



Effects of Occupational Health Intervention on Stress Management Among Female Teachers In Public Schools In Rivers State

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ABSTRACT

In recent times, one of the most heard complaint among adults in our society is about stress. This study investigated the effects of occupational health education intervention on stress management among female public school teachers in Rivers state. The research design employed for the study was a pretest-posttest control group design. The population for the study consisted of 3,461 female public secondary school teachers in Rivers State with a sample size of 400 selected using the multi-stage sampling procedure. The instrument for data collection was a structured test with a reliability coefficient of 0.87. The retrieved copies of the test were coded and analysed with the aid of SPSS using descriptive statistics of mean and standard deviation (SD) as well as eta square statistics to answer the research questions, whereas analysis of covariance (ANCOVA) set at 0.05 alpha level was used to test the null hypotheses. The result of the study showed that, the intervention had a significant effect [$F(1,198)=0.16, P< 0.027$] on stress management strategies among female teachers in public schools in Rivers state. It showed a small effect on physical strategies [$F(1,198) = 0.25, p< 0.05$], cognitive strategies [$F(1,198)=0.25, p<0.018$] and behavioural strategies [$F(1,198)=0.51, P> 0.11$]. It was concluded that occupational health education intervention has a significant effect on the physical, cognitive and behavioural strategies of stress management among female teachers in public Secondary Schools in Rivers State. The study recommended among others that, the Government should build befitting recreational centres at the various secondary schools where both teachers and students can go for relaxation when they are stressed.

Keywords: Stress, Health, Intervention, Female Teachers, Public Schools

INTRODUCTION

In recent times, one of the most heard complaint among adults in our society is about stress. Stress, according to the World Health Organization (WHO) is the reaction people may have when presented with demands and pressures that are not matched to their knowledge and abilities and which thereby challenge their ability to cope and seems to have adverse effects on the health of individuals if it is not properly managed. Stress management techniques such as the cognitive, behavioural, and physiological techniques which aim at reducing levels of arousal and modifying lifestyle factors were adapted for this study. Moderate stress level is inevitable in any profession but prolonged occupational stress can result in deleterious effect on the health of the sufferer hence, must be properly managed among female teachers in public schools, specifically those in developing countries, including Nigeria where there are visible stress exacerbating factors such as heavy workload, inappropriate working conditions, job insecurity and dissatisfaction thus, stress management is imperative for workers to maintain their health while working.

The importance of stress management cannot be over-emphasized due to the enormous effects stress poses on the sufferer. Caplan et al (2011) defined stress management as the process of acquiring and practicing a variety of cognitive and behavioural techniques with the goal of managing and coping with stress. It is unrealistic for any one especially those engaged in any occupation to be stress-free all of the time, thus, it is very vital that stress is properly managed in order to minimize its effect on our health. Stress can be managed through different strategies. The Australian Psychological Society (2013) noted that, stress covers a broad range of non-trauma-focused cognitive, behavioural and physiological techniques aimed at reducing levels of arousal and modifying lifestyle factors that contribute to an individual's level of stress and the core components of stress management may include: a) physical strategies such as relaxation, controlled breathing (to counter hyperventilation), aerobic exercise, sleep hygiene and diet; b) cognitive strategies such as adaptive coping self-statements for use when confronting feared or avoided situations, distraction techniques and thought stopping; and c) behavioural strategies such as structuring daily routines, increasing enjoyable activities and utilizing social support. Considering the current fiscal challenges and scenario which affects the mental health of people, stress management becomes paramount particularly among teachers who are the key players in both the education and training of the younger one who are the leaders of tomorrow. Yet, poor stress management continues to be pronounced among them, which necessitates occupational health intervention such as health education to foster the adoption of such strategies to ease their stress. The foregoing can be concretized by the report of Nwokeoma and colleagues (2019) who showed from their study that, occupational health coaching programme had a significant effect on work-related stress management among staff.

