

Work-related psychological distress among teachers in southwest Nigeria: a rural and urban comparison

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INTRODUCTION

Work has been defined as an activity in which one exerts sustained mental or physical efforts to perform and overcome obstacles to achieve objectives or results.¹ The interaction between work and mental health is embodied in the World Health Organization (WHO) definition of mental health, as a state of wellbeing in which every individual realises his or her potential and can cope with the normal stresses of life while working productively, and can contribute to his or her community.^{2,3} Work in itself can positively influence wellbeing, can be beneficial to health and fitness, or negatively confer risk for mental health problems such as psychological distress.¹ Mental health includes psychological wellbeing, which relates to people's emotions, thoughts and behaviours.¹⁻⁴ Mental health is characterised by emotional wellness, relative freedom from psychological distress, and the ability to engage in constructive activities of daily living, cope with life demands, and balance social responsibility with personal relationships.^{2,3,5}

ABSTRACT

Background: The jobs of teachers involve high demand and low control, which predisposes them to psychological distress. Differences in the basic infrastructure in rural and urban areas may influence the psychological health status of teachers.

Objectives: We assessed the prevalence of psychological distress and associated work-related factors among secondary school teachers in rural and urban areas of southwest Nigeria.

Methods: A cross-sectional analytical study design was utilised. Teachers from rural (n = 578) and urban (n = 596) areas were selected using multistage sampling. Sociodemographic and occupational characteristics were recorded, and the 12-item General Health Questionnaire (GHQ-12) was used to assess psychological distress, using a cut-off score of ≥ 3 to indicate distress. Data were analysed using SPSS version 23. Chi-square analysis was used to test for differences between categorical variables and Student's t-test was used to check for differences in means. Logistic regression analysis was conducted to determine predictors of psychological distress. Statistical significance was set at 5%.

Results: Rural-based teachers were significantly younger than those in urban locations ($p = 0.013$), had fewer mean years of work experience ($p = 0.043$), taught larger class sizes ($p < 0.000$), had more financial dependants ($p = 0.001$), and spent less time at work each day ($p < 0.000$). More rural- than urban-based teachers had other jobs in addition to teaching ($p = 0.023$). Overall, 38.1% of the teachers were psychologically distressed: 42.7% in rural and 33.6% in urban schools ($p = 0.001$). Factors associated with psychological distress were being married ($p = 0.007$), teaching in a public school ($p = 0.007$), and teaching > 5 subjects ($p < 0.001$). The adjusted odds of psychological distress were higher in teachers in rural schools (AOR 1.30, 95% CI 1.02–1.67), and in public schools (AOR 1.58, 95% CI 1.19–2.11). The adjusted odds increased by 19% for every additional subject taught, and by 2% for every hour spent teaching.

Conclusion: Teachers in rural schools had more psychological distress than those in urban ones. Distress was associated with both individual and work-related characteristics. Teachers' work conditions in rural schools need to be improved to provide an incentive for them to work and remain in remote areas.

Teaching can be a stressful job and teachers have been reported to show high levels of fatigue and pessimism, which are the core dimensions of psychological distress.^{4,6} Teaching has been consistently described as a highly demanding career, with teachers reporting correlates of psychological distress such as the burden of their academic workload, low job satisfaction, and marital relationship issues.^{4,6,7} Teaching is considered to be a high-demand and low-control occupation, requiring interactions with students, parents and colleagues, and the need to work within a fixed schedule, all of which may produce some level of psychological distress.^{4,6,7} Psychological distress related to work has been noted among teachers in other regions of the world.^{4,6,7} Despite this, teachers are expected to impact their students positively.

Psychological health can be measured with the 12-item General Health Questionnaire (GHQ-12), which measures stress, and indicates the likelihood that an individual is experiencing levels of tension, anxiety and depression that might adversely affect mental wellbeing.⁸⁻¹⁰ GHQ-12 scores have been used in several studies as a measure of teachers' levels of psychological distress.⁸⁻¹⁰

Teaching in secondary school is a prominent profession in rural and urban areas of Nigeria.^{11,12} The poor state of welfare and social services in many low- and middle-income countries,¹³ like Nigeria, provides few or no avenues for alleviating work-related challenges, with the attendant risk of mental health problems among workers. Such challenges may be more common in rural than urban areas, considering the differences in infrastructures and amenities. Work-related psychological distress among teachers in sub-Saharan Africa in general, and in Nigeria in particular, is not a frequently researched area, even though teaching is an age-old occupation.

