
**THE MEDIATING ROLE OF STRESS TOLERANCE BETWEEN
WORK STRESS MANAGEMENT AND EMPLOYEE SERVICE
DELIVERY AMONG HEALTH WORKERS OF FEDERAL
MEDICAL CENTER MAKURDI, BENUE STATE-NIGERIA**

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ABSTRACT

The study was conducted on the mediating role of stress tolerance between work stress management and employee service delivery among employees of Federal Medical Centre Makurdi Benue State. The population of the study comprised all medical staff of FMC Makurdi, comprising medical Doctors, Nurses, Pharmacists and Laboratory Scientists who sum up to a total population of 1, 214. The sample of 300 was selected from the target population: 29 medical Doctors, 18 Laboratory Scientists, 231 Nurses and 22 Pharmacists. Four instruments were used for data collection: work stress scale ($\alpha=0.86$), stress management scale ($\alpha=0.90$), stress tolerance scale ($\alpha=0.76$) and employee service delivery scale ($\alpha=0.83$). Linear regression and path analyses were for data analysis. Results of regression showed that stress management has significant effect on employee service delivery; employee service delivery is significantly predicted by work stress management ($.175^{**}$, $p \leq .01$), stress tolerance ($.158^{**}$, $p \leq .01$) and the mediating role of stress tolerance in the effect of work stress management on employee service delivery ($.153^{**}$, $p \leq .01$). Path Analysis showed that direct effect from work stress management to employee service delivery was 0.158, the strength of the indirect effect was 0.238. The strength of the indirect effect being higher than that of the direct effect confirming that the effect of stress management on employee service delivery is better enhanced through stress tolerance. The strength of the total effect was 0.396. The mediator effect was significant hence stress tolerance is a partial mediator in the effect of work stress management on employee service delivery among employees of Federal Medical Centre Makurdi. The study recommended that the apart from stress management techniques management techniques such providing platforms for positive working attitude, being assertive instead of aggressive, as well as learning and practicing relaxation techniques (therefore recreational

Kwahar Nguwasen & Onov Phillip

activities), Medical institutions should also inculcate stress tolerance techniques such as promoting staff resourcefulness/optimistic disposition towards new experiences or towards change in general, being able to come up with suitable methods, knowing what to do and how to do it, , and toward own ability to successfully overcome the specific problem at hand.

Keywords: *Stress management, Stress Tolerance, Employee Service Delivery, Mediation. Federal Medical Centre*

INTRODUCTION

Commitment of employees towards Organization plays fundamental role for any organization, as it reflects loyalty and dedication of employees toward organizational development, improvement, enhancement, prosperity and affluence. Employees who have stress because of the job dissatisfaction exhibit decreased organizational commitment (Imam, Shah & Raza, 2013). Stress leads to apathy towards work and lowered career values. Stress is the complex psychological condition derived from cognitive power of the person in accordance with the requirements of job environment (Cox, 2010). Stress can be categorized into physiological, psychological and social kinds. 976). Imam, Shah and Raza (2013) define work stress as a situation that causes an individual to face forced deviation from the normal functioning that occurs due to interruption or development in that individual's physiological and psychological conditions. Stress tolerance is an important factor that enables employees to overcome the effects of work stress. However, the level of stress tolerance is partly a function of individual differences. Thus an individual's stress level impacts stress in different ways, as the lack of a clear and complete separation between the miscellaneous personal roles; so what happens in one area affects other areas (Cowan et al, 2011).

The effect of stress is profoundly high in the medical profession. According to Poursadeghiyan, Abbas, Mehri, Hami, Raei and Ebrahimi (2016), the prevalence of important psychological distress is especially high in medical organizations because of severe stress produced by busy working schedules, the magnitude of their responsibilities and interpersonal conflicts. High levels of stress can decrease quality of care and patient safety (Aiken, et al., 2002; Khandan, et al., 2013), and potentially, this stress leads to medical errors and lack of adequate attention to patients' needs (Caphan, et al., 1989).

It must be noted that the dangers of work stress in hospitals and the associated medical errors have direct implication on the life of the patient.

The need for stress management in hospitals is therefore germane. The following research hypotheses have thus been formulated:

- i. There is no significant effect of stress management on employee service e delivery among health workers of Federal Medical Centre Makurdi
- ii. There is no significant effect of stress tolerance on employee service delivery among health workers of Federal Medical Centre Makurdi
- iii. There is no significant effect of stress management on stress tolerance among health workers of Federal Medical Centre Makurdi
- iv. There is no significant effect between stress management and stress tolerance on employee service delivery among health workers of Federal Medical Centre Makurdi.

