

Intern Pharmacists' Job Satisfaction, Perception of the Profession and Preparedness to Provide Pharmaceutical Care Services in Southeastern Nigeria

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ABSTRACT

Purpose of study: To determine job satisfaction, perception towards pharmacists, and preparedness to provide pharmaceutical care (PC) among intern pharmacists.

Methodology: A prospective survey of all intern pharmacists in South - Eastern Nigeria was done. A questionnaire with five sections measuring work characteristics, job satisfaction, perception towards pharmacists, and preparedness to provide PC was administered. Descriptive analysis and chi-square tests for differences in proportions were calculated.

Results: It took interns an average of 10 months to get an internship position after graduation. The interns were barely satisfied with their workplaces and conditions (2.83 of 4.0). They held moderately positive perceptions about pharmacist's clinical roles in the hospital (3.79 of 5.0) and felt marginally prepared to provide PC on graduation (3.38 of 5.0). The interns' age, gender, future career aspirations influenced their perception of pharmacists' clinical roles and preparedness to provide PC ($p < 0.05$ for all).

Conclusion: It takes a very long time to get a place for an internship in Nigeria. Interns were marginally satisfied with their jobs, held favorable perceptions about the profession, and didn't feel adequately prepared to provide PC in all items assessed.

Keywords: interns, perception, pharmaceutical care, satisfaction.

INTRODUCTION

The Ministry of Health Nigeria (MOH) and Pharmacist Council of Nigeria (PCN) has enforced the requirement for all newly graduated pharmacists to undergo a paid internship (as provisionally registered pharmacist (PRPs) training for not less than a year in any listed government hospital or any other PCN approved establishment before applying for

registration as a full-fledged pharmacist or fully registered pharmacist [1].

The pharmacy internship programme was developed to enable the intern-pharmacist to acquire the necessary skills, knowledge, and capacity to practice effectively as a registered pharmacist it also helps an intern-pharmacist to realize or discover his or her area of interest concerning the pharmacy profession. Intern pharmacists complete this training and move into pharmacy practice assuming fully the role of a

pharmacist. If the intern becomes a hospital or community pharmacist, he has more contact with patients/clients who demand individualized care. Pharmaceutical care is a growing concept in pharmacy practice in Nigeria and a lot of pharmacy settings are embracing it fully into their practice schedule [2].

It is common knowledge now that it is becoming very difficult for graduates to find internship placements especially in tertiary hospitals which have been known to recruit large numbers of interns annually. Reasons such as the growing number of pharmacy schools and graduates to the reduction in funding of hospitals by the government are blamed for shortages in intern pharmacists' positions in Nigeria. This shortage has also created a demand-pay loop that favors other practice settings such as industry and community pharmacists who pay substantially little to any intern position they advertise and the work burden of such an intern is often not supervised.

A few studies have investigated pharmacy student's and young pharmacists' perceptions of the roles of pharmacists as well as their preparedness to provide pharmaceutical care when in practice [3-5]. However, none of such studies have been conducted and reported in Nigeria. There are also no available data on the job characteristics of the pharmacy internship programme in Nigeria. Such data could help policymakers and regulators restructure and approve new internship sites in the hospital or other pharmacy settings. There is also a lack of national and cross-national studies on Nigerian intern pharmacists' level of job satisfaction.

The study aimed to describe pharmacy interns' job characteristics, job satisfaction, perception of pharmacists' role in clinical care, and their preparedness to provide PC during practice.

MATERIALS AND METHODS

Study Design

This study was designed as a prospective and cross-sectional survey of pharmacy interns, practicing in government-approved internship tertiary hospital sites in the South-Eastern region of the country. The study employed the use of pre-validated questionnaires to measure the study outcomes.