This study was conducted to estimate the prevalence of psychological distress and associated work-related factors among secondary school teachers in rural and urban areas of southwest Nigeria.

METHODS

This was an analytical cross-sectional study, conducted in Oyo state, one of the six states in southwest Nigeria. Oyo state has a variety of professionals represented in the civil service workforce, of which teachers are a prominent group. Oyo state is divided into 33 local government areas (LGAs) for administrative purposes. The state's Ministry of Education has a total of 604 registered public secondary schools and an estimated 300 private secondary schools distributed within the rural and urban LGAs.¹⁴

The sample size for the study was calculated using a formula for comparing two proportions. The minimum sample size required was 490 in each group. However, to allow for a non-response rate of 10%,

the sample size of each group was increased to 544. The calculated sample size had a power of 88.6% to detect a 9% difference in psychological distress between rural and urban school teachers.

Multi-stage sampling with stratification was used to select potential study participants. In the first stage, simple random sampling was used to select three urban and four rural LGAs from the 33 LGAs, based on rural-urban density and estimates of the numbers of teachers in the LGAs. In the second stage, schools in each LGA were randomly selected by type (public and private). A total of 49 schools – 24 in rural LGAs and 25 in urban LGAs – were selected. The data collection was conducted for six weeks in May and June 2018.

All teachers who were on full-time contracts and had been teaching at the schools for at least one year before the study began, were invited to participate. All consenting teachers who were present at the time of the visit to the schools were interviewed, using a structured questionnaire.

The questionnaire comprised sections on sociodemographic characteristics, occupational data, family life, and questions from the GHQ-12.⁸⁻¹⁰ The GHQ-12 is a 12-item questionnaire that assesses psychological distress. It has been used in several studies in Nigeria^{15,16} and has good reliability: Cronbach's alpha of 0.85 for the whole scale, and a range of 0.73–0.82 for each dimension.⁸⁻¹⁰ A participant's response to a symptom of mental distress is scored on a 2-point scale such that 'less than usual' = 0, 'no more than usual' = 0, 'rather more than usual' = 1, and 'much more than usual' = 1.⁸⁻¹⁰ The GHQ-12 scores were dichotomised to indicate the absence or presence of psychological distress, using the categorised scores of (0 < 3) and (3–12), respectively.⁸⁻¹⁰

Table 1. Sociodemographic characteristics of participants, by rural and urban location (N = 1 174)

Variable	Location of school				All		p value
	Rural (n = 578)		Urban (n = 596)		n	%	
	n	%	n	%			
Sex							
Male	219	37.9	234	39.3	453	38.6	0.230
Female	359	62.1	362	60.7	721	61.4	
Age (years)							
< 40	296	51.2	266	44.6	562	47.9	0.013
≥ 40	282	48.8	330	55.4	612	52.1	
Marital status							
Single	100	17.3	97	16.3	197	16.8	0.640
Ever married	478	82.7	499	83.7	977	83.2	
Ethnicity							
Yoruba	538	93.1	552	92.6	1 090	92.8	0.821
Other	40	6.9	44	7.4	84	7.2	
Highest education							
Secondary school	12	2.1	7	1.2	19	1.6	0.158
Graduate	566	97.9	589	98.8	1 155	98.4	
No. of biological children							
0–4	526	91.0	563	94.5	1 089	92.3	0.024
5–10	52	9.0	33	5.5	85	7.2	
No. of financial dependants							
≤ 5	484	83.7	548	91.9	1 032	87.9	0.001
> 5	94	16.3	48	8.1	142	12.1	
Type of school							
Public	432	74.7	405	68.0	837	71.3	0.012
Private	146	25.3	191	32.0	337	28.7	

Ethical approval was obtained from the Oyo State Ministry of Health Ethical Review Committee (ethics approval number AD13/479/437). Permission to conduct the study was obtained from the school authorities and informed consent was obtained from all participants.

Data analysis

Data were analysed using SPSS version 23 to generate frequencies and percentages for descriptive variables. The association between categorical variables was tested using chi-square analysis, and Student's t-test was used to check for differences in means. A stepwise logistic regression model was used to identify predictors of psychological distress among teachers. Statistical significance was set at 5%.