CONCEPTUAL FRAMEWORK

Work Stress Management

Work-stress is defined as any harmful response occurring in staff when the requirement to get the job done does not match the actual or perceived ability to do the job (Folkman, Lazarus, Pismley, & Novacek, 1987). Stress management is a wide spectrum of techniques and psychotherapies aimed at controlling a person's level of stress, especially chronic stress, usually for the purpose of and for the motive of improving everyday functioning (Wikipedia, 20199). Some stress management techniques for use by health professionals include reducing techniques involve adding a daily exercise routine, finding a hobby, writing one's thoughts, feelings, and moods down and also speaking with a trusted one about what is bordering one. Others include keeping a positive attitude, accepting that there are events that you cannot control, being assertive instead of aggressive, learning and practicing relaxation techniques such as meditation, yoga etc, eating healthy, well-balanced meals, learning to manage time effectively (WebMD, 2019)

Stress Tolerance

Stress tolerance is the threshold at which an individual can effectively and consistently deal with and manage stressful situations. It is the ability to be relaxed and composed when faced with difficulties. Caphan, et. al.(1989) defines stress tolerance as the ability to withstand adverse events and stressful situations without developing physical or emotional symptoms, by actively and positively coping stress. The ability is based on: a capacity

Kwahar Nguwasen & Onov Phillip

to choose courses of action for dealing with stress (being resourceful and effective, being able to come up with suitable methods, knowing what to do and how to do it) ; an optimistic disposition toward new experiences and change in general, and toward your own ability to successfully overcome the specific problem at hand.

Service Delivery

Service quality is the most basic performance indicator for service organizations. Services are intangible products produced to meet the demands and expectations of the customer (Neal et al., 1994). The intangible nature and difficult objective measurement of service quality result in some problems in the measurement and assessment of this parameter. The determining factors of service delivery include reliability, readiness to provide service, merit, access, speed, good business relationships, credibility, safety, understanding and knowing customers, concretization of the service and communication may be considered in assessing the quality of a service (Zerenler & Öğüt, 2007). These constitute the indicators with which employees can be assessed. In the hospitals, Doctors, Nurses, Pharmacists and Laboratory Scientists may indicate their levels of service delivery in form of response time, credibility and reliability of services rendered to patients and degree of safety of patients under them. Nurses in particular can indicate their levels of service delivery through empathy and level of understanding shown to patients.

THEORETICAL FRAMEWORK

The study is anchored on Canon's stress theory. The theory states that one's exposure to stressors can cause a disorder in homeostasis which leads to breakdown of the biological system. This breakdown prevents compensatory and anticipatory changes that aid coping, thus causing depression. The implication of Canon's theory is that stressors can be tolerated only to some point beyond which tolerance becomes impossible since it leads to a breakdown of the biological system. This makes stress management indispensable to workers especially in occupations where stress is prevalent. The theory is premised on the thrust that timely implementation of stress management strategies will prevent employee systematic breakdown and in turn increase service delivery.

METHODOLOGY

Research Design

The study area adopted cross-sectional survey design. Questionnaire was used for data collection. The study was conducted at Federal Medical Centre Makurdi on medical staff such as medical Doctors, Nurses, Pharmacists and Laboratory Scientists.

Population/Sample

The study population was 1, 214 medical employees of Federal Medical Centre Makurdi (Statistical Unit, FMC Makurdi, 2019). The sample of 300 employees was selected as determined by Taro Yamen (2004) formula. The stratified sampling technique was used to select 29 medical Doctors, 18 Laboratory Scientists, 22 Pharmacists and 231 Nurses.

Method of Data Collection

Data were collected using copies of the questionnaire distributed to the sampled medical staff of Federal Medical Centre Makurdi. The distribution was done personally by the researcher. The copies of the questionnaire were retrieved two days after the day of administration to allow respondents sufficient time to attend to them. These copies of the questionnaire were administered both at the Wadata and Apir centres of the hospital.

Method of Data Analysis

Pearson Product Moment Correlation was used to find out the relationship between the variables used in the study as a necessary condition for the conduct of mediation study. According to Barron and Kenny (1986), before applying the mediator variable, it is necessary to fulfill the relationship significance condition between the variables, whether the relationships between them are significant or not. The three conditions are that the relationship between the mediator variable and the dependent variable, the relationship between the dependent and independent variables and the relationship between the mediator variable and the independent variable should all be significant. Linear regression and path analyses were used to analyze the mediation role of stress tolerance in the effect of work stress on employee service delivery. Path analysis showed both the direct, indirect and total effects of work stress management and stress tolerance on employee service delivery among employees of Federal Medical Centre Makurdi.

