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Effect of Educational Intervention on Occupational-Stress Management Among Security Personnel in Ogun State, Nigeria

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Abstract:

Background: Occupational stress is a problem of the 21st century and is widespread. It is a harmful physical and emotional response that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker. Therefore, this research examined the influence of an educational intervention on willingness to adhere to occupational-stress reduction practices among security staff of selected private universities in Ogun State, Nigeria.

Methods: A quasi-experimental design was employed for this study. The population consisted of 500 security staff which were purposively selected from two private universities in Ogun State. Normal Distribution Power formula was used to arrive at a sample size of 20 security staff for each university. A convenient sampling technique was used in selecting the participants from the two universities grouped into intervention group (IG) and the control group (CG). A validated questionnaire with Cronbach's alpha coefficients ranging from 0.77 to 0.96 was used to collect data. IG received educational session's two-hours weekly for two weeks, and the control group received forty-five minutes, once-weekly for six weeks. Data were collected at baseline and immediate post-intervention. Data were analyzed using descriptive and inferential statistics at 0.05 level of significance.

Results: Results showed that at baseline the attitudinal disposition to occupational-stress reduction practices was low (9.25 ± 2.84) in both the IG and CG. Between the baseline and immediate post-intervention, there was a significant increase ($p < 0.05$) in the mean score of attitudinal disposition to occupational-stress reduction practices from (9.25 ± 2.84 to 12.75 ± 3.21) with a mean difference of 3.50 in IG. However, there was no significant difference ($p > 0.05$) in the mean score of attitudinal disposition to occupational-stress reduction practices (9.25 ± 3.08 to 10.95 ± 3.93) among CG.

Conclusion: From this study, the educational intervention was effective in influencing the security staff. It is recommended that security agencies of private universities take measures in organizing educational courses to teach stress reduction techniques for better health and well-being of the security staff.

Background to the study

Job stress is a harmful reaction that people have due to undue pressure(s) and demands at their place of work (HSE Report, 2015). Job stress is endemic, it contributes to decrease in efficiency amongst the Babcock University Security Staff (BUSS) due to its resultant health issues- strain, anxiety, worry (Amballi et al., 2022). Stress or stressors can be internal or external as it arises from a wide range of work circumstances and becomes worse due to lack of support, low skill discretions, high job demands and organizational conditions (Hallin, & Danielson, 2007; HSE Report, 2015).

The main health challenge of the twenty-first century is to improve the quality of life and promote health by empowering people to have greater control over their own health. According to the WHO, 60% of individuals' quality of life and state of health depends on their own Behaviours and lifestyle (Mirghafourvand, et al, 2015). Walker defines a health-promoting lifestyle, as a multidimensional model of self-initiated perceptions and actions that help the continuation and reinforcement of health and self-actualization therefore the need to investigate the effect of educational intervention on occupational stress management among Babcock University security staff.

Typically, it has been observed that security officers like other workers incur stress in the course of discharging their duties thereby establishing a link between occupational stress and decline in health status of security officer's performance. If this stress is not treated effectively, it can have adverse effect that may be detrimental to the health, effectiveness and the efficiency of their performance (Ayinde et al., 2022; Bamgboye et al., 2020; Ogungbamila, 2010; Ravalier & Walsh, 2018). These poor attitude towards what constitutes stress and its poor management has contributed to 41 million deaths worldwide in 2016, equivalent to 71% of all global deaths (WHO, 2018). In Nigeria, about two-third (64%) of the employees (with women slightly more than men) risk burnout and severe mental health stress with nearly two (2) in ten (10) requiring immediate assistance as they were already exhibiting stress Behaviours - fatigue, high blood pressure, (WHO, 2018; AIS, 2019).

The purpose of this study is to evaluate the outcome of theory-based health education interventions; Facilitator-Led Classes/Workshops (FLC/W) and tutoring on occupational-stress reduction amongst the Babcock University security staff in Ogun State. The health education interventions involved health educator, participants-centered education and counseling that provided arousal and awareness of risks of failing to adopt occupational-stress reduction techniques and its inherent danger to health.