RESULTS

A total of 1 174 teachers were interviewed, comprising 578 teachers from rural areas and 596 from urban areas. Table 1 shows that the majority of the teachers were female ($n = 721, 61.4\%$): 62.1% and 60.7% in the rural and urban schools, respectively. Approximately half of the teachers working in rural schools were younger than 40 years ($n = 296, 51.2\%$), compared to 44.6% ($n = 266$) in urban schools ($p = 0.013$). The mean age of the rural-based teachers was 39.6 ± 8.2 years, while that

of the urban-based teachers was 40.8 ± 8.5 years ($p = 0.016$). Rural-based teachers had more biological children and financial dependants than urban-based teachers ($p = 0.024$ and $p = 0.001$, respectively). A higher proportion of teachers in urban areas worked in private schools ($n = 191, 32.0\%$) than did teachers in rural areas ($n = 146, 25.3\%$) ($p = 0.012$).

As shown in Table 2, the teachers in urban schools had worked as secondary school teachers for a longer mean duration than those in rural schools (11.0 ± 7.7 years and 10.0 ± 7.6 years, respectively, $p = 0.043$). Urban-based teachers spent more hours at work each day (8.0 ± 1.2 hours) than rural-based teachers (7.6 ± 1.2 hours) ($p < 0.000$), while the mean number of students per class was greater in rural than urban schools (55.6 ± 43.9 and 38.6 ± 20.1 , respectively) ($p < 0.000$).

As shown in Table 3, 5.4% ($n = 32$) of teachers in urban schools spent > 40 hours per week teaching, compared to 3.5% ($n = 20$) in rural schools ($p = 0.025$). More teachers in rural locations had other jobs in addition to teaching ($n = 119, 20.6\%$), compared to urban-based teachers ($n = 92, 15.4\%$) ($p = 0.023$).

More than a third of the study participants were categorised as being psychologically distressed ($n = 447, 38.1\%$). The prevalence was higher in rural- than urban-based teachers, viz. 42.7% ($n = 247$) and 33.6% ($n = 200$), respectively ($p = 0.001$). In comparison to the teachers

Table 2. Occupational characteristics and teaching demands by rural and urban location (N = 1 174)

Variable	Location of school				p value
	Rural		Urban		
	mean	SD	mean	SD	
No. of years teaching at secondary school level	10.0	7.6	11.0	7.7	0.043
No. of hours at work daily	7.6	1.2	8.0	1.2	< 0.000
No. of classes taught	4.8	3.6	4.5	2.6	0.115
No. of students per class	55.6	43.9	38.6	20.1	< 0.000
No. of subjects taught	2.5	1.9	2.5	2.1	0.570

Table 3. Work conditions of study participants (N = 1 174)

Work conditions	Location of school				p value
	Rural (n = 578)		Urban (n = 596)		
	n	%	n	%	
No. of hours teaching per week					
≤ 10	195	33.7	233	39.1	0.025
11–40	363	62.8	331	55.5	
> 40	20	3.5	32	5.4	
No. of hours standing per day					
≤ 4	391	67.6	396	66.4	0.664
> 4	187	32.4	200	33.6	
Job in addition to teaching					
Yes	119	20.6	92	15.4	0.023
No	459	79.4	504	84.6	
Most stressful aspect of job					
Marking assessments/recording marks	299	51.7	301	50.5	0.909
Writing lesson notes and plans	197	34.1	207	34.7	
No stress/other	82	14.2	88	14.8	
Job satisfaction					
Satisfied	514	88.9	528	88.6	0.926
Dissatisfied	64	11.1	68	11.4	

Table 4. Characteristics of participants by psychological distress status (N = 1 174)