Study Population

As at the time of the commencement of this study in

May 2018, estimates put the figure of intern pharmacists in the eight tertiary hospitals in the South Eastern region at 189. 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. A convenience 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 conducted at eight tertiary hospitals in the South-Eastern region of Nigeria, scattered across the five (5) Eastern states. The tertiary hospitals used for this study included: University of Nigeria Teaching Hospital, National Orthopaedic Hospital, Enugu State University of Technology Teaching Hospital, Nnamdi Azikiwe University Teaching Hospital, Anambra State University Teaching 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 the majority 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

A self-administered questionnaire was developed from different previous studies to measure an intern's job satisfaction, perception towards pharmacists' role in clinical care, and their preparedness to provide PC on graduation. The questionnaire employed in this study consisted of five sections measuring different outcomes of the study. The first section contained items seeking details on interns' socio-demographic characteristics such as age, gender, marital status, funding of education, date of assumption of internship job, etc. The second section contained items on practice and work characteristics such as current hospital, unit of work, previous units worked in, the average number of work-hours daily, number of night calls per month, extra hours put in other jobs, dispensing and counseling duties, etc. The third section of the questionnaire included 12 item questions rating the intern's level of satisfaction with various aspects of their job. Responses to the items were distributed over a 4 point Likert scale with responses ranging from "Extremely dissatisfied" to "Extremely satisfied". This questionnaire assessing

satisfaction had been previously used in a study conducted among a cohort of pharmacists in the United States [6].

The fourth section of the questionnaire contains seven (7) perceived behavioral control questions assessing the intern's perception of pharmacists' role in clinical care, ranging from questions focusing on their abilities to make clinical decisions, discuss patient information, evaluate patient parameters and history, etc. The questionnaire was responded to on a 5- point agreement Likert scale. This was done because previous survey experience has shown that participants in Nigerian surveys do not clearly understand the difference between "agree" and "somewhat agree". These perception items had been previously employed in earlier studies [7, 8].

The final section evaluated interns' preparedness to provide PC services after they finish their internship. These items were also responded to by interns using a 5 -point Likert scale ranging from "poorly prepared" to "excellently prepared" for all the preparedness items. The questionnaire has been employed in several studies conducted among pharmacy students in the United States and Malaysia [4, 9].

Ethical Approval

Approval of the study protocol was sought at the Research and Ethics committee of the University of Nigeria Teaching Hospital (UNTH) and it was approved (NHREC/05/01/20088B-FWAOOO2458-IRBOOOO2323). Also, the verbal consent of the participating pharmacy interns was obtained before the commencement of the study.

Study Procedure

Intern pharmacists in each eligible tertiary hospital were approached during the working period and briefly explained the purpose of the study upon agreement to participate. Each intern was handed a questionnaire and given ample time to complete or fill and the questionnaire retrieved before the close of work.

Data Analysis

The coded data from the questionnaire were entered into the SPSS version 23 program, descriptive analysis and univariate comparisons were conducted to produce study outcomes. All constructs and measures were summarized using descriptive statistics such as means, frequency, and

percentages. The three constructs were also classified and a chi-square distribution test conducted to highlight the effect of interns' demographic and work characteristics. A reliability estimation of the items in three constructs, using the Cronbach alpha was conducted. 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.

RESULT

Demographic characteristics of intern pharmacists surveyed

One hundred and fifty- five interns completed the survey (participation rate of 82%). There were nearly equal male and female interns (female 50.3%). The majority of the interns were less than 25 years of age (52.3%), were single (81.3%), and their education was funded by their parents (78.1%).

It took an average of over 10 and a half months (SD=9.5) for an intern pharmacist to find a tertiary hospital to practice. Nearly a third of these interns (31.6%) waited for over one year to able to find an internship place to practice. However, as at the time of the study, the majority (84%) of the interns had worked for over 5 months, suggesting some appreciable level of practice experience (Table 1).

Intern's practice and work characteristics

The majority of the interns surveyed were currently working in pharmacy units providing direct clinical care to the patients (82.6%) specifically at the outpatient (32.9%), inpatient (23.9%), and emergency clinic (25.8%) pharmacies. The interns commit 4 to 6 hours (49%) and 7-8 hours (47.1%) of work daily. Drug dispensing, prescription review, and patient counseling were the most common duties performed by the interns during the internship programme.

