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Quality of Work-Life and Stress Management in a Rural Sample of Primary School Teachers: An Intervention Study

Nneka Vera Ogakwu[1,2] · Moses Onyemaechi Ede[3] · Ifeyinwa F. Manafa[4] · Chinedu Ifedi Okeke[3] · Sebastine Okechukwu Onah[2,5]

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Abstract

Workloads, roles, and demands in rural schools have been shown to be stressful and this appears to affect the quality of work-life of workers compared to urban locations. Consequently, employees in rural areas become vulnerable to mental health problems and psychological disturbances, psychologists are underrepresented. To date, there is little or no literature on the roles of rural community-based psychologists that may primarily engage in clinical and non-clinical services in Nigeria. With this in mind, we studied the effect of a rational emotive occupational health intervention on the quality of work-life and stress management among primary school teachers in rural community schools in Nigeria. To achieve this, we adopted a blinded and randomized control design study where 101 rural primary schoolteachers were recruited and assigned to intervention and control groups. Those in the intervention group received a 12-session programme while the comparison group received conventional counselling. Two self-report measures were utilized in assessing the participants using the quality of work-life scale and occupational stress index. Data collected were analyzed using MANOVA analysis. The MANOVA analysis results showed the improved perception of quality of work-life and stress management that were due to rational emotive occupational health intervention. Therefore, the study recommended that there should more efforts by helping professionals to integrate REBT into workforce and workplace programmes.

Keywords Rational emotive occupational health coaching · REBT · Quality of work-life · Stress management · Rural school psychologists, Primary schoolteachers

✉ Sebastine Okechukwu Onah
sebastian.onah@unn.edu.ng

Extended author information available on the last page of the article

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Introduction

The condition of work in rural settings in developing countries like Nigeria is worrisome and discouraging (Oloruntoyin, 2011). Recently a growing interest has been expressed by a good number of Nigerian scholars regarding the wellbeing and satisfaction of workers in the work environment (Tamunomiebi, 2018). Rural Nigerian schools have been demonstrated to have higher stressful workloads, duties, and demands than metropolitan schools (Ogakwu et al., 2022). As a result, primary school teachers in rural locations are more vulnerable to hazardous situations, resulting in a workforce underrepresentation (Ede et al., 2022a, 2022b, 2022c). Primary school teachers in Nigerian rural workplaces experience poor quality of work life and stressful workloads (Agu et al., 2021), leading to increased hazardous working conditions to an unmanageable level in most rural community-based schools, hurting teachers' well-being (2022b; Boncinelli et al., 2015; Ede et al., 2022a, 2022b, 2022c; Okeke et al., 2022a). Most rural schools currently lack access to roads, have increasingly outdated structures, and lack enough water (Nakpodia, 2011). Consequently, employees seemingly avoid works that are expected to be done in rural settings (Agu et al., 2021). The few teachers in those schools are saddled with so many workloads. The situation has also affected the quality of life and rural development policies in the rural environment (Boncinelli et al., 2015).

Given these reasons, most rural schoolteachers express worry about job dissatisfaction and loss of interest on their part. Thus, most of them erroneously think that they do not have put their best (Nakpodia, 2011). Teachers' perception has changed negatively especially the newly posted ones as they feel that the quality of their work-life is not cared for. These reduced interest and poor work engagement have decreased their expected job outputs leading to ill-motivated unsatisfaction and unproductive (Gardner, 2018). Reports from past studies showed that about 72% of the workers in Nigerian schools experience poor quality of work-life (Omini, 2014).

Currently, the poor quality of life, the teachers' experience seems to be eluding most of their life activities. Considering that they are vulnerable to ill-health, work-family conflicts, a work-life imbalance that could be attributed to poor quality of work-life (Agu et al., 2021), the present researchers, therefore, argued that the teacher population with such non-clinical problems could be helped using a psychological intervention. Some of them have consistently complained about the unbearable quality of work-life and given excess workloads and higher work demands (Mathew, 2016). Despite the fact that there is no independent research on the impact of irrational beliefs on organizational commitment (Shamami et al., 2018), there is a significant relationship between the desire to be better, social and professional ambition, and being easily angered, on the one hand, and quality of work life, on the other (Ayan & Kocacik, 2010). In their study, Markow and Klenke (2005) discovered that personal values have an impact on organizational commitment. And there's a big and positive link between job satisfaction and illogical views (Priyadarshini, 2018). The findings revealed a high amount

of illogical ideas and a poor quality of work life (Mahsa, et al., 2021). High rates of job insecurity are frequently blamed for workers' poor quality of life at work (Olasupo, et al., 2019). When the workloads become uncontrollable and demands are excessive, the teachers feel exhausted and frustrated which could lead to work-related stress.

Stress is a public health issue that seems consistently eating deep into occupational wellbeing. Report demonstrated that there is a high level of work-related stress among teachers in Nigeria (Oniya, 2016). It has been a history that rural schools are known to as single-individual operation with teachers working in "role ambiguity, unsure of their purpose as teachers. This explains that teachers may be doing every job academic setting as school psychologists, social workers, nurse, school counsellor, etc.—or a combination of some of these (Canales et al., 2008). In rural community-based schools, teachers face conflicting workloads and role complexity which lead to fatigue (Starr & White, 2008). When they are facing such demands, they battle with psychological capitals to achieve academic demands, social expectations, and emotional requirements of learners and their immediate family members (Abenavoli et al., 2013). Consequently, the teachers and the official roles assigned to them mighty be adversely affected (Kauffman, 2018). Besides this, a past study stated that the same teachers are expected to give attention to other social-emotional responsibilities (Roeser et al., 2013). The volume of work-related stress put upon teachers is growing (Lavigne, 2014). Such higher role expectations cause serious harmful effects upon teachers' productivity and objectives (Klassen, 2010) as it can lead to depersonalization, work-family conflict, and psychological exhaustion (Klassen, 2010; McTernan et al., 2013). Despite these harmful effects of stress on rural schoolteachers' wellbeing, research that targets such a population still lacking. Besides issues related to stress in rural schools, reports showed that rural education issues have not been enough attention in terms of research (Arnold et al., 2005). Highlighting this, literature argued that for several decades teachers in rural settings have been abandoned and treated as the minority (Azano & Stewart, 2015). Therefore, to cater to their professional and personal development, there is an urgent need for empirical studies that could address such multifaceted detrimental psychological, social, and professional problems in rural communities (Shen et al., 2015). In recent times, studies on rural education have been reported to have been overlooked by current researchers (Chandler, 2014).

A stressful work environment has a strong positive link to poor work-life quality (Schaufeli & Van Dierendnock, 1994). It is important to highlight that bad work-life quality can lead to increased stress, increased job irresponsibility, poor coworker relationships, and low productivity. As a result, in order to save the educational sector from further quagmire, the quality of work life of school employees and their degree of stress management should be improved (Agu et al., 2021).