Several reports have shown that teachers experience high level of stress. Teaching is not a mechanical process, but a profession which requires psychological state of mind. Thus, Kaur (2017) asserted that, teaching is a human service profession, which requires the teacher to possess sound mental health in order to teach effectively. As occupational stress puts psycho-physical effect on a person, it definitely influences work efficiency and performance. Sabherwal, Ahuja, George and Handa (2015) posited that, teachers working within the secondary school system confront multiple stressors on a daily basis that result in them having varying levels of occupational stress. Factors like poor student behaviour, ranging from low level of student motivation to their misbehavior, along with poor relationships with the administration and colleagues can result in occupational stress. Dutta cited in Aftab and Khatsoon (2015) posited that, teachers stress becomes challenging and potentially harmful when the challenges teachers face outpaces their perceived ability to cope, or when they notice that important needs are not met. This scenario can even be exacerbated with discrepancies in some socio-demographic features such as age, and years of work experience.

Teaching is recognized as a highly stressful profession (Hartney, 2008) yet, even when evidence based professional development approaches including teachers training is put in place, as shown by Harris (2011), such training does not typically include stress management and, as a result, teachers often feel poorly prepared to respond appropriately to the stressors of the job (Kerr et al., 2011). Consequently, Steinhardt et al. (2011) posited that, teachers' ability to manage professional stress impacts their teaching effectiveness and can lead to burnout, which in turn, impairs teacher effectiveness. This is even worse for the female folks who are daily confronted with stress from domestic chores combined with their professional duty of teaching, making stress management of utmost importance for them to maintain a balance both in their mental, emotional and physical health while functioning effectively and efficiently both at home and work. Thus, interventions aimed at helping female teachers to cope and manage occupational stress appropriately and adequately becomes imperative hence, this study on the effects of occupational health intervention on stress management among female teachers in public schools in Rivers State.

Statement of the Problem

Rivers state practices the free education system in the Government owned primary and secondary schools, this system has led to a large population of students trooping into the public schools. This large population of students in the public schools in Rivers state can also be attributed to the fact that the economic situation in Nigeria seems to have caused increase in poverty in the nation. Presently, there is

so much value on education in this nation Nigeria, parents strive for their children to get educated irrespective of their financial status. Rivers state is helping to fulfill the desires of so many parents by providing free education in their public schools. Given the disproportionate ratio of students to teachers in public schools in Rivers State, many are overladen with excessive workload with the resultant stress. This issue of stress is even worsened in the public schools where many teachers are assigned to one office leading to lack of privacy, harsh/unconducive working conditions, which all contributes to the occupational stress confronting the teachers. Occupational stress is associated with a number of health problems including high blood pressure, fever, headache cardiovascular disease, diabetes, anxiety, depression and irritable bowel syndrome among others. This is even worsened for the female teacher who have to face a double burden of occupational stress due to her domestic chores. In Rivers State, which happens to be a patriarchal society as in many African regions, it is believed that the female, no matter how highly placed she may be, must take the sole responsibility for domestic duties and care of the children, thus, the female teacher becomes mostly exposed to stress which must be managed adequately if she must be alive or remain healthy to actively discharge her occupational duties with the required professional resourcefulness and competence. Thus, she must adequately manage stress to be able to cope and one of the ways to enhance behaviour is through health education. Hence, this study effects of occupational health intervention on stress management among female teachers in public schools in Rivers State. The study provided answers to the following research questions:

1. What is the effect of occupational health education intervention on the physical strategies for stress management among female teachers in public schools in Rivers State?
2. What is the effect of occupational health education intervention on the cognitive strategies for stress management among female teachers in public schools in Rivers State?
3. What is the effect of occupational health education intervention on the behavioural strategies for stress management among female teachers in public schools in Rivers State?

Hypotheses

3. Occupational health education intervention had no significant effect on the adoption of the physical strategies for stress management among female teachers in public schools in Rivers State.
4. Occupational health education intervention had no significant effect on the adoption of the cognitive strategies for stress management among female teachers in public schools in Rivers State.
5. Occupational health education intervention had no significant effect on the adoption of the behavioural strategies stress management among female teachers in public schools in Rivers State.

METHODOLOGY

The research design employed for the study was a pretest-posttest control group design. The pretest-posttest control group design is a design in which observations are made before and after some intervention not under the researcher's control. The aim of using this design was to compare the scores of the respondents who were exposed to treatment (i.e., occupational health intervention) on management of stress in intervention groups with their counterparts (control group) that were not given any treatment to examine the effect of occupational health education intervention on the management of stress. This design was successfully used by Nwokeoma et al. (2019) on the impact of occupational health coaching on work-related stress management among staff. The population for the study consisted of all the female secondary school teachers in public schools in Rivers State. The population of female teachers in public secondary schools in Rivers State was three thousand, four hundred and three (3,403) in the 23 Local Government Areas of Rivers State (Statistics of the Rivers State Senior Secondary Schools Board, 2021). The sample size for this study was three hundred and seventy-six, that is, 188 for intervention and 188 for control group.

