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Assessment of Work Related-Strain, Perceived Stress and Job Satisfaction among Young Medical Laboratory Scientists in Selected Health Facilities in Wuse II Federal Capital Abuja

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ABSTRACT

This study investigated the relationship between work-related strain, perceived stress, and job satisfaction among young medical laboratory scientists working in selected health facilities in Wuse II, Abuja. A descriptive survey design was adopted, and data were collected through a structured questionnaire administered to 120 respondents, of which 102 valid responses were analyzed. The data were subjected to descriptive statistics such as frequency, percentage, mean, and standard deviation, while the hypothesis was tested using Chi-square (χ^2) at a 0.05 level of significance. The findings revealed that major factors contributing to work-related stress among laboratory scientists include excessive workload, poor operating conditions, role duality, long working hours, and the use of sophisticated technologies. The attitude of patients also played a significant role in increasing job-related stress. The results showed that 45% of respondents agreed that work-related strain and stress affect job satisfaction to a high extent. Furthermore, the Chi-square value ($\chi^2 = 10.1$) exceeded the critical value (5.991), indicating a significant influence of work-related strain and perceived stress on job satisfaction. To improve job satisfaction, respondents identified adequate remuneration, promotion, effective supervision, fringe benefits, contingent rewards, and healthy working conditions as key motivating factors. The study concludes that high occupational stress significantly reduces job satisfaction among young medical laboratory scientists in Wuse II. Healthcare institutions should implement stress management programs, ensure adequate staffing, provide fair compensation, and improve workplace conditions to enhance staff morale and performance of the medical laboratory scientist.

Keywords: *Work-related strain, perceived stress, job satisfaction, medical laboratory scientists, healthcare workers*

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INTRODUCTION

Nowadays, there is a growing belief that the experience of stress at work has a negative effect, both on the health and safety of workers likewise the health and effectiveness of their organizations (Borys *et al.,* 2019). This has been proven true not solely in the realm of public and media attention, but also in scientific and professional organizations within and outside the country (Borys *et al.,* 2019). This have been found to have negative effects on health-care professionals. Numerous tasks undertaken by scientists are unfulfilling and routine, while many, by conventional standards, involve hazards and risks (Macdonald and Oakman, 2015). Given the nature of these tasks and circumstances, it is not surprising that scientists often report experiencing high levels of stress. Stress has been categorized as both a stimulus or response and an interaction, with discussions taking place from various perspectives. For instance, Deible *et al.* (2015) expected a physiological assessment that provides support for examining the correlation between stress and illness. Stress have affected individuals physically mostly when they get exposed to harsh and stressful conditions which can even lead to some damages that could be irreversible. For this reason, if an individual experiences a prolonged period of stress, he or she is at an increased risk of hypertension, cardiovascular attack or diseases, asthma and other illnesses that may be chronic (Gohar and Nowrouzi-Kia 2022). Workplace stress has persisted as a significant issue and source of worry for the last fifty years and significantly contributes to poor health and can result in high employee turnover, decreased productivity, human error, elevated accident rates, and subpar performance (Gohar and Nowrouzi-Kia 2022). If a position demands extensive work hours and provides minimal vacation time, employees may suffer from burnout. With prolonged working hours and limited opportunities to socialize with friends and family, employees may perceive their employer as failing to maintain a healthy work-life balance (Gelfand et al., 2004).

Assessing an individual's job or job experience involves considering job satisfaction as a crucial factor. Increased job satisfaction can enhance self-confidence, facilitate communication, decrease psychological distress, and promote better physical, mental, and social health among scientists. Various factors, including salary, communication, policies, job dimensions, work order, and personality characteristics, can influence job satisfaction among personnel. (Ong *et al.,* 2018). Work related-strain and perceived stress tends to threaten the health of organizations and the performance of employees (Ghawadra *et al.,* 2019). It has been proven that if an employer is not at sleep in his or her home, then he or she is at work. At some point in time, people spend their complete time at work which could be so tiring and devastating. There are some factors encountered at working environments that affect the psychological as well as emotional well-being of an employee which can have a negative effect both on the private life of an individual and on job satisfaction. However, there is insufficient information or research evidence regarding the impact of work-related stress on the performance of healthcare workers in Nigeria. In this regard, the study seeks to evaluate work related-strain, perceived stress and job satisfaction among young medical laboratory scientists working in selected health facilities in Wuse II Abuja.