Research Questions

1. What is the effect of the intervention on knowledge of occupational-stress reduction among Babcock University Security Staff after two weeks intervention?
2. What is the effect of the intervention on perception of occupational-stress reduction among Babcock University Security Staff after two weeks intervention?
3. What is the effect of the intervention on attitudinal disposition of Babcock University Security Staff to occupational-stress reduction after two weeks intervention?

Specific Objectives

1. Ascertain the effect of the educational intervention on knowledge of occupational-stress reduction among Babcock University Security Staff after 2 weeks intervention.
2. Determine the effect of the educational intervention on perception of occupational-stress reduction among Babcock University Security Staff after 2 weeks intervention.
3. Ascertain is the effect of the educational intervention on attitudinal disposition of Babcock University Security Staff to occupational-stress reduction after 2 weeks intervention.

Research Hypothesis

1. There will be a significant difference between occupational-stress reduction knowledge level between the experimental group and control at immediate post-intervention among Babcock University, Security Staff.
2. There will be a significant difference in the effect of the intervention on the attitudinal disposition towards occupational-stress reduction of the experimental group between baseline and immediate post-intervention among Babcock University, Security Staff.

Methodology

Design and Study Population

The study utilized a quasi-experimental comprising of two (2) groups: experimental and control.

Study Area and Study Location

The study area for this research work is McPherson University which is situated at kilometre 96, Seriki-Sotayo off Lagos-Ibadan Expressway and Babcock University which is situated in the Ikenne Local Government Areas in Ogun State. It was created in February 1976 from the former Western state. It is one (1) of the twenty (20) LGA's in Ogun State. Ikenne LGA is located in the East Senatorial district of Ogun State, South-West of Nigeria. It is the most popular state in the South-West with a population density of 223 persons per square kilometre, (Omole & Isiorho, 2011).

The state is closely bordered by Lagos to the South, Oyo and Osun to the North, Ondo and Benin Republic to the West. It is the state with the most industries due to its proximity to Lagos. It has a land mass of 16,667 km² (area of 313.1/km² and a population of about 5,217,700 with a growth rate of 3%. (Omole, 2011; Ojewumi & Asaolu, 2016).

Sampling Technique

The researcher used a non-probability sampling technique where the samples from the experimental, Babcock University and control McPherson University because they are conveniently available to the researcher due to the nature of the duties as Security officers (they are not easily recruitable). Forty eligible Security Staff between ages 21-59 years currently employed in one of the two universities were purposively selected and enrolled for the study.

To be eligible, staff of the departments should be recognized on the payroll, have at least one (1) year working experience and must be an adult from the age of 21 year and above. Excluded from the study were those on sick leave- staff who may be bed ridden, staff on special duties, all 'Subject Men'/All armed men on night duties, pregnant, and breast-feeding mothers, those with medical report of known illnesses and those who may not be medically fit. The participants were then approached by a trained interviewer to complete a structured questionnaire which lasted between 40 to 50 minutes. The instrument was a semi-structured questionnaire that sought information on the socio-demographic characteristics, knowledge of occupational stressors at work, perception on occupational-stress reduction and attitudinal disposition.

The study was conducted between February and April 2022. Ethical approval for the study was obtained from the Babcock University Health Research Ethical Committee (BUHREC) and signed consent forms were obtained from the respondents.

