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## Assessment of Job Satisfaction among Academic and Clinical Radiographers in Public Institutions in Northern Nigeria

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**Methods:** A prospective cross-sectional study of 48 radiographers working in tertiary healthcare institutions and universities in northern Nigeria. Semi-structured questionnaires were used to obtain vital information about the working conditions of radiographers and degree of satisfaction they derive from their job.

**Data Analysis:** Descriptive statistics such as mean, percentages and frequencies were generated using statistical package for social sciences (SPSS) 19.0 and inferential statistics was used to compare the level of job satisfaction of academic and clinical radiographers.

**Results:** A total of 60 semi-structured questionnaires were distributed among radiographers across northern Nigeria and 48 were retrieved representing a response rate of 80%. There were 33 males (68.8%) and 15 females (31.2%). The age of radiographers ranges from 25-50 years with a mean age of 29 years.

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**Conclusion:** The study has shown that radiographers working in the northern part of Nigeria either as academics or clinicians are satisfied with their jobs on a general note and there is no significant difference between the level of job satisfaction among clinical and academic radiographers.

**Advances in Knowledge:** This research paper has identified lack of training/advancement opportunities, dilapidated infrastructure, incessant equipment breakdown and long equipment down time as major causes of dissatisfaction and frequent industrial strikes among radiographers in the region.

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## I. INTRODUCTION

The history of job satisfaction stems back to the early 1900's with the situationist perspective on job satisfaction. This perspective states that satisfaction is determined by certain characteristics of the job and characteristics of the job environment itself. This view has been present in the literature since the first studies by Hauser, Taylor and the various projects at the

Western Electric plants in Hawthorne. [1] These studies follow the assumption that when a certain set of job conditions are present a certain level of job satisfaction will follow.

It is noteworthy that, the greatest challenge facing healthcare systems in sub-Saharan Africa is the insufficiency of human resources from both qualitative and quantitative stand points. [2] This implies that every effort must be channelled towards improving the work standards and welfare of healthcare professionals in order to retain the current professionals and possibly attract more persons to the health sector. [3]

Radiographers across the world remain highly vital and highly indispensable as far as the healthcare institution and patient care is concerned. Consequently, the overall condition of the radiographer is paramount to the promotion of excellent well being of the sick patient. It is evident that dissatisfied health workers have compromised efficiency and a direct or indirect negative impact on the well being of the patient. [4,5]

It is in view of this fact that, several studies have been conducted by diverse intellectuals to evaluate and assess job satisfaction among medical practitioners and other allied health professional across the world. [6] Although studies have been conducted regarding medical practitioners and other health professionals, radiographers have not received considerable attention in this respect. [7]

Okaro reported that radiographers in southeast Nigeria are not satisfied with their jobs and would prefer another job if the opportunity comes. [7] This finding was also supported by David who also observed that radiographers in Northern Nigeria were clearly dissatisfied with their salaries. [8] Now, what are the main causes of strikes among radiographers and other allied health professionals? Has the welfare of radiographers in Nigeria improved over the years? If not, what then is the way forward? These are some of the questions which require urgent answers.

"Job satisfaction" is a multifaceted concept which covers the positive emotional, physical, psychological, moral and social gratification or contentment that individuals derive from their chosen profession. Visser et al., described job satisfaction as the extent to which one is generally fulfilled by or the pleasure derived from one's current job or working

conditions. [9] Although it is quite difficult to objectively assess job satisfaction, it is still achievable in many respects.

This study collated views of academic and clinical radiographers in some hospitals and universities in Northern Nigeria using job assessment scales and analyzed them in order to ascertain satisfaction. [6]

## II. MATERIALS AND METHODS

The objective of this study was to determine the level of job satisfaction among clinical and academic radiographers and possibly identify areas which require improvements in the tertiary healthcare institutions and universities in northern Nigeria. A prospective cross-sectional survey design was used for this study. It was carried out for a period of 4 months, from December 2014- March 2015.

### a) Setting and Subjects

A stratified convenience sampling technique was used for this study as 3 major geo-political zones in Northern Nigeria were considered, these include, the North-east, North-west and North-central. Primary source of data (questionnaires) was used for this study as data was collected from the radiographers working at hospitals and universities in Northern Nigeria. Acceptance to participate in the study after explanation of the study was considered as consent and participation was voluntary. Participants were allowed to withdraw from the study at any point without explanation.

### b) Instrument

The data was collected using self-administered 20 item scale structured questionnaires with questions on demographics, Job satisfaction, working conditions and areas requiring developments in radiography.

