

JOB STRESS DETERMINANTS AND CAPACITY BUILDING IN PUBLIC HOSPITALS IN PLATEAU STATE, NIGERIA

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ABSTRACT

Inadequate manpower among public hospitals creates gap for the employers to fill with the sole aim of building manpower to capacity. This is expected to improve health care system. In view of the need to build a vibrant manpower planning in public hospitals, the main aim of this study was to determine the impact of job stress on service delivery in public hospitals in Plateau State. The specific objectives of the study were to: determine impact of manpower shortage, role conflict, and workload on job stress in selected public hospitals; and correspondingly investigate their impact on service delivery in selected public hospitals. The study covers the public hospitals in Jos Metropolis. Data were sourced from the nurses in Federal hospitals and State hospitals located in Jos Metropolis. Various descriptive and inferential statistics were used to analyse the collected data. The findings revealed that: manpower shortages, role conflict, and workload accounted for 80.9% of job stress in public hospitals and are significant. Similarly, investigation of impact of manpower shortages and workloads on service delivery revealed negative results while job stress has positive impact on service delivery. Based on these findings, the study concluded that a reduction in job stress leads to good service delivery while increased shortage in manpower and workloads lead to poor service delivery. Hence, the study recommends that due to increasing job stress in public hospitals, the management of the selected hospitals need to intensify efforts to recruit qualified health workers so as to reduce workloads and job stress on the existing workers. This will also lead to efficient service delivery among workers. The study also recommends that there is a need to specifically detail out the job specification for individuals' health workers so as to avoid role conflict among staff as this will reduce long queue for patients seeking health care services.

Keywords: Job Stress, Workloads, Role Conflict, Service Delivery, Capacity Building

1. Introduction

Hospitals as the providers of refuge for the sick people especially the low income earners are besieged with poor services and inefficiency. This is true as available resources within hospital facilities are not judiciously put into use (Harding & Preker, 2003). In literature, terms frequently used to measure health services that are very useful to this study include access, availability, utilization and coverage but have sometimes been used in opposite way to show if people are getting the required services (Tanahashi, 1977; Shenghelia, 2003).

In considered views of Wavomba and Sikolia (2015), access is a wider concept with diverse dimensions such as thorough assessment of the physical, economic, and socio-psychological aspects of people's ability to make use of health services. In term of availability, there should be service delivery that at least meets a minimum standard expected from customers. Utilization on the other hand is often defined as the volume of health care services used while coverage of interventions is seen as the percentage of people or customers among those who are actually served with required services which is a function of queue system (Wavomba, & Sikolia, 2015).

A queue in public hospitals creates a kind of worry to health workers and it is often seen as a burden as many health seekers may be denied access to hospital facility. If a long queue is not carefully managed, it can lead to job stress among health workers. The continued long queue in hospitals or health centres in major cities in Nigeria on a daily basis has attracted the attention of researchers in all fields of study particularly, actuarial science, demography, statistics and operations research. Many of these fields of study attempt to proffer solutions to increasing or endless queue in public hospitals.

In 2018, Adeyele and Umoru used Kaplan-Meier's models to predict the chance of any person being able to access hospital facility. One of the findings from their study reveals that it takes 4 hours on the average for anybody to be attended to if such persons go to hospital after 9: 00am in the morning and the chance of being attended to becomes slim after this period of day. This endless queue can lead to job stress among health workers. The stress brought about by long queue has motivated the researchers to investigate factors responsible for long queue among health workers.

Stress is often associated with overloads which have both positive and negative impact on employees' performance. It is often believed that stress can sometimes help to motivate employees to get a task accomplished, or make employee to perform well but can also be harmful if one becomes over-stressed and it interferes with ability to get on with normal life for too long. Many factors have been identified to be responsible for job stress among health workers in public hospitals. Some of the most commonly mentioned in literature include, manpower shortage, overloads, role conflict, poor facility and demand side for health in a teeming population. In all of this, it has been observed that manpower shortage, workloads, and role conflict play dominant role in job stress in public hospitals.