One of the greatest occupational health tropical challenges in Nigeria is stress (Onawumi et al., 2016; Ugwuja, 2009). According to other Nigerian studies, workers in Nigeria are extremely facing a higher workload and demands (Douglas & Nkporbu, 2017; Ofoegbu & Nwadiani, 2006. The present situation is becoming unbearable (Nwokeoma et al., 2019), making quality of work life to be unsafe, to the point where many of them appear frustrated (Ogba et al., 2019; Onasoga et al.,

2013). Approximately 85% of Nigeria's public civil servants are currently enduring psychological and occupational stress (Nwokeoma et al., 2019; Ugwuja, 2009). Besides Nigeria, past studies have reported that stress has harmful effects on workers' life and productivity (Douglas & Nkporbu, 2017) in industrialized and developing countries, such as Japan (Segal, 2000), the United States (World Federation for Mental Health, 2017), Sweden (Holmgren, et al., 2009), and Togo (Fapohunda, 2012). Many other countries are also involved but cannot be listed in this study.

As a result, health and psychological based professionals must work to improve people's quality of life (Mahsa et al., 2021). Furthermore, psychological well-being and therapies will play a significant role in lowering illogical beliefs and improving patients' quality of life (Valiente, 2019). It is important to look for effective interventions to help teachers in rural locations, changing their negative perceptions about the condition of services, health, and family wellness. To this end, the present suggests that rational emotive interventions could be very resourceful in doing this. This is considered possible as substantial evidence have shown that the application of the school-based rational emotive approach is effective in educational settings (e.g. Abiogu et al., 2021a, 2021b; Mahfara, et al., 2014; Vernon & Bernard, 2019). In fact, humanistic education, educational psychology, and education, in general, have the goal of assisting people in leading happier, more successful, self-actualizing, and more creative lives, much as the goal of humanistic psychology (Nucci, 2002). Studies have provided that Rational Emotive Education describes stress-creating and stress-reducing attitudes and thoughts for teachers (Bernard, 1990, 2000; Nucci, 2002) that emanates from four different dimensions- Being Evaluated, Difficult People, Organizational Management, and Frustrating Work Tasks. Being Evaluated includes public evaluation of teachers by students, parents, colleagues and administrators. Difficult People This includes noisy schoolchildrens, children with special needs, coworkers who are criticized for being unsupportive, negative, and incompetent, and administrators who are criticized for being callous, out-of-touch, and incompetent, among other things. Organizational Management includes those that develop and/or carry out standards for professional teaching, working environment, and staff as well as standards for curriculum, assessment, student learning, and teaching. "Frustrating Work Tasks" includes workload and time pressures. Bernard discusses common stressful circumstances that teachers encounter that fit into each of these categories. He follows up on each point with illustrations of the more typical responses to the attitudes and thoughts that cause stress as well as, ultimately, to the stressful circumstances. Bernard provides illustrations of the attitudes and thoughts that lead to these stress reactions within the context of Ellis' work before offering rational emotive education, attitudes, and thoughts that can help teachers cope with stress. We argue that one of the stress-reducing rational emotive education is psychological interventions is rational emotive occupational health intervention considering that its school-based programme.

Rational emotive occupational health intervention (Ogbuanya et al., 2017) is an occupational health approach drafted from rational emotive behavior therapy (Ellis, 1955). Rational emotive occupational health intervention (REOHI) seeks to change negative perceptions associated with occupational demands, workloads, work conflict, and interpersonal issues in workplaces. REOHI states that the working

condition is not responsible for psychological disturbances but irrational beliefs an employee has about it. Its assumption is that an employee may feel dissatisfied about work demands yet he/she can function effectively. Thus, working conditions (A = Activating event) is not the cause of poor quality of schoolwork and stress among workers rather are caused by negative interpretation or irrational assumption (B = Belief systems). Hence, if workers build more on misrepresentation of reality or misinterpret working conditions, it could lead them to psychosocial problems and occupational maladjustment (NC = Negative Consequences). If not treated by therapists or counsellors (D = Disputation), it could deteriorate to severity level. Applying rational-emotive techniques could alter the construed irrational beliefs (e.g., awfulizing) that is causing negative behavioural and emotional responses such as frustration (Amoke et al., 2021; Ede et al., 2021; Egbe et al., 2022; Ugwuanyi et al., 2022).

Given these reasons, we suggest that teachers in rural schools are facing a high degree of dissatisfaction, poor quality of work-life, and psychological and physical exhaustion due to irrational thinking. To ascertain if this guess is plausible or not, we tested the efficacy of rational-emotive occupational health intervention in improving the quality of work-life and stress management in rural community-based schoolteachers. In view of this, we hypothesized that the quality of work-life and stress management of rural community-based schoolteachers exposed to the occupational health intervention will significantly improve when compared to those in the control group at time 2, and time 3.

Methods

Ethical Validity and Informed Consent Procedure

Following the ethical consideration as enshrined in American Psychological Association, the researchers obtained approval to conduct this study by University of Nigeria through the Faculty of Education Research Ethics Committee. Also, headteachers in rural schools approved this research for us to work with their workers (teachers). The present researchers received informed consent notices from all the participants. It was also made public that any participant that wished to withdraw was free to do so. The researchers also assured the participants of their rights and privacy protection.

Participants

Representatives in this study were 101 participants who were teachers in rural community schools. These were primary school teachers newly posted and relocated to remote areas. The power of the sample was ascertained using Gpower 3.1 software (Faul et al., 2007). Conducting the GPower analysis the researchers were guided by the study hypotheses, selection of a distribution-based approach (e.g., F tests) using the "test family" drop-down menu and selection of the posthoc power analysis method, and finally the calculation button. Following the above steps, the sample

power was 101 participants. Using the Gpower software the estimated effect size was 0.40 with an alpha (α) = 0.05 and power = 0.75. We predicted a 101 sample size for between-group comparison. Given the projected sample size of 101 which was adequate power (> 75%) for this study.

More details about the participants' socio-demographic information are presented in Table 2. Before the above number of participants were selected and eligible, certain criteria were considered as parts of the inclusion criteria. Among these are, a teacher must be a registered professional member, there must be an indication that the teacher is experiencing poor quality of work-life and occupational stress, such identified teacher must give assent, and must either be newly posted or relocated to rural schools. On the other hand, participants who did not meet up with stated inclusion conditions were excluded and those who had severe clinical problems, and those that are undergoing counseling treatment. At the end of this, 101 teachers were chosen as participants.

Measures

Quality of School Work Life Scale (QSWLS—Ilgan et al., 2014) is a 30-item self-report scale that assesses the quality of work life of people. Sample items for the instrument include (a) My school has satisfactory working conditions; (b) I do not have the privilege to make decisions about my work in school; (c) The salary I get negatively affects my productivity at work; (d) I do not think the salary I get is enough for what I do for work, etc. The scale contains 5 response options of A Great Deal = 5, Much = 4, Somewhat = 3, Little = 2, and Never = 1. Scoring high indicates a high level of quality of work life and vis-à-vis. The scale has two sub-scales of Human Relationship among Employees (HRE—0.59) and Administrative Support and Human Development (ASHD—0.87) with overall reliability coefficient of 0.88. Past study has also confirmed the reliability and validity of the scale using public school workers (Akram et al., 2017). In another study conducted in Nigeria on Nigerian school workers, it was demonstrated to be valid and reliable (Agu et al., 2021).

