critical to enhance their health and working conditions. Reflecting on the positive and negative aspects of private school teachers' quality of life may lead to reformation or enhancement of satisfactory working circumstances. There are not many studies done on the quality of life of school teachers in India.

The objective of the study is to analyse the HRQOL among private school teachers and associate the findings with various demographic and occupational parameters.

METHODOLOGY

This cross-sectional study was conducted among private school teachers in Chengalpattu district, Tamil Nadu, India. The study period lasted three months, from March to May 2024. Based on an in-depth review of the literature, the prevalence of anxiety among schoolteachers was 25.22%.¹¹ Considering this as prevalence, 5% allowable error, and a Z value of 1.96, the calculated sample size was 300 using the formula $n = Z^2 PQ/d^2$. The sample size was determined by multistage random sampling technique. There are 8 blocks in Chengalpattu district. Out of eight blocks in Chengalpattu district, Kattankulathur block and St Thomas Mount block were selected by simple random sampling method. The list of number of matriculation schools in both blocks was obtained from the district's Chief Education Officer. There are 35 and 103 matriculation schools in Kattankulathur block and St Thomas Mount block respectively. Two schools were selected from each block via lottery method. The number of teachers to be chosen for the study from each school was determined using the probability proportionate to size. After obtaining ethical approval by the host Institutional Review Committee (IRC), the principal or chairperson of the chosen school was informed over the phone of the visit and given a briefing on the study's purpose and importance.

Participants were male and female private school teachers who were more than 20 years old and handling class 8th-12th standard and those who provided consent. The teachers were given information about the study and asked to sign a consent form confirming that they would voluntarily participate. Because the relevant authorities had not given their clearance, primary and middle school teachers were not allowed to participate in the study. A self-reporting semi structured questionnaire was used consisting of three parts. The first part concerned their sociodemographic profile. Questions related to their occupation and health was included in second part; and the part included the measure of HRQOL.

The third part was the 36-Item Short Form Health Survey (SF-36), which is a standardized quality of life assessment tool consisting of 36 items grouped in eight domains: 1. Physical functioning (PF-10 items), assessing whether there is limitation in performing all physical activities, such as dressing and walking; 2. Physical role functioning (RP-4 items), investigating problems with work or other daily activities; 3. Bodily pain (BP-2 items), which ascertains if there is the presence of pain and limitation; 4. General Health perception (GH-5 items), which assesses whether their health was excellent, very good, good, fair or poor; 5. Vitality (VT-4 items), which checks the feeling of Vigor, energy, exhaustion or fatigue; 6. Social role functioning (SF-2 items), analysing interference in social activities, caused by physical or emotional problems; 7. Emotional role functioning (RE-3 items), which assesses how emotional issues affect problems at work or in day-to-day activities; and, lastly, 8. Mental health domain (MH-5 items), which measures emotions of happiness, calmness, anxiety, and depression. The inquiries represent each person's state of health throughout the previous four weeks. The physical and emotional role limitation categories offer binary response alternatives (yes/no), while the remaining items have three to six possible answers. Each domain's components add up to an aggregate domain score, where 0 denotes the lowest health and 100 denotes exceptional health.

STATISTICAL ANALYSIS: The obtained data was input into an Excel spreadsheet, and version 26.0 of the Statistical Package for the Social Sciences (SPSS) was used for analysis. The data was summarized using descriptive statistics, where the variables were quantified as frequency and percentage, and the SF-36 domains were represented by mean and standard deviation (mean \pm SD). Since not all of the data was normally distributed, a non-parametric statistical test was used. The Mann-Whitney U test was used to analyse the impact of teaching-related and demographic factors on HRQOL. A P-value of less than 0.05 was considered as significant.

RESULTS

A total number of 300 teachers from private schools participated in this study. The majority of the teachers (50.7%) were above the age of 40. There were 67 male teachers (22.3%), and 233 female teachers (77.7%), 236 teachers were married, 174 (58%) teachers received monthly income of less than \leq 40k. Most of the teachers (54.3%) had \leq 20 years of experience. More than half of teachers (59.3%) reported more than 40 hours of teaching per week. A large number of the teachers, 225 (75%), picked private transport. Comorbidities were present in about 79.7% of teachers. Table 1 provides information about the participants' background details, personal data, and teaching-related characteristics. Table 2 showed that bodily pain and general health perception were the most affected scale domains, with

mean of 38 and 42.06, respectively. The impaired quality of life scores of the other domains, however, ranged from 42.52 to 54.66, which is regarded as low.

Table 3 represented that in Physical functioning (PF) domain, women, age more than 40 years old, married, teaching experience more than 20 years, those who travelled more than 60 minutes, those who had comorbidities, had mean low quality of life and significant association. In physical role functioning (RP) domain, significant association with lower mean quality of life was found among teachers who were teaching for \leq 40 hours per week, travelled in public transport and those who had comorbidities.

