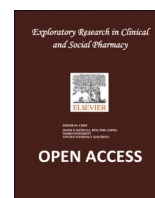


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Evaluation of job satisfaction among pharmacists working in public health facilities

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ABSTRACT

Background: The decline in healthcare workforce is a global trend that is alarming in low and middle-income countries (LMIC) in LMIC and many countries worldwide, pharmacists plays critical role in healthcare, many of which are not limited to patient care, research and development, health promotion. However, growing dissatisfaction among pharmacists working in public health facilities has become increasingly common and can have severe public health consequence. Job dissatisfaction ranks among the most significant factors influencing healthcare employees to seek career changes, reduce productivity, and possibly migrate to more promising opportunities, thereby posing a public health threat in the region. Furthermore, healthcare professionals are crucial to the functionality of a healthcare system, with human resources standing as a critical element ensuring organizational success vis-a-vis other dependent factors to optimize efficiency and effectiveness.

Objectives: To examine the job satisfaction of pharmacists working in public health facilities in Nigeria.

Method: A descriptive, cross-sectional study on pharmacists' job satisfaction was carried out between march and July 2023, to determine the job satisfaction of pharmacists working in primary, secondary, and tertiary healthcare facilities in Nigeria. Data were gathered using an anonymous online validated questionnaire adapted from the Minnesota questionnaire short form and the Job Description Index (JDI) (Measuring Job Satisfaction - Tools, Scales, and Methods).

Results: The study identified an overall low job satisfaction level of 65%. Major influencers included facility conditions, co-worker relations, and remuneration. The demographic data revealed a dominance of female pharmacists in general hospital settings, with a significant proportion aged between 23 and 36 years. Remuneration emerged as a universal concern across different age groups, reflecting Nigeria's prevailing economic challenges. Interestingly, satisfaction with the working facility decreased with age, suggesting that enthusiasm and optimism wane over time. Relationship dynamics with co-workers showed positive progression with age, whereas satisfaction with pay remained universally low.

Conclusion: The study underscores the need for a comprehensive strategic review in the health sector, focusing on remuneration, working conditions, and inter-personal relationships to boost job satisfaction and retention. Further research might delve deeper into specific allowances and the impact of home ownership on satisfaction.

1. Introduction

Pharmacists play an integral role in the healthcare sector, addressing patients' medication needs and ensuring enhanced care outcomes. They provide pharmaceutical services in both urban and rural areas.^{1,2} The term "job satisfaction" refers to an individual's perception of their employment, which encompasses both positive and negative aspects.³

This satisfaction emanates from a holistic approach to work in an environment that boosts optimism and productivity.⁴ Job satisfaction depends on many factors, and a person may be satisfied with one or more aspects of his/her career, but at the same time, maybe unhappy with other elements.⁵

In 2013, the World Health Organization (WHO) projected that, by 2035, there will be a shortage of 12.9 million skilled healthcare workers,

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with Africa and Southeast Asia experiencing the highest shortfall. The report suggested that about 40% of health professionals could exit the sector within the next decade due to factors like inadequate pay and insufficient incentives. Such a trend is alarming giving the increasing global population. Again, the allure of relocation of healthcare professionals to more appealing and lucrative destinations might exacerbate regional imbalances in healthcare provision. This mass emigration significantly impacts low-and middle-income countries, resulting in disparities and poor health indices.^{6,7}

Human resources, particularly healthcare professionals, play a crucial role in the functionality of a health system. As Babiker et al.⁸ pointed out, the human resource is an organization's most valuable asset and serve as the foundation for sustainable service delivery. Efficient human resource management systems are essential for ensuring a workforce that is both qualified and motivated.⁹ Health care organizations heavily rely on skilled, motivated, and highly competent care providers.¹⁰ Job satisfaction, as Al-Jumaili et al.¹¹ noted, is a pivotal organizational behavior that profoundly determines human resource productivity, service quality, and efficiency.⁸ Several important determinants significantly impact job satisfaction, including teamwork, environment, job responsibilities, job autonomy, time pressure, the behavior of the leadership, organizational commitment, the nature of the work, and resources.⁵ However, when these factors are not favorable, dissatisfaction can arise, leading to high turnover rates and the loss of qualified and competent personnel.¹⁰ The exact influence of these determinants may vary based on different conditions and environments.

A decline in job satisfaction among health workers can have a severe public health consequence, as this will most likely adversely affect patients care quality.¹² Zhu¹³ asserts that job satisfaction encompasses multiple aspects, including relationships with supervisors, nature of the job, interactions with colleagues, compensation, and promotion opportunities. Furthermore, Okaro and Eze¹⁴ categorize job satisfaction factors into intrinsic and extrinsic. Intrinsic factors emphasize achievement, recognition, job nature, responsibility, progression, and the potential for career growth. Extrinsic factors include aspects like pay, company policy, interpersonal relationships, working conditions, status, and job security.¹⁴