About half of all interns (48.1%) were working as locum pharmacists outside their main internship duties at the hospital and all of which were in the community pharmacy setting. Many intern pharmacists (37.4%) reported they would pursue a career in industrial pharmacy after the internship programme. Only a few of the interns preferred academia (10.3%) or a career outside pharmacy (6.5%). (Table 1).

Table 1. Demographic and practice characteristics of interns N = 155.

Characteristic	N (%)	Characteristics	N (%)
Gender		Current pharmacy unit of practice	
Male	77 (49.7)	Administrative	27 (17.4)
Female	78 (50.3)	Inpatient	37 (23.9)
Age, years		Outpatient	51 (32.9)
≤25	81 (52.3)	Emergency/Surgery	40 (25.8)
26-30	54 (34.8)	The estimated daily duration of work, hours	
31-35	13 (8.4)	4-6	76 (49.0)
≥36	7 (4.5)	7-8	73 (47.1)
Marital status		9-11	6 (3.9)
Single	126 (81.3)	Duties conducted during the training	
Married	28 (18.1)	Dispensing medications	151 (97.4)
Widowed	1 (0.6)	Prescription review	140 (90.3)
Education funded by		Patient Counseling	115 (74.2)
Self	15 (9.7)	Drug Inventory	83 (53.5)
Parents	121 (78.1)	Research activities	42 (27.1)
Relative/friends	19(12.3)	Extra hours as a locum pharmacist?	
Internship placement time		Yes	74 (48.1)
Less than 6 months	70 (45.2)	Future career pharmacy setting	
6 to 12 months	36 (23.2)	Industry	58 (37.4)
13 and above	49 (31.6)	Community	29 (18.7)
Duration since assumption of duty		Hospital	42 (27.1)
Less than 4months	24 (15.5)	Academia and research	16 (10.3)
5 to 9 months	64 (41.3)	Something outside the pharmacy	10 (6.5)
10 to 12 months	67 (43.2)		

Reliability estimation revealed Cronbach's alphas for the different constructs as follows; job satisfaction (0.75), perception towards pharmacists' role (0.77), and preparedness to provide PC (0.86).

Job satisfaction among intern pharmacists

An overall mean score of all satisfaction items for interns surveyed produced a 2.83 out of a maximum of 4.00. This figure was slightly lower (mean 2.96) than the single item satisfaction score provided by the interns when asked about their general satisfaction.

Of particular note, interns were more satisfied with the items bothering on interaction with colleagues (mean 3.06), professional interaction with other members of the health care team (2.92), and quality of contact with patients (2.98±0.61).

Low satisfaction scores were observed in items focusing on opportunities to effectively use one's

ability (2.68), monthly salary and allowances (2.69), working conditions in the office (2.71), and the support gotten from the management of the hospital (2.71). (Table 2).

Intern pharmacists' perception of the pharmacist role in clinical care

From the findings in Table 2, interns held favorable perceptions about pharmacists' roles in clinical care provision (3.79 of 5.00). The interns held a favorable perception towards pharmacists' duty to "select parameters of patient care to monitor blood pressure" (3.96), to "identify a patients' problem with his medication" (3.95), and to discuss information on over the counter medications (3.86). Interns didn't perceive as favorable, the pharmacists' duty in discussing the patient's concerns with the physician (3.64) and in identifying problems of patients not detected by the physician (3.66).

Intern pharmacists' preparedness to provide PC on graduation

Table 3 summarizes the interns' self-reported preparedness to provide PC on graduation. The overall reported level of preparedness to provide PC among intern pharmacists was 3.38 of 5.00. The interns reported much lower preparations in some

specific areas PC. The interns also reported fair to poor preparation in their ability to "evaluate laboratory tests" (3.26), "evaluating information from patient's history" (3.28), and "communicating medical records information to other health professionals" (3.22). (Table 3).

