

An open access journal of science and medicine

Article Type: Research Article Volume 3, Issue 2 Received: Dec 07, 2023 Accepted: Jan 31, 2024 Published Online: Feb 07, 2024

# Predictors of Intern Pharmacists Job Satisfaction in Federal Teaching Hospitals in Southeast Nigeria

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## Abstract

**Background:** Job satisfaction is a quality assessment standard measure used in evaluation of employers output and outcomes. Increase in job satisfaction correlates positively with employees output. This study assessed the predictors of intern pharmacists job satisfaction ina tertiary hospital in southeast Nigeria.

**Methods:** The study was a questionnaire web and paper-based prospective cross-sectional survey among eligible intern pharmacists who gave their informed consent to participate in the study. Data was summarized with descriptive statistics. Linear regression analysis were used to predict factors affecting intern pharmacist's job satisfaction while correlation coefficient was used to determine the strength of association. Reliability estimation was done using the Cronbach alpha. All tests for differences between subgroup distributions were regarded as significant if p-values equal to or less than (0.05) (two-tailed test) was reported.

**Results:** Overall, (168) intern pharmacists participated in the study out of which (87) (51.8%) were females. Majority of the respondents were resident outside the hospital premises (136) (86%) while (21) (12.5%) were also locum practitioners. Most of the interns have spent (5-9) months out of the mandatory (12) months (139) (82.7%). Accomodation within the hospital and choice of hospital educational funding had a p-value of (0.864) in the linear regression analysis while the choice of hospital was 0.003.

**Conclusion:** Interns accommodation within the hospital and choice of hospital for inernship training were the major predictors of job satisfaction among the respondents. Job satisfaction is an essential determinant of work output and outcomes.

Keywords: Intern pharmacists; Job satisfaction; Predictors; Hospital; Nigeria.

**Abbreviations:** UNTH: University of Nigeria Teaching Hospital; FETHA: Federal Teaching Hospital Abakaliki; + UNIZIK: Nnamdi Azikiwe University Teaching Hospital; FMC: Federal Medical Center; NOHE: National Orthopaedic Hospital Enugu; FNPHE - Federal NeuroPsychiatry Hospital Enugu.

**Citation:** Eruchalu CJ, Ogbonna BO, Okafor CI, Onodugo C, Ogbonna JC, et al. Predictors of Intern Pharmacists Job Satisfaction in Federal Teaching Hospitals in Southeast Nigeria. Med Discoveries. 2024; 3(2): 1114.

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## Introduction

Internship programs are designed to equip graduates to gain hands-on experience in service activities with the view of improving their understanding of their particular area of study [1]. In Nigeria the pharmacy profession and practice did not start as a well-defined area of specialization as it is today. Instead, pharmaceutical training was initiated out of the need to assist expatriate medical officers [2]. The new pharmacy graduates are required by the ministry of health [MOH] and Pharmacist Council of Nigeria [PCN] to undergo a paid internship before applying or registering as full-fledged pharmacist [3]. The success and value derived from internship training is an important factor that determines the quality of future pharmacists [4]. During the past few years, the pharmacy profession has expanded significantly in terms of professional services delivery and now has been recognized as an important profession in the multidisciplinary provision of health care [5]. It has changed the traditional positioning criteria of pharmacists as business people into patientcentered healthcare professionals [6]. The new pharmacy roles include patient education and medication monitoring which contributes to optimum patient satisfaction [2]. In contrast to the situation in developed countries, pharmacists in developing countries are still underutilized and their role as health care professionals is not deemed important by either the community or other health care providers [5]. This un-involvement of pharmacist in patient care has resulted in reduced pharmacist satisfaction. A person could be said to be satisfied in his job if the person finds fulfillment while discharging assigned duties. In northern Malaysia, fairness at work, place of work, and preceptor competence were some of the factors shown to affect job satisfaction [4]. Migration, a complex phenomenon, has long held center stage in discussions concerning the human resources for health crisis [7]. There are high rate of migration of health care professionals from low income countries to high income countries example United States, Canada, Australia etc [8]. It is estimated that foreign trained pharmacists make up 30%, 10%, and 10% workforce in Canada, Australia, and United kingdom respectively [9]. Poor job satisfaction of pharmacists [who were once interns] pertaining to professional and sociopolitical environment of the home country is the major driving factor of this migration [10]. Currently, there is no available data on factors that influence intern pharmacist job satisfaction in tertiary hospitals in sub-Saharan Africa especially, Nigeria. Above all the data generated would help the policy makers in taking informed decision. And can be employed in the management of internship training program. Which is crucial in improving the quality of patient care and achieving maximum health benefits [4]. The study was aimed to study the factors that influence intern pharmacist job satisfaction in tertiary hospital in Nigeria. Studies have ascertained intern job satisfaction in tertiary hospitals but none has identified predictors of job satisfaction. Identifying the factors that influence intern job satisfaction will provide insights on ways to improve the quality of future pharmacists. The study will also will help in policy design and implementations in the selected hospitals. It will also highlight the areas that need to be strengthened in National Internship Program to optimize young pharmacists potentials and improve on total health care delivery by pharmacists. The study determined the factors influencing Intern Pharmacist job satisfaction in hospital setting in southeast Nigeria through comparison of intern job satisfaction in selected hospitals with attention on gender variation, assessment of the role of preceptor competence, and the place of basic infrastructures/enabling environment in achieving job satisfaction among the interns.