As stipulated by the World Health Organization (2013), a threshold of 2.5 health personnel per 1000 population is required to achieve adequate coverage of essential health interventions and meet core health service targets related to the Millennium Development Goals (MDG).⁶ Given this, it can be posited that Nigeria remains in a critical shortage zone regarding healthcare personnel.¹⁵ Job dissatisfaction among healthcare workers is often directly associated with intention to seek better opportunities or to transition to different sectors. This migration not only depletes the existing workforce but also put a considerable strain on the remaining professionals, potentially leading to a decline in the quality-of-service delivery. This is further compounded by persistent strike actions among workers to demand certain privileges.¹⁶ Satisfied employees tend to have better health outcomes than their dissatisfied counterparts.¹⁷ Despite its importance, there is a notable lack of research on job satisfaction among pharmacists, especially those who practice in public institutions. While some studies have touched upon this in Nigeria, there remains a gap. Our study therefore, aims to examine the job satisfaction of pharmacists working in Nigerian public health facilities.

2. Method

2.1. Study design

From March to July 2023, a descriptive, cross-sectional study on pharmacists' job satisfaction was carried out. It covers pharmacists in Nigeria working in primary, secondary, and tertiary healthcare facilities. Through the use of an anonymous online survey, data were gathered. Responses were permitted for the purpose of scoring participants

and interpreting their level of job satisfaction.

2.2. Sampling and data collection procedures

Using an estimated pharmacists' population in Nigeria and assuming an acceptable response rate of 50%, a confidence interval of 95%, and a margin of error of 5%, the minimum sample size for the study was calculated. All eligible pharmacists were invited to participate during the data collection period. The exclusion criteria were all pharmacists that are not working in any of the public health institutions in Nigeria, the refusal to fill the questionnaire, incomplete questionnaires, and unregistered pharmacists.

2.3. Study instrument

The study questionnaire was developed from a validated survey from the Minnesota questionnaire short form and the Job Description Index (JDI) (Measuring Job Satisfaction - Tools, Scales, Methods).¹⁸⁻²⁰ It is a psychometric and most popular tool that measures job satisfaction. The JDI is based on subscales as a present job; present pay; promotion; supervision and relationship with the co-workers. The scale was slightly altered to reflect the findings from a pilot study, as such, suitable for pharmacists. The questionnaire included both closed and open-ended questions. The questionnaire was sub-divided into six sections; section A consisted of socio-demographic characteristics of the respondent, sections B-E were made up of questions on factors affecting job satisfaction and section F, had questions on intentions of the health workers to leave the job. In this study, participants were expected to complete the questionnaire in about 10 min.

2.4. Study procedure

A links to the questionnaire was sent simultaneously via e-mail, telegram, WhatsApp, and Facebook. Reminders were sent intermittently every two weeks. Each pharmacist was eligible to respond to the online questionnaire only once.

2.5. Data analysis

Data was analysed with Statistical Package for Social Sciences (SPSS) version 25. Twenty-four questions were used to assess job satisfaction, each question had five Likert scale items; very satisfied (5), satisfied (4), neutral (3), disagree (2) and very disagree (1). Responses were scored based on the median. Scores below and above the median were categorized as dissatisfied and satisfied respectively. Categorical variables were presented as percentages or proportions while continuous variables were presented as mean \pm standard deviation (SD). Chi-square was used to determine the association between categorical variables. Level of significance was set at $p < 0.05$.

3. Results

3.1. Demographic information and other characteristics of the study participants

The table provides demographic and job-related information about the study participants. According to the data presented, there were slightly majority of female (50.3%) participants compared to male participants (49.7%). The largest age group was between 30 and 36 years (32.5%), followed by 23–29 years (30.4%). Most participants were married (62.9%) with the next largest group being single (35%) while smaller number were divorced (2.1%). The highest occupation type reported was full-time (74.8%), followed by others (10.4%) locum (8.3%) and part-time (6.4%). A majority of the participants held a Bachelor of Pharmacy degree (82.5%). The highest years of service was less than or equal to 5 years (59.5%) with the next largest group being

Table 1
Study Participants Characteristics.

Variable	Frequency	Percentage (%)
Sex		
Male	162	49.7
Female	164	50.3
Age category (years)		
23–29	99	30.4
30–36	106	32.5
37–43	72	22.1
44–50	0	0
Above 50	49	15
Religion		
Islam	148	45.4
Christianity	174	53.4
Others	4	1.2
Marital status		
Single	114	35
Married	205	62.9
Divorced	7	2.1
Occupation type		
Full-time	244	74.8
Part-time	21	6.4
Locum	27	8.3
Others	34	10.4
Highest qualification		
B.Pharm	269	82.5
PharmD	2	0.6
M.Pharm	28	8.6
Others	27	8.3
Years of service		
Less than / equal to 5	194	59.5
6–10	64	19.6
11–15	25	7.7
16–20	21	6.4
Greater than/equal to 21	22	6.7
Type of facility		
Private hospital/clinic	66	20.2
Federal Medical Centre	27	8.3
Teaching Hospital	153	46.9
General hospital	74	22.7
Rural hospital	6	1.8
Current level		
Intern Pharmacist	64	19.6
Pharmacist 1	118	36.2
Senior Pharmacist	62	19.0
Principal Pharmacist	42	12.9
Chief Pharmacist	3	0.9
Assistant/Deputy director	37	11.3
Pharmacy as main source of income		
No	20	6.1
Yes	306	93.9
Monthly income (Naira)		
< 100,000	23	7.1
100,000–199,999	228	69.9
200,000–299,999	20	6.1
300,000–399,999	41	12.6
400,000 and above	14	4.3
Number of working hours per week		
32	39	12.0
40	152	46.6
48	50	15.3
56	85	26.1
Status of residential home		
Rented	221	67.8
Staff quarters	24	7.4
Owned	43	13.2
Others	38	11.7