Characteristic	Psychologically distressed				p value
	Yes (n = 447)		No (n = 727)		
	n	%	n	%	
Sex					
Male	187	41.2	267	58.8	0.087
Female	260	36.2	460	63.8	
Age (years)					
< 40	221	37.9	335	62.1	0.956
≥ 40	226	37.8	392	62.2	
Marital status					
Single	64	32.5	133	67.5	0.007
Ever married	383	39.2	594	60.8	
Location of school					
Rural	247	42.7	331	57.3	0.001
Urban	200	33.6	396	66.4	
Type of school					
Public	339	40.5	498	59.5	0.007
Private	108	32.0	229	68.0	
Highest education					
Secondary	8	44.4	10	55.6	0.574
Graduate	439	38.0	717	62.0	
No. of subjects taught					
≤ 5	356	35.0	662	65.0	< 0.000
> 5	91	58.3	65	41.7	
No. of classes taught					
≤ 5	296	36.3	520	63.7	0.055
> 5	151	42.2	207	57.8	
No. of students per class					
< 50	300	36.3	470	63.7	0.408
≥ 50	147	42.2	257	57.8	
Hours spent standing per day					
≤ 4	291	36.9	496	63.1	0.264
> 4	156	40.3	231	59.7	
Time spent at work daily (hours)					
< 8	168	40.5	247	59.5	0.209
≥ 8	279	36.8	480	63.2	
Take work home					
Yes	298	37.2	504	62.8	0.342
No	149	40.1	223	59.9	
Most stressful aspect of job					
Marking assessments/recording marks	230	51.5	352	48.4	0.853
Writing lesson notes and plans	153	34.2	261	35.9	
No stress/other	64	14.3	114	15.7	
Years teaching at secondary school level					
< 10	261	58.4	380	59.3	0.210
10–20	132	29.5	297	69.2	
> 20	54	12.1	50	48.1	
Job satisfaction					
Satisfied	397	38.1	644	61.9	1.000
Dissatisfied	50	37.6	83	62.4	

Table 5. Predictors of psychological distress

Characteristic	Unadjusted			Adjusted		
	OR	95% CI	p value	AOR	95% CI	p value
Location of school						
Urban	1.00			1.00		
Rural	1.48	1.17–1.87	< 0.001	1.30	1.02–1.67	0.037
Type of school						
Private	1.00			1.00		
Public	1.44	1.11–1.89	0.008	1.58	1.19–2.11	0.002
No. of subjects taught	1.14	1.07–1.21	< 0.001	1.19	1.12–1.27	< 0.001
No. of hours teaching per week	1.01	1.00–1.02	0.013	1.02	1.01–1.03	< 0.001

who were not distressed, a significantly higher proportion of those who were distressed were ever married ($n = 383$), worked in rural schools ($n = 247$), worked in public schools ($n = 339$) and taught more than five subjects ($n = 91$) (see Table 4).

A stepwise logistic regression model was fitted to identify factors associated with psychological distress. Sociodemographic variables that were associated ($p < 0.05$) with psychological distress in the bivariate analysis or significantly different between rural and urban groups (age, marital status, number of children, number of financial dependants and having a second job) were included in the model. Statistically significant ($p < 0.05$) work-related variables (school type, number of hours taught per week, school location, number of students per class and number of subjects taught) were also included.

The odds of being psychologically distressed were higher for teachers in rural schools than for those in urban schools (AOR 1.30, 95% CI 1.02–1.67), and for public school teachers (AOR 1.58, 95% CI 1.19–2.11). There was a 19% increase in the adjusted odds of psychological distress for every increase in the number of subjects taught, and an increase of 2% for every additional hour of teaching reported (see Table 5).

DISCUSSION

Most of the secondary school teachers in our study were females, which supports findings from other studies in Nigeria.^{12,13,17} More than half of the urban participants were 40 years or older, and almost all were graduates, as was shown in a report on teachers' education in Nigeria, published in 2008.¹⁸ In Nigeria, teaching positions are competitive, and there is a better chance of securing employment with a graduate degree.^{11,19} Rural-based school teachers had more children than urban-based teachers. This may be due to better access to family planning services and the high cost of raising children in urban locations,²⁰ and may not be related to occupation.

A higher proportion of urban- than rural-based teachers worked in private schools. Teachers in Nigeria usually prefer to work in urban and private schools because salaries are higher.^{12,17} Urban-based teachers spent more hours at work per week, possibly because they were engaged in paid extracurricular student activities – something that has been cited in other Nigerian studies.^{5,12,14,17} Rural-based teachers taught class sizes of > 50 . This relates to the poor infrastructures of rural schools in Nigeria, where lack of sufficient classrooms results in cramming of pupils into the few that are available.^{19,21}

The prevalence of psychological distress among the teachers, using the GHQ-12, was 38.1%. This is similar to the prevalences reported for teachers in Western Australia in 1987 and in Basrah, Iraq in 2015.^{4,6,8} Various studies have reported that the prevalence of psychological distress in teachers is more than double that in the general population, and up to four times that in other professions.^{7,8} A study on the relationship between job stressors and mental health indicated a prevalence of psychological distress in teachers of 33%, which was much higher than the 10% prevalence in physicians and 24% prevalence in the clergy.⁴