METHODOLOGY

Study area

The study was carried out at Wuse II which is located in the Northwestern part of Abuja and is known as the city's heartbeat.

Research design

A descriptive survey research design was adopted for this study; this is because the study sought to find opinions that are held on the variables of the study, through the use of questionnaire.

Population of the study

Selected health facilities in Wuse II FCT Abuja was used as the sampled population. The facilities include; Lesha Hospital, Reliance Family clinic and Queens clinic limited. However, for continent purpose a sample size of 120 individuals were sampled across all the selected facilities in Wuse Federal Capital Territory, Abuja.

Sampling techniques

The sampling techniques adopted in this study is accidental sampling technique since the study focused on individual residents of Wuse Abuja. Accidental sampling, also known as convenience sampling, is a non-probability sampling technique where participants are selected based on their availability and convenience to the researcher.

Research instrument

The instrument for data collection used for this study is a questionnaire which was developed by the researcher. Based on the variables of the study, a modified Likert 4 point scale of measurement was used in scoring and rating of the responses to the items of the questionnaire The likert's format rating scale were adopted by the scoring Decision criterion mean (2.5) because it is appropriate for determining what an individual believes, perceives or feels about a phenomenon. The decision mean is calculated by

adding the values assign to the four likert format rating scale as (4+3+2+1=10/4 =2.5). Any decision mean that is 2.5 and above is accepted response and any decision mean that is below 2.5 is rejected response.

Validity of the Study

The researcher developed the questionnaire, which was then handed over to the project supervisor. The supervisor applied cognitive scrutiny, thoughtfully analyzing systematically and rationally evaluating the significance of the content and statements within the tool. Following this evaluation, the instrument was deemed valid for use in the study.

Data analysis

Method for Data Analysis

A descriptive statistic of frequency and percentage was used in the analysis of demographic information about the respondents. Mean and Standard Deviation score was used to answer the research questions at the criterion mean of ±2.50 for acceptance or rejection of questionnaire items. To test the formulated hypotheses One Way Analysis of Variance (ANOVA) was used at alpha level 0.05.

RESULTS

The overall number of 120 survey forms were distributed to the participants with 113 returned and 102 validated. The validation process excluded incomplete and inappropriate responses to some questionnaires. Consequently, 102 questionnaires were considered for the examination in this research.

Answering Research Questions

Test of Hypothesis

Ho: Work related-strain and perceived stress has no significant influence on job satisfaction of young medical laboratory scientists.

Degree of Freedom = (r-1) (c-1)

(3-1) (2-1) = (2) (1) = 2

At a significance level of 0.05 with a calculated degree of freedom, the critical value from the table is 5.991

Findings

The computed X^2 is 10.1, surpassing the tabulated X^2 value at a significance level of 0.05, which is 5.991

Decision

As the calculated X^2 value (10.1) exceeds the critical table value (5.991) at the 0.05 significance level, the null hypothesis is rejected. The alternative hypothesis, which posits that work related-strain and perceived stress has a significant influence on job satisfaction of young medical laboratory scientists is accepted.

DISCUSSION

The findings presented in (Tables 1 to 4) reveal important insights into the factors associated with work-related strain and stress, their impact on job satisfaction, and potential solutions among young medical laboratory scientists in selected health facilities in Wuse II, Abuja. From Table 2, it is evident that several factors contribute significantly to work-related strain and stress. These include working period in the profession, workload, operating conditions, role duality, use of sophisticated technologies, and patient attitudes all of which were accepted as major stress-inducing factors. The high mean scores and standard deviations across these variables indicate strong agreement among respondents. These findings are consistent with the reports of McVicar (2016) who observed that excessive workload, role conflict, and long working hours are common stressors among health professionals in Nigeria. Similarly, McVicar et al. (2016) found that work overload and poor working conditions are major predictors of job-related stress in healthcare environments.