between 6 and 15 years (19.6%) followed by 10–15 years (7.7%). The highest type of facility reported was a teaching hospital (46.9%), followed by general hospital (22.7%), private hospital/clinic (20.2%), then federal medical Centre (8.3%) and rural hospital (1.8%). The highest current level reported was Pharmacist 1 (36.2%) followed by intern pharmacists (19.6%) and senior pharmacists (19.0%). The majority of participants reported pharmacy as their main source of income (93.9%),

with a small percent (6.1%) indicating no. The monthly income reported was highest for those receiving between 100,000–199,999 Nigerian Naira per month (69.9%) followed by those receiving 300,000–399,999 < 100,000 Naira per month (7.1%). Most participants also work 40 h a week (46.6%), with the remaining working between 48 h (15.3%) and 56 h (26.1%) a week. The majority of participants reported living in a rented home (67.8%) followed by owned homes (13.2%), others (11.7%) and staff quarters (7.4%).

3.2. Total Satisfaction level and the subscales

The data presented shows the satisfaction level and its subscales of the study participants. According to their responses, majority have less satisfaction with their working facilities (58.6%). Similarly, 51.8% reported low satisfaction with their relationship with co-workers and 54% reported low satisfaction with their remuneration. Overall, the majority of participants reported a low level of satisfaction (53.1%), with their jobs.

3.3. Associated factors of high job satisfaction

The data presented in the table above shows the associated factors of high job satisfaction. According to the data, age category, religion, marital status, occupation type, highest qualification, years of service, type of facility, current level, pharmacy as a main source of income, monthly income, number of working hours, and status of residential home were all associated with a high level of job satisfaction. The results of this analysis confirm the previous results that overall satisfaction levels among the participants were relatively low. However, the data suggests that there may be certain age, religion, marital status, occupation type, highest qualification, years of service, type of facility, current level, pharmacy as a main source of income, monthly income, number of working hours, and status of residential home categories associated with higher level of satisfaction.

3.4. Association of high job satisfaction with intention to quit

Table 4 below explores the association of high job satisfaction with the intention to quit among pharmacists. A considerable portion (65%) of respondents with high job satisfaction disagree with the thought of leaving the healthcare sector due to their relationship with co-workers. On remuneration, 81.30% of those with high job satisfaction strongly disagree with considering leaving the healthcare sector. About 85.70% of respondents strongly disagree with the intention to leave their current organization due to the facilities at work. A significant number (79.3%) with high job satisfaction were neutral about leaving their organization based on overall satisfaction. Notably, 65.5% of those with high job satisfaction agreed to being motivated to work in the public health sector due to their working facilities. However, there is an alarming inclination towards considering migration from Nigeria, with 46.9% of those with high job satisfaction strongly agreeing, based on remuneration.

Table 2
Total Satisfaction level and the subscales.

Domain	Frequency	Percentage (%)
Working Facilities		
Low satisfaction	191	58.6
High satisfaction	135	41.4
Relationship with co-workers		
Low satisfaction	169	51.8
High satisfaction	157	48.2
Remuneration		
Low satisfaction	176	54
High satisfaction	150	46
Overall satisfaction		
Low satisfaction	173	53.1
High satisfaction	153	46.9

Table 3
Associated factors of high job satisfaction.