Table 1: Distribution of demographic and teaching related characteristics

Variables	No. of teachers (%)
Age	
\leq 40 years	148 (49.3)
$>$ 40 years	152 (50.7)
Gender	
Male	67 (22.3)
Female	233 (77.7)
Income per month	
\leq 40k	174 (58)
$>$ 40k	126 (42)
Marital status	
Married	236 (78.7)
Unmarried	64 (21.3)
Teaching experience in years	
\leq 20 years	163 (54.3)
$>$ 20 years	137 (45.7)
Hours of teaching per week	
\leq 40 hours	122 (40.7)
$>$ 40 hours	178 (59.3)
Duration of school work done at home per day	
\leq 45 mins	47 (15.7)
$>$ 45 mins	253 (84.3)
Mode of transport	
Private	225 (75)
Public	75 (25)
Duration of travel	
\leq 60 mins	263 (87.7)
$>$ 60 mins	37 (12.3)
Comorbidities	
Present	239 (79.7)
Absent	61 (20.3)

Table 2: Mean scores of health-related quality of life domains

Domains	Mean \pm SD
Physical functioning (PF)	42.52 \pm 24.17
Role limitations due to physical health (RP)	49.83 \pm 32.13
Bodily Pain (BP)	38.45 \pm 23.69
General Health (GH)	42.06 \pm 20.57
Role limitations due to emotional problems (RE)	54.66 \pm 34.43
Vitality-energy/fatigue (VT)	43.16 \pm 18.66
Social functioning (SF)	47.45 \pm 24.98
Mental Health (MH)	44.93 \pm 21.39

Table 3: Association of socio demographic and teaching related factors with domains of quality of life

Variables	Physical functioning		Role limitations due to physical health		Bodily Pain		General Health	
	Mean ± SD	p-value	Mean ± SD	p-value	Mean ± SD	p-value	Mean ± SD	p-value
Age								
≤40 years	57.47 ± 24.95	0.00*	53.54 ± 32.73	0.069	49.47 ± 22.38	0.00*	55.70 ± 19.63	0.00*
>40 years	27.96 ± 10.89		46.21 ± 31.22		27.71 ± 19.70		28.78 ± 10.14	
Gender								
Male	49.18 ± 29.85	0.045*	50.74 ± 33.41	0.818	43.88 ± 28.70	0.076	45.74 ± 23.55	0.176
Female	40.60 ± 21.97		49.57 ± 31.82		36.88 ± 21.86		41.00 ± 19.56	
Income per month								
≤40k	43.97 ± 23.40	0.167	52.44 ± 29.64	0.095	40.44 ± 20.02	0.048*	44.68 ± 21.43	0.011*
>40k	40.52 ± 25.15		46.23 ± 35.08		35.69 ± 27.82		38.45 ± 18.81	
Marital status								
Married	38.67 ± 22.87	0.00*	48.83 ± 32.14	0.31	36.29 ± 23.42	0.003*	40.02 ± 19.96	0.001*
Unmarried	56.72 ± 23.69		53.51 ± 32.07		46.40 ± 23.14		49.60 ± 21.20	
Teaching experience in years								
≤20 years	54.79 ± 25.41	0.00*	52.30 ± 33.65	0.196	47.89 ± 22.93	0.00*	53.25 ± 20.51	0.00*
>20 years	27.92 ± 10.97		46.89 ± 30.08		27.20 ± 19.31		28.75 ± 10.05	
Hours of teaching per week								
≤40 hours	42.58 ± 25.70	0.841	45.49 ± 34.01	0.047*	35.81 ± 24.67	0.039*	45.86 ± 19.17	0.002*
>40 hours	42.47 ± 23.13		52.80 ± 30.51		40.25 ± 22.88		39.46 ± 21.14	
Duration of school work done at home per day								
≤45 mins	41.06 ± 22.40	0.713	54.25 ± 33.10	0.304	35.69 ± 21.28	0.393	41.27 ± 19.87	0.871
>45 mins	42.79 ± 24.52		49.01 ± 31.95		38.96 ± 24.11		42.21 ± 20.73	
Mode of transport								
Private	41.24 ± 23.28	0.314	52.11 ± 31.66	0.02*	39.51 ± 22.95	0.346	40.28 ± 21.29	0.00*
Public	46.33 ± 26.46		43.00 ± 32.76		35.26 ± 25.67		47.40 ± 17.30	
Duration of travel								
≤60 mins	44.77 ± 24.51	0.00*	48.76 ± 32.92	0.11	40.45 ± 24.10	0.00*	44.20 ± 20.64	0.00*
>60 mins	26.49 ± 13.32		57.43 ± 24.90		24.18 ± 13.99		26.89 ± 11.98	
Comorbidities								
Present	40.06 ± 23.41	0.00*	47.59 ± 32.44	0.012*	36.30 ± 23.93	0.002*	40.06 ± 21.12	0.00*
Absent	52.13 ± 24.89		58.60 ± 29.53		46.84 ± 20.86		49.91 ± 16.13	