#### Methods

Study design: This study was designed as a prospective and cross-sectional survey of pharmacy interns, practicing in federal government-approved internship tertiary hospital sites in the South-Eastern region of the country. The questionnaire form was developed based on previous study with slight modification to measure the study outcomes 4-11-14. The questionnaire was pre-validated through a pilot study. First the questionnaire form was sent out to two lecturers from a federal university to validate the content as to whether it relates to job satisfaction. In the second stage of the pre-validation exercise, the questionnaire was sent to five resident pharmacists in the five major federal teaching hospitals in southeast where the research will be undertaken. Finally, the questionnaire forms were sent to interns who have undergone the internship training for atleast 5 months in the five representative federal teaching hospitals in southeast Nigeria.

**Study population:** At the time of commencement of the study June 2022, the estimated figure of intern pharmacists in the seven tertiary hospitals in the South Eastern region was [84UNTH + 69FETHA + 22UNIZIK + 18FMC Owerri + 12 FMC Umuahia + NOHE + NPHE]. Eligibility criteria for an intern to be included in this study were practicing in any of the pre-selected tertiary hospitals and had not completed the mandatory training. An online sampling method was adopted in this study and the sample was equal to the total population of interns in the state.

**Study location:** This study was carried out in eight federal teaching hospitals in the South-Eastern region of Nigeria, across five [5] Eastern States. The Federal hospitals used for this study included: University of Nigeria Teaching Hospital, National Orthopedic Hospital, Nnamdi Azikiwe University Teaching Hospital, Anambra State University Teaching Hospital, National Psychiatric Hospital, Federal Medical Center Abakiliki, Federal Medical Center Owerri, and Federal Medical Center Umuahia. Tertiary hospitals were chosen for this study as it is common knowledge that tertiary hospitals account for most of the placements for interns in Nigeria. This has been attributed to their higher salary package and larger available spaces to compete for compared to other settings.

Study instrument: The questionnaire consisted of 5 section which measures different aspect of the same outcome. The first section provided information on socio-demographic characteristic such as age, gender, marital status, occupation etc. The second section is on academic background. It holds information on training. The third part is practice characteristic which sheds light on the interns eligibility to answer the posed questionnaire. The questions posed are duration of stay, current area of practice, estimated daily work hours and intern's primary role. The fourth section is on career related factors. The response was rated using Likert scale from extremely satisfied to extremely unsatisfied. The final section of the questionnaire contains 20 items rating the intern's level of satisfaction towards various aspects of their job. The questionnaire was responded to on a 5-points Likert scale that was web and paper-based. Responses range from extremely satisfied to extremely unsatisfied chat.

**Ethical clearance:** A written consent was obtained from each participant prior to their participation in the study. Those that refused to grant their consent were excluded from the study.