Stress level was measured using Occupational Stress Index (OSI) with 46items developed by Srivastava and Singh (1981). The OSI has 12 dimensions of role overload (RO-6items) role ambiguity (RA-4items), role conflict (RC-5items), unreasonable group and political pressures (UGPP-4items), responsibility for persons (RP-3items), under participation (UP-4items), powerlessness (P-3items), poor peer relations (PPR-4items), intrinsic impoverishment (II-4items), low status (LS-3items), strenuous working conditions (SWC-4items) and unprofitability (U-2items). Sample of the items include i) I have to do a lot of work in this job; ii) My assignments are of monotonous nature; ii) I do my work under tense circumstances, etc. The OSI was scored on a 5-point scale: 1 = Strongly Disagree (SDA) 2 = Disagree (DA) 3 = Uncertain (U) 4 = Agree (A) 5 = Strongly Agree (SA). On the other hand, the negatively worded items were scored inversely. Different studies have reported the reliability of the instrument, for example, 0.94 (Srivastava & Singh, 1981) and 0.90 (Suleman et al., 2018). Ogba et al (2019) reported that the instrument is reliable

and valid (α = 0.91) in the Nigerian context. In this study, a reliability coefficient of 0.94 was computed using the Cronbach Alpha coefficient method.

Procedure

During this recruitment process, we employed a double-blind method, where participants were not privy to the details related to exercise. This is because we crafted cut-out cards that had two phases. One phase includes cards marked with "TG" meaning treatment group and the other was marked "CG" meaning control group. At this point, they were assessed to ascertain the baseline information (Time 1) about the conditions/problems using measures (QWLS and OSI). Also, there were set criteria for each participant to be eligible to participate in this study. The inclusion criteria include (a) must be a registered and licensed teacher, (b) must have been screened with QWLS and OSI, (c) must be working within the geographical scope of this study, (d) there must be willing to participate. Of 101 teachers who were recruited out of all the 127 teachers that were initially approached were assigned to the treatment group (50 participants) and control group (51 participants) respectively. More details about the assignment of subjects are represented in Fig. 1) below for further reference.

The eligible participants received intervention from rational emotive occupational health coaches. Coaches have utilized a treatment package titled rational emotive occupational health coaching programme. The participants in the comparison group had access to the treatment as usual. A conventional counseling activity was carried out on the control group just to get them involved in the programme. The coaching period lasted for 12 weeks with 12 meetings. Below is the summary of the sessions.

As the coaching was going on, the participants narrated their experiences, and challenges in their workplaces located in rural environments. Specifically, the participants highlighted why they feel exhausted as teachers in rural schools. Immediately after the intervention, the participants in both groups were reassessed (Time 2) to know if there was a positive treatment change. Five weeks later, the participants received a third assessment (Time 3).

Summary of the Intervention

This group-based intervention summary was adapted from past studies that have utilized the rational-emotive occupational health coaching (e.g., Agu et al., 2021; Ede et al., 2021; Igbokwe et al., 2019; Ogakwu et al., 2023a; Ogbuanya et al., 2017). Kindly see Table 1 for more details on session activities, objectives, techniques, and duration.

The Therapist

The intervention was conducted by three therapists with a basic orientation in counselling psychology. They have barely 6 years of rational-emotive therapy practice experience. They have obtained PhDs in counselling psychology.

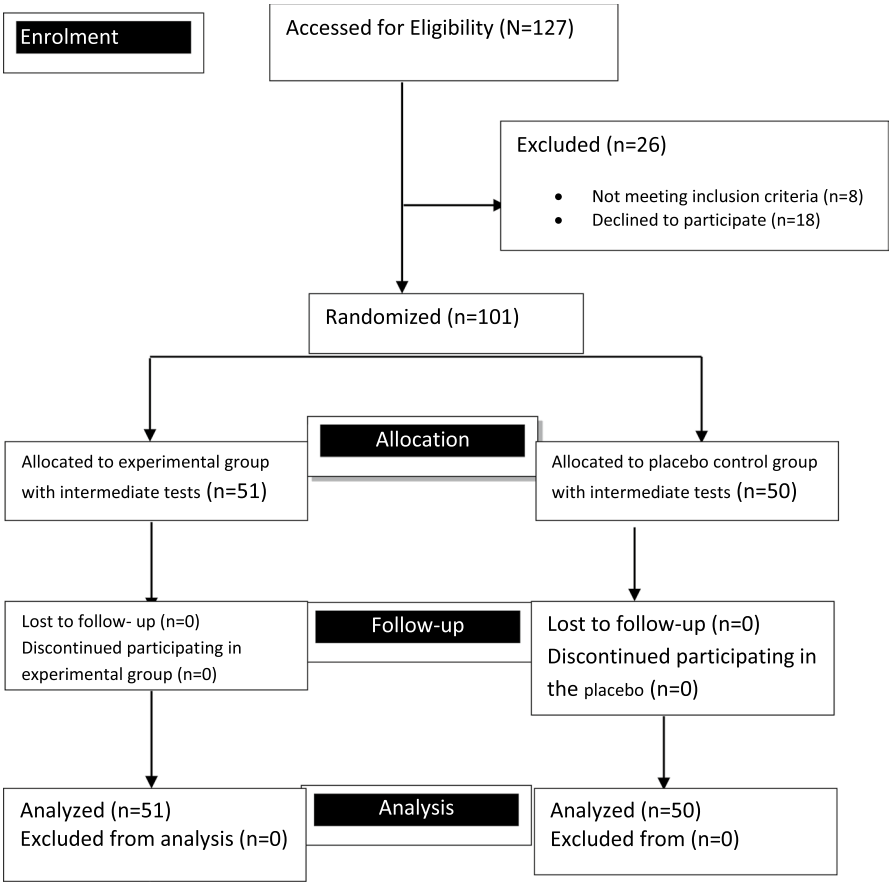

Fig. 1 Consort flow diagram for participants' allocation

Control Condition

A conventional counselling activity was carried out on the control group just to get them involved in the programme. This was carried out by school-based counselors in the various schools used. The counselors made use of a counselling package that lasted for the period of 12 sessions and 12 weeks. The package spelled out very clearly the objectives and activities of the counselors starting from day one to the last 12 weeks. During the first counselling session, the counsellors focused on familiarization and building rapport among the participants. The second and third sessions covered the meaning of emotional dysregulation, its causes, and consequences. The fourth, fifth, and sixth sessions addressed risks associated with emotional dysregulation, examples, and the relationship between emotional dysregulation and professionalism. During the seventh, eighth, and ninth sessions, the counsellors focused on how poor regulation of mood leads to sanction, and practical engagement on how