Table 3 shows that 45% of respondents agreed that work-related strain and stress affect their job satisfaction to a high extent, while 31% reported a low extent and 24% were undecided. This indicates that a significant portion of young laboratory scientists experience reduced job satisfaction due to stress. The result aligns with Laranjeira (2012), who stated that high occupational stress levels often lead to burnout, emotional exhaustion, and decreased job satisfaction among healthcare workers. In Table 4, factors that could improve job satisfaction were identified, including adequate remuneration, promotion opportunities, effective supervision, fringe benefits, contingent rewards, and healthy working conditions all of which were accepted. These findings mirror those of Ghawadra *et al.* (2019), who asserted that fair compensation, recognition, and supportive management structures significantly enhance employee satisfaction and productivity. The hypothesis test in Table 5 further confirms that work-related strain and perceived stress have a significant influence on job satisfaction, as the calculated chi-square value (10.1) exceeds the critical value (5.991) at a 0.05 significance level. This statistically supports the conclusion that occupational stress is a major determinant of job satisfaction among young medical laboratory scientists in Wuse II.

Table 1: Demographic data of respondents

Demographic Information	Frequency	Percentage (%)
Gender		
Male	63	62%
Female	39	38%
Age		
20-24	6	6%
25-30	18	18%
31-35	31	30%
36+	47	46%
Education		
BSC	69	68%
MASTERS	25	25%
PHD	8	8%
Marital Status		
Single	36	35%
Married	43	42%
Separated	9	9%
Divorced	11	11%
Widowed	3	3%
Service Duration		
Below 5yrs	47	46%
5-10yrs	55	54%

Source: Field Survey, 2025

Table 2: Factors associated with work related-strain and stress among young medical laboratory scientists working in selected health facilities in Wuse II Abuja

S/N	ITEM STATEMENT	SA 4	A 33	D 2	SD 1	X	S.D	DECISION
1	Working period in the profession	65	19	09	09	25.5	26.8	Accepted
2	Workload	64	22	11	05	25.5	26.6	Accepted
3	Operating conditions	53	15	16	18	25.5	18.4	Accepted
4	Role duality	77	11	09	05	25.5	34.4	Accepted
5	Use of sophisticated technologies	43	33	14	12	25.5	15.0	Accepted
6	Attitude of patients	69	20	11	02	25.5	29.9	Accepted

Source: Field Survey, 2025

Table 3: Work related-strain and stress affects the job satisfaction of young medical laboratory scientists working in selected health facilities in Wuse II Abuja

Options	Frequency	Percentage (%)
High extent	46	45
Low extent	32	31
Undecided	24	24
Total	102	100

Field Survey, 2025

Table 4: Factors which can improve the job satisfaction of young medical laboratory scientists working in selected health facilities in Wuse II Abuja.

S/N	ITEM STATEMENT	SA 4	A 3	D 2	SD 1	X	S.D	DECISION
1	Adequate remuneration	61	26	12	03	25.5	40.1	Accepted
2	Promotion	58	29	12	04	25.5	23.9	Accepted
3	Effective supervision/coaching	70	11	15	06	25.5	29.9	Accepted
4	Administration of adequate fringe benefits	65	18	10	09	25.5	26.6	Accepted
5	Contingent rewards	56	30	13	03	25.5	23.2	Accepted
6	Healthy operating conditions	75	13	09	05	25.5	33.2	Accepted

Source: Field Survey, 2025

Table 5: Work related-strain and perceived stress has no significant influence on job satisfaction of young medical laboratory scientists.

Options	Fo	Fe	Fo-Fe	(Fo-Fe)2	(Fo-Fe)2/Fe
Yes	49	34	15	225	6.6
No	28	34	-6	36	1.1
Undecided	25	34	-9	81	2.4
Total	102	102			10.1

Source: Extract from Contingency Table

Conclusion

The findings of this study clearly demonstrate that work-related strain and stress significantly affect the job satisfaction of young medical laboratory scientists working in selected health facilities in Wuse II, Abuja. The major factors responsible for occupational stress include excessive workload, prolonged working hours, poor operating conditions, dual roles, and the demand for proficiency in sophisticated technologies. The negative attitude of patients was also identified as a contributing stressor, which can further strain professional interactions and overall morale. In conclusion, addressing work-related stress among young medical laboratory scientists is crucial to enhancing their job satisfaction, professional efficiency, and the overall quality of healthcare delivery in Nigeria. The study underscores the importance of proactive workplace policies that focus on employee welfare and mental well-being.

Recommendations

i. Health institutions should ensure that laboratory facilities are well-equipped and conducive to minimize stress arising from poor infrastructure and environmental constraints.
ii. Management should employ adequate staff to reduce excessive workload and ensure fair distribution of tasks among laboratory scientists.
iii. Regular review of remuneration, timely promotion, and provision of fringe benefits should be implemented to motivate staff and improve job satisfaction.

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