Acute shortage of manpower leading to overloads and job stress among nursing personnel is suspected to be prime reason for poor service delivery in public hospitals in Nigeria. A heavy workload leads to suboptimal patient care thus reduced patient satisfaction (Kaur & Gujral, 2017). Service delivery in hospital setting requires an innovative approach in order to service customers satisfactorily. Inefficient service delivery could lead to dissatisfaction among customers and pressure from unsatisfied customers generates a kind of job stress to service providers.

Taking a perspective of service delivery in hospital business, many studies on capacity building in health sector considered how high level of responsibility, coping with the unpredictable and task-level interruptions negatively affect patients and health workers' outcomes (MacPhee, Dahinten & Havaei, 2017; Beh & Loo, 2012). Although, a certain amount of stress is essential to sustain life and moderate amounts serve as stimuli to perform but overpowering stress can cause a person to respond in a maladaptive physiological or psychological manner (Sullivan & Decker, 2001:207). Inadequate staffing, heavy workloads, and the increased use of overtime are frequently cited as key areas of job dissatisfaction among nurses (United States General Accounting Office [US-GAO], 2001). In many cases this growing dissatisfaction is affecting their decisions to remain in nursing.

From the foregoing, it is clear that there has not been any evidence of studies that have determined impact of manpower shortages, role conflict and workloads on job stress among health workers and how the latter affect service delivery in term of number of customers (patients) attended to. The present study investigated the extent to which these three variables contribute to job stress and how they affect service delivery in public hospitals in Plateau State.

Consequently, the specific objectives of the study were: to determine impact of manpower shortage on job stress in selected public hospitals; to investigate if role conflict has any significant influence on job stress in selected public hospitals; to find out if workload has significant effect on job stress in selected public hospitals; to determine impact of job stress on service delivery in selected public hospitals; and to examine the extent shortage of manpower relate to healthcare delivery in selected public hospitals.

2. Literature Review

The provision of healthcare to patients in public hospitals is essential in light of increase inflow of patients to hospitals. Dean and Lang (2008) note that a sound healthcare is viewed from technical and functional quality perspectives. While the technical quality perspective deals with medical diagnosis and procedures, the functional quality is concerned with the manner in which the healthcare service is serviced to the patient. Both perspectives of quality are vital in delivering service to patients (Wavomba & Sikolia, 2015). The structures, processes and management systems within organisations may influence their contribution to capacity building (Baillie, Bjarnholt, Gruber & Hughes, 2008). Wavomba and Sikolia (2015) note that increased inputs lead to improved service delivery and enhanced access to services.

Workload and time pressure have been identified as crucial stressors dimension of nurses' role (Chang, Hancock, Johnson, Daly & Jackson, 2005; Demerouti, Bakker, Nachreiner & Schaufeli, 2000). Workload is defined by Khademi, Mohammadi and Vanaki (2015) as the quantity of work an individual, a department, or other employed groups are expected to do within a stipulated time which has implication for health workers, patients and organisation.

Khademi *et al.* (2015) reveal that lack of needed equipments in hospitals that lack of needed equipments in hospitals lead to time wasting, and thereby increasing the number of customers in a queue is one of the determinants of workloads. They also note that worker shortage directly increased the number of working shifts and hours to a large extent, thereby increasing the number of patients cared for per nurse during a shift and caused increased nursing workload. A related study by Carayon and Gurses (2007) identifies four reasons responsible for heavy pressure of workload including increased demand for nurses, reduced staffing, inadequate supply of nurses and reduction in patients queue. Workload among nurses has been found to associate with suboptimal patient care (Aiken, Clarke & Sloane, 2002; Keijsers, Schaufeli & LeBlanc, 1995) and leads to discontent (Anderson & Maloney, 1998). This gives room for job stress that has negative consequence on patient safety (General Accounting Office, 2001).