Table 2. Job satisfaction and perception towards pharmacists' role in clinical care among intern pharmacists.

Job scenarios	Mean (SD)
The working conditions in your office	2.71 (0.64)
The level of interaction/teamwork with your colleagues	3.06 (0.60)
The recognition you get for good work	2.77 (0.66)
The monthly salary & allowances you get	2.69 (0.71)
The opportunities to use your abilities effectively	2.68 (0.78)
The hours of work you do daily	2.87 (0.68)
The flexibility of your work schedule	2.74 (0.71)
The quality of contact with patients/clients	2.98 (0.61)
Your preceptor's reliability and efficiency	2.86 (0.67)
Your freedom to make decisions in your unit	2.72 (0.69)
Your professional interactions with other members of the health care team	2.92 (0.65)
The support got from the management of your institution/hospital	2.71 (0.69)
I think pharmacists...	Mean (SD)
Can identify problems a patient is having with medications	3.95 (0.86)
Can select parameters of patient care to monitor (e.g. blood pressure, blood glucose)	3.96 (0.74)
Can discuss patient concerns with physician	3.64 (0.85)
Can obtain accurate information on all medications currently taken by the patient	3.68 (1.00)
Can discuss information on over-the-counter products	3.86 (0.93)
Can identify drug problems of patients not detected by the physician	3.66 (0.94)
Can assess a patient's response to therapy as a standard practice	3.78 (0.93)

The overall mean satisfaction score is 2.83. Likert scale responses were scored as follows; extremely dissatisfied=1; extremely satisfied=4 (satisfaction), Strongly disagree=1; Strongly agree=5 (Perception)

Table 3. Interns' self-reported preparedness to provide PC.

I think pharmacists...	Mean (SD)
Recommend appropriate drug therapy	3.29 (0.89)
Evaluate laboratory tests	3.26 (0.88)
Recommend medication doses and dosage schedules	3.46 (0.95)
Evaluate information from patients' history and assessment	3.28 (0.97)
Provide counseling to patients	3.49 (1.05)
Monitor therapeutic plan for a patient	3.31 (0.96)
Document information on drug-related problems	3.32 (0.92)
Communicate medical records information to health professionals	3.22 (1.00)
Communicate medical records information to the patient	3.35 (0.90)
Evaluate, select and purchase pharmaceuticals	3.47 (1.06)
Develop and implement a pharmacy inventory control system	3.29 (1.07)
Devise methods to seek optimal patient compliance	3.32 (0.91)

Likert scale responses were scored as follows; Poor preparation =1 to Excellent preparation =5

Classification of interns' responses to study constructs

When aggregating intern responses to the three constructs into binary distribution, there was an equally similar percentage of satisfied (49%) and non-satisfied (51%) interns (median cut off point of 43.75%). The distribution after the mean cut off of perception to pharmacist roles revealed more intern pharmacists possessed significantly poor perception (59.4%) than good perception (40.6%), $p < 0.05$ (median cut off point of 57.14%). Lastly, significantly more interns felt they were not prepared (58.1%) to provide PC on graduation, $p < 0.05$ (median cut off point of 58.33%).

Influence of intern's demographics and work characteristics on responses to study constructs

Gender and age of interns

A higher proportion of male interns compared to females (53.2% vs. 44.9%, $p = 0.03$) were satisfied

with their job conditions and felt they were better prepared to provide PC on graduation compared to their female counterparts (46.8 vs. 37.2%, $p < 0.05$). There were no significant differences in the perception shared towards the pharmacist's role by gender, $p\text{-value} > 0.05$. Older interns, from 31 years and above expressed better perceptions towards pharmacists' clinical roles compared to younger interns. (Table 4)

Marital status and education funding

Unmarried interns were proportionally more satisfied than the married students (51.6% vs. 37.9%, $p = 0.001$). Interns who self-funded their education during pharmacy school were proportional less satisfied with their internship job conditions and only a handful (13.3%) also held favorable views of pharmacists' roles in clinical care, $p < 0.05$. (Table 4).