Results

A total of forty participants were engaged in the study with twenty participants in each group. The two groups had a proportion of males more than females where control group had 65% females, the intervention group had 75.0% females. However, the overall mean age of participants was 35.5±7.31

years. Participants in the control group had the lower mean age with 33.5 ± 4.58 years compared to the mean age of the intervention group which was 37.5 ± 8.95 years. Overall, almost half (40.0%) of the participants were of Yoruba ethnicity, which each group has the same with those in the control group consisting of 35.0% and the Yoruba in the intervention group alone constitute 45.0%. Generally, the highest level of education among all participants was Tertiary education with 50.0% while those in the control group had more than half of the participants (55.0%) having Tertiary education as their highest level of education, followed by Secondary education with 25.0%. However, some (45.0%) of those in the intervention group had Tertiary education as their highest level of education at the time, while the other half had Secondary school education. Christianity seems to be the dominant religion, where most (92.5%) of the overall participant were Christians and Muslims are 7.5% (Table 1).

TABLE 1: SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE PARTICIPANTS IN THE STUDY

Variables	Control Group N=20		Intervention Group N=20		Total
	Frequency N (%)		Frequency N (%)		Frequency N (%)
Sex:					
Males	13	(65.0)	15	(75.0)	28 (70.0)
Females	7	(35.0)	5	(25.0)	12 (30.0)
Age in years					
20-29	3	(15.0)	2	(10.0)	5 (12.5)
30-39	15	(75.0)	12	(60.0)	27 (67.5)
40-49	2	(10.0)	4	(20.0)	6 (15.0)
50-59	0	(0.00)	2	(10.0)	2 (5.0)
Age in years Mean \pmSD	33.5 (± 4.58)		37.5 (± 8.95)		35.5 (± 7.31)
Height in Centimeters Mean \pmSD	169.6 (± 32.10)		177.4 (± 7.70)		173.5 (± 23.37)
Weight in Kilograms Mean \pmSD	73.6 (± 30.69)		71.1 (± 23.45)		72.3 (± 26.99)
Ethnicity:					
Yoruba	7	(35.0)	9	(45.0)	16 (40.0)
Hausa	2	(10.0)	2	(10.0)	4 (10.0)
Igbo	5	(25.0)	8	(40.0)	13 (32.5)
Others	6	(30.0)	1	(5.0)	7 (17.5)
Education:					
Primary	4	(20.0)	0	(0.00)	5 (10.0)
Secondary	5	(25.0)	11	(55.0)	16 (40.0)
Tertiary	11	(55.0)	9	(45.0)	20 (50.0)
Religion:					
Christianity	19	(95.0)	18	(90.0)	37 (92.5)
Islam	1	(5.0)	2	(10.0)	3 (7.5)

Among the intervention group, there was statistically significant difference with the p value <0.001 between the baseline and immediate post intervention in knowledge, with mean difference of 2.10. Also for perception, in the intervention group, there was statistically significant difference with the p value

<0.001 between the baseline and immediate post intervention in perception (susceptibility, benefits, self-efficacy), with mean difference of 12.5, 4.85, 8.15, and 6.25 respectively. This is also same for attitudinal disposition among the intervention group, there was statistically significant difference with the p value <0.001 between the baseline and immediate post intervention in attitudinal disposition, with mean difference of 3.50 (See Table 2)

TABLE 2: COMPARING MEAN SCORES OF VARIABLES ON OCCUPATIONAL STRESS MANAGEMENT AT IMMEDIATE POST-INTERVENTION FOR CONTROL AND THE INTERVENTION GROUP