Variable	Working Facilities	Relationship with co-workers	Remuneration	Overall satisfaction
Age category (years)	***	***		
23–29	56 (56.6)	35 (35.4)	45 (45.5)	43 (43.4)
30–36	45 (42.5)	41 (38.7)	52 (49.1)	54 (50.9)
37–43	21 (29.2)	39 (54.2)	30 (41.7)	33 (45.8)
44–50	0 (0)	0 (0)	0 (0)	0 (0)
Above 50	13 (26.5)	42 (85.7)	23 (46.9)	23 (46.9)
Religion	**			
Islam	74 (50.0)	67 (45.3)	69 (46.6)	70 (47.3)
Christianity	61 (35.1)	90 (51.7)	81 (46.6)	83 (47.7)
Others	0 (0)	0 (0)	0 (0)	0 (0)
Marital status	***	***	***	**
Single	63 (55.3)	35 (30.7)	39 (34.2)	42 (36.8)
Married	72 (35.1)	115 (56.1)	104 (50.7)	104 (50.7)
Divorced	0 (0)	7 (100)	7 (100)	7 (100)
Occupation type	***	***	***	*
Full-time	85 (34.8)	136 (55.7)	110 (45.1)	121 (49.6)
Part-time	11 (52.4)	9 (42.9)	6 (28.6)	6 (28.6)
Locum	17 (63.0)	10 (37.0)	12 (44.4)	16 (59.3)
Others	22 (64.7)	2 (5.9)	22 (64.7)	10 (29.4)
Highest qualification	**	**	***	***
B.Pharm	124 (46.1)	133 (49.4)	146 (54.3)	148 (55.0)
PharmD	0 (0)	0 (0)	0 (0)	0(0)
M.Pharm	3 (10.7)	5 (17.9)	4 (14.3)	0 (0)
Others	8 (29.6)	19 (70.4)	0 (0)	2 (7.4)
Years of service	***	***	**	**
Less than / equal to 5	114 (58.8)	81 (41.8)	92 (47.4)	96 (49.5)
6–10	10 (15.6)	26 (40.6)	25 (39.1)	21 (32.8)
11–15	3 (12.0)	15 (60.0)	12 (48.0)	15 (60.0)
16–20	0(0)	16 (76.2)	16 (76.2)	16 (76.2)
Greater than/equal to 21	19 (86.4)	19 (86.4)	5 (22.7)	5 (22.7)
Type of facility	***	***	***	
Private hospital/ clinic	32 (48.5)	53 (80.3)	40 (60.6)	42 (63.6)
Federal Medical Centre	13 (48.1)	5 (18.5)	6 (22.2)	7 (25.9)
Teaching Hospital	75 (49.0)	65 (42.5)	81 (52.9)	77 (50.3)
General hospital	15 (20.3)	34 (45.9)	23 (31.1)	27 (36.5)
Rural hospital	0 (0)	0 (0)	0 (0)	0 (0)
Current level	***	***	**	***
Intern Pharmacist	43 (67.2)	13 (20.3)	33 (51.6)	28 (43.8)
Pharmacist 1	55 (46.6)	55 (46.6)	63 (53.4)	68 (57.6)
Senior Pharmacist	7 (11.3)	35 (56.5)	33 (53.2)	33 (53.2)
Principal Pharmacist	14 (33.3)	25 (59.5)	14 (33.3)	14 (33.3)
Chief Pharmacist	3 (100)	3 (100)	0 (0)	3 (100)
Assistant/Deputy Pharmacist	13 (35.1)	26 (70.3)	7 (18.9)	7 (18.9)
Pharmacy as main source of income	**	**	**	**
No	2 (10.0)	2 (10.0)	2 (10.0)	2 (10.0)

Table 3 (continued)

Variable	Working Facilities	Relationship with co-workers	Remuneration	Overall satisfaction
Yes	133 (43.5)	155 (50.7)	148 (48.4)	151 (49.3)
Monthly income (Naira)	**	***	***	
< 100,000	10 (43.5)	9 (39.1)	0 (0)	6 (26.1)
100,000–199,999	87 (38.2)	97 (42.5)	121 (53.1)	115 (50.4)
200,000 –299,999	7 (35.0)	7 (35.0)	7 (35.0)	7 (35.0)
300,000–399,999	18 (43.9)	37 (90.2)	15 (36.6)	18 (43.9)
400,000 and above	13 (92.9)	7 (50.0)	7 (50.0)	7 (50.0)
Number of working hours per week			**	**
32	21 (53.8)	18 (46.2)	26 (66.7)	28 (71.8)
40	60 (39.5)	77 (50.7)	73 (48.0)	70 (46.1)
48	25 (50.0)	22 (44.0)	26 (52.0)	27 (54.0)
56	29 (34.1)	40 (47.1)	25 (29.4)	28 (32.9)
Status of residential home	*	***	**	*
Rented	86 (38.9)	101 (45.7)	106 (48.0)	106 (48.0)
Staff quarters	16 (66.7)	1 (4.2)	8 (33.3)	8 (33.3)
Owned	21 (48.8)	27 (62.8)	27 (62.8)	27 (62.8)
Others	12 (31.6)	28 (73.7)	9 (23.7)	12 (31.6)

NB: Data are presented in frequency (percentage of high satisfaction). Figures in bold indicate statistical significance. *P*-value *** ≤ 0.001; ** ≤ 0.01; * ≤ 0.05.

Thus, while many pharmacists with high job satisfaction showed loyalty towards their current organization and the healthcare sector, a noticeable proportion considered migrating due to remuneration challenges. The positive association between working facilities, co-worker relationships, and job satisfaction was evident.

4. Discussion

Job satisfaction significantly influences a workers' motivation and productivity. Numerous surveys investigating job satisfaction have been conducted among pharmacists from different settings and in different contexts (e.g., 21–23). Recent concerns have arisen about health professionals, pharmacist inclusive, quitting their jobs in Nigeria either to pursue opportunities abroad or to seek alternative sources of income.²⁴ Arguably, an extreme shortage of health workers, pharmacist in particular is a major cause for concern, considering the important role they play in safe and effective health care delivery. The ability of our health institutions to also recruit and retain these much needed man power is clearly influenced by several factors.