**Study procedure:** Two methods of data collection were utilized. Firstly, the online questionnaires were sent to the pharmacist intern group chat of the selected hospitals. Secondly, consents were sought from the respective hospitals for a slot during their weekly pharmacy meeting. In the allotted time, we gave a brief introduction on the goal and importance of the research. Afterwards, the questionnaires were handed over to them to fill and collected thereafter. The web-based questionnaire was also collated. The few interns that were not able to fill the online form were approached during the working period, the purpose of the study was explained to them upon agreement to participate. Each intern was handed a questionnaire and given ample time to fill and the questionnaire retrieved before the close of work. In each case ample time was given for participants to fill the forms.

Table 1: Socio-demographic characteristics of respondent(n=168).

	Characteristics	N = 168(%)		
Age(years)	<20			
	21-25	84(50)		
	26-30	76(45.2)		
	>30	8(4.8)		
Gender	Female	87(51.8)		
	Male	81(48.2)		
Marital status	Married	23(13.8)		
	Single	144(86.2)		
Education funding	Parents	149(88.7)		
	Self	9(5.4)		
	Relative	10(6)		
Internship with locum practice	Yes	21(12.5)		
	No	147(87.5)		
Accommodation	Hospital	32(19)		
	Outside the Hospital	136(81)		
Night call	Yes	160(95.2)		
	No	8(4.8)		

 Table 2: Practice characteristics of respondent (n=168).

Duration of hospital stay	n (%)		
Less than 4 months	26(15.5)		
5 to 9 months	139(82.7)		
10 to 12 months	3(1.8)		
Estimated work hours			
4-6	21(12.5)		
7-8	129(76.8)		
9-11	18(10.7)		
Primary role	I		
Dispensary	148(88.1)		
Prescription Review	101(60.1)		
Patient counseling	96(57.1)		
Drug inventory	58(34.6)		
Research activities	33(19.6)		
Other	17(10.1)		

 Table 3: Distribution of responses to satisfaction items among pharmacists.

Variable	Responses, N (%)			
Satisfaction	Satisfied	Unsatisfied		
Career related factors				
Professional opportunity	64(38.1)	104(61.9)		
Internship training	87(51.8)	81(48.3)		
Workplace relationship				
Patient attitude	329(19.1)	136(84)		
Other professionals attitude	33(19.7)	135(80.4)		
Senior Colleagues	65(36.0)	103(61.2)		
Personal benefit				
Salaries and benefit	42(25)	126(75)		
Quality of the call food	14(8.3)	154(91.7)		
Workplace environment				
Condition of call rooms	13(7.7)	155(92.2)		
Work stress	71(42.8)	92(57.8)		
Frequency of calls/months	79(41.7)	89(52.9)		
Preceptors support/competence	77(45.8)	91(54.2)		
Pharmacy facility	28(16.7)	140(83.3)		
Working condition	26(15.5)	132.3(84.6)		
Recognition	76(39.9)	92(54.8)		
Work hours	57(34)	111(66.1)		
Fairness in workplace	84(50)	84(50)		
Flexibility of work schedule	63(37.5)	105(62.5)		
Opportunities to use my abilities	77(45.8)	91(54.2)		
Institution support	25(14.9)	143(85.1)		
Overall job satisfaction	74(44.1)	94(56)		
Performing the jobs of technician	15(9)	153(91)		
Patients enhances my job satisfaction	133(79.1)	35(20.9)		
Accommodation enhances job satisfaction	64(38.1)	104(61.9)		
Inspired by my preceptors	77(45.3)	91(54.2)		
Preceptors enthusiastic	77(45.8)	91(54.2)		
Non-mandatory internship	116 (69)	52(30.9)		
Confident rendering PC	149(88.9)	19(11.3)		
Confident providing PC after internship	140(83.3)	29(16.7)		
Preparedness to face internship training	127(75.6)	41(24.4)		

#### Data analysis

The coded data from the questionnaire were entered into the SPSS version 22 and summarized using descriptive statistics. Simple Linear Regression and Multiple Linear Regression were used to predict factors affecting intern pharmacist's job satisfaction while correlation coefficient was used to determine the strength of association. Mann-Whitney test was done to ascertain if the level of satisfaction is linked to gender. Reliability estimation was done using the Cronbach alpha. All tests for differences between subgroup distributions were regarded as significant if p values equal to or less than 0.05 [two-tailed test] was reported.