Table 1 Rational emotive occupational health coaching programme

Time frame	Session	Topics	Objectives	Activities	Techniques
2 h	1	Introduction and establishment of rules that guided the sessions	To provide a pleasant psychological environment in which to receive therapy	The therapist introduces the participants according to their names, and other distinguishing characteristics	Cognitive rapport
2 h	2	Stating the objectives	To state the objectives	Addressing the aim and objectives of the sessions. Highlighting the need to participate from the onset of the programme to the end	Interpretation, Restatement, and Mood monitoring
2 h	3	Meaning of quality of work, work stress, and rational emotive behavior therapy	To explain the meaning of quality of work, work stress, and rational emotive behavior therapy	Conceptualisation of the basic terms such as quality of work, work stress, and rational emotive behavior therapy	Mood monitoring
2 h	4	Practice exercises using REBT principles	To engage in practice exercises using REBT principles	Assignment and statement of actions by the group members, their expectations, roles, and obligations were highlighted in line with rational emotive principles	Mood monitoring, Cognitive relaxation
2 h	5	Irrational and rational beliefs	To expose and explaining irrational and rational beliefs	Explaining irrational and rational beliefs, examples, and application	Cognitive disputation Relapse Prevention
2 h	6	Identification of irrational beliefs and relationship with work behaviours	To identify irrational beliefs and work behaviours	Teaching how irrational beliefs detrimentally affect work behaviours Give examples. Analyze the examples using demandingness, awfulizing, low frustration tolerance, and poor evaluation. Assignment	Cognitive disputation, Motivational enhancement and interviewing

Table 1 (continued)

Time frame	Session	Topics	Objectives	Activities	Techniques
2 h	7	Stress in workplace and relationship with negative perceptions	To uncover how Stress in workplace and relationship with negative perceptions	Relating irrational beliefs with unhealthy reactions and feelings. Stress in workplace and relationship with negative perceptions. The therapist and participants list possible sources of irrational beliefs in work environment	Mood monitoring Home exercise Rational-emotive imagery skills
2 h	8	Consequences of negative perception	To expose how negative perception leads to poor quality of work-life and stress	Teaching how negative perception and behavior leads to poor quality of work-life and poor stress management practice. Practice exercises	Home exercise Biofeedback
2 h	9	Perceptions of poor quality of work-life and poor stress	To narrate individual perceptions of poor quality of work-life and poor stress	Identification of irrational beliefs and redefining participants' perceptions of poor quality of work-life and poor stress management practices	Cognitive disputation
2 h	10	Applicability of rational-behaviour techniques	To understand how to apply rational-behaviour techniques	How to apply rational-behaviour techniques in changing and altering irrational beliefs and behaviour related to poor quality of work-life and poor stress management practices	Cognitive disputation, Behavioural disputation,
2 h	11	Applicability of rational-behaviour techniques continued	To teach how to apply rational-behaviour techniques continued	Teaching how to apply rational beliefs in work settings. The importance of integrating poor quality of work-life and stress management to overcome the work stress	Relapse Prevention Problem solving skill unconditional self-acceptance
2 h	12	Revision and termination	To Revise and terminate the session	Revision and termination of the sessions	Relapse Prevention Closure

to monitor emotion, and experiences respectively. For the tenth and eleventh sessions, perspective of emotional dysregulation and professionalism and assessment performance. Take-home assignments after every contact with the counselors. The method of operation was the purely conventional counseling-oriented approach.

Integrity Checks

The researchers assigned additional roles to two of the research team to ensure that coaching integrity is protected. They were regarded as external assessors who monitored the adequate implementation of the intervention manual. This was done because Coaches could ignore some important aspects of the manual. The team was assigned to monitor the delivery process of the treatment and participants' reactions during the sessions, how participants complied with home exercises, and how they asked questions.

Research Design and Data Analysis

This is a group-randomized trial design. Group randomized controlled trials are used to assess treatments that are given to groups, have an impact on the physical or social environment, or can't be given to individuals (Murray et al., 2004). Complete groups are randomized to treatment conditions in group randomized trials, and all participants within the same group get the same treatment. For policy reasons and to reduce contamination, such designs are frequently selected over individual randomization (Moerbeek, 2005). The group randomized experiment allows us to get outcomes at both the group and individual levels (Garrison et al., 2013). This permits the randomization of participants into different groups (see Ede et al.).

The data collected before the intervention, after the intervention, and follow-up stage were subjected to statistical analysis using SPSS version 18. A MANOVA statistic at a 0.05 probability level was used for data analysis. Partial eta Square was used to report the effect size of the intervention on the dependent measure. Sidak was also used to do posthoc analysis. Following data screening, Mauchly's test was used to conduct an assumption violation test on the data. When the sphericity assumption is broken, according to Field (2008), the data should be interpreted using the Huynh–Feldt correction or the Greenhouse–Geisser correction (if the epsilon value is greater than or equal to 0.75). The effectiveness of the intervention on the outcome measures at follow-up was further determined using the univariate test.

Results

Table 2 shows that there is a significant difference in terms of participants' gender ($\chi^2 = 28.844$, $p = 0.001$), years of experience ($\chi^2 = 0.118$, $p = 0.943$), State of origin ($\chi^2 = 1.109$, $p = 0.953$), and educational qualification ($\chi^2 = 7.125$, $p = 0.028$).

Table 3 shows the mean scores of the participants in the experimental group ($M = 71.67$, $SD = 10.27$) and the control group ($M = 70.58$, $SD = 10.79$) at the pretest

Table 2 Sociodemographic information of the participants

	Groups				χ^2	Sig.
	REOHCP		TAU			
	n	%	N	%		
Gender						
Male	7	13.7	33	66.0%	28.844[a]	0.001
Female	44	86.3	17	34.0%		
Years of experience						
5 Years & below	13	25.5	14	28.0%	0.118[a]	0.943
6-10Years	23	45.1	21	42.0%		
11 & above	15	29.4	15	30.0%		
State of origin						
Enugu	11	21.6	9	18.0%	1.109[a]	0.953
Abia	4	7.8	7	14.0%		
Benue	10	19.6	9	18.0%		
Kogi	8	15.7	8	16.0%		
Anambra	7	13.7	7	14.0%		
Others	11	21.6	10	20.0%		
Educational qualification						
Ph.D	17	33.3	6	12.0%	7.125[a]	0.028
Master's Degree	20	39.2	22	44.0%		
Bachelor's degree	14	27.5	22	44.0%		

REOHCP Rational emotive occupational health coaching programme, *TAU* Treatment as usual; χ^2 = Chi Square; *Sig.* Significance

Table 3 Descriptive statistics for participants as measured by QSWLS and OSI

Time	Group	QSWLS		OSI	
		Mean	*SD*	Mean	*SD*
Time 1	REOHI	71.67	10.27	187.82	12.18
	Control	70.58	10.79	181.88	7.55
Time 2	REOHI	116.47	10.44	152.14	8.73
	Control	102.54	6.756	158.36	8.27
Time 3	REOHI	126.71	10.59	136.35	7.43
	Control	111.38	6.07	143.04	7.16

OSI Occupational Stress Index, *QSWLS* Quality of School Work Life Scale, *SD Standard Deviation*

stage as measured by QSWLS. This indicates that both groups had a high level of poor quality of work life. However, at the posttest and follow-up measures, the total mean score of the participants in the experimental group ($M = 116.47$, $SD = 10.45$) and $M = 102.54$, $SD = 6.76$) decreased better than those of the control group ($M = 126.71$, $SD = 10.59$) and $M = 111.38$, $SD = 6.07$) as measured by QSWLS.