### c) Statistical Analysis

Data was analyzed using Statistical Package for Social Sciences (SPSS) version 19. Descriptive statistics such as mean, standard deviation, percentages and frequency distribution tables were utilized to analyze quantitative data and content analysis was used for semi-structured questions, t-test was used for the inferential statistics and  $p \leq 0.05$  was considered.

## III. RESULTS

A total of 60 semi-structured questionnaires were distributed across northern Nigeria among academic and clinical radiographers and 48 were retrieved representing a response rate of 80%. There were 33 males (68.8%) and 15 females (31.2%). The age of radiographers ranges from 25 to 50 years with a mean age of 29 years  $\pm$  10.5 years.

A total of 35 clinical radiographers and 13 academic radiographers participated in the study. About 22 radiographers (48.8%) who participated in the study recorded high rate of job satisfaction while 13 radiographers (31.3%) had optimal satisfaction and 11 radiographers (22.9%) were dissatisfied with their job.

Table 1.0 : Demographic Information of Radiographers with Overall Job satisfaction

Demographics		Frequency(%)	Satisfied	Dissatisfied
Category	Clinical Radiographers	35(72.9)	24(68.6)	11(31.4)
	Academic Radiographers	13(27.1)	13(100)	0
	Both (Clinical & Academic)	13(27.1)	13(100)	0
Gender	Male	33(68.8)	25(75.8)	8(24.2)
	Female	15(31.2)	12(80)	3(20)
Age	25-30	29(60.4)	24(82.8)	5(17.2)
	31-35	14(29.1)	9(64.3)	5(35.7)
	36-40	2(4.2)	1(50)	1(50)
	41 >	3(6.3)	2(100)	0
Nature of Work	Full-time	43(89.6)	35(81.4)	8(18.6)
	Part-time	5(10.4)	2(40)	3(60)
Years of Experience	0-5	34(70.8)	25(73.5)	9(26.5)
	6-10	9(18.7)	8(88.9)	1(11.1)
	11-15	3(6.2)	3(100)	0
	16 >	2(4.2)	1(50)	1(50)
Highest Qualification	DCR	1(2.1)	0	1(100)
	BSc	39(81.3)	29(74.4)	10(25.6)
	Msc and above	8(16.7)	8(100)	0
Institution	UMTH	13(27.1)	8(61.5)	5(38.5)
	FNPB	3(6.3)	3(100)	0
	ATBUTH	4(8.3)	3(75)	1(25)
	UNIMAID	7(14.6)	7(100)	0
	AKTH	10(20.8)	8(80)	2(20)

NHA	5(10.4)	3(60)	2(40)
BUK	6(12.5)	6(100)	0

Key: DCR: Diploma Certificate Radiography  
 BSc: Bachelor of Science Radiography  
 Msc: Masters Degree Radiography  
 UMTH: University of Maiduguri Teaching Hospital  
 FNPH: Federal NeuroPsychiatry Hospital  
 ATBUTH: Abubakar Tafawa Teaching Hospital  
 UNIMAID: University of Maiduguri  
 AKTH: Aminu Kano Teaching Hospital  
 NHA: National Hospital Abuja  
 BUK: Bayero University Kano

