The Relationship between Work Stress and Employees’ Performance in Public Health Sectors: A Case of Mbeya Regional Hospital, Tanzania

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Abstract
The study aimed at assessing the relationship between work stress and employees’ performance in public health sectors at Mbeya Regional Hospital in Tanzania. Descriptive cross-sectional research design informed the study, employed on a sample of 120 respondents attained through stratified sampling. The primary data were collected using structured questionnaires while secondary data were captured through documentary analysis. The multiple regression analysis was used in analyzing data with the aid of Statistical Package for Social Science (SPSS) version 20. Findings revealed that the significant number of doctors; nurses and medical attendants experience high level of job performance accompanied with moderate level of work stress. The total work stress scores were statistically significantly positively related to employees’ performance. Likewise, the results showed that workplace stress sub-scales were insignificantly positively related to employees’ performance. The results suggest that work place stress keeps employees on their toes leading to better performance. The study recommends that for the hospital to maintain the current and future performance levels, its management should moderate stress levels in order to harness the positive side of work place stress, short of which the negatives side of work place stress may prevail.

Keywords: Employee performance, job performance, work place stress, occupational stress, doctors, nurses, medical attendant, Mbeya and Tanzania

1. Introduction
Work stress among health care professionals is one of the critical challenges across the globe that threatens the well-being of health workers and patients (Lloyd et al., 2002). Stress is defined in various ways by different scholars, but according to Zastrow (1984) it is the ‘emotional and physiological reactions to stressors.’ A stressor is a demand, a situation or circumstance that disrupts a person’s equilibrium and initiates the stress response of increased autonomic arousal (Lloyd et al., 2002). That is why persisted stress is linked with prolonged anxiety and mental illness (Caughey, 1996). Consequently, can results into detrimental health effects to health staff and may affect job performance. The risk of the effects can be even more severe if stress affects the health sector employees; as it can lead into clinical errors, and carelessness in a way that could be dangerous to the wellbeing of patients (Kazmi, 2008).

According to Swalshah (2013) the health sector is one of the most stress ridden work settings in the world. Kazmi et al. (2008), in support of this argument said that, health sector is an inherently stressful work setting, causes of which include long working hours, ethical dilemmas, difficult patients and incompatible demands. Supporting the same, Rawal and Pardeshi (2014) identified stressors associated with health workers including shortage of staffs, work overload, too much administrative work, and lack of support from superiors and peers. In general, most of the health care workers are on 24 hours duty. Many workers work long, irregular hours; over one third of full-time employees work more than 60 hours a week. The physical and psychological demands on the employees often make them more vulnerable to high levels of stress. Lutfi, (2013) affirms that health workers have several kinds of stress. These include their work in incomparable environment having conflict between being implicated emotionally with patients and their families and being objective in their emotions and feelings; full of noise, pollution, liable to infections.

Al-Swallah (2013) points out that the result of work stress strike efficiency and quality of health workers as it amplifies errors in prescribing, limited team work, more patients’ complaints and sickness absence. Psychological
influence upset into a bad lifestyle practices, like smoking, over eating, drinking alcohol and lead to serious chronic diseases like hypertension and heart diseases. Thus, it could lead into clinical errors, and carelessness in a way that could be dangerous to the wellbeing of patients (Kazmi, 2008).

Furthermore, Al-Omar, (2003) argued that earlier studies have revealed positive relationship between work stress and the number of errors. In the United States for example, it was reported that avoidable errors caused between 44,000 and 98,000 patients to die every year (Al-Omar, 2003). In similar vein, in the United Kingdom, poorer mental health, more frustration and higher stress levels were expressed in 1993 than 1987 (Al-Omar, 2003). British National Health Service’s reported 25% to 50% of staff were distressed.

Siril, et al., (2013) pointed out that in Tanzanian context like the rest of the world, health workers carry the responsibility of providing health services to all communities. The demand for health care provider nationally has increased. Since there is a growing demand for the skilled services of healthcare, there should be encouraged to continuously improve their clinical expertise and competence. The healthcare field is widely acknowledged as an essential component of health care delivery systems. Although there are many healthcare providers who are eligible to practice, the challenge that faces the healthcare system is that there is still a shortage in the number of healthcare workers required to meet the health care demands of the Tanzanian population. For example, in 2012, there were approximately 0.31 physicians per 10,000 individuals nationwide (Goodell, 2016). To date, the Tanzanian doctor-to-patient ratio stands at 1 doctor for every 20,000 patients (World Health organization, 2019). This implies that still there is no significant improvements and the health professionals remain overwhelmed by number of patients which can results into poor health care provisions. Subsequently, national health workers are disgruntled with their jobs because of low salaries, heavy workloads, limited promotion opportunities, limited medical equipment’s, and unsafe working environments which ultimately adds on their stress (Siril, et al., 2013).