*P value <0.05 is considered to be significant

In bodily pain (BP) domain, decreased mean levels of quality of life was significantly associated with teachers age more than 40 years old, teachers who got monthly income of more than 40k, married, teaching experience more than 20 years, teachers who were teaching for ≤40 hours per week, those who travelled more than 60 minutes and those who had comorbidities. In domain General Health (GH) perception, they showed low means of quality of life with significant associations among teachers age more than 40 years old, teachers who got monthly income of more than 40k, married, teaching experience more than 20 years, teachers who were teaching for >40 hours per week, who travelled to school via private transport, those who travelled more than 60 minutes and those who had comorbidities.

From table 4, it is evident that in Emotional role functioning (RE) area, reduced mean quality of life was associated with female teachers and teachers who got monthly income of ≤40k. In Vitality (VT) domain, significant association with lower mean quality of life was found on age more than 40 years old, married, teaching experience more than 20 years, teachers who were teaching for >40 hours per week, who travelled to school via private transport, those who travelled more than 60 minutes and those who had comorbidities.

As for the social role functioning (SF) domain, there was less mean quality of life associated with age more than 40 years old, teachers who got monthly income of more than 40k, married, teaching experience more than 20 years and those who had comorbidities. When we examined the field of mental health (MH), we discovered that significant association was observed between this domain and age of teachers, teachers who got monthly income of more than 40k, married, teaching experience more than 20 years, who travelled to school via private transport, those who travelled more than 60 minutes and those who had comorbidities.

DISCUSSION

According to the current study, at least one variable across all the domains analyzed was associated with lower mean quality of life scores. Our research revealed that teachers over 40 years had an unsatisfactory quality of life. In particular, comparing to their male colleagues, female teachers reported a significantly lower quality of life. This finding is similar to research that suggests a lower pain tolerance, less physical strength, and a heavier workload from juggling work and home responsibilities may all contribute to women's higher prevalence of health issues.¹²⁻¹⁴

Table 4: Association of socio demographic and teaching related factors with domains of quality of life

Variables	Role limitations due to emotional problems		Vitality-energy/fatigue		Social functioning		Mental Health	
	Mean ± SD	p-value	Mean ± SD	p-value	Mean ± SD)	p-value	Mean ± SD)	p-value
Age								
≤40 years	54.05 ± 37.57	0.704	56.14 ± 14.38	0.00*	59.71 ± 25.74)	0.00*	62.54 ± 15.51)	0.00*
>40 years	55.26 ± 31.19		30.52 ± 12.75		35.52 ± 17.32)		27.78 ± 8.52)	
Gender								
Male	64.67 ± 33.27	0.008*	48.05 ± 23.62	0.088	49.62 ± 27.17)	0.462	45.91 ± 22.27)	0.822
Female	51.78 ± 34.29		41.75 ± 16.77		46.83 ± 24.34)		44.65 ± 21.18)	
Income per month								
≤40k	50.19 ± 35.97	0.009*	42.90 ± 17.54	0.914	50.64 ± 24.68)	0.011*	47.17 ± 21.64)	0.021*
>40k	60.84 ± 31.29		43.53 ± 20.17		43.05 ± 24.82)		41.84 ± 20.74)	
Marital status								
Married	52.96 ± 34.18	0.096	40.88 ± 18.82	0.00*	45.02 ± 23.83)	0.001*	40.81 ± 20.26)	0.00*
Unmarried	60.93 ± 34.91		51.56 ± 15.52		56.44 ± 27.18)		60.12 ± 18.51)	
Teaching experience in years								
≤20 years	54.60 ± 36.81	0.893	53.98 ± 15.53	0.00*	57.82 ± 25.76)	0.00*	59.16 ± 18.38)	0.00*
>20 years	54.74 ± 31.50		30.29 ± 13.08		35.12 ± 17.31)		28.00 ± 8.52)	
Hours of teaching per week								
≤40 hours	55.46 ± 36.26	0.793	46.88 ± 16.55	0.014*	48.97 ± 23.48)	0.286	44.39 ± 21.70)	0.655
>40 hours	54.11 ± 33.21		40.61 ± 19.62		46.41 ± 25.97)		45.30 ± 21.24)	
Duration of school work done at home per day								
≤45 mins	58.56 ± 35.58	0.344	43.40 ± 19.53	0.900	46.27 ± 23.87)	0.840	45.36 ± 21.70)	0.891
>45 mins	53.88 ± 34.23		43.12 ± 18.54		47.67 ± 25.22)		44.85 ± 21.38)	
Mode of transport								
Private	53.03 ± 35.38	0.155	41.91 ± 19.18	0.021*	46.11 ± 24.91)	0.093	43.44 ± 21.5)	0.03*
Public	59.55 ± 31.14		46.93 ± 16.58		51.50 ± 24.91)		49.38 ± 20.49)	
Duration of travel								
≤60 mins	55.25 ± 35.14	0.453	44.88 ± 19.05	0.00*	48.38 ± 25.53)	0.052	47.39 ± 21.36)	0.00*
>60 mins	50.45 ± 28.99		30.94 ± 8.72		40.87 ± 19.68)		27.45 ± 11.16)	
Comorbidities								
Present	55.23 ± 34.42	0.549	40.75 ± 19.36	0.00*	44.71 ± 24.04)	0.00*	41.64 ± 21.51)	0.00*
Absent	52.45 ± 34.67		52.62 ± 11.64		58.19 ± 25.90)		57.83 ± 15.25)	