A multi-stage sampling procedure was used for the study. First, stratified random sampling technique was used for the existing three geopolitical zones to get three strata with each geopolitical zone forming a

stratum. Thereafter, simple random sampling technique was used to select two Local Government Areas in each of the geopolitical zones. At the third stage, the simple random sampling technique was used to select four secondary schools each from the list of secondary schools in the selected Local Government Areas. The fourth stage involved the use of proportionate random sampling for the selection of teachers in the selected schools for the study. At the fifth stage, the cluster sampling was used to group the selected teachers into control group and intervention group. The instrument for data collection was a structured test with a reliability coefficient of 0.87. The retrieved copies of the test were coded and analyzed with the aid of SPSS using descriptive statistics of mean and standard deviation (SD) as well as eta square statistics.

RESULTS

The results of the study are presented below:

Table 1: Mean and standard deviation on effect of occupational health intervention on physical strategies for stress management strategies among female teachers' in public secondary schools in Rivers State

Group	N	Mean	S.D.	Mean difference	Eta-value	Decision
Control	188	2.96	0.39	0.32	0.40	Small effect
Intervention	188	3.28	0.38			

Table 1 showed the mean and standard deviation on effect of occupational health intervention on physical strategies for stress management strategies among female teachers in public secondary schools in Rivers State. The result revealed that, the respondents in the intervention group had a mean score of 3.28 ± 0.38 while respondents in control group had a mean score of 2.96 ± 0.39 with a mean difference of 0.32 at the post test. The eta square statistics of 0.40 indicate a small effect of occupational health education intervention on physical strategies for stress management strategies among female teachers in public secondary schools in Rivers State.

Table 2: Mean and standard deviation on effect of occupational health intervention on cognitive strategies for stress management strategies among female teachers in public secondary schools in Rivers State

Group	N	Mean	S.D.	Mean difference	Eta-value	Decision
Control	188	3.13	0.33	0.30	0.31	Small effect
Intervention	188	3.43	0.32			

Table 4.2 showed the mean and standard deviation on effect of occupational health intervention on cognitive strategies for stress management strategies among female teachers in public secondary schools in Rivers State. The result revealed that, the respondents in the intervention group had a mean score of 3.43 ± 0.32 while respondents in control group had a mean score of 3.13 ± 0.33 with a mean difference of 0.30 at the post test. The eta square statistics of 0.31 indicate a small effect of occupational health education intervention on cognitive strategies for stress management strategies among female teachers in public secondary schools in Rivers State.

Table 3: Mean and standard deviation on effect of occupational health intervention on behavioural strategies for stress management strategies among female teachers in public secondary schools in Rivers State

Group	N	Mean	S.D.	Mean difference	Eta-value	Decision
Control	188	3.09	0.36	0.33	0.45	Small effect
Intervention	188	3.42	0.45			

Table 3 showed the mean and standard deviation on effect of occupational health intervention on behavioural strategies for stress management strategies among female teachers in public secondary schools in Rivers State. The result revealed that, the respondents in the intervention group had a mean score of 3.42 ± 0.45 while respondents in control group had a mean score of 3.09 ± 0.36 with a mean difference of 0.33 at the post test. The eta square statistics of 0.45 indicate a small effect of occupational health education intervention on behavioural strategies for stress management strategies among female teachers in public secondary schools in Rivers State.