Furthermore, health workers on duty in Tanzania also face the added risk of infection from diseases such as HIV and AIDS and the build-up of chronic stress (Siril, et al., 2013). Thus, there are concerns that the combination of a low salary, a heavy workload, long working hours and exposure to infections may contribute to health workers underperformance.

Based on the reviewed empirical literature such as (Al-Omar, 2003, Musyoka, et al., 2012, Azizollah, et al., 2013); Kazmi, et al., 2008; Lutfi, 2013 and Muaza, 2013 Mkuumbo, 2014), it is evident that workplace stress is perhaps higher in the health care sector. Its effects have been shown on a variety of job outcomes particularly on employee/job performance. However, while significant attention has been given to the relationship between workplace stress and employees’ performance, the resulting empirical evidence is far from being consistent and uniform as there is lack of consensus. While some studies have shown positive relationship, others have shown a negative relationship or U-shaped relationship between the two (AbuAlRub, 2004). The results are expected to indicate whether work stress has negative, positive or curvilinear (U-shaped) impact on employees’ performance. These contradictions have added more complication to research on work stress.

Furthermore, according to Mkuumbo (2014), there is paucity of evidence from the health care sector in Tanzania, an underdeveloped country characterized with socio-economic challenges in the provision of social services including health care services. The dwindling financial resources to recruit, train, develop and compensate health care human resource; to procure medical supplies and to equip hospitals with medical equipment are among things which may contribute to work place stress. Yet, little has been done to ascertain the levels of work place stress in the hospitals and its relationship with job outcomes like employee performance due to increased role overload, increased role responsibility and deteriorating working condition. While the gap in work stress research are certainly too wide to be filled by a single study only, this study is just one of evidence from one of the Tanzania’s many regional hospitals, that is, Mbeya Regional Hospital. Therefore, this study sought to make a contribution to the already growing body of knowledge about work stress and employee’s performance by generating empirical evidence from a public hospital in Tanzania.

2. Theories of the Work Stress

A variety of studies have identified specific models that they believe played an important role in developing the theoretical background for examining work stress. For the purpose of this study the job demands-control model (Karasek, 1979) and Role theory (Kahn, et al. 1964) have been adopted followed by a conceptual framework.

2.1. The Job Demands-Control Theory (JD-C)

According to this theory, work stress occurs when job demands are high and job decision control is low (Hsieh, et al. 2014). The Job Demand-Control (JD-C) model (Karasek, 1979) is based on the proposition that the interaction between job demands and job control is the key to explaining performance outcomes. According to Karasek, the demand-control theory can effectively anticipate job performance. The theory proposed that when a person is under high work-demand and low work-control, some biological and psychological problems will occur and can lead to low job performance levels. When a person is under high work-demand and high work-control, he/she display more positive job performance levels. The concept of control has been recognized as an important component of the stress process. From the JD-C model it is clear that job demands and job control interact in such a way that it creates different psychological work experiences for a person, depending on the respective amount of job demands and job control (Karasek, 1979). The theory has been used in various studies on effects of job stress on employees’ job performance, for example, Shikieri, et al. (2013) and Ahmed, (2013).

*This is because health workers on duty also face the added risk of infection from diseases such as HIV and AIDS (Siril, et al., 2013).*
2.2. The Role Theory
Role Theory was developed in the 1960s and provides insight into the processes that distress the physical and emotional state of employees which in turn affects their workplace behaviour (Kahn, et al. 1964). As employee behaviour is directly connected to their work performance, understanding the determinants of employee's behaviour in the workplace can allow organizations to maximize employee performance (Ahmed and Ramzan, 2013). In order to fulfill expected service outcomes ‘over the last decade human service agencies in most western economies have undergone major organizational restructuring and redefinitions of professional roles’ (Layne, 2001).