Variable	Unsatisfied	Satisfied	Total	t-test	p-value	VIF
Age n (%)		1				
<20						
21-25	33(39.3)	51(60.7)	84(50)	-0.444	0.657	1.273
26-30	30(39.5)	46(60.5)	76(45.2)			
>30	4	4	8(4.8)			
Total	67(39.9)	101(60.1)				
Gender		1				
Male	28(34.6)	53(65.4)	81(48.2)	-1.799	0.074	1.374
Female	39(44.8)	48(55.2)	87(51.8)			
Total	67(39.9)	101(60.1)				
Marital Status		1		<u>                                     </u>		
Single	53(36.8)	91(63.2)	144(86.2)	-1.027	0.306	1.501
Married	13(56.5)	10(43.5)	23(13.8)			
Total	66(39.5)	101(60.5)				
Educational Fundi	ing	1		II_		
Parent	62(41.6)	87(58.4)	149(88.7)	1.434	0.153	1.051
Self	2(22.2)	7(77.8)	9(5.4)			
Relative	3(30)	7(70)	10(6.0)			
Total	67(39.9)	101(60.1)				
Locum		1		11		
No	57(38.8)	90(61.2)	147(87.5)	-1.354	0.178	1.052
Yes	10(47.6)	11(52.4)	21(12.5)			
Total	67(39.9)	101(60.1)				
Accommodation v	within the Hospital	1	1	11		
No	59(43.4)	77(56.6)	136(81.0)	2.599	0.010	1.103
Yes	8(25)	24(75.0)	32(19.0)			
Total	67(39.9)	101(60.1)				
Partake in call dut	ÿ	1				
No	3(37.5)	5(62.5)	8(4.8)	-1.302	0.195	1.148
Yes	64(40.0)	96(60.0)	160(95.2)			
Total	67(39.9)	101(60.1)				
Duration of stay in	n Hospital	1	1	<u> </u>		
<4	10(38.5)	16(61.5)	26(15.5)	-1.126	0.262	1.074
5-9	55(39.6)	84(60.4)	139(82.7)			
10-12	2(66.7)	1(33.3)	3(1.8)			
Total	67(39.9)	101(60.1)				
Choice Hospital			1	I		
No	39(51.3)	37(48.7)	76(45.2)	3.094	0.002	1.050
Yes	28(30.4)	64(69.6)	92(54.8)			
Total	67(39.9)	101(60.1)				

 Table 5: Multiple Logistic regressions predicting pharmacist job satisfaction.

Variable	Estimate	SE	Wald	p-value	OR	95%CI
Age (ref = >31)						
21-25	-0.447	0.884	0.255	0.614	0.640	3.622
26-30	-0.331	0.858	0.149	0.699	0.718	3.856
Gender (ref = female)						

Male	-0.668	0.413	2.621	0.105	0.513	1.151		
Marital Status(ref = married)								
Single	-0.665	0.608	1.198	0.274	0.514	1.693		
Educational funding (ref = relative)	Educational funding (ref = relative)							
Parent	0.810	0.787	1.061	0.303	2.249	10.512		
Self	-0.199	1.160	0.030	0.864	0.819	7.958		
Locum (ref = yes)								
No	-0.673	0.550	1.497	0.221	0.510	1.499		
Accommodation within the Hospital (ref = yes)								
No	1.222	0.497	6.053	0.014	3.393	8.977		
Partake in call duty (ref = yes)								
No	-1.243	0.895	1.930	0.165	0.289	1.666		
Duration of stay in Hospital (ref = 10-12)								
<4	-1.854	1.410	1.728	0.189	0.157	2.484		
5-9	-1.420	1.357	1.096	0.295	0.242	3.451		
No	1.081	0.358	9.120	0.003	2.949	5.950		

### Results

Most of the intern pharmacists who partici(pated in the study were between the age range of (21-25) years. The respondents were predominantly single, n=144 (86.2%), and trained in the university by their parents n=149 (88.7%). Majority of therespondents do not engage in locum 147 (87.5%), and lived outside the hospital premises 136(81%), and participated in night calls 160(95.2%) as shown in Table 1. They work for an average of (7-8) hours daily 129(76.8) and engage predominantlyin dispensing 148(88.1), and prescription reviews 101(60.1%) as depicted in Table 2. Most of the respondents have spent an onward of (5-9) months out of the mandatory (12) months of internship. They were confident rendering pharmaceutical care 149(88.9%) and were prepared to do same after the internship training 140(83.3%) Table 3.