RESULTS

Barron and Kenny (1986) expounded the requisites for mediation studies. A basic requirement is the relationship significance condition between the variables. Pearson Product Moment Correlation was used to fulfill this requirement.

Table 1: Pearson Correlation Results

		WSM	ST	ESD
WSM	Pearson Correlation	1		
	Sig.(2-tailed)			
ST	Pearson Correlation	0.351	1	
	Sig.(2-tailed)	0.003 **		
ESD	Pearson Correlation	0.422	0.686	1
	Sig.(2-tailed)	0.001 **	0.000 **	
**. Correlation is significant at		0.05 level		

Table I shows that the relationship between work stress management (WSM) and stress tolerance (ST) is moderate (35.1%) and significant ($p \leq 0.05$), the relationship between work stress management and employee service delivery was also moderate (42.2%) and significant ($p \leq 0.05$). Also the relationship between stress tolerance and employee service delivery (ESD) was high (68.6%) and significant ($p \leq 0.05$). Thus all the three relationship significant conditions for the use of mediating variable: that the relationship between the mediator variable and the dependent variable, the relationship between the dependent and independent variables and the relationship between the mediator variable and the independent variable should all be significant were fulfilled.

Table 2: Regression Analysis for effect of Work Stress Management and Stress Tolerance on Employee Service Delivery

Regression					
	Unstandardized	Coefficients	Standardized	t	p
			Coefficients		
	B	Std. Error	Beta		
(Constant)	144.473	5.426		31.174	.000
Stress Tolerance	.388	.463	.175**	4.191	.003
Work Stress Management	.426	.209	.158**	3.118	.007
STWSM	.461	.193	.153**		

$R^2=0.62$, Adjusted $R^2=0.57$, ($F(2,277=9.174$, $p\leq 0.05$), ** $p\leq 0.01$)

Table 2 reveals findings for the prediction efficacy of work stress management and stress tolerance for employee service delivery among employees of Federal Medical Centre Makurdi. Results show that employee service delivery is significantly predicted by work stress management (.175**, $p\leq 0.01$), stress tolerance (.158**, $p\leq 0.01$) and the mediating role of stress tolerance in the effect of work stress management on employee service delivery (.153**, $p\leq 0.01$). These suggest that work stress management and stress tolerance have significant effect on employee service delivery.

Table 3: Regression Analysis for effect of Stress Tolerance on Employee Service Delivery

	Unstandardized	Coefficients	Standardized	t	p
			Coefficients		
	B	Std. Error	Beta		
(Constant)	18273	1.562		8.533	.000
Stress Tolerance	3.251	.395	.063	1.026	.259

$R^2=0.73$, Adjusted $R^2=0.66$, ($F(1,278=9.11$, $p\geq 0.05$),

Results presented in Table 2 show that stress tolerance has no significant effect on work stress management among employees of Federal Medical Centre Makurdi. This means that without work stress management strategies, stress tolerance will not independently, significantly predict employee service delivery.

Figure 1: Hypothesized Path Analysis Showing Relationship among Variables

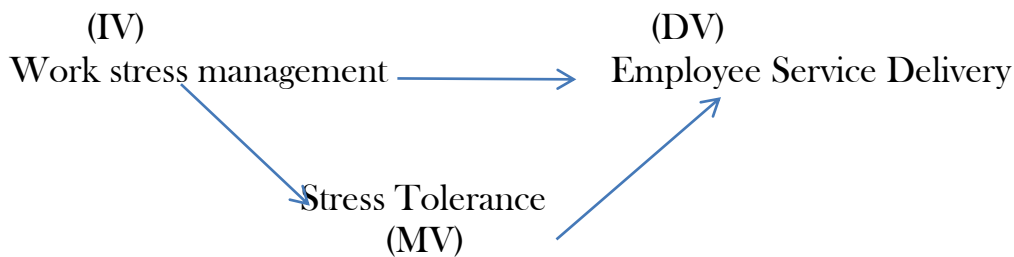


Figure 1 depicts the hypothesized path analyses of the structural model. It indicates that while work stress management is exogenous, both stress tolerance and employee service delivery are endogenous to the model. This means that work stress management has both direct and indirect effects on employee service delivery. The indirect effect indicates that work stress management affects employee service delivery through stress tolerance. That is, from the hypothesized point of view, those employees who can tolerate stress stand a better chance of rendering efficient services to their patients when work stress management is administered to them. At this juncture, it is imperative to find out if stress tolerance actually mediates the effect of work stress management on employee service delivery among employees of Federal Medical Centre Makurdi.