Table 4 MANOVA results for primary school teachers as measured by QSWLS (group, time, and interaction effects)

Source	Type III Sum of Squares	df	Mean Square	*F*	*P*	η_p^2
Groups	3799.947	1, 97	3799.947	23.085	< .001	.192
Gender	84.884	1, 97	84.884	.516	.474	.005
Groups * Gender	213.658	1, 97	213.658	1.298	.257	.013
Time	75,931.134	2, 194	37,965.567	776.604	< .001	.889
Time * Groups	1051.374	2, 194	525.687	10.753	< .001	.100

df Degree freedom, *p* probability value, η_p^2 Partial Eta Square (effect size)

Table 3 reveals the mean scores of participants in the experimental group ($M = 187.82$, $SD = 12.18$) and the control group ($M = 181.88$, $SD = 7.55$) at the pretest stage as measured by OSI. This indicates that both groups had a high level of occupational stress. At the posttest and follow-up measures, the mean occupational stress scores of the participants in the experimental group ($M = 152.14$, $SD = 8.73$) and $M = 158.36$, $SD = 8.27$) decreased better than those of the control group ($M = 136.35$, $SD = 7.43$) and $M = 143.04$, $SD = 7.16$) as measured by OSI (Table 4).

Given the sphericity assumption was not violated based on Mauchly's test [$x^2(2) = 23.468$, $p < 0.001$, $\varepsilon = 0.822$], we employed the sphericity to interpret the research data and the study results suggest there was a significant effect of group on quality of schoolwork life scores as measured with the QSWLS, F (1, 97) = 23.085, $p < 0.01$, $\eta^2_p = 0.192$. The results also indicate that primary school teachers' quality of schoolwork life scores were not influenced significantly by group and gender interaction effect, F (1, 97) = 1.298, $p = 0.26$, $\eta^2_p = 0.013$. The results also suggest a statistically significant effect of time on the quality of schoolwork life of primary school teachers, F (2, 194) = 776.604, $p = < 0.01$, $\eta^2_p = 0.889$. The results also indicate that primary school teachers' quality of schoolwork life scores were influenced significantly by group and time interaction effect, F (2, 194) = 10.753, $p < 0.01$, $\eta^2_p = 0.100$. The follow-up result revealed a significant effect of the REOHI on primary school teachers' quality of school work life as measured by QSWLS at follow-up, $F(1,97) = 36.686$, $p < 0.01$, $\eta^2_p = 0.27$.

See Figs. 2 and 3 below.

Since the sphericity assumption was violated based on Mauchly's test [$x^2(2) = 60.370$, $p < 0.001$, $\varepsilon = 0.710$], we employed the Huynh–Feldt to interpret the research data and the study results in Table 5 show that there was a significant effect of group on occupational stress scores as measured with the OSI, F (1, 97) = 19.699, $p < 0.01$, $\eta^2_p = 0.17$. The results also indicate that primary school teachers' occupational stress scores were influenced significantly by group and gender interaction effect, F (1, 97) = 5.831, $p = 0.02$, $\eta^2_p = 0.057$. The results also suggest a statistically significant effect of time on the occupational stress of primary school teachers, F (1.419, 137.650) = 604.160, $p = < 0.01$, $\eta^2_p = 0.86$. The results also indicate that primary school teachers' occupational stress scores were influenced significantly by group and time interaction effect, F (1.419, 137.650) = 7.512, $p = 0.01$, $\eta^2_p = 0.072$.

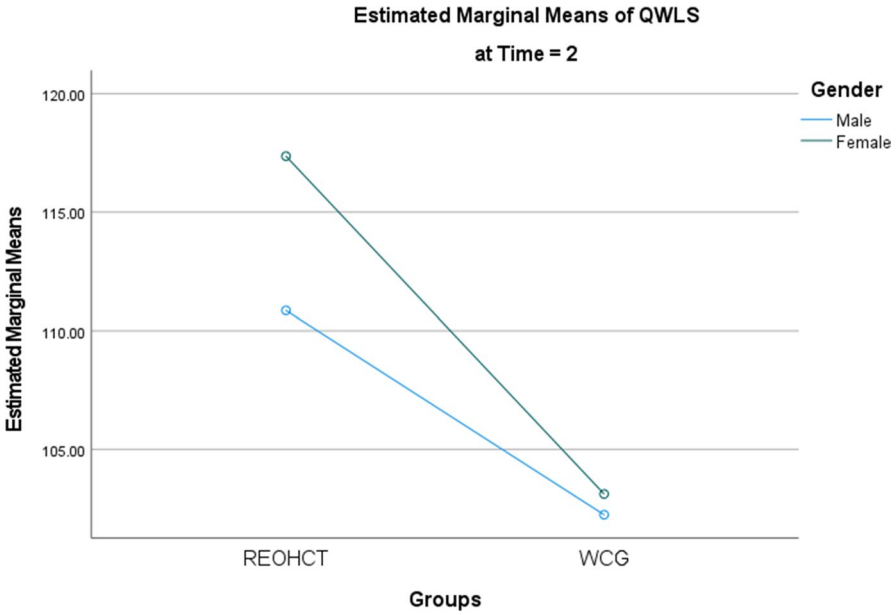

Fig. 2 Further illustrated the interaction effect of group on gender as measured by QSWLS

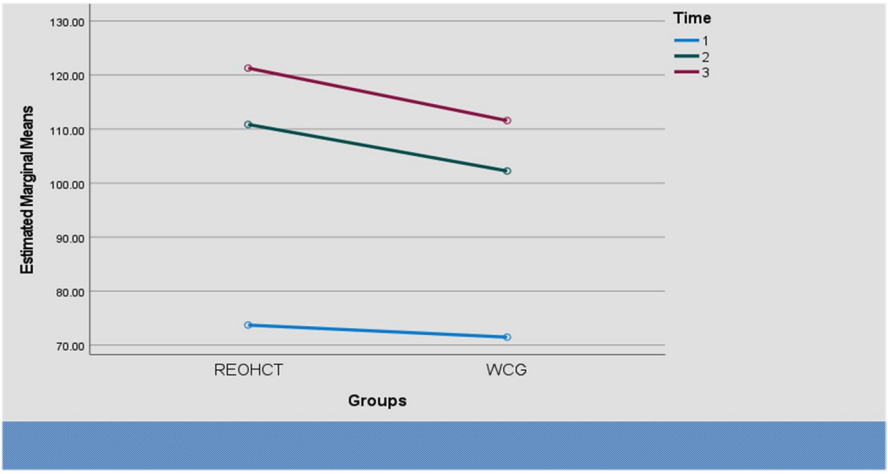

Fig. 3 Further illustrated the interaction effect of group on time as measured by QSWLS

The follow-up result revealed a significant effect of the REOHI on primary school teachers' occupational stress as measured by OSI at follow-up, $F(1,97) = 26.097$, $p < 0.001$, $\eta^2_p = 0.212$.

Kindly see Figs. 4 and 5 below.