A good understanding of what stress connotes is very vital in organization since it can imply either positive or negative impact on employees as they strive to cope with job stress (Beh & Loo, 2012). Starting from record section of the hospital, there is no how patients can be attended to without first locating their files. In situation where files cannot be located, the

affected patents may likely experience a delay in the hospital because most delays in public hospital start from record section. It is not uncommon for patents files to disappear from the record unit of the hospital. Sometimes, nurses and other health workers connive to hide files of those waiting on the queue just to reduce the long queue by forcing unsuspecting health seekers to quit the queue. Stress can best be looked at as implicit state that make up different produced changes in the human biological system (Rice, 2000:28-29).

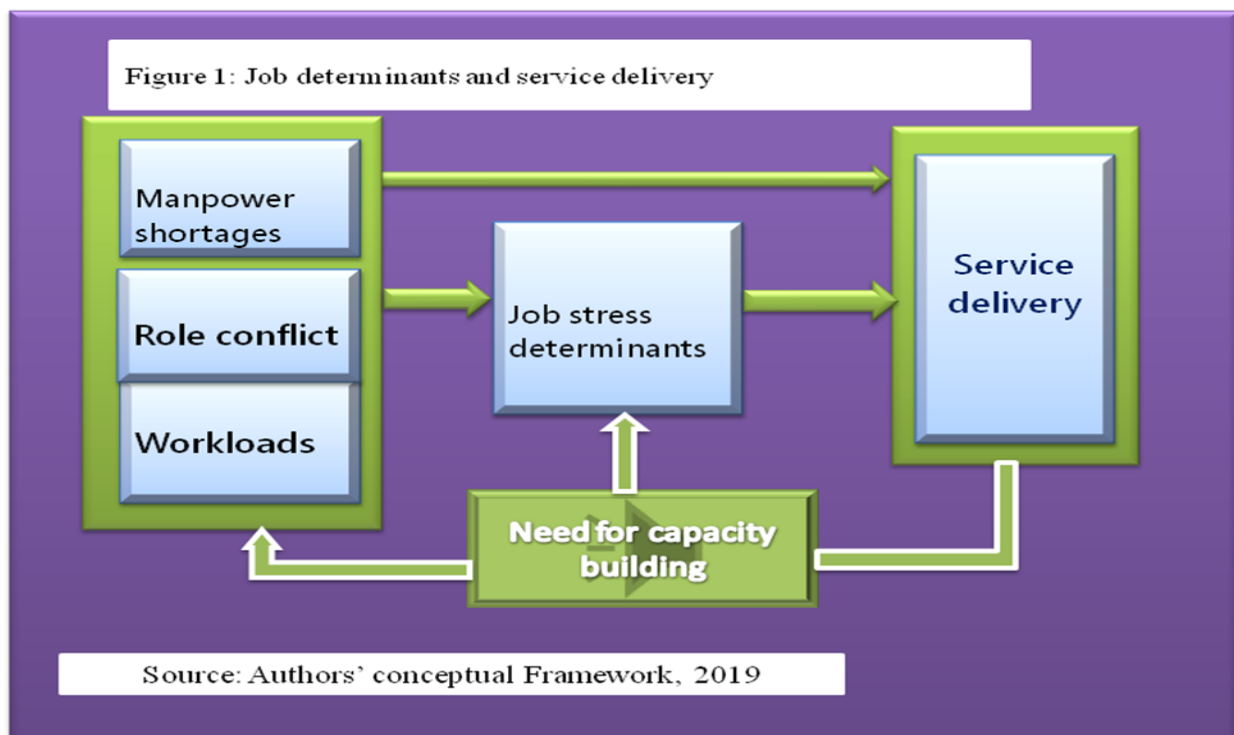
According to Robbins and DeDenzo (2001), stress is what an individual perceives when confronted with threats and opportunities, perceived to be both uncertain and important which can show itself in both positive and negative ways. Stress is said to be positive when the situation offers someone an opportunity to gain something. On the contrary, stress that keeps individuals from doing what they desire is perceived as negative. Also, scare research capacity has been linked to workloads, manpower shortages, and competition between academics and medical practitioners (Offredy, 2007; McDonald, Brown & Murphy, 2002; Campbell, Roland & Bentley, 1999)