A study among Maltese teachers estimated a 34% prevalence of psychological distress,²² much higher than the 10–40% reported in studies conducted in western and eastern European countries.^{4,10} However, figures higher than the 38.1% reported in our study have been reported in Australia (45%)⁸ and Asia (50–70%).^{6,21,23} A study in the USA, published in 2009, reported a similar prevalence of psychological distress among teachers to that calculated in our study; the relatively high prevalence of 34% was suggested to be related to incidents that involved insolent students, or criminal acts committed by students towards teachers.⁹

Psychological distress was significantly associated with working in rural schools in our study. This may be because urban-based teachers are better paid than rural-based teachers in Nigeria. Some studies have shown that higher remuneration can lower the risk of psychological distress.^{7,11,12,17} Studies have also reported that better commuting facilities and a better lifestyle for urban-based teachers and their families, compared to rural-based teachers, may mitigate psychological distress.^{24,25} High levels of psychological distress among rural-based teachers has been ascribed to limited staffing, low wages, inconvenient transportation, and an impoverished school environment.^{25,26} Some of these factors can also explain the higher prevalence of psychological distress observed among teachers working in public Nigerian schools, as previously published.^{17–19} Likewise, psychological distress in public school teachers in Nigeria may be related to the shortage of teaching staff and subsequent work overload, as previously reported.^{12,17}

We found that a higher proportion of married than single teachers were psychologically distressed. There is conflicting evidence in the literature about the effect of marital status on mental health.^{6,27,28} It is plausible that the married teachers in our study had additional life issues that contributed to psychological distress.^{6,22,27–29} The pursuit of a healthy work-life balance may be a challenge for married people who juggle heavy workloads, relationships, and family responsibilities.³⁰

Although some studies have reported that younger teachers and those with fewer years of teaching experience have a significantly higher rate of psychological distress,^{5,6,9,27} we did not find this to be the case in our study. Likewise, neither the size of the classes nor the duration of a working day were associated with psychological distress, although studies have reported that classroom sizes in the range of 100 students is associated with psychological distress.^{6,9}

There was a significant association between teaching more than five subjects and psychological distress, supporting reports that work-overload can predispose to the condition.^{6,8,9} Writing lesson notes and plans can be tedious for teachers; many teach more than one subject and several grades in secondary schools in Nigeria, which can be burdensome, especially when preparing lesson notes outside their core expertise.^{12,17,19,21} This may be the situation for those who are responsible for teaching more than five subjects, considering that most teachers have expertise in one particular subject.^{8,22}

Working in a rural location, teaching in public schools, teaching extra subjects, and long hours spent teaching per week were significant predictors of psychological stress.

A possible limitation of this study is that the presence of potential confounders of psychological distress, such as personality traits, family and social problems, was not explored among the study participants.

CONCLUSION

The prevalence of work-related psychological distress, which was 38.1% overall, was statistically significantly higher among teachers in rural than in urban areas. Other predictors of psychological distress were working in a public versus a private school, and work overload (number of subjects taught and number of hours worked per week). The associations between work-related experiences among teachers and psychological distress have been understudied, despite the large amount of research on stress and burnout in other professions.

Factors associated with teachers' mental health should continue to be explored in the field of occupational medicine, particularly in low-income countries. Work conditions of rural-based teachers need to be improved to encourage them to remain in these areas.

KEY MESSAGES

1. Secondary school teachers in rural areas are at a higher risk of psychological stress than those in urban areas.
2. Poor infrastructure, limited staffing, low wages and an impoverished school environment may contribute to stress among teachers in rural schools.
3. Work conditions of rural-based teachers need to be improved to encourage them to remain in these areas.

DECLARATION

The authors declare that this is their work; all the sources used in this paper have been duly acknowledged and there are no conflicts of interest.

AUTHOR CONTRIBUTIONS

Conception and design of the study: AMO, MOB, JA, EO, OP, BA, FO

Data acquisition: AMO, MOB, JA, EO, OP, BA, FO

Data analysis: AMO, MOB, OP, FO

Interpretation of the data: AMO, MOB, OP, FO

Drafting of the paper: AMO, MOB, JA, EO, FO

Critical revision of the paper: AMO, MOB, OP, FO

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