One of the basic buildings the role theory is that various occupational roles that a person engages in which may be stressful in spite of their actual occupation, suggesting that stress originates in a variety of work roles and may affect all workers. Layne (2001) described six roles that felt were stressful in spite of an individual’s actual occupational choice. These six roles include: (i) role ambiguity; (ii) role insufficiency; (iii) role overload; (iv) role boundary; (v) responsibility; and (vi) physical environment. However, it may also be important to note that the theory was developed in the 1960s in an organizational context that is markedly different and perhaps less complex than that experienced today. This theory has been adopted in such studies as Layne (2001). However, Ahmed and Ramzan (2013) argues that while there is an agreement among researchers on the stress related terminologies adopted, it has been difficulty for the scholars to develop a coherent theory on work stress

2.3. Conceptual Framework

![Conceptual Framework](image)

Figure 1: Conceptual Frameworks as Adapted from Manzoor, et al. (2012)

After conducting the broad literature review, the conceptual and theoretical framework is designed. This conceptual framework consists of three constructs comprised of two parts. In the first part, workplace stress is explained by three most reported work stressors in healthcare profession identified as role overload, responsibility and physical environment treated as an independent variable and having its effect on employee performance which is treated as dependent variable.

2.4. Theoretical Framework

In this section a theoretical framework for work stress is developed based on the objectives and previous literature review in this area. A model developed consistent with previous theory that estimates the effects of level of stress on employee performance. This construct included in this proposed research model above encircling work stress and employee performance. Their relationship is illustrated in Figure 1. The definitions of these variables are as follows (Manzoor, et al., 2012)

- Work stress can be comprehensively defined as ‘the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker
- Employee Performance is the feeling of a person to have successfully completed his tasks and duties, assigned to him, when an individual is subject to utilize the available resources under normal constraints

2.5. Statement of Hypotheses

On the basis of above discussions, the hypothesis of this study is as follows:

- H₀: There is no relationship between work stress and employees’ performance.
- H₁: There is a relationship between work stress and employees’ performance

3. Methodology

The study was carried out at Mbeya Regional Hospital which is situated in Mbeya Urban District, Mbeya region, Tanzania. The district lies between Latitude 7° and 9° South of Equator and between longitude 33° and 35° East of Greenwich. The district has a total area of 19,098 Square Kilometers with a population of 385,279 people (Census Report, 2012). The Region Hospital is among the hospitals in Mbeya which receives large number of patients from other districts hospitals in Mbeya region before referred to Mbeya referral hospital. In this regard, therefore, the hospital used to receive a large number of outpatients and admitted patients from different areas around Mbeya Region.
In conducting this study, a quantitative approach was used and informed by positivist paradigm. According to Nudzor (2009) positivism is a research paradigm that promotes methodological monism which claims that the right way to provide certain knowledge can be established through objectivity and quantification (Kamil, 2011). Objectivity implies that the researcher and the reality being researched are separate and objective reality exists beyond the human mind (Weber, 2004). In this regard, data collection, analysis and interpretation were based on quantitative methods. The study adopted a deductive approach and a cross sectional survey research strategy. According to Kumar (2011), cross-sectional descriptive design is the one of the most commonly used design on social sciences. It was adopted since it has linkage with deductive approach that allows data to be collected at one point at a time across respondents (Saunders, et al., 2009). The study consisted a sample size of 120 employees drawn from Mbeya Region hospital medical staff with proportional representation to each selected. The population was divided into distinct, independent strata to draw inferences about specific subgroups that may be lost in a more generalized random sample. To be included in the sampling frame, one needed to be in the cadres of doctors, nurses and medical assistants. More details are presented in Table 1 below.

| S/N | Respondents Category       | Number of Employees | Sample Size |
|-----|----------------------------|---------------------|-------------|
| 1   | Doctors                    | 38                  | 22          |
| 2   | Nurses                     | 112                 | 63          |
| 3   | Medical attendents         | 63                  | 35          |
|     | Total                      | 215                 | 120         |

Table 1: Respondents and Proportionate Selection of Sample Size
Source: Field Survey (2015)

The main data collection instruments of this study were questionnaire. According to Cohenet al. (2007) questionnaire is convenient to gather data from large number of respondents within a short period of time. The questionnaire was translated to Kiswahili for ease of understanding and was disseminated to the respondents.

The descriptive statistics, and multiple regression analysis with the aid of Statistical Package for Social Sciences (SPSS) software (version 20) were used to analyze data. However, before data analysis, for consistency purposes all filled questionnaires were checked for completeness every day after field work. Data cleaning and inspection was done to check accuracy and missing values for prior to further statistical analysis. Items that were negatively worded were reverse-coded and scale tests for reliability (internal consistency) of the scales were run and Cronbach’s alpha was reported. Total scores for the employee’s performance scale and for the work stress and of its sub-scales was computed using multiple regression analysis.

According to Kothari (2004) multiple regression analysis is used when there are two or more than two independent variables. This study employed multiple regression analysis to assess the relationship between work stress and employee’s performance in general and the several facets of work stress (role overload -ROLOAD, role responsibility RRESP and work’s physical environment - PENV).