Sidak's post hoc analysis in Table 6 for Group x Time interaction effects shows that at Time 1, primary school teachers in the REOHI intervention group had

Table 5 MANOVA results for primary school teachers as measured by OSI (group, time, and interaction effects)

Source	Type III Sum of Squares	df	Mean Square	*F*	*P*	η_p^2
Groups	1903.781	1, 97	1903.781	19.699	< .001	.169
Gender	1915.900	1, 97	1915.900	19.825	< .001	.170
Groups * Gender	563.503	1, 97	563.503	5.831	.018	.057
Time	64,743.609	1.419, 137.650	45,623.973	604.160	< .001	.862
Time * Groups	804.955	1.419, 137.650	567.241	7.512	.003	.072

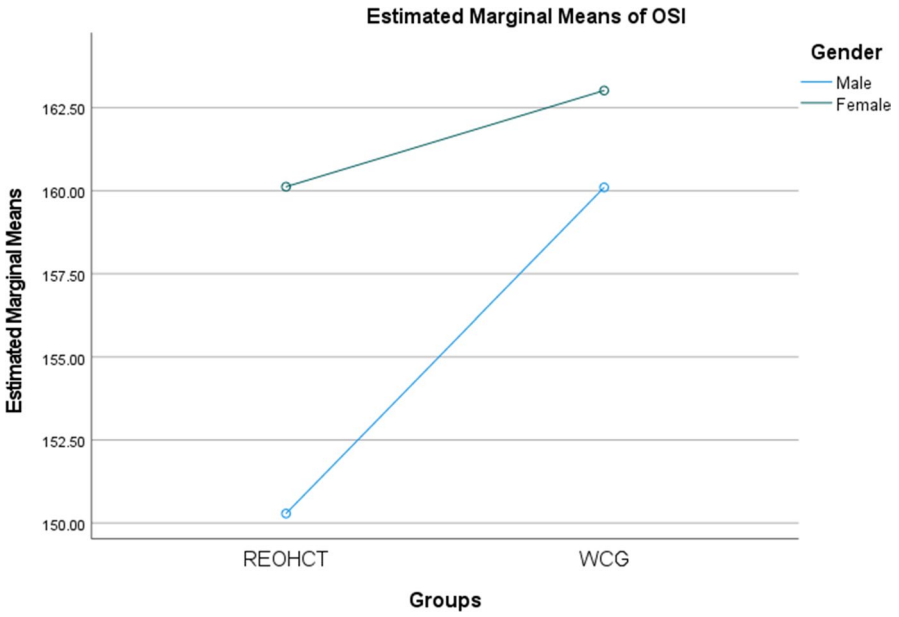

Fig. 4 Demonstrated the interaction effect of group on gender as measured by OSI

significantly similar QSWLS scores with the control group (*Mean difference* = 2.37, standard error = 2.67, $p = 0.38$, 95%CI: -2.926, 7.673). On the contrary, primary school teachers in the REOHI intervention group had significantly improved in the QSWLS scores at Time 2 when compared to the control group (*Mean difference* = 11.430, standard error = 2.21, $p < 0.01$, 95%CI: 7.050, 15.811). Additionally, at Time 3 the primary school teachers in the REOHI intervention group still show significantly higher QSWLS scores than those in the control group (*Mean difference* = 13.139, standard error = 2.17, $p < 0.01$, 95%CI: 8.834, 17.444).

Sidak post hoc analysis in Table 7 for Group x Gender x Time interaction effects shows that at Time 1, primary school male and female teachers in the REOHI intervention group had significantly similar QSWLS scores with the control group (*Mean difference* = 2.23, standard error = 4.40, $p = 0.61$, −6.510,

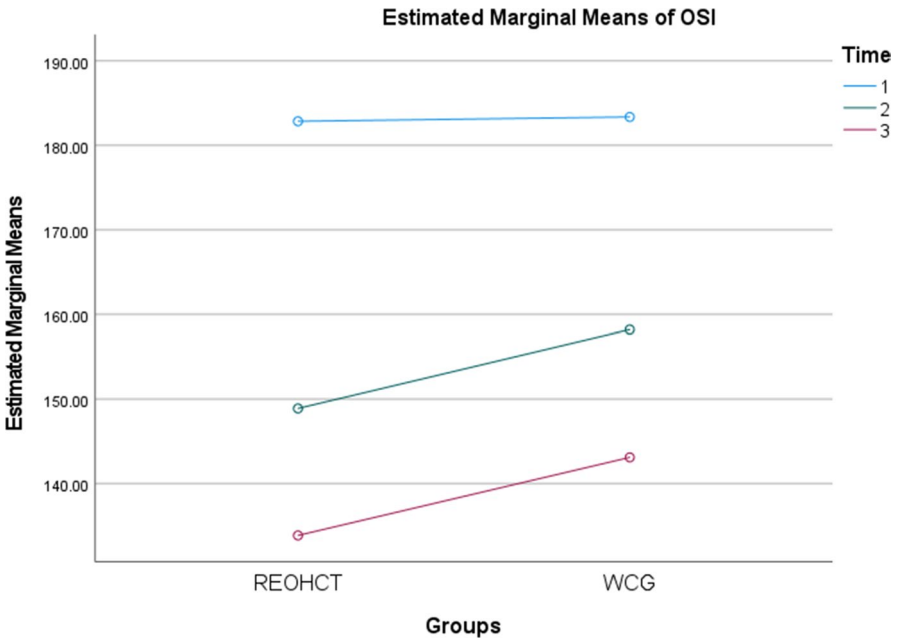

Fig. 5 Demonstrated the interaction effect of group on time as measured by OSI

Table 6 Post hoc analyses for the QSWLS scores based on Group x Time interaction effects

Time	(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig.[b]	95% CI[b]
1	REOHCT	WCG	2.373	2.670	.376	−2.926, 7.673
	WCG	REOHCT	−2.373	2.670	.376	−7.673, 2.926
2	REOHCT	WCG	11.430*	2.207	< .001	7.050, 15.811
	WCG	REOHCT	−11.430*	2.207	< .001	−15.811, −7.050
3	REOHCT	WCG	13.139*	2.169	< .001	8.834, 17.444
	WCG	REOHCT	−13.139*	2.169	< .001	−17.444, −8.834

Based on estimated marginal means

[b]Adjustment for multiple comparisons: Sidak

*The mean difference is significant at the .05 level

10.969; *Mean difference* = 2.23, standard error = 3.022, $p = 0.407$, 95%CI: -3.480, 8.515). On the contrary, primary school male and female teachers in the REOHI intervention group had significantly improved the QSWLS scores at Time 2 when compared to the control group (*Mean difference* = 8.615, standard error = 3.64, $p = 0.02$, 95%CI: 1.391, 15.839; *Mean difference* = 14.246, standard error = 2.498, $p = < 0.001$, 95%CI: 9.289, 19.203). Additionally, at Time 3 the primary school male and female teachers in the REOHI intervention group still show significantly higher QSWLS scores than those in the control group (*Mean difference* = 9.710,

Table 7 Post hoc analyses for the QSWLS scores based on Group x Gender x Time interaction effects

Gender	Time	(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig.[b]	95% CI[b]
Male	1	REOHCT	WCG	2.229	4.403	.614	−6.510, 10.969
		WCG	REOHCT	−2.229	4.403	.614	−10.969, 6.510
	2	REOHCT	WCG	8.615*	3.640	.020	1.391, 15.839
		WCG	REOHCT	−8.615*	3.640	.020	−15.839, −1.391
	3	REOHCT	WCG	9.710*	3.577	.008	2.610, 16.810
		WCG	REOHCT	−9.710*	3.577	.008	−16.810, −2.610
Female	1	REOHCT	WCG	2.517	3.022	.407	−3.480, 8.515
		WCG	REOHCT	−2.517	3.022	.407	−8.515, 3.480
	2	REOHCT	WCG	14.246*	2.498	< .001	9.289, 19.203
		WCG	REOHCT	−14.246*	2.498	< .001	−19.203, −9.289
	3	REOHCT	WCG	16.568*	2.455	< .001	11.696, 21.441
		WCG	REOHCT	−16.568*	2.455	< .001	21.441, 11.696