*P value <0.05 is considered to be significant

These scores were higher among single teachers, possibly because married teachers have additional responsibilities¹⁵, such as caring for their family and shouldering a variety of domestic obligations, as well as dealing with societal pressures and challenges that might lead to physical and mental health issues. Another study¹⁶ found that teaching experience and mode of transportation to school had no significant impact on teachers' health scores, which contradicted our findings. The current study found that teachers who took public transportation to school had significant role limits owing to their physical condition. This might be the case because teachers who take public transportation like buses and trains travel far and for extended periods of time, which could lead them to assume uncomfortable positions while on the road. This could raise their risk of developing musculoskeletal pain and have an adverse effect on their physical well-being. This result is in line with another study¹⁷, which discovered that teachers who took public transportation had a notably higher chance of experiencing musculoskeletal pain. According to our study, teachers who taught more than 40 hours a week saw significant negative effects on their energy levels, general health, and physical and emotional well-being. This finding was consistent with previous studies, which found that a high workload reduces well-being and has a detrimental effect

on physical and mental health, including an increase in stress levels.¹⁸⁻²⁰ These can have an impact on their organization, resulting in a various health issue that jeopardize their quality of life. Anxiety and depression scores were significantly higher in teachers over 40 and in those with more teaching experience, according to study conducted among Egyptian teachers.²¹ Since it affects students indirectly, teachers' psychological and mental well-being are extremely important.²² Burnout, depression, and anxiousness are three major overlapping difficulties that are linked to the stress of teaching. These issues have numerous adverse consequences on teachers' welfare, health, and efficiency.

Our study found that 239 school teachers had comorbidities like diabetes, hypertension, dyslipidaemia, heart diseases, and so on, which explains why most of the teachers had a lower quality of life. Contrary to our findings, chronic health conditions among rural teachers largely affect the psychological aspect of quality of life rather than their physical well-being component.²³ An unhealthy diet, little exercise, and emotional strain are all regarded as crucial elements of an unhealthy way of living. Some strategies to reduce chronic diseases and underlying risk factors include increasing the availability of healthy foods (fruits, vegetables, whole grains, dairy

products with skim milk, fish, lean meats and poultry, plant-based meat substitutes), increasing the variety of foods low in salt, trans fat, saturated fat, and added sugar, and offering nutrition labelling at the point of purchase (such as in the cafeteria and vending appliances). Frequent voluntary NCD screening camps can be held on school campuses to aid in early detection of diseases. The cross-sectional design is cited in this instance as a study limitation since it limits the identification of associations, makes it impossible to establish a cause-and-effect relationship between variables, and prevents temporality analysis between exposure and outcome. There were no other measures of reporting reliability included in the evaluation; it was based exclusively on self-reports. Respondent bias could therefore have an impact on the study. The selection of only two blocks and two schools per block have given rise to selection bias and may limit the generalizability of our findings to entire study area. Notwithstanding the aforementioned limitations, the study's findings are pertinent because they advance our knowledge of the factors affecting teachers' quality of life and enable the development of appropriate policies and practices that meet their needs. In order to provide a more consistent picture of teachers' realities while simultaneously addressing their additional concerns and obstacles, it is proposed that further studies on this topic be undertaken in several locations with different socioeconomic and cultural circumstances.

CONCLUSION

We discovered a decline in HRQOL of private school teachers, who had low means in the investigated domains, including poorer scores for bodily pain and general health perception. Age, marital status, number of years spent teaching, mode of transportation, and the prevalence of coexisting conditions were some of the characteristics that affected the teacher's health and quality of life. Educational administrators and policymakers should be aware of the physical and psychological conditions of teachers and offer programs that promote or educate teachers about occupational risks that they may encounter on a daily basis as part of their job, as well as wide-ranging preventive strategies that safeguard teachers' mental health and enhance their social functioning.

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