Table 4. Distribution of positive constructs by intern characteristics.

Intern Characteristic		Satisfied	Good perception	Prepared to provide PC
Gender	Male	41 (53.2)	30 (39.0)	36 (46.8)
	Female	35 (44.9)	33 (42.3)	29 (37.2)
Age, years	≤25	43 (53.1)	48 (59.3)	37 (45.7)
	26-30	25 (46.3)	28 (51.9)	19 (35.2)
	31-35	5 (38.5)	10 (76.9)	4 (30.8)
	≥36	3 (42.9)	6 (85.7)	5 (71.4)
Marital status	Single	65 (51.6)	53 (42.1)	55 (43.7)
	Married/Widowed	11 (37.9)	10 (34.5)	10 (34.5)
Education funded by	Self	4 (26.7)	2 (13.3)	7 (46.7)
	Parents	62 (51.2)	55 (44.5)	51 (42.1)
	Relative/friends	10 (52.6)	6 (31.6)	7 (36.8)
Internship placement time	Less than 6 months	35 (50.0)	26 (37.1)	28 (40.0)
	6 to 12 months	16 (44.4)	16 (44.4)	14 (38.9)
	13 and above	25 (51.0)	21 (42.9)	23 (46.9)
Duration since assumption of duty	Less than 4 months	14 (58.3)	10 (41.7)	12 (50.0)
	5 to 9 months	35 (45.3)	23 (35.9)	22 (34.4)
	10 to 12 months	33 (49.3)	30 (44.7)	31 (46.3)
Night call duty	Yes	30 (45.5)	22 (33.3)	28 (42.4)
	No	46 (51.7)	41 (46.1)	37 (41.6)
Estimated daily duration of work , hours	4-6	39 (51.3)	30 (39.5)	33 (43.3)
	7-8	33 (45.2)	30 (41.1)	29 (39.7)
	9-11	4 (66.7)	3 (50.0)	3 (50.0)
Extra hours as a locum pharmacist	Yes	28 (37.8)	25 (33.8)	29 (39.2)
	No	48 (60.0)	38 (47.5)	35 (43.8)
Future career pharmacy setting	Industry	32 (55.2)	32 (55.2)	29 (50.0)
	Community	10 (34.5)	10 (34.5)	11 (37.9)
	Hospital	21 (50.0)	12 (28.6)	17 (40.5)

Bold figures are significantly higher/lower proportions compared to others, at $p < 0.05$ (Chi-square test).

Timing

The time duration interns had to wait to get an internship position had no significant influence on their job satisfaction, perception towards pharmacists, or their level of preparedness to provide PC. Also, a greater percentage of interns who had only recently assumed duty showed more satisfaction with their jobs compared to other interns who had been on duty a longer time. (Table 4) The time duration interns had to wait to get an internship position had no significant influence on their job satisfaction, perception towards pharmacists, or their level of preparedness to provide PC. Also, a greater percentage of interns who had only recently assumed duty showed more satisfaction with their jobs compared to other interns who had been on duty a longer time. (Table 4). Bold figures are significantly higher/lower proportions compared to others, at $p < 0.05$ (Chi-square test).

Interns' work practices

Interns who had never been placed on a night duty call were more satisfied with their jobs and held better perceptions about pharmacists' roles in clinical care ($p=0.02$ and $p=0.013$ respectively). The duration of daily work by the intern had no significant influence on any of the constructs measured. Interns who did not put in extra hours of work as locum pharmacists were more satisfied with their main job conditions compared to those who did (60.0% vs. 37.8%, $p < 0.001$). Also, a marginally significant proportion of the former interns had a much poorer perception of the role of the pharmacist in clinical care ($p < 0.05$).

Significantly fewer interns favoring a clinical setting as future career destinations reported good perceptions of pharmacists' role in the clinical care setting ($p=0.037$). Future career choice had no significant influence on interns' job satisfaction and preparedness to provide PC.