Figure 2: Mediation Effect of Stress Tolerance using Linear Regression Coefficients

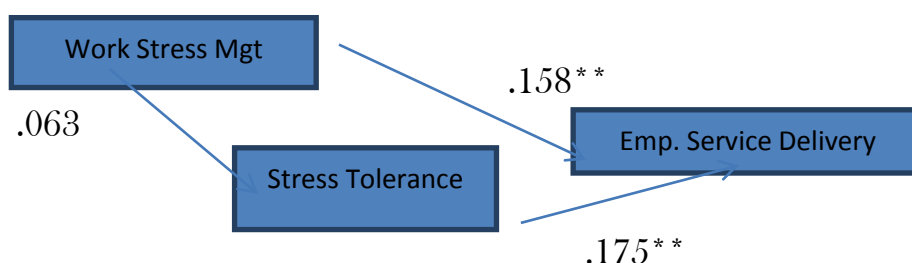


Figure 2 shows the direct, indirect and total effects of the exogenous variable. Direct effect from work stress management to employee service delivery was 0.158. Therefore, the strength of the indirect effect is 0.238 (0.063+0.175). The strength of the indirect effect being higher than that of the direct effect confirms the fact that employee service delivery is better enhanced when work stress management is administered to those who can demonstrate high level of stress tolerance. The strength of the total effect is 0.396 (0.238+0.158).The mediator effect (STWSM) was also

significant (Table 2). These suggest that stress tolerance is a partial mediator in the effect of work stress management on employee service delivery among employees of Federal Medical Centre Makurdi. Thus while it is important to always apply the conventional stress management techniques in hospitals, it is equally important to ensure that these techniques are accompanied by effective stress tolerance improving techniques that can set higher tolerance thresholds for the staff.

CONCLUSION

The study concludes that stress tolerance is a partial mediator of the effect of work stress management on employee service delivery among employees of Federal Medical Centre Makurdi. What this means is that although some medical staff of the hospital render their services efficiently to their patients because they are able to tolerate stress, such stress can be tolerated to a certain level beyond which they can no longer tolerate it based on individual staff thresholds. Therefore apart from the usual stress management techniques, the management of FMC should endeavour to raise the tolerance thresholds of medical staff so that their stress tolerance ability can be better enhanced for better service delivery. These tolerance thresholds can be effectively raised using strategies recommended below.

RECOMMENDATIONS

The management of medical institutions such as Federal Medical Centre Makurdi should adopt both stress management and stress tolerance techniques to achieve efficient and effective service delivery from their medical staff. The hospital should adopt the following stress management techniques:

- i. The management of FMC should improve the quality of work environment for the medical staff. This environment should be free of noise and other hazards. A calm and conducive environment ensures concentration and motivates workers to put in their best.
- ii. The management of FMC should provide adequate and functional working facilities to the medical staff and replace malfunctioning facilities promptly. Medical staff usually get easily stressed up when they are provided with malfunctioning facilities to work. These facilities should also be enough for all the staff to have access to instead of improvisation.
- iii. The tasks given to the medical staff to handle per time should be, although challenging, but realistic and tenable, and adequate

resources provided to support success tasks and ensure that achievement of set goals.

- iv. In order to avoid confusion, each category of staff should be assigned their specific responsibilities which they must adhere to; a situation where Nurses sometimes handle responsibilities meant for Doctors should be avoided. At the same time division of labour should be well planned and strictly implemented to avoid stressful workloads.
- v. The management of FMC should provide proper recreational facilities for the staff, with adequate time for relaxation.

The stress tolerance techniques to be adopted are:

- i. The management should organize workshops on confidence building for medical staff. Building staff confidence is essential for raising the threshold of stress tolerance in the staff.
- ii. Management should provide platforms that could inculcate in medical staff positive working attitude that promote self-esteem and comporment.
- iii. Medical staff should learn to accept that there are events that they cannot control and practice being assertive instead of aggressive. These will increase their level of empathy shown to patients. When medical staff decide to put themselves in the condition of their patients, they tend to achieve higher level of stress tolerance.
- iv. Stress tolerance is also a function of knowledge. One with higher knowledge of his job tends to achieve higher level of stress tolerance. Medical staff should therefore learn to share ideas with trusted and/or senior colleagues at all times. tolerance.

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Kwahar Nguwasen & Onov Phillip

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