Based on estimated marginal means

[b]Adjustment for multiple comparisons: Sidak

*The mean difference is significant at the .05 level

Table 8 Post hoc analyses for the OSI scores based on Group x Time interaction effects

Time	(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig.[b]	95% CI
1	REOHCT	WCG	−.511	2.308	.825	−5.092, 4.069
	WCG	REOHCT	.511	2.308	.825	−4.069, 5.092
2	REOHCT	WCG	−9.320*	2.093	< .001	−13.473, −5.166
	WCG	REOHCT	9.320*	2.093	< .001	5.166, 13.473
3	REOHCT	WCG	−9.240*	1.809	< .001	−12.829, −5.650
	WCG	REOHCT	9.240*	1.809	< .001	5.650, 12.829

Based on estimated marginal means

[b]Adjustment for multiple comparisons: Sidak

*The mean difference is significant at the .05 level

standard error = 3.58, $p = 0.01$, 95%CI: 2.610, 16.810; *Mean difference* = 16.568, standard error = 2.455, $p = < 0.001$, 95%CI: 11.696, 21.441).

Sidak post hoc analysis in Table 8 for Group x Time interaction effects shows that at Time 1, primary school teachers in the REOHI intervention group had significantly similar OSI scores to the control group (*Mean difference* = −0.511, standard error = 2.308, $p = 0.83$, 95%CI: −5.092, 4.069). On the contrary, primary school teachers in the REOHI intervention group significantly reduced the OSI scores at Time 2 when compared to the control group (*Mean difference* = −9.320, standard error = 2.093, $p < 0.01$, 95%CI: −13.473, −5.166). Additionally, at Time 3 the primary school teachers in the REOHI intervention group still show

Table 9 Post hoc analyses for the OSI scores based on Group x Gender x Time interaction effects

Gender	Time	(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig.[b]	95% CI
Male	1	REOHCT	WCG	−2.727	3.806	.475	−10.281, 4.826
		WCG	REOHCT	2.727	3.806	.475	−4.826, 10.281
	2	REOHCT	WCG	−14.238*	3.451	< .001	−21.088, −7.388
		WCG	REOHCT	14.238*	3.451	< .001	7.388, 21.088
	3	REOHCT	WCG	−12.481*	2.983	< .001	−18.400, −6.561
		WCG	REOHCT	12.481*	2.983	< .001	6.561, 18.400
Female	1	REOHCT	WCG	1.705	2.612	.516	−3.479, 6.888
		WCG	REOHCT	−1.705	2.612	.516	−6.888, 3.479
	2	REOHCT	WCG	−4.401	2.368	.066	−9.102, .300
		WCG	REOHCT	4.401	2.368	.066	−.300, 9.102
	3	REOHCT	WCG	−5.999*	2.047	.004	−10.061, −1.936
		WCG	REOHCT	5.999*	2.047	.004	1.936, 10.061

Based on estimated marginal means

[b]Adjustment for multiple comparisons: Sidak

*The mean difference is significant at the .05 level

significantly lower OSI scores than those in the control group (*Mean difference* = −9.240, standard error = 1.809, $p < 0.01$, 95%CI: −12.829, −5.650).

Sidak post hoc analysis in Table 9 for Group x Gender x Time interaction effects shows that at Time 1, primary school male and female teachers in the REOHI intervention group had significantly similar OSI scores to the control group (*Mean difference* = −2.727, standard error = 3.806, $p = 0.48$, 95%CI: −10.281, 4.826; *Mean difference* = 1.705, standard error = 2.612, $p = 0.52$, 95%CI: −3.479, 6.888). On the contrary, primary school male and female teachers in the REOHI intervention group had significantly reduced the OSI scores at Time 2 when compared to the control group (*Mean difference* = −14.238, standard error = 3.451, $p < 0.001$, 95%CI: −21.088, −7.388; *Mean difference* = −4.401, standard error = 2.368, $p = 0.07$, 95%CI: −9.102, 0.300). Additionally, at Time 3 the primary school male and female teachers in the REOHI intervention group still show significantly lower OSI scores than those in the control group (*Mean difference* = −12.481, standard error = 2.983, $p < 0.01$, 95%CI: −18.400, −6.561; *Mean difference* = −5.999, standard error = 2.047, $p = 0.01$, 95%CI: −10.061, −1.936).

Discussion

As per the purpose of this study, the finding showed that rational emotive occupational health intervention is beneficial in improving the quality of work-life and occupational stress management of the primary school teachers in rural communities of Enugu State Nigeria. The outcome of the intervention seemed interesting as workers in rural settings could possibly management strategies to ease stress. Understanding how to use REOHI further indicates that the quality of the work-life may

improve. At the pretest level, poor quality of work-life and high degree of stress due to negative perception about the work conditions. As early as 1962, the past study revealed that activation of events is mostly the cause of behavioural and emotional disturbances (Ellis, 1962). Some of these disturbances may include depression, psychological distress, stress, and anxiety (Ellis, 1962). Ellis further stated people with chunks of irrational beliefs about situations could help using re-education (Eliis, 1962). Past studies recommended a rational-emotive approach for cushioning the adverse effects of those psychological disturbances (Ede et al., 2022a, 2022b; Ogbuanya et al., 2017; Ugwoke et al., 2017). The findings of the present study agreed with previous literature that rational emotive behaviour therapy is a promising intervention for catastrophic beliefs, emotional dysfunction, and other related disturbing behaviours (Terjesen & Kurasaki, 2009). In addition to this, another study that employed the same rational-emotive intervention reported a positive outcome in changing negative perceptions of public employees (Roberts, 2017). The findings of the above-cited studies (Ogakwu et al., 2023b; Roberts, 2017; Ogbuanya et al., 2017; Iremeka et al., 2021) were supported by the present study and it is interesting to note that those studies were conducted using workers. Apart from similar results, Clifford (2016) showed that rational-emotive intervention is effective in decreasing unhealthy feelings associated with working conditions. That is to say that rational emotive behavior therapy is therapeutic in occupational health. Also, it means that adopting rational emotive occupational health coaching in the field of occupational health may have strategic and far-reaching implications (Morris, 1993). As it has the potential of changing the direction and building strong occupational morale (Great, 2015).

The results also indicate that primary school teachers' quality of schoolwork life scores were not influenced significantly by group and gender interaction effect. In line with this, a recent finding demonstrated that there is no interaction effect of gender and therapy (Omeje et al., 2022).

The results also indicate that primary school teachers' occupational stress scores were influenced significantly by group and gender interaction effect. This supports a past report that gender influences coping mechanisms and the health effects of stress reactions equally in the outcomes of the stress process, deciding whether a situation will be seen as stressful (Barnett et al., 1987). This indicates that there is a distinct pattern for the sex-specific prevalence rates of numerous mental and physical diseases, and gender is a key factor in determining human health (Verma et al., 2011). It could be inferred that stress and work-related stresses were the only areas where women outperformed males (Matud, 2004). Possibly, the work-family life may contribute to the workloads of female teachers compared to male teachers.