Lastly, interns who were satisfied with their job conditions also significantly possessed good perceptions of their future roles as pharmacists in the provision of health care ($p < 0.05$). The interns who held positive perceptions about their roles as pharmacists also significantly reported greater preparedness to provide PC during practice ($p=0.02$).

DISCUSSION

This study sought to provide evidence and an exposé into the characteristics and level of job satisfaction

among intern pharmacists and to understand the distribution of their perceptions of pharmacists' roles and their level of preparedness to provide PC on completion of the internship programme.

There is an increase in the number of new pharmacists in Nigeria yearly though the number of actively registered pharmacists is still grossly inadequate, put at 12,000 as against 80,000 pharmacists needed to meet the demand for quality health care [10]. Although, many pharmacy schools have increased admission due to the increased number of applications, also accredited schools of pharmacy are 27 more than a 100% increase within the last ten years [11]. In this study, it took about 10 months to get an internship placement after graduation due to the increased number of pharmacists graduates annually and non increasing internship job placements. This finding is in stark contrast with that of the United States [12].

Intern pharmacists' job descriptions and involvement largely focused on the approved and rudimentary services of medication dispensing and prescription audits which is strictly under the supervision of a senior registered pharmacist and as such, they are expected to play an observatory role during patient counseling. Regarding the future career choices after internship many preferred practices in the industrial sector. This is in contrast to the study conducted among pharmacy students in three Nigerian pharmacy schools by Ubaka *et al.* [13]. This shift could be attributed to a better understanding of the availability of career opportunities.

Regarding part-time work (putting in extra hours in another job), both the male and female students were equally involved. Other studies reported that part-time work is more common among female pharmacists [14,15]. However, married interns were disproportionately and significantly less involved in taking up part-time jobs after work contrary to the study conducted among pharmacists [16].

The overall job satisfaction was not significantly different from the composite mean satisfaction of the 13 satisfaction items tested in the questionnaire. Their level of satisfaction was slightly higher than that of Malaysian interns [5], among US pharmacy students and hospital pharmacy interns in Spain [17,18]. The satisfaction levels are intrinsic motivation factors such as interaction with patients, colleagues, and other members of health care as described by Popa *et al* [19]. However, in an earlier study conducted among

Romanian pharmacists, there was poor satisfaction with extrinsic factors especially with salary and promotion [20].

Salary and workspaces are two important motivating factors these young pharmacist graduates consider important and ranked low in satisfaction. It is then surprising that the interns in the hospital setting would not be satisfied with their pay even when they earned higher than other interns in other practice settings. Two international studies summarized the reasons students study pharmacy and one of them among many (interest in science, working with patients, career opportunity, etc) is the good salary and remuneration [21, 22]. Salary is an important determinant of satisfaction in any organization and that has been reported in various pharmacy settings [6]. Married interns reported much less satisfaction than their single counterparts which is similar to a study in North Ireland [23]. It is thought that family responsibility and the perceived "inadequate salary" to cover the family expenses could have contributed to these lower satisfaction levels.

There is evidence available to propose that workload impacts on pharmacists' job satisfaction and stress levels [24-26]. The increased workload in this study does not come from the main job. In another study in the US, it reported that pharmacists felt workloads were escalating in the hospital setting and that this was linked to increased stress and reduced job satisfaction [27].

Interns in this study generally showed well above average positive perceptions regarding pharmacists' roles particularly the classical roles pharmacists perform within the practice area. There is a need to shift the practice of drug-centeredness of the pharmacy practice to patient-centered practice [28]. Likewise, the interns also poorly considered the role of pharmacists identifying drug problems not detected by the physician or discussing patient problems with the physician as roles pharmacists play in the clinical setting. These similar findings were also reported by students in the United States [7], however not as poorly as these produced among Nigerian interns in our study. A study provided possible reasons pharmacists would continue to shy away from patient-centered care if not addressed. The reasons included interns not having enough confidence in themselves, the fear of taking risks, and waiting for the physicians' approval [29].