The models are written as:

\[ EPERF = \alpha + \beta_1\text{ROLOAD} + \beta_2\text{RRESP} + \beta_3\text{PENV} + \varepsilon, \]  
(1)

\[ EPERF = \alpha + \beta_1\text{WPSTRESS} + \varepsilon, \]  
(2)

Where \( \alpha \) in both models was a constant variable performance level without stressors; \( \beta_1 \) in model (1) measured the effects of role overload holding role responsibility and physical environment constant; \( \beta_2 \) measured the effects of role responsibility holding role overload and physical environment constant; \( \beta_3 \) measured the effects of physical environment holding role overload and role responsibility constant; and finally, \( \beta_1 \) in model (2) measured the effect of overall work place stress on employee performance. \( \varepsilon \) Was a disturbance term, assumed to be distributed with mean zero and standard deviation of 1? Results of model fit as well as those of the parameter estimates and their significance levels were reported and evaluated.

3.1. Ethical Considerations

Ethical clearance to conduct the study was obtained from the Open University of Tanzania ethical committee. Permission to conduct the study was sought from the Municipal Medical Officer of Health. After describing the purpose of the study, each respondent gave written informed consent prior to participation in the study. All respondents were assured of anonymity and confidentiality. Their participation was voluntarily and decision of not participating was respected without any penalty.

4. Study Findings

4.1. Relationship between Workplace Stress and Employees Performance

The study sought to find out whether employees’ performance at Mbeya Regional Hospital (MRH) is related to their stress levels. The study developed the hypothesis in order to find out the relationship between the two variables;

- \( H_0 \): There is no relationship between work stress and employee’s performance.
• H1: There is a relationship between work stress and employee’s performance
Multiple Regression analysis was used to test the study hypothesis. The models were written as:
\[ \text{EPERF} = \alpha + \beta_1 \text{ROLELOAD} + \beta_2 \text{RRESP} + \beta_3 \text{PENV} + \epsilon; \]  \hspace{1cm} (1)
\[ \text{EPERF} = \alpha + \beta_1 \text{WPSTRESS} + \epsilon; \]  \hspace{1cm} (2)

Table 2 indicates relationship between total work stress and employee’s performance at Mbeya regional hospital. The findings reveal that, there is significant positive relationship between work stress total scores and employee's performance at Mbeya regional hospital as indicated by their coefficients. Linear regression results show that work stress in its totality explains 3.9 percent of the variations in employees’ performance and that the linear model has power to significantly predict employees’ performance at 0.05 levels. The coefficient of the scores in work stress is positive i.e. 0.048 implying that work stress positively affects employees’ performance. This implies that one-unit change in total work stress results to 0.048 increases in work performance.

Multiple Regressions analysis was also used to find out the relationship between work place stress sub-scales (role overload, role responsibility and physical environment) and employee’s performance as displays in Table 4.1. The relationship between work stress sub-scales and employee performance is not significant as indicated by their coefficients. The model loses its prediction power and the amount of variation in employee performance explained by the subscales does not change much. Findings reveal that when role responsibility and physical environment remain constant (0.142) and (0.022) respectively role overload is not related to employee's performance (0.03).

Again, when role overload and physical environment remain constants, the role responsibility is not related to employee's performance, as well as when role overload and role responsibility remain constants, the physical environment is not related to employee's performance. They are all positive but no sufficient evidence to suggest that relationship between workplace stress sub-scales and employees' performance is significant.

5. Discussions
The results obtained in this study are discussed in line with the research question stated previously. In order to answer the key questions, the objective that this study sought to attain was to determine the extent to which employees’ performance at Mbeya Regional Hospital (MRH) is related to their stress levels. The results from Table 4 about hypothesize of research showed that employee's performance and work stress had a relationship as indicated by their coefficients. Linear regression analysis shows a significant positive relationship between work stress and employees' performance with work stress explaining about 3.9 percent of the variation in employees' performance. The model with total work stress scores showed significant predictive power implying that one-unit change in total work stress results to 0.048 increases in work performance.

Therefore, as per study hypothesis there is a strong evidence to suggest that there is a significant positive relationship between workplace stress and employee's performance. These results are consistent with the findings of the study carried out by AbuAlRub (2004) on the effects of job stress on job performance among hospital nurses in Jordan in which similar results were reported. However, the findings of this study indicated that there were positive but insignificant relationships between workplace stress subscales (role overload, role responsibility and physical environment) and employees' performance. The findings of the study showed that there was a positive but insignificant relationship between role overload (TRO) and employees’ performance (β=0.03, and p-value 0.968). This result is unexpected and is in opposition to what most studies have found including an investigation conducted by Haybatollahi (2009) who reported that work role overload appeared to have a negative relationship to performance which lead to poor job performance.