The same position was established by Agu et al. (2021) that suggested the adoption of a rational emotive occupational health approach in a work environment where workers stay out of their homes for some weeks without their families. The author stressed that the intervention could serve as a possible way of helping Nigerian workers to overcome the effects of stress on their occupational outputs. This suggests that if REOHI is adopted in rural community schools, perception of work conditions, quality of work-life, approach to stress, and work delivery approach may change. Considering the unconducive occupational climate in Nigeria, especially

rural environments, the workers in such places could be assisted if exposed to REOHI.

In line with the above claims, Ogbuanya et al. (2017) reported a significant improvement in the perception of job climate of employees who participated in rational emotive occupational health coaching. After exposing the workers to the REOHI just like the current study, the perception changed to a positive one, and interestingly, there is an improvement in the quality of work-life and stress management among teachers. All in all, there have been consistent reports from extant literature on the effectiveness of REOHI in reducing mental health disturbances and improving the wellness of Nigerian populations and beyond.

How the male–female number disproportion may influence the results? In the discussion part nothing is mentioned about gender differnces….

Practice Implications

This study recorded possible implications of REOHI for career counseling, occupational health, and community psychology. As substantial literature (Abiogu et al., 2021a, 2021b; Agah et al., 2020; Amoke et al., 2021; Ifeanyieze et al., 2021) demonstrated positive promising and significant benefits of cognitive-behaviour and rational-emotive techniques in disputing irrational beliefs for quality mental functioning, we argued that experts should adopt it in the course of practice. The experts in the field of career counselling should use it to help people who are at early career age. Career counsellors should use it during career orientation.

Career psychologists can use REOHI to alter negative perceptions about the relationship between work settings and host communities. Some employees have irrational beliefs about the school and community where they work, and these seemed to have increased undesirable behaviours. Therefore, community psychologists should apply REOHI in fostering the quality of school-community decision-making about programmes and school policy implementations. They should also use REOHI to improve the quality of life of community members and school management. It is highly necessary that career psychologists understand the psychosocial, and cultural orientation of rural communities and their developmental plans, values, and beliefs, to understand how psychopathological cases may set in (Ede et al., 2021; Wagenfeld, 1982) and stress (Murray & Kupinsky, 1982). The knowledge of the structure of rural communities could help school psychologists to apply REOHI principles in dealings with clinical and non-clinical cases in rural areas.

Conclusion

The importance of REBT assumptions in helping employees in contemporary workplaces has received serious attention more than ever. Therefore, exploring the benefits is also important to REBT therapists and other related professionals. Research in the field of industrial psychology, occupational health, career counselling, and counselling psychology could be used as channels to advance the usefulness of

REBT in the work environment. As in this study, educational management teams should integrate the REBT-programmes into teachers' institutes or the curriculum for teacher education. The integration is imperative considering the growing rates of organizational deviance, work-related stress, poor quality of work-life, and other devices that expose workers especially teachers to psychosocial work risks. This study suggests that rational emotive occupational health intervention is a powerful occupational health strategy with promising impacts that could help teachers cope with workplace hazards. These impacts include improvement of quality of work-life, reduction of work-related stress, and enhancement of stress management. That is to say that REOHI is a very important intervention in changing negative perceptions of rural schoolteachers about the quality of work-life and stress. Therefore, rational-emotive experts working in rural schools should apply it to helping employees in those schools.

Limitations

The researchers acknowledged that this study did not include a balance test of the demographics of participants. Also, this study was limited to primary school teachers in rural locations. A major limitation of the study is the lack of a measure of participants' irrational thoughts and how this was countered. The subscales of the two instruments were not separately analysed, that is, the results were reported according to the subscales. This study only relied on standard quantitative questionnaires, neglecting important contributions of qualitative responses of the participants regarding other possible scenarios. In addition, there was no measure that ascertain the participants' satisfaction to know if they are satisfied with the treatment or not. The sample selection is obviously a threat to external validity in this study considering that the sample distribution of male and female participants. As this study sampled 7 males and 44 females that participated in the treatment group while 33 males and 17 females in the comparison group. A study's generalizability enhances its external validity, balancing the validity threat (Frankfort-Nachmias & Nachmias, 2008). The gender distribution is inadequate and a similar imbalance was repeated in the educational categorization. However, the research team did not determine the distribution but it was as a result of the randomization procedure.

Strengths/Contributions

This study has contributed to knowledge by bridging the gaps that rural school-based teachers rarely receive psychological intervention. It has also built additional knowledge about the work-life and occupational stress that mostly affects workers in rural schools and how it could be mitigated. The absence of literature describing the therapeutic benefits of occupational health coaching for rural populations is a significant contribution. The benefits were harvested from the theoretical assumptions of rational emotive occupational health coaching and that shows the further contributions of this study to the theory. Providing additional evidential support is a

way of advancing the tenets in rural locations. This intervention has been proven to be successful in changing the erroneous perception attributed to poor work-life and occupational stress in teacher populations. Interestingly, the gap has been addressed in this study.

Future Direction

Based on these weaknesses, we suggest that future studies should incorporate these gaps.

To sustain the impacts of REOHI as revealed in the present study, clinical and non-clinical workers with the orientation of rational emotive behaviour therapy working in workplaces should liaise with the employers of labour to organize orientation programmes to sensitize their staff. The sensitization programme should be anchored on using the REBT principle to build rational organizational behaviour. It may not be limited to orientation; it could be done in form of a seminar or workshop. Besides this, there should be the establishment of REBT institutes in both private and public workplaces. By this, employers could reflect on the relevance of the policy documents of various organisations. Also, researchers should work harder to help people as many people are facing difficult psychological situations as a result of where they are working. Therefore, future research should examine the effectiveness of this strategy in treating other psychological disturbances prevalent in rural locations.

Data Availability The datasets generated and analysed during the current study are available from the corresponding author upon reasonable request.

Declarations

Conflict of interest There is no potential conflict of interest, financially or non-financially, directly or indirectly. related to the work. The Faculty of Education, University of Nigeria, approved this study.

Ethical Approval Approval to conduct this study was given by University of Nigeria through the Faculty of Education Research Ethics Committee. Also, headteachers in rural schools approved this research using their workers.

Informed Consent Written informed consent was granted by the participants.

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Authors and Affiliations

Nneka Vera Ogakwu[1,2] · Moses Onyemaechi Ede[3] · Ifeyinwa F. Manafa[4] · Chinedu Ifedi Okeke[3] · Sebastine Okechukwu Onah[2,5]

[1] Institute for Development Studies, University of Nigeria, Enugu Campus, Nsukka, Nigeria

[2] Department of Educational Foundations, Faculty of Education, University of Nigeria, Nsukka, Nigeria

[3] Department of Educational Foundations, Faculty of Education, University of the Free State, Bloemfontein, South Africa

[4] Department of Educational Foundations, Faculty of Education, Chukwuemeka Odiimegwu Ojukwu University, Igbariam, Anambra State, Nigeria

[5] Department of Sociology and Anthropology, Faculty of Social Sciences, University of Nigeria, Nsukka, Nigeria