Capacity building - Inefficiency requires the implementation of strategic approach to build organizational capacity (Goldberg & Bryant, 2012). According to Conolly and Lucas (2002), organizational capacity covers a wider scope incorporating capabilities, knowledge, resources, and human capital to actuate the service goals of organisation. In the area of scientific research, building capacity reflects a commitment to quality improvement and characterizes a learning organization (Rifkin, 2003; Aroni, 2012).

Hence, capacity build in health sector can be viewed as promoting an environment that increases the potential of individuals, organisations and communities (Markaki & Lionis, 2008). It enables individuals to receive and possess knowledge and skills as well as to become qualified in planning, developing, implementing and sustaining health-related activities according to changing or emerging needs (Poole, 1997; Crisp, Swerissen & Duckett, 2000). With new reform by World Health Organisation, national capacity became more important to respond to a new working modality.

Conceptual Framework-To ensure efficient service delivery, good health services have to be made available to the reach of people at affordable cost (Wavomba, & Sikolia, 2015). Efficient service delivery can mean different things to different people. For physicians, efficient service delivery can mean the time taken to be attended to while on the queue. To

those already admitted into hospital facility, efficient service delivery can be seen in terms of care and attention received from health workers. If patients are not attended to as and when due, it can affect their psychological peace of mind which in turn reduce the chance of their recovery from ailment. To others, it may be the extent in which prescribed drugs are able to treat the diagnosed ailment. According to Berman, Pallas, Smith, Curry and Bradley (2011), effective and efficient service delivery is the point at which the potential of the health system to improve lives meets the opportunity to realize health gains. Health service–delivery performance means access and use by those in need; adequate quality of care to produce health benefits; efficient use of scarce resources; and organizations that can learn, adapt, and improve for the future (Berman, *et al*, 2011). In this study, efficient service delivery is measured in term of how quickly patients or hospital customers are being attended to by health workers.



In the figure above, if manpower shortage is regressed on service delivery and the result turns out positive, then it simply implies that shortage of manpower does not exist and therefore service delivery is adequate. In such situation, it can be said that the concerned hospitals are operating at optimal capacity.

However, if the result turns out negative, then one can easily say that truly there is inadequate manpower which serves a detriment to service delivery in the selected hospitals. A negative result on job stress using all the explained variables of manpower shortages, role

conflict and workloads suggests that job stress does not exist while the reverse implies that there exists job stress. When the variables are negative, a unit increase in any of the negative variables will lead to reduction in job stress. If they are positive, any unit increase in any of the positive will consequently increase the job stress among workers. In the above figure, it is possible to directly relate manpower shortage, job stress and workloads to service delivery.

3. Methodology and approach

The population for this study is based on all the nurses in public sectors located in Jos Metropolis. A primary data such as questionnaire backup with interviews were sourced from selected organisations. The copies of questionnaire were distributed to all the registered nurses in selected public hospitals. A total of 120 copies of questionnaire were distributed to respondents out of which 102 copies were filled and returned and are valid for this study. A purposive random sampling technique was adopted for this study.

Model Specification

Impact of manpower shortages, role conflict and workloads on job stress

This first model in this subsection is designed to test hypotheses (i) to (iii). It is speculated that manpower shortages, role conflict and workload have significant impact on job stress. If these independent variables are negative, the job stress will reduce while a positive results lead to increase in job stress. Based on the specific objectives of the study, the following hypotheses were formulated in null form and tested at 0.05 levels of significant levels.

- (i) **H₀₁**: Manpower shortage does not significantly lead to job stress in selected public hospitals.
- (ii) **H₀₂**: Role conflict has any significant influence on job stress in selected public hospitals.
- (iii) **H₀₃**: Workload has significant effect on job stress in selected public hospitals.

