



ORIGINAL RESEARCH

Experiences and Expectations of Bachelor of Pharmacy Graduates of a Newly Accredited Pharmacy School in Nigeria about Pharmacy Education and Practice

Lawal BK