In this study, an effort was made to investigate the factors associated with job satisfaction and intention to quit job among pharmacists in different settings of public and private hospitals in Nigeria without specifying a particular state. The findings revealed an overall low job satisfaction among respondents. This is consistent with similar studies conducted in some regions within the country like Plateau, and Edo states.^{25,26} However, some studies report minimal satisfaction,^{27,28} while others revealed pharmacists' satisfaction but still having intention to quit the job.²⁸ Demographically, a significant proportion of the respondents were female, which indicate their relative dominance in the hospital pharmacy practice, particularly in general hospitals. This dominance could be attributed to factors like their reduced tendency for migration, culture and other barriers.²⁹ In terms of age distribution, majority of respondent were within 30–36 years, followed by 23–30

Table 4
Association of high job satisfaction with intention to quit.

Statement	Working Facilities	Relationship with co-workers	Remuneration	Overall satisfaction
I thought of leaving the healthcare sector	***	***	***	***
Strongly disagree	8 (25.0)	21 (65.6)	26 (81.3)	22 (68.8)
Disagree	52 (65.0)	55 (68.8)	57 (71.3)	50 (62.5)
Neutral	22 (40.0)	28 (50.9)	39 (70.9)	40 (72.7)
Agree	39 (40.2)	43 (44.3)	15 (15.5)	33 (34.0)
Strongly agree	14 (22.6)	10 (16.1)	13 (21.0)	8 (12.9)
I have the intention to leave my current organization	***	***	***	***
Strongly disagree	12 (85.7)	8 (57.1)	12 (85.7)	12 (85.7)
Disagree	29 (46.0)	46 (73.0)	49 (77.8)	39 (61.9)
Neutral	37 (45.1)	54 (65.9)	47 (57.3)	65 (79.3)
Agree	42 (37.5)	40 (35.7)	26 (23.2)	29 (25.9)
Strongly agree	15 (27.3)	9 (16.4)	16 (29.1)	8 (14.5)
I have the intention of leaving Nigeria for abroad	**	*	***	***
Strongly disagree	7 (70.0)	0 (0)	5 (50.0)	5 (50.0)
Disagree	21 (42.9)	23 (46.9)	30 (61.2)	26 (53.1)
Neutral	47 (54.0)	46 (52.9)	56 (64.4)	57 (65.5)
Agree	32 (39.0)	42 (51.2)	23 (28.0)	24 (29.3)
Strongly agree	28 (28.6)	46 (46.9)	36 (36.7)	41 (41.8)
I am motivated to work in the public health sector	***	***	***	***
Strongly disagree	4 (13.3)	4 (13.3)	9 (30.0)	3 (10.0)
Disagree	21 (22.1)	36 (37.9)	9 (9.5)	6 (6.3)
Neutral	19 (47.5)	17 (42.5)	14 (35.0)	19 (47.5)
Agree	74 (65.5)	71 (62.8)	92 (81.4)	96 (85.0)
Strongly agree	17 (35.4)	29 (60.4)	26 (54.2)	29 (60.4)

NB: Data are presented in frequency (percentage of high satisfaction). Figures in bold indicate statistical significance. P-value *** \leq 0.001; ** \leq 0.01; * \leq 0.05.

years. The 30–36 range is generally the mean age for early carrier pharmacists (pharmacist 1), while those aged 23–30 are typically intern pharmacists predominantly serving in hospitals. A significant proportion of these pharmacists likely earn between N100,000 to N199,000, and having pharmacy as their main source of income. On the other hand, those earning below N100,000 might be from general hospitals or private clinic, which typically offer lower/poor remuneration compared to the tertiary institutions.²⁹ Aspects such as working facilities, relation with co-workers, and remuneration significantly contribute immensely to low job satisfaction among the respondents. These findings corroborate with some previous studies.^{30–32}

For hospital pharmacy working facility, favorable perceptions of the physical environment positively relate with overall job satisfaction. Nonetheless, these positive perceptions were inversely related to intentions to quit job or reduce working hours. The work place's design warrants attention to create conducive, more healthier and appropriate environments for hospital pharmacies, facilitating pharmacists' full utilization of their skills and expertise in order to achieve more favorable psychological response to their environment.³³ It is worthy that occupational violence towards pharmacists is very common in Nigerian hospitals, commonly starting verbally at the initial stage and escalating to more severe forms of abuse, as reported by Khalid *et al.*³⁴ Such hostile

environment can negatively impact job satisfaction with working facility. One contributing factor could be the significant low pharmacist-to-patient ratio in public hospitals in Nigeria, leading to prolonged patient waiting times in the pharmacy unit and ensuing dissatisfaction.³⁵

Coworkers, as members of organization, with whom pharmacists interact while performing their job, who assumedly have same level of authority, influence the work environment due to the dynamic communication conduit they provide. While formal communication in an institution channels orders from top to bottom, and, feedback and suggestions from the down to top, coworkers serve as an informal network characterized by horizontal exchange flow. This makes employees prefer to discuss issues related to work with their coworkers rather than with supervisors. Thereby making coworkers essential support systems at work.³⁶ Positive relationships and trust among coworkers contribute significantly to greater pharmacists' satisfaction and the attainment of desirable outcomes through reciprocity, mutual respect and understanding.^{37–39} This study reveals that relationship with coworkers contribute to dissatisfaction with job among the respondents.