On the premise of the above hypotheses, the model is formulated as follow:

$$JOSTRES = f(MANPWRSH, ROLCONF, WRKLD) \quad (1a)$$

linearising the independent variables we have

$$JOSTRES = \gamma_0 + \gamma_1 MANPWRSH + \gamma_2 ROLCONF + \gamma_3 WRKLD + \varepsilon \quad (1b)$$

where

JOSTRES = Job stress,

MANPWRSH = manpower shortages

WRKLD = Workload

Impact of manpower shortages, role conflict and workloads on job stress

In any organisation where there is shortage of manpower leading to job stress as well as role conflict is bound to face service failure or poor service delivery. Public hospitals with many patients trooping day-in-day-out have been criticized with poor service delivery. The direction of arrows towards the left implies that the concerned hospitals are not operating at optimal level and hence the need for check each variables of job stress determinants so as to seek for improvement by building a strong and reliable capacity in the facilities. To understand if a system is operating below capacity, the regression of independent variable (s) will automatically produce negative results which means if nothing is done to save the system, a unit increase in that variables will lead to decrease in the level of operation.

In health facility which is the focus of this study, negative relationship between independents and dependent variables will lead to slowdown of activity in hospitals thereby increase the queue system. This explains why some health seekers leave the queue and without being served. On the other hand, a positive result suggests such system is operating at efficient level and a unit increase in all the positive variables will increase the level of efficient. A system like lead will rapidly lead to few queue being maintained in the hospital facility. This model explains the extent in which job stress, manpower shortages and role conflict affect service delivery in public sectors and it is also used to achieve objectives (iv) to (vi) of the study by considering the following hypotheses:

- (i) **H₀₄**: Job stress has no significant effect on service delivery in selected public hospitals.
- (ii) **H₀₅**: Shortage of manpower does not significantly affect healthcare delivery in selected public hospitals.
- (iii) **H₀₆**: Role conflict does not significantly influence service delivery in selected public hospitals.

In light of these hypotheses, the following service delivery function is given as follow:

$$SERVDEL = f(MANPWRSH, JOSTRES, WRKLD) \quad (2a)$$

linearising the independent variables we have

$$SERVDEL = \gamma_0 + \gamma_1 MANPWRSH + \gamma_2 ROLCONF + \gamma_3 WRKLD + \varepsilon \quad (2b)$$

where

SERVDEL = Service delivery

JOSTRES = Job stress,

MANPWRSH = manpower shortages

WRKLD = Workloads

4. Results

Manpower shortages can increase the workloads. Both workloads and role conflict can degenerate to job stress. The extent to these variables relates to one another are presented in this section.

Demographic Information of the respondents - This section deals with presentation of demographic information of the respondents in selected public hospitals. In the table, more respondents (64.7%) are drawn from Federal hospitals than in state hospitals (25.5%), just as there are more female respondents (71.6%) than male respondents (28.4%). The age distribution of the respondents somehow normally distributed with most respondents falling within the age bracket of 48-53 years (26.5%).

Table 1: Demographic information of the respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Name of Hospitals	Federal	66	64.7	64.7	64.7
	State	36	35.3	35.3	100
	Total	102	100	100	
Gender	Male	29	28.4	28.4	28.4
	Female	73	71.6	71.6	100
	Total	102	100	100	
Age Group	18-23	2	2	2	2
	24-29	13	12.7	12.7	14.7
	30-35	16	15.7	15.7	30.4
	36-41	12	11.8	11.8	42.2
	42-47	20	19.6	19.6	61.8
	48-53	27	26.5	26.5	88.2
	54-59	12	11.8	11.8	100
	Total	102	100	100	
Marital status	Single	22	21.6	21.6	21.6
	Married	80	78.4	78.4	100
	Total	102	100	100	
Educational qualification	RN	10	9.8	9.8	9.8
	RNRM	11	10.8	10.8	20.6
	B.Sc.	32	31.4	31.4	52
	Masters	49	48	48	100
	Total	102	100	100	
Rank in	ADNS	9	8.8	8.8	8.8