#### Discussion

Majority of the respondents were single females who do not engage in locum practice, accomodated outside the hospital premises, participate in night calls duties and predominantly below thirty years old. This already pose a stressful condiction for the interns who will need to travel varying distances to access the hospital repeatedly for their morning duties and night calls. The ever increasing roles of pharmacists in the 21st century which goes beyound dispensing to even more mental anr tasking work like patients counseling, medication therapy management, medications recouncilliation and a host of other pharmaceutical care services place so much burden on the interns coupled with over seven hours of work daily [15]. These factors combined with poor working environment, employee cheracteristics as shown in Table 1 and 3, and relationship with other workers within and outside their department combine to impact negatively on job satisfaction [16,17]. A study in Ghana suggested that good managers and motivation boos ed health workers satisfaction and output in a government hospital [18]. Mott, Lu and Liu et al indicated that sociodemographic cheracteristics like renummerations, training background, profession and relationship with other health workers contribute significantly to job stress and determin the level of satisfaction of pharmacists [19-21]. However, Gidman et al argued that high pressure hospital environments which could be occassioned by high patients load, and poor residential facilities are funda-

mental in poor satisfaction among hospital pharmacists [21]. Studies carried out in United States and the UK indicated dissatisfaction among pharmacists with increasing levels of stress and work load [22,23]. A study by Maio et al suggested however, that pharmacists in chain stores have lower job satisfaction when compared to othert practice settings like hospitals [24]. This is contrary to a study in Saudi Arabia which indicated high job satisfaction among pharmacists especially those working in community pharmacies and chain stores [25]. This was found to have translated to good dispensing services, patients satisfaction, minimal dispensing errors and good safety culture [26]. The highest job satisfaction was reported among highly paid pharmacists which showed a correlation between job satisfaction and the level of income and comfort [27]. A study in US suggested that pharmacists position contribute to their job satisfaction [28]. Since the inern- pharmacists are still at the least level in the job ladder, this may also have contributed to low job satisfaction among them. Most of the respondents have worked between five to nine months of the mandatory twelve months taining and carry out dispensing and patients counseling services predominantly for an average working time of eight hours daily as indicated in Table 2. Stewart and Kong et al predicted that levels of education, improved work related attitude, and number of years of experience are good predictors of committment on the job [29,30]. Most of the interns have worked between [5-9] months which is just a little time in the system. The interns usually have lessthan 12 months to stay in the hospital and most of them already have lesst han a half of this period before leaving the job. A study by Suleiman in Riyagh opined that high intention to leave is an essential factor that contributes to low job satisfaction which may have played out among this population [31]. Overall, most of the pharmacists indicated that poor instituitional support, non flexibility of work schedule, poor condition of call rooms, lack of recorgnition, performing the job of technicians and poor preceptors support were other factors that contributed to their poor satisfaction to work. This was in line with a study in Pakistan where similar factors reduced job satisfaction and increased the intention to leave [32,33]. Accomodation within the hospital and the choice of hospital respectively regressed significantly with job satisfaction as indicated by Table 4 and 5. Previous studies indicated that personal (intrisic) and environmental [extrinic] factors affect psycho-social, emotional, occupational health, burn out, and job outcomes which are essential determinants of pharmacists job satisfaction and output [34-38]. A low personality, negative environment, high job demand and high work load all combine to impact negatively on job satisfaction and workoutput [34,38,39]. Evaluation of the impact of intervention on the predictors and qualitative dimension is recommended to broaden the scope of this study.

## Conclusion

Remunerations, condition of call rooms, poor interprofessional relationship, patiens attitude working condition, institutional support, and accommodations outside the hospital premises impacted negatively on the interns job satisfaction. However, accomodation outside the hospital and choice of hospital had significant influence on the job satisfaction. Respondents were dissatisfied with preceptors competence which negatively affected their job satisfaction and output. Poor infrastructure and state of basic ammenities were all tailored to job dissatisfaction among the respondents.

**Conflict of interest:** The authors have none to declare.

Sponsorship: No funds or grant was received for this study.

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