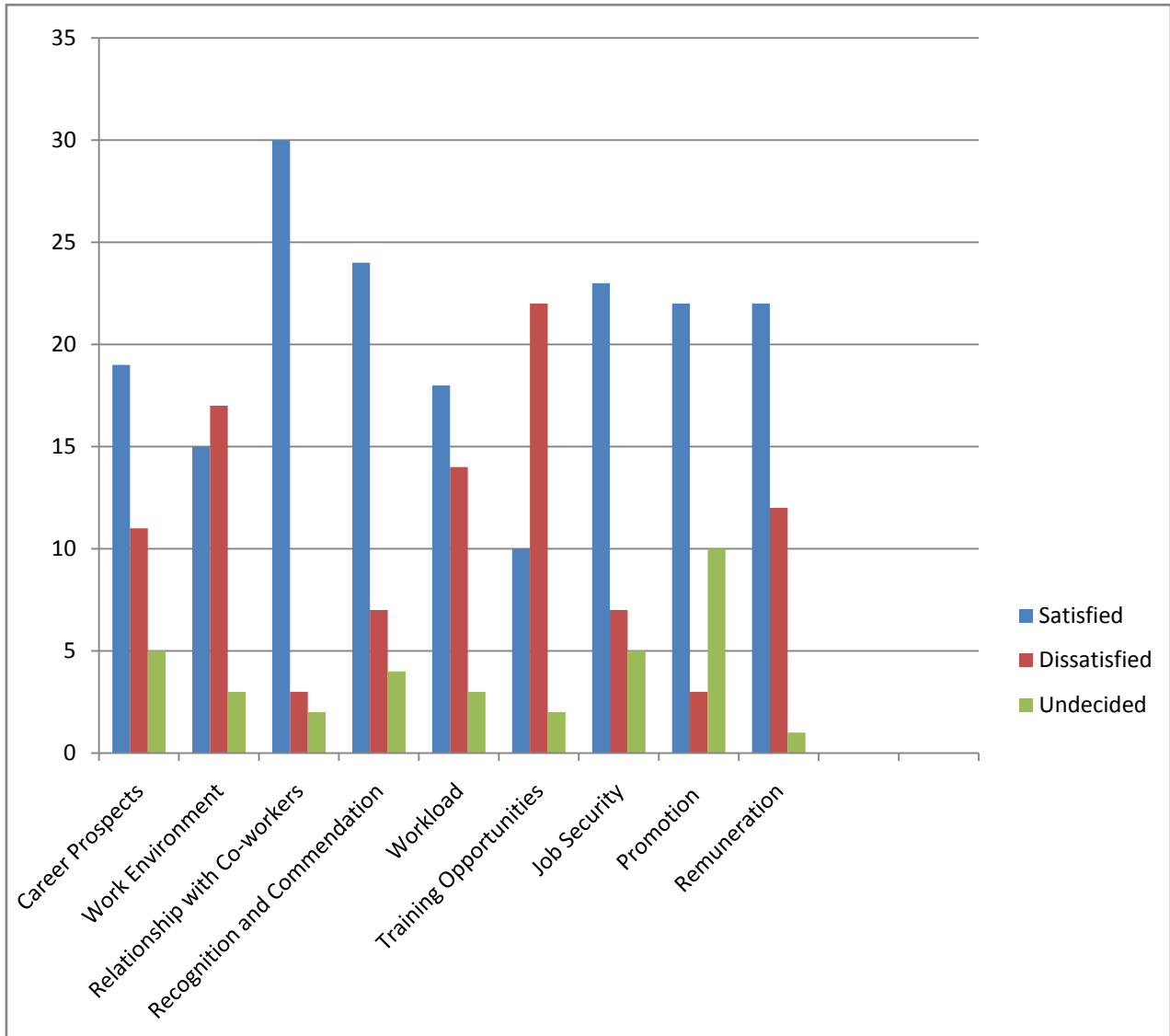


Figure 1.0 : Clinical radiographer's satisfaction with different job facets.



Table 1.2 : Academic radiographer's views on the different facets of their Jobs

Job facet	Satisfied (%)	Dissatisfied (%)	Undecided (%)
Career Prospects	13(100)	0	0
Work Environments	3(23.1)	10(76.9)	0
Relationship with Co-workers	13(100)	0	0
Recognition	11(84.6)	2(15.4)	0
Workload	0	13(100)	0
Training Opportunities	10(76.9)	3(23.1)	0
Job Security	9(69.2)	2(15.4)	2(15.4)
Promotion	7(53.8)	5(38.5)	1(7.7)
Remuneration	4(30.8)	9(69.2)	0
<b>Total</b>	<b>70(59.8%)</b>	<b>44(37.6%)</b>	<b>3(2.6%)</b>

Table 1.3 : Overall satisfaction among clinical and academic radiographers

Clinical Radiographer			
Strongly Dissatisfied	Dissatisfied	Satisfied	Strongly Satisfied
1	10	10	14
2.9%	28.6%	28.6%	40

Academic Radiographer			
Strongly Dissatisfied	Dissatisfied	Satisfied	Strongly Satisfied
0	0	5	8
0	0	38.5%	61.5%

Table 1.4 : Statistical Analysis of mean satisfaction score using Student t-test out of 10.

Academic Radiographer(X)	Clinical Radiographer(Y)	X <sup>2</sup>	Y <sup>2</sup>
6	7	36	49
9	3	81	9
7	5	49	25
5	5	25	25
7	6	49	36
5	5	25	25
8	10	64	100
5	7	25	49
5	6	25	36
6	2	36	4
8	5	64	25
8	4	64	16
7	5	49	25
0	4	0	16
0	4	0	16
0	4	0	16
0	8	0	64
0	3	0	9
0	10	0	100
0	4	0	16
0	3	0	9
0	6	0	36
0	3	0	9
0	6	0	36
0	8	0	64
0	7	0	49
0	9	0	81
0	7	0	49
0	7	0	49
0	5	0	25
0	9	0	81

0	4	0	16
0	10	0	100
0	8	0	64
0	8	0	64
$\Sigma X=86$	$\Sigma Y=207$	$\Sigma X^2=592$	$\Sigma Y^2 = 1393$

Standard error (ste-x) = 0.69 Critical value = 2.201 t = 1.10

#### IV. DISCUSSION

The study evaluated job satisfaction among 48 radiographers working in northern Nigeria either as academic or clinical radiographers. The mean age of respondents was 29 years with a standard deviation of 10.5 and about 33 males and 15 females were involved in the study.