employment	CNO	28	27.5	27.5	36.3
	ACNO	11	10.8	10.8	47.1
	PNO	11	10.8	10.8	57.8
	SNO	18	17.6	17.6	75.5
	NOI	8	7.8	7.8	83.3
	NOII	17	16.7	16.7	100
	Total	102	100	100	
Work experience	1-5	11	10.8	10.8	10.8
	6-10	28	27.5	27.5	38.2
	11-15	14	13.7	13.7	52
	16-20	17	16.7	16.7	68.6
	21-25	14	13.7	13.7	82.4
	26-30	18	17.6	17.6	100
	Total	102	100	100	

Source: Authors' Computation.

Also, there are more married respondents (78.4%) than single (21.6%) and that about 79.4% of the respondents have either first degree (31.4%) or masters degree (48%) while the remaining 20.6% of the respondents have either RN (10.8%) or RNRN (11.8%). As regard position individual respondents are occupying, most respondents (27.5%) are in CNO position, followed by SNO (17.6%). Similarly, 21.6% of the respondents occupy ACNO (10.8%) and PNO (10.8%) respectively. It is also clear that about 27.5% of the respondents have 6-10 years working experience in nursing profession 48% of the total respondents have 16 to 30 years working experience in the following distribution: 16-20 years (16.7%), 21-25 years (13.7%) years, and 26-30 years (17.6%).

Table 2a: Relationship of manpower shortages, role conflict and workloads with job stress

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.303 ^a	.092	.082	.76057	.092	10.078	1	100	.002	1.983
2	.824 ^b	.679	.672	.45461	.587	180.896	1	99	.000	
3	.899 ^c	.809	.803	.35236	.130	66.797	1	98	.000	

Source: Authors' computation.

Table 2a reveals the relationship how manpower shortages, role conflict and workloads lead to job stress. As it can be seen, entry of MANPWRSR accounted for 9.2% and has significant relationship with job stress ($R^2 = .092$; $F = 10.078$, $p < 0.000$). This implies job stress among nurses can also be linked to shortage of manpower in selected hospitals. Also, the entry of

ROLCNF contributed 58.7% to job stress and is significant ($R^2 = .587$; $F = 180.896$, $p < 0.000$) thereby increasing the total explained factors from 9.2 % to 67.9%. This means that combination of MANPWRSH and ROLCNF significantly accounted for 67.9% of the job stress among nurses. Similarly, the entry of WRKLD accounted for 13% of job stress and is also significant ($R^2 = .130$; $F = 66.797$, $p < 0.000$). This means that workload is responsible for 13% of job stress thereby bringing the total to 80.9% as is evident in Table 4.4.1a. This invariably means that shortage of manpower, role conflict and workloads accounted for 80.9% job stress among workers in public hospitals.

Table 2b: Impact of manpower shortages, role conflict and workloads on job stress

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	1.300	.229		5.681	.000
MANPWRSH	.115	.034	.158	3.380	.001
ROLCNF	.376	.025	.683	15.059	.000
WRKLD	.270	.033	.392	8.173	.000

a. Dependent Variable: JOBSTRESS

Source: Authors' computation.

In the regression output in Table 2b reveals that MANPWRSH (Beta = 0.115, $t = 3.380$, $p < 0.000$) and ROLCNF (Beta = .376, $t = 15.059$, $p < 0.000$) jointly have significant impact on job stress. Also, WRKLD (Beta = 0.270, $t = 8.173$, $p < 0.000$) has significant impact on job stress. These results suggest that as the three independent variables have significant impact on job stress among nurses in public hospitals. On the basis of this information, the null hypotheses are rejected and conclude that shortage of manpower, role conflict and workloads have significant impact on job stress among health workers in public hospitals.