Limitations of the study

The data presented in this study are those of interns practicing in tertiary hospitals in the South Eastern region of the country. Though diversity was achieved in graduates from as much as fourteen (14) different schools of pharmacy being surveyed, the findings may not be generalized to graduating students in other regions of the country.

CONCLUSIONS

Interns in South Eastern Nigeria had about ten months to get an internship placement after graduation. They were barely satisfied with their work conditions and salaries earned. Their level of job satisfaction was different across gender, marital status, and extra hours put into other jobs.

The interns had a moderately positive perception of the roles of the pharmacists in the clinical care setting and felt just adequately prepared to provide certain pharmaceutical care services, mostly traditional pharmacy activities. Interns' age, gender, further career aspirations influenced their perception of pharmacists' clinical roles and preparedness to provide pharmaceutical care.

Regulators, educators, and stakeholders in the pharmacy sector should open up more sources of jobs for the growing number of interns and greater supervision by senior pharmacists should be enforced.

REFERENCES

1. Pharmacist Council of Nigeria. Internship Programme Handbook. 2015
2. Ogonna B, Oparah CA, Odili VI. Pharmaceutical care activities in Nigeria from 1970 to 2018: A narrative review. *EC Pharmacology and Toxicology*, 2019; 7(8): 789-805.
3. Reid LD, Brazeau GA, Kimberlin C, Meldrum M, McKenzie M. Students' Perceptions of their Preparation to Provide Pharmaceutical Care. *Am J Pharm Educ*, 2002; 66(4): 347-356.
4. Scott DM, Friesner DL, Miller DR. Pharmacy Students' Perceptions of Their Preparedness to Provide Pharmaceutical Care. *Am J Pharm Edu* 2010; 74 (1) Doi: 10.5688/aj740108
5. PhauGSY, Teoh CJ, KhongLB, Baba B, Lim CW, Koh WL, Rhazi NAM, Ayob OC. The satisfaction and perception of intern pharmacists towards their training in government hospitals in the northern