Test of hypotheses

Table 4: Analysis of Covariate (ANCOVA) on effect of occupational health intervention on physical strategies for stress management among female teachers in public secondary schools in Rivers State

Source	Type III sum of squares	Df	Mean square	F	P-value	Partial eta square
Corrected model	0.27a	1	0.25	1.242	0.026	0.40
Intercept	39.89	1	38.89	200.42	0.000	0.50
Physical strategy pretest	0.25	1	0.25	1.24	0.026	0.01
Error	39.21	197	0.19			
Total	1943.88	199				
Corrected Total	39.46	198				

P<0.05 = Significant

Table 4 showed the analysis of covariate (ANCOVA) which was conducted to ascertain the effect of occupational health intervention on physical strategies for stress management among female teachers in Public Secondary Schools in Rivers State. The result of the ANCOVA showed that the intervention had a significant effect [$F(1,198) = 0.25, p < 0.05$] on the physical stress management strategies among female civil servants (teachers). However, only 1.0% ($\omega^2 = 0.01$) of the variance in the post test prevention strategy could be explained by the intervention. Therefore, the null hypothesis which stated that occupational health education intervention had no significant effect on the adoption of the physical strategies for stress management among female teachers in public secondary schools in Rivers State was rejected.

Table 5: Analysis of Covariate (ANCOVA) on effect of occupational health intervention on cognitive strategies for stress management among female teachers in public secondary schools in Rivers State

Source	Type III sum of squares	Df	Mean square	F	P-value	Partial eta square
Corrected model	.249 ^a	1	.249	1.756	.018	.310
Intercept	24.007	1	24.007	169.453	.000	.462
Cognitive strategy pretest	.249	1	.249	1.756	.018	.009
Error	27.909	197	.142			
Total	2147.564	199				
Corrected Total	28.158	198				

P<0.05 = Significant

Table 5 showed the analysis of covariate (ANCOVA) which was conducted to ascertain the effect of occupational health intervention on for cognitive strategies for stress management among female teachers in public schools in Rivers State. The result of the ANCOVA showed that the intervention had a significant effect [$F(1,198)=0.25$, $p<0.018$] on the cognitive stress management strategies among female public school teachers. However, only 0.9% ($\omega^2 = 0.009$) of the variance in the post test prevention strategy could be explained by the intervention. Therefore, the null hypothesis which stated that occupational health education intervention had no significant effect on the cognitive strategies for stress management among female teachers in public schools in Rivers State was rejected.

Table 6: Analysis of Covariate (ANCOVA) on effect of occupational health intervention on behavioural strategies for stress management among female teachers in public secondary schools in Rivers state

Source	Type III sum of squares	Df	Mean square	F	P-value	Partial eta square
Corrected model	.510 ^a	1	.510	2.633	.106	.450
Intercept	23.341	1	23.341	120.564	.000	.380
Behavioural strategy pretest	.510	1	.510	2.633	.106	.013
Error	38.139	197	.194			
Total	2132.056	199				
Corrected Total	38.649	198				

P>0.05 = Not Significant

Table 6 showed the analysis of covariate (ANCOVA) which was conducted to ascertain the effect of occupational health intervention on behavioural strategies for stress management among female teachers in public schools in Rivers State. The result of the ANCOVA showed that the intervention had no significant effect [$F(1,198)=0.51$, $P> 0.11$] on the behavioural stress management strategies among female teachers. However, only 1.3% ($\omega^2 = 0.013$) of the variance in the post test prevention strategy could be explained by the intervention. Therefore, the null hypothesis which stated that Occupational health education intervention had no significant effect on the adoption of the behavioural strategies stress management among female teachers in public schools in Rivers State was accepted.

DISCUSSION OF FINDINGS

The finding of the study in Table 1 indicated that the intervention had a small effect on the physical stress management strategies among female teachers in public secondary schools in Rivers state, though, the effect was significant on physical stress management strategies [$F(1,198) = 0.25$, $p< 0.05$]). This finding was expected because the physical coping strategies such as relaxation, sleep hygiene, taking breaks, and slowing down stress causing activities are easy to adapt within a short period of time, this could be

implicated for the significant effect found on the physical strategies. The finding of this study is akin to that of Young (2012) which showed that, some of the physical strategies for coping with stress are relaxation and to maintain healthy lifestyle through eating good diet and engage in physical activities such as playing games, avoid unnecessary stress, rest and sleep, among others will reduce the prevalence of stress in any occupation. This similarity could be attributed to the fact that when such strategies are adopted, it makes the body relaxed thus, reducing the impact of the stress undergone. The finding of this study is also in line with that of Dansu and Uchegbu, cited in Onifade (2009) which showed that, participating in physically motivated wellness and leisure activities can foster a range of positive and worthwhile experiences; from simple relaxation, fun, and enjoyment to personal development and fulfillment which can relieve an individual of stress. The finding of this study corroborates that of Nwokeoma et al. (2019) whose study on the impact of occupational health coaching on work-related stress management among Nigeria public workers which showed that the occupational health education intervention programme had a significant effect on work-related stress management among the respondents in the intervention group when compared to their counterparts in the control group. The similarity between the present study and that of Nwokeoma and colleagues could be due to the homogeneity of the study population in the both studies as they were both focused on workers. However, the finding of this study is not in tandem with that of Morrison and Payne (2003) which showed that, individual person-directed stress management programmes— those that attempt to empower workers to deal with demanding situations by developing their own coping skills and abilities—are unlikely to maintain employee health and well-being in the long term by enhancing their ability to cope with occupational stress without procedures in place within organizations to reduce or prevent environmental stressors. This variation found might be due to the difference in the study setting and study locations between the two studies.