Remuneration remains a crucial aspect of job satisfaction. This was ranked consistently as one of the most important aspects pharmacists found least satisfying about their job irrespective of gender, age, or area of practice. Some variations were noticeable among different sectors of practice.⁴⁰ This study is not different in that regard as majority expressed low satisfaction with their remuneration which may even be amplified by Nigeria's current economic reality. Research conducted in other fields also found that remuneration as a key factor correlating with job satisfaction.⁴¹ Furthermore, reward was also found to be an important predictor of intention to quit, even when job satisfaction was accounted for. For instance, when the United States implemented a strategy of increasing salaries of pharmacists to address shortages, combined with enticing job opportunities, there was a subsequent rise in the number of pharmacy students. This suggests that, it could be argued that a strategy of reviewing pay and perceived fairness could enhance pharmacists' job satisfaction.⁴²

Meanwhile, looking at the associated factors of high job satisfaction in relation to respondent variables. Firstly, considering age as variable, the study reveals a consistent decrease in satisfaction with working facility as age increases. This shows that being new and active in the work place couple with positive perception about the job and preparedness to deliver the best contribute to satisfaction with working facility which deteriorates as time progresses. Unmet expectation and underutilization of skills and experience as reported by Ubaka *et al.*²⁷ play a major role. Conversely, relationship with co-workers advances with increasing age likely due to enhanced familiarity and better understanding of roles and limitations within the working environment. However, low satisfaction with remuneration cut across all age groups with insignificant variation, which shows that it is a general concern owing to the economic condition in the country in contrast to studies carried out elsewhere like¹¹ in the Arab world. Overall, the 30–36 age group had shown barely better satisfaction compared to others which may not be unrelated to the excitement of securing the job and career progression opportunities. In terms of religion, respondents who are Christians show significantly lower satisfaction with working environment while in the meantime more satisfied with relationship with coworkers. This may be associated with occupational violence and other factors.⁴³ Marital status of the respondents also plays significant role in relation to job satisfaction. Married respondents have significantly better satisfaction likely due to higher level of responsibility, emotional and spiritual support associated with quality marriages,⁴⁴ similarly with remuneration and relationship with coworkers.⁴⁵ In terms of occupational type, there was a significantly lower satisfaction with working facility by full time pharmacists compared to part-time, locum and others. This might be associated with the "full time pharmacists" assuming more responsibility and appointed in charge of units and operations, which exposes them to more environmental threats hazards and violence. While part time employees generally show less commitment to their organizations therefore

careless about the condition of the working facility as reported in.⁴⁶ However, relationship with coworkers was significantly higher in the full time compared to the locum, part-time and others which shows an enhanced cooperation and unionism among the full-time pharmacists and lesser job security and unfavorable psychosocial environment and safety.⁴⁷ While there was no significant difference in satisfaction with remuneration among the occupational groups, overall satisfaction was significantly higher in locum category followed by the full-time pharmacists compared to part time and others. Highest qualification as B. Pharm is significantly associated with high job satisfaction as seen in the results, as it is the highest qualification for majority of pharmacists working in the tertiary hospitals in Nigeria as observed from the respondents. While pharmacists with additional qualification supposed to be more satisfied with their job because of high sense of accomplishment and other work-related gratification and opportunities,⁴⁸ perceived underutilization of additional skills and experience might result to low satisfaction among such groups especially in developing world.^{49,50} Years spent in service positively affects satisfaction with relationship with coworkers obviously due to enhanced familiarity and mutual understanding that occurs with time. While satisfaction with working facility depicts a U-shape relationship, satisfaction with remuneration was significantly lower in older pharmacists in service and significantly improving from 11 up to 20 years categories which is reflected in the overall satisfaction. This exactly corroborate with a finding that postulates positive association of remuneration with job satisfaction mainly in the group of employees between 30 and 40 years of age and substantially declining as the age advances.⁵¹ This emphasizes the significance of promoting work flexibility, career development and work-life balance for older employees in an organization. Meanwhile, there was no significant difference in overall satisfaction with facility type. However, in the subscales, a significant variation was observed. Like in the satisfaction with work facility, pharmacists in the general hospitals exhibit the worst level of satisfaction likely due to the dilapidation of the general hospitals, which are mostly under state governments, as clearly observed and demonstrated during response to the COVID-19 pandemic in Nigeria.⁵² Satisfaction with relationship with coworkers was significantly lower in federal medical centers and significantly high in private hospitals. This shows clearly, the impact of complexity of working facility on coworkers' unionism, interaction, and satisfaction due to professional and social isolation.⁵³ Satisfaction with remuneration was also significantly low in federal medical centers likely due to the aforementioned reason. Intern pharmacists in the study were significantly satisfied with their working facilities compared to senior and principal pharmacists, contrary to overall satisfaction. While all the chief pharmacists in the study were satisfied with the overall aspects of their job. From that, we can conclude that current position is a significant determinant of job satisfaction, especially for preceptors, who are mostly at the chief pharmacist level due to the joy of training and helping the younger pharmacists' progress in their careers, according to a study.⁵⁴⁻⁵⁶ As the primary income source for the majority of respondents is from the pharmacy, those who relied on other sources of income expressed significantly lower satisfaction levels in all aspects and overall, compared to those who depended primarily on pharmacy earnings. Imposing restrictions on employees' off-hours activities may deter them, particularly since over 70% of employees with side jobs do not wish to convert their side gig into their main occupation. Consequently, enforcing unnecessary limitations on off-hours pursuits can lead to a decline in employee satisfaction. Also, having a side job can offer financial stability, and two out of three full-time independent workers feel more secure than they would in traditional employment under someone else.⁵⁷ The monthly income satisfaction level can be extrapolated to the overall satisfaction with remuneration which affect all aspects of the job. In Nigeria, a typical workday consists of an 8-h shift, adding up to a 40-h workweek, and this standard is also applied to the Nigerian public healthcare system. The regular working hours for health workers in Nigeria may differ depending on their employer and job type.