Table 3a: Relationship between Impact of job stress, manpower shortages and role conflict on service delivery

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.773 ^a	.598	.594	.91924	.598	148.505	1	100	.000	1.947
2	.804 ^b	.646	.639	.86592	.049	13.693	1	99	.000	
3	.845 ^c	.714	.705	.78312	.067	23.043	1	98	.000	

Source: Authors' computation.

Table 3a shows the interaction of independent variables and dependent variable. In the table, entries of JOSTRES and MANPWRS respectively accounted for R Square Change test of 59.8% ($R^2 = 0.598$; $F = 148.505$, $p < 0.000$) and 4.9% ($R^2 = 0.049$; $F = 13.693$, $p < 0.000$). This means that job stress (JOSTRES) and manpower shortages (MANPWRS) jointly explained 64.6% of poor service delivery among health workers. Also, the WRKLD accounted for R Square Change test of 6.7% ($R^2 = 0.067$; $F = 23.043$, $p < 0.000$) of poor service delivery in public hospitals. Table 2b shows the regression output of these results.

Table 3b: Impact of job stress, manpower shortages and workloads on service delivery

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-1.477	.567		-2.604	.011
JOBSTRESS	1.857	.123	1.023	15.059	.000
MANPWRS	-.236	.077	-.178	-3.088	.003
WRKLD	-.411	.086	-.329	-4.800	.000

a. Dependent Variable: SERVDEL

Source: Authors' computation.

In Table 3b, the regression model with negative constant indicates that quality in service delivery will be reduced while reverse suggest that quality in service delivery will be high. The In fact the negative constant suggest that an already existing poor service delivery which necessitate the independent variables to be positive. As it is evident, job stress (JOSTRES: Beta = 1.857, $t = 15.059$, $p < 0.000$) has positive and significant impact on service delivery. This means that a reduction in job stress leads to good service delivery while the reverse holds. Hence, based on this result, it can be said that reduction in job stress has significant impact on good service delivery among health workers in public hospitals. However,

manpower shortages (MANPWRS: Beta = -.236, t = -3.088, p < 0.000) and workload (WRKLD: Beta = -.411, t = -4.800, p < 0.000) have negative and significant impact on service delivery. This suggests that as manpower shortage and workloads increased, the service delivery will be reduced. Thus, based on these results, the null hypotheses are hereby rejected and conclude that manpower shortages and workloads have negative and significant impact on service delivery.

5. Conclusion and recommendations

The study investigated the cause of job stress and how the latter lead to poor service delivery in public hospitals. Three main variables of job stress determinants were investigated and how they affect service delivery. The findings revealed that manpower shortages, role conflict and workload have significant impact on job stress among health workers in public hospitals. Also, job stress was found to have positive and significant impact on service delivery while manpower shortages and workload have negative and significant impact on service delivery. On the basis of these findings, the study concluded that shortage of manpower, role conflict and workloads significantly accounted for 80.9% of job stress in public hospitals. Similarly, a reduction in job stress leads to good service delivery while increased shortage in manpower and workloads to poor service delivery. Due to increasing job stress in public hospitals, this study recommends that the management of the selected hospitals to intensify efforts to recruit qualified health workers so as to reduce workloads and job stress on the existing workers. This will also lead to efficient service delivery among workers. There is also need to specifically detail out the job specification for individuals' health workers to as to avoid role conflict among staff as this will reduce long queue.

Limitation of the study - This study focuses on public hospitals in Jos metropolis. The scope of study and number of nurses used for the study making up a sample of 102 in selected public hospitals cannot be used safely to generalize. Also, this study did not directly investigate whether motivation in form of rewards and other fringe benefits can be used to encourage health workers to efficiently perform their duties. In light of this, future studies should consider these limitations and include private hospitals for a whole range of geographical location so as to come up with policy framework that will lead to effective healthcare delivery in Nigeria.

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