In Table 2, the study indicated a small effect of occupational health education intervention on cognitive strategies for stress management strategies among female teachers in public secondary schools in Rivers State. The result of the ANCOVA showed that the intervention had a significant effect [$F(1,198)=0.25$, $p<0.018$] on the cognitive stress management strategies among female civil servants (teachers). This finding was expected because the intervention was intended to influence the coping strategies of the workers including the cognitive strategies. The finding of this study gives credence to that of Shimazu et al. (2013) whose study on the effect of health education on stress management programme for teachers in Japan showed that, the positive intervention has significant effect on the coping strategies of the teachers. This similarity could be attributed to the homogeneity of the study population as the both studies were focused on teachers, this might be implicated for the similarities found. The finding of this study is in line with that of Gebrekirstos (2015) where the respondents indicated some coping strategies for stress such as, emotional self-control, giving up strategy, plan full coping index, confrontative coping index and the least was avoidance coping index. The finding of this study corroborates that of Nwokeoma et al. (2019) whose study on the impact of occupational health coaching on work-related stress management among Nigeria public workers which showed that the occupational health education intervention programme had a significant effect on work-related stress management among the respondents in the intervention group when compared to their counterparts in the control group. The similarity between the present study and that of Nwokeoma and colleagues could be due to the homogeneity of the study population in the both studies as they were both focused on workers. However, the finding of this study is not in tandem with that of Morrison and Payne (2003) which showed that, individual person-directed stress management programmes— those that attempt to empower workers to deal with demanding situations by developing their own coping skills and abilities—are unlikely to maintain employee health and well-being in the long term by enhancing their ability to cope with occupational stress without procedures in place within organizations to reduce or prevent environmental stressors. This variation found might be due to the difference in the study setting and study locations between the two studies.

The findings in Table 3 indicate a small effect of occupational health education intervention on behavioural strategies for stress management strategies among female teachers in public secondary schools in Rivers State. The result of the ANCOVA showed that the intervention had small significant

effect [$F(1,198)=0.51, P> 0.11$] on the behavioural stress management strategies among female teachers in public secondary schools. The finding of this study is surprising but could be explained by the fact that in some cases it is difficult to observe a change in behaviour within a short period of time, as it takes time for human behaviour to be influenced or changed. However, the finding of this study agrees with several other studies which found out that the interventions carried had an influence on the coping strategies of the participants though not specified as behavioural strategy. The finding of this study is similar to that of Shimazu et al. (2003) whose study on the effect of health education on stress management programme for teachers in Japan showed that, the positive intervention has significant effect on the coping strategies of the teachers. The finding of this study is also in line with that of Gebrekirstos (2015) where the respondents indicated some coping strategies for stress such as, emotional self-contrSol, giving up strategy, plan full coping index, confrontative coping index and the least was avoidance coping index.

CONCLUSION

Based on the findings of the study, it was concluded that occupational health education intervention has a significant effect on the physical, cognitive and behavioural stress management strategies among female teachers in public secondary schools in Rivers State.

RECOMMENDATIONS

The following recommendations were made based on the findings of this study:

1. Government should build befitting recreational centres at the various secondary schools where both teachers and students can go for relaxation when they are stressed.
2. School administrators should also make the work environment less stressful for the female teachers by devising techniques to create and maintain optimal stress levels among teachers for purposes of improving and maintaining their performance.
3. The female teachers should also make conscious effort to ensure that they recognize the best coping strategy that is appropriate for them and maintain it at all times to help themselves cope with the stress in their work.

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