The study considered 10 critical job facets which include, career prospects, work environment, relationship with fellow radiographers, radiologists and other workers in the radiology department, recognition by departmental heads and superiors at work, daily workload, availability of training and advancement opportunities, job security, frequency of promotions, remuneration and other benefits. This is similar to studies conducted some researchers in Europe. [4, 10, 11]

All radiographers who participated in the study provided information about each job facet in their respective institutions and the overall job satisfaction was determined based on responses provided regarding each job facet.

The study indicated that about 68.6% (n=24) clinical radiographers were satisfied with their jobs while 33.5% (n=11) were dissatisfied with their jobs. On the other hand, it was observed that about 100% (n=13) academic radiographers were satisfied with their job. This proved that academic radiographers were more likely satisfied with their job than their counterparts in the clinic. This could be due to the fact that, there are more opportunities for post graduate training (MSc, PhD, and post doctoral training) as well as timely promotions.

These findings of high level satisfaction were at variance with findings by some researchers who found that majority of radiographers (68%) in south east Nigeria were unsatisfied with their jobs. 7 This new trend could be attributed to the fact that over the years the number of radiographers has grown rapidly as more universities now graduate radiographers in Nigeria. This has led to a significant decrease in the daily workload.

The study has also shown that there is a need for more female radiographers in the north as only about 31.2% females were reached in the course of the study. This is especially important considering socio-cultural perspectives of Nigerians residing in the north with most female patients preferring services from female radiographers.

Existing literatures suggest that job satisfaction in the health sector increases with increase in qualification. 12-14 This study also supports this finding as satisfied than those who had only DCR and/or Bsc. This

could be because higher qualification provides room for advancement, role extension and better incentives. Similarly, the higher the years of professional practice in radiography, the higher the satisfaction the radiographer derives. This is in agreement with a study by Lehman et al., (2015) who explored the relationship between workers retention and job satisfaction of Swiss Radiographers in Switzerland.

It was also observed that radiographers working part-time were not as satisfied as those working fulltime probably because they had limited benefits, low job security and were excluded from routine promotions.

Previous studies of job satisfaction among Maltese Radiographers observed that salary was the major cause of dissatisfaction, this study identified lack of training/ advancement opportunities (62.9% indicating dissatisfaction), dilapidated infrastructure, incessant equipment breakdown and long equipment down time (48.6% indicating dissatisfaction) as the major aspects of dissatisfaction among clinical radiographers. 8, 11

These views about lack of standard work environment were also identified as a serious challenge in a similar studies of job satisfaction among radiographers in Finland, Tanzania, Malawi and South Africa. 6, 10 It is important to note that, the provision of essential imaging technologies such as Computed tomography, automated ultrasound imaging systems, digital breast tomosynthesis, PET scanners, Magnetic Resonance imaging among others in all Tertiary Healthcare institutions in Northern Nigeria will not only contribute to enhancing job satisfaction among radiographers, it will also check upsurge in the number of Nigerians travelling abroad for medical diagnosis and treatment.

Even though the academic radiographers appeared more satisfied, with all of them attaining high overall satisfaction scores, they expressed deep concerns about their remuneration (69.2% indicating dissatisfaction) and work environment (76.9% indicating dissatisfaction). They strongly emphasized the need for autonomy, respect and value for both academic and clinical radiographers especially with advancement. This agrees with findings from studies of factors influencing job satisfaction, burnout and stress in public healthcare sector in Pakistan, Australia and New Zealand. 13, 14

One critical job facet which has been an issue over the years is remuneration and benefits resulting in frequent strikes (industrial action) among the allied However aspects such as work environments, dilapidated infrastructure, long equipment downtime, lack of training/ advancement opportunities and





inadequate remuneration have been identified as major job facets which have negative impacts on overall job satisfaction of radiographers as most of the radiographers were dissatisfied with these aspects of their job. The study also revealed that, autonomy, respect and value for radiographers would enhance career satisfaction among radiographer.

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