Nevertheless, most sources indicate that the standard working week for Nigerian health workers is 40 h, spread across 8 h per day.⁵⁸ No significant difference was observed between the working hours and satisfaction with working facility and relationship with coworkers, but satisfaction with remuneration significantly decrease with increase in working hours which indicates that the compensation for the extra hours is not properly reckoned with. Analysis of the pharmacy workforce in Nigeria found that there are critical shortages and inequitable distribution of health workers, including pharmacists, which may impact job satisfaction.³⁵ Overall, there is limited information on pharmacist satisfaction with extra duty allowances in Nigerian hospitals. Further research may be needed to explore this topic in more detail. Pharmacists staying in staff quarters express higher satisfaction with working facility and low satisfaction with relationship with coworkers. Staff in the staff quarters enjoy proximity to their working facilities, relieved of transport fare and better or sometimes free social amenities. Overall, the staff with owned residences expressed the highest job satisfaction. A study investigated the effect of a transition from non-ownership to ownership on job satisfaction and found that home ownership has a positive effect on job satisfaction.⁵⁹ Providing affordable home ownership opportunities to employees may increase job satisfaction by reducing commute times and allowing employees to live closer to work.

The majority of pharmacists in the study expressed overall satisfaction with their current job in the healthcare sector in relation to intention to quit their jobs, as a significant proportion of pharmacists have no intention to leave their current organization. There is also a mixed response regarding the intention to leave Nigeria for abroad, with a notable percentage expressing agreement or strong agreement. Interestingly, the majority of pharmacists are motivated to work in the public health sector.

5. Conclusion

Our discussion on the job satisfaction of pharmacists has shown that there are a number of factors that can influence job satisfaction, such as age category, religion, marital status, occupation type, highest qualification, years of service, type of facility, current level, pharmacy as a main source of income, monthly income, number of working hours, and status of residential home. In addition, the results of this analysis have also highlighted the importance of understanding both job satisfaction and intention to quit, as even those who are satisfied with their job may likely consider leaving their current role for better opportunities abroad. It is imperative, therefore, that measures be taken to enhance job satisfaction among pharmacist to prevent further repercussion on the health system's efficiency and effectiveness. Thus, employers should consider these factors when looking at ways to improve employee satisfaction and retention, as this is key to ensuring a productive and motivated workforce. By providing staff with adequate remuneration and career progression opportunities, recognizing their achievements, and offering flexible working arrangements, employers can create a positive working environment and build employee loyalty, leading to increased job satisfaction and reduced employee turnover.

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All authors are committed to submitting this manuscript only to journal of exploratory research in clinical and social pharmacy and declare that the work is not under consideration or published in any other journal.

Appendix A. Questionnaire

A. Pharmacist Demographics

1. Sex

[a] Male [b] Female

2. Age (in years)

[a] 23–29 [b] 30–36 [c] 37–43 [d] 44–50 [e] 50 and above

3. Religion

[a] Islam [b] Christianity [c] Others

4. Marital status

[a] Single [b] Married [c] Divorced [d] Widowed

5. Occupation type

[a] full-time [b] part-time [c] Locum [d] others (specify)

6. Pharmacist Degree

[a] Bachelor of Pharmacy (B.Pharm) [b] Doctor of Pharmacy (Pharm D.) [c] Mater of Pharmacy (M.Pharm)

7. Years of service

[a] ≤ 5 years [b] 6–10 years [c] 11–15 years [d] 16–20 years [e] ≥ 21 years

8. Type of facility

[a] Health centre [b] rural hospital [c] General Hospital [d] federal medical centre [e] teaching hospital

9. Current level

[a] pharmacist 1 [b] senior pharmacist [c] principal pharmacist [d] chief pharmacist [e] assistant/deputy director of pharmaceutical services

10. Pharmacy occupation as main source of income

[a] yes [b] no

11. Income

[a] ≤ ₦80,000 [b] ₦80,000 – ₦130,000 [c] ₦140,000 – ₦190,000 [d] ₦200,000 – ₦250,000 [e] above ₦260,000

12. Number of hours working a week

[a] ≤ 32 [b] 40 [c] 48 [d] ≥ 56

13. Status of residential home

[a] own [b] rent [c] live with parents [d] staff quarter

14. Number of transfers in the last 5 years

[a] 2 [b] 3 [c] 4 [d] 5 [e] none

B. Job satisfaction as related to working facilities

15. clean Physical working condition

[a] very dissatisfied [b] dissatisfied [c] neutral [d] satisfied [e] very satisfied.