- region of Malaysia. *Pharm Educ*, 2017; 17(1):15-23
6. Hardigan P, Carvajal M. Job Satisfaction among Practicing Pharmacists: A Rasch Analysis. *The Internet J Allied Health Sc Pract*, 2007; 5(4):11
 7. Kiersma ME, Plake Ks, Newton GD et al. Factors Affecting Prepharmacy Students' Perceptions of the Professional Role of Pharmacists. *Am J Pharm Educ*. 2010 Nov 10; 74(9): 161. Doi: 10.5688/aj7409161
 8. MakVS, March G, Clark A, Gibert AL. Do South Australian pharmacy students have the educational and behavioral precursors to meet the objectives of Australian health care reform agenda?, *Integrated Pharmacy Research and Practice* 2014; 22(5): 366-372. Doi: <https://doi.org/10.1111/ijpp.12090>
 9. Binos R, Simon R.L, Katrice P, Hazel AC, Loquias, MM. Perceptions of Pharmacy Students in Metro Manila towards their Preparedness to Provide Pharmaceutical Care. *Inter Journal of Pharmacy Teach Pract* 2011; 2(3): 102-107.
 10. Ekpeyong A, Udoh A, Kpokiri E, Bates I. An analysis of pharmacy workforce capacity in Nigeria. *J Pharm Policy Pract* 2018;11(1):20
 11. Pharmacists Council of Nigeria. Education; Universities accredited for pharmacy programme in Nigeria. Available at www.pcn.org.ng. Assessed 29th May, 2018.
 12. Sweet BV, Kelley KA, Janke KK et al. Career Placement of Doctor of Pharmacy Graduates at Eight U.S. Midwestern Schools. *Am J Pharm Educ*. 2015 Aug 25;79(6):88. Doi: 10.5688/ajpe79688
 13. Ubaka CM, Ochei UM, Adibe MO. Student pharmacists' career choices: a survey of three Nigerian schools of pharmacy. *Pharmacy Pract* 2013; 11(3):149-155.
 14. Taylor TN, Knapp KK, Barnett MJ, Shah BM, Miller L. Factors affecting the unmet demand for pharmacists: State-level analysis. *J Am Pharm Assoc*. 2013; 53(4):373-381.
 15. Doucette WR, Gaither CA, Kreling DH, Mott DA, Schommer JC. Final report of the 2009 National Pharmacist Workforce Survey. <http://www.aacp.org/resources/research/pharmacy/workforcecenter/Documents/2009%20National%20Pharmacist%20Workforce%20Survey%20-%20FINAL%20REPORT.pdf> Accessed August 25, 2015.
 16. Gubbins PO, Ragland D, Castleberry AN, Payakachat N. Family commitment and work characteristics among pharmacists. *Pharmacy* 2015, 3(4):386-98.doi:10.3390/pharmacy3040386
 17. Mihm DJ, MihmLB, Lonie JM, Dolinsky D. Selected perceptual determinants of pharmacy students' expected job satisfaction: a pilot study. *Curr Pharm Teach Learn*, 2011; 3(3), 185-191.
 18. Mateo-Carrasco H, Molina-Cuadrado E, Nieto-Guindo P. Key determinants of satisfaction with residency of hospital pharmacy specialists in Spain. *Curr Pharm Teach Learn*, 2014; 6(2), 245-253. <https://doi.org/10.1016/j.cptl.2013.11.002>
 19. Popa, D, Bazgan M. Job Satisfaction and Performance in the Context of the Romanian Educational Reform. *J. Eng. Stud. Res*. 2011; 17(4), 79–84.
 20. Iorga M, Dondas, Soponaru C, Antofie I. Determinants of Hospital Pharmacists' JobSatisfaction in Romanian Hospitals. *Pharmacy* 2017; 5(4); 66. Doi:10.3390/pharmacy5040066
 21. Willis SC et al. *Studying Pharmacy: Who, When, How, Why? What Next?* London: Royal Pharmaceutical Society of Great Britain, 2006.
 22. Capstick S et al. Choosing a course of study and career in pharmacy – student attitudes and intentions across three years at a New Zealand School of Pharmacy. *Pharm Educ* 2007; 7(4):359–373. DOI: 10.1080/15602210701673811
 23. Khalidi DA, Wazaify M. Assessing of pharmacists' job satisfaction and job related stress in Amman. *Int J Clin Pharm* 2013; 35(5):821-8; DOI 10.1007/s11096-013-9815-7
 24. McCann L et al. An exploration of work-related stress in Northern Ireland community pharmacy: a qualitative study. *Int J Pharm Pract* 2009; 17(5):261-7
 25. Gidman W. Increasing community pharmacy workloads in England: causes and consequences. *Int J Clin Pharm* 2011; 33 (3): 512–520. DOI: 10.1007/s11096-011-9498-x
 26. Suleiman, A.K. Stress and job satisfaction among pharmacists in Riyadh, Saudi Arabia. *Saudi J. Med. Med. Sci*. 2015, 3(3), 213-219. DOI: 10.4103/1658-631X.162025
 27. Gidman WK et al. The impact of increasing workloads and role expansion on female community pharmacists in the United Kingdom. *Res Social Adm Pharm* 2007; 3(3):285-302. DOI: 10.1016/j.sapharm.2006.10.003
 28. HamarnehYN, Rosenthal M, McElnay JC, Tsuyuki RT. Pharmacists' perceptions of their practice: a comparison between Alberta and Northern Ireland. *Inter J Pharm Pract*, 2014; 20(1); 57–64. DOI: 10.1111/j.2042-7174.2011.00163.x

29. Rosenthal MM et al. Pharmacists' self perception of their professional role: insights into community pharmacy culture. J Am Pharm Assoc 2011; 51(3):363-8a.

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