Also, the results showed there was a positive but insignificant relationship between work role responsibilities (TRR) and employees' performance (β=0.142, p-value 0.109). These results do not agree with previous studies which reported a negative relationship between work role responsibility and employee's performance. For example, in a study of relationship between job stress and performance among the hospitals nurses in year of 2012-2013 in Iran, it was reported that role responsibility had a negative relationship between job performances (Azizollah, 2013).

Furthermore, results of this study indicated a positive but insignificant relationship between physical environment (TPE) and employee’s performance (β=0.22, p-value=0.785). These results are in agreement with previous

| Parameter | B | S.E | t | P-Value |
|-----------|------------------|------------------|------------------|------------------|
| Constant  | 34.91 | 2.43 | 14.37 | 0.000 |
| TWS       | 0.048 | 0.023 | 2.08 | 0.040 |

R-square 0.039 A/R-Square 0.029 F(1) = 4.337 P = 0.040
DV = Employee performance, IV = TWS, constant

Table 2: Relationship between Variables

study conducted by Haybatollahi (2009) who similarly reported a positive relationship between physical environment and employees’ performance. These findings are not in line with the expectation of this study and the predictions of role theory by (Kahn, et al. 1964.) in which employees were expected to perceive their work environment as more stressful.

The study findings are however consistent with the predictions of the Job Demand-Control (JD-C) model (Karasek, 1979). The theory based on the proposition that the interaction between jobs demands and job control is the key to explaining performance outcomes, that when a person is under high work-demand and high work-control, he/she display more positive job performance levels. The findings also indicate possible associations between the results and role theory by (Kahn, et al. 1964.). The basic buildings of the role theory are that various occupational roles that a person engages in which may be stressful in spite of their actual occupation, suggesting that stress originates in a variety of work roles and may affect all workers. Among the roles that felt were stressful in spite of an individual’s actual occupational choice were work role overload, role responsibility and physical environment. The results of multiple regression analyses indicated that a model including all work role stressors provides stronger prediction for employees’ performance.

6. Study Limitations

When interpreting the results of the study, several limitations need to be kept in mind. First, data were only collected from doctors, nurses and medical attendants who resided in urban areas and not from rural locations; hence, the findings may not be generalized to all hospitals in Mbeya Region. Second, it is not known how precisely respondents in each professional group or cadre represented their field. No national directories are available for any of the groups; consequently, researchers were not in a position to pick random samples of potential participants. Therefore, the interpretation of comparisons across professional groups and any possible generalizations about each group must be made with countless carefulness. Providentially, many of the research questions and hypotheses involved relationships among variables within groups, rather than comparisons between groups.

7. Conclusion

It can be concluded that (i) work place stress significantly positively affects performance of hospital employees; (ii) from the low adjusted R-square statistics, either employee performance at MRH is predicted by a whole bunch of factors other than work place stress, or the relationship may not be linear.

8. Recommendations

The results of this study provide information to management in public hospitals to provide doctors, nurses and medical attendants with a variety of training on stress management in order to maintain or improve the performance of employees. The training package cover different areas including how the medical attendants can handle stress resulting from their daily activities at hospital settings. Additionally, the hospital management can create social or cultural activity that can facilitate to gather doctors, nurses and medical attendants, making seminars for open dialogue to share feelings, perspectives, and experiences, or scheduling of social events where doctors, nurses and medical attendants involve in culturally relevant activities together. The establishment of a counselling centre with a qualified social worker should also be considered to ensure that the medical staff in hospital settings have easy access of counselling services when need arises.

9. Suggestions for Further Research

Workplace stress is connected to workers daily life. Therefore, further studies to similar perspectives is recommended into deferent hospitals with different medical practices (private vs. public, hospital based vs. community based) focus on area of expertise. This study was limited to Mbeya Regional Hospital. Furthermore, future studies may consider an expanded sample to include other hospitals and or other staff cadres. These measures will improve generalizability of the results. Inclusion of other factors that work place stress in the model may also improve the understanding of performance of hospital employees.

10. Conflicts of Interest

The authors hereby declare that they have had no conflicts of interest in this undertaking.

11. Authors’ Contribution

With an exception of the first author, the remained authors contributed by the same token for the entire work. They all read and approved the final document prepared for submission to the editor and subsequent publication.

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