16. clean Physical surroundings

[a] very dissatisfied [b] dissatisfied [c] neutral [d] satisfied [e] very satisfied.

17. Safe and clean water at workplace

[a] very dissatisfied [b] dissatisfied [c] neutral [d] satisfied [e] very satisfied.

18. Access to electricity at workplace

[a] very dissatisfied [b] dissatisfied [c] neutral [d] satisfied [e] very satisfied.

19. Good internet connection at workplace

[a] very dissatisfied [b] dissatisfied [c] neutral [d] satisfied [e] very satisfied.

20. The availability of adequate equipment needed

[a] very dissatisfied [b] dissatisfied [c] neutral [d] satisfied [e] very satisfied.

21. Availability of Personal protective equipment (PPE's) e.g. face mask

[a] very dissatisfied [b] dissatisfied [c] neutral [d] satisfied [e] very satisfied.

C. Job satisfaction as related to relationship with co-workers

22. Presence of clear job description

[a] very dissatisfied [b] dissatisfied [c] neutral [d] satisfied [e] very satisfied.

23. Spirit of co-operation

[a] very dissatisfied [b] dissatisfied [c] neutral [d] satisfied [e] very satisfied.

24. Co-worker get along with each other

[a] very dissatisfied [b] dissatisfied [c] neutral [d] satisfied [e] very satisfied.

25. Your staff members understand each other's role

[a] very dissatisfied [b] dissatisfied [c] neutral [d] satisfied [e] very

satisfied.

26. Relationship with supervisor

[a] very dissatisfied [b] dissatisfied [c] neutral [d] satisfied [e] very satisfied.

27. Relationship with subordinate

[a] very dissatisfied [b] dissatisfied [c] neutral [d] satisfied [e] very satisfied.

28. Annual performance appraisal

[a] very dissatisfied [b] dissatisfied [c] neutral [d] satisfied [e] very satisfied.

29. Competency of managers of health facility

[a] very dissatisfied [b] dissatisfied [c] neutral [d] satisfied [e] very satisfied.

30. Commitment of colleagues to work

[a] very dissatisfied [b] dissatisfied [c] neutral [d] satisfied [e] very satisfied.

31. Working relationship with doctors and other healthcare providers

[a] very dissatisfied [b] dissatisfied [c] neutral [d] satisfied [e] very satisfied.

32. The patients are satisfied with the services you provide

[a] very dissatisfied [b] dissatisfied [c] neutral [d] satisfied [e] very satisfied.

D. Job satisfaction concerning pay

33. Present salary

[a] very dissatisfied [b] dissatisfied [c] neutral [d] satisfied [e] very satisfied.

34. Amount of pay for work done

[a] very dissatisfied [b] dissatisfied [c] neutral [d] satisfied [e] very satisfied.

35. Salary fairness compared to other staff in the same health facilities

[a] very dissatisfied [b] dissatisfied [c] neutral [d] satisfied [e] very satisfied.

36. Compare salary to the same position in other health facilities

[a] very dissatisfied [b] dissatisfied [c] neutral [d] satisfied [e] very satisfied.

37. Benefit on the job

[a] very dissatisfied [b] dissatisfied [c] neutral [d] satisfied [e] very satisfied.

38. Opportunity for promotion/Promotion implementation

[a] very dissatisfied [b] dissatisfied [c] neutral [d] satisfied [e] very satisfied.

39. Increment in salary

[a] very dissatisfied [b] dissatisfied [c] neutral [d] satisfied [e] very satisfied.

40. The timeliness of receiving Travelling Allowance/Dearness Allowance/reimbursements

[a] very dissatisfied [b] dissatisfied [c] neutral [d] satisfied [e] very satisfied.

41. Fair benefit

[a] very dissatisfied [b] dissatisfied [c] neutral [d] satisfied [e] very satisfied.

E. Intention to leave job

42. I have thought of leaving the health sector

[a] strongly disagree [b] disagree [c] neutral [d] agree [e] strongly agree

43. Intention of leaving your current organization

[a] strongly disagree [b] disagree [c] neutral [d] agree [e] strongly agree

44. Intention of leaving Nigeria for abroad

[a] strongly disagree [b] disagree [c] neutral [d] agree [e] strongly agree

45. Feel motivated to work in the public health sector

[a] strongly disagree [b] disagree [c] neutral [d] agree [e] strongly agree

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