Groups	Variables	Max. Pts	Baseline N=20	Immediate Post Intervention N=20	Mean Difference	P-Value
			$\bar{X} (\pm SD)$	$\bar{X} (\pm SD)$		
Intervention Group	Knowledge	14	9.15 (3.33)	11.25 (3.33)	2.10	0.0049
	Perception*	57	17.80 (6.24)	30.3 (6.52)	12.5	0.0000
	Perceived Seriousness	18	5.4 (3.72)	5.7 (4.76)	0.30	0.4127
	Perceived Susceptibility	9	3.4 (1.47)	8.25 (1.33)	4.85	0.000
	Perceived Benefits	15	5.05 (2.48)	13.2 (2.82)	8.15	0.000
	Perceived self-Efficacy	15	3.95 (2.82)	10.2 (2.64)	6.25	0.000
	Attitudinal disposition	18	9.25 (2.84)	12.75 (3.21)	3.50	0.0004
Control Group	Knowledge	14	10.85 (2.32)	10.85 (2.32)	0.00	0.5000
	Perception*	57	19.15 (7.07)	32.40 (6.57)	13.25	0.0000
	Perceived Seriousness	18	5.1 (3.58)	8.10 (5.07)	3.00	0.0185
	Perceived Susceptibility	9	3.65 (1.49)	8.25 (2.15)	4.60	0.0000
	Perceived Benefits	15	5.25 (2.49)	10.8 (3.94)	5.55	0.0000
	Perceived self-Efficacy	15	5.15 (3.39)	5.4 (4.08)	0.25	0.4171
	Attitudinal disposition	18	9.25 (3.08)	10.95 (3.93)	1.70	0.0681

*Perception is a composite aggregate of the components; severity, susceptibility, benefits

Discussion

In all the groups both the control and the intervention group had proportion of male more than female similar to a study by Panahi et al., (2022) where males were over three times more than females which is a reflection of the gender distribution of security personnel in Nigeria as revealed by other studies (Amballi et al., 2022). However, the overall mean age of participants was 35.5 ± 7.31 years close to the overall mean age of what was reported in a study by Panahi et al., (2022) which the mean age was 37.3 years. Participants in the intervention group had the highest mean age with 37.5 ± 8.95 but the study had its intervention mean age to be 35.5 years, however, there was little age difference between the control group and interventional group which was exhibited by Amballi et al., (2022) as well.

Overall, there were more Yoruba than any other ethnic group which is expected as the study location has Yoruba as their mother's tongue, it is therefore expected to have majority to Yoruba. Also, majority have formal education with about half having completed a tertiary education and the larger percentage of the other half completing a secondary education as well. Christianity seems to be the dominant religion, where most of the overall participant were Christians similar to a study by Amballi et al., (2022), where Christianity happens to also be the dominant religion.

Outcome immediately after intervention for knowledge, perception and attitudinal disposition. The intervention group had a mean knowledge score close to the knowledge score reported by Panahi, et al. (2018). However, some of the respondents had attitudinal disposition similar to a study by dos Santos, Kozasa, Carmagnani, Tanaka, Lacerda, and Nogueira-Martins, (2016) and the mean willingness for intervention group was higher than that was reported according to a study by Janssen et al., (2020). At baseline, the control group showed no statistical difference which is expected as no intervention was done and not much difference is expected to be seen.

However, the mean attitudinal disposition showed an improvement when compared to the control group in contrast to a study by Chukwu which reported no change in attitudinal disposition between the control group and the intervention group, this could be as a result of the study population who are principals and teachers while the willingness mean was similar to what was reported according to a study by Panahi et al. (2018).

There was improved perception immediately after intervention supported by many studies that showed that educational intervention can greatly improve occupational stress management (dos Santos et al., 2016; Janssen et al., 2020). A study conducted in an Italian teaching hospital found that an educational intervention was associated with 90% improvement in perception over 2 weeks (Jahun et al., 2021). At the end line, there was a statistical difference between the control and the intervention group as expected due to the intervention over a certain period in the effort to change their behaviour and knowledge worked as there was a significant change in the knowledge, perception and attitudinal disposition.

Conclusion

The findings from the study revealed that the educational intervention was effective on knowledge, perception, attitudinal disposition and willingness of BUSS to implement occupation-stress reduction measures. By teaching stress management via educational intervention, the participants learned that with the help of this method, they can better utilize their own abilities and strengthen their resolve against the stresses of living and ultimately reduce their occupational stress levels.

Generally, this result shows that any of the educational intervention engaged in will lead to a change in the knowledge, perception, attitudinal disposition and willingness practice among BUSS both immediately, and after a long time as there was a significant difference at immediate post intervention and after 8th week follow up from baseline.

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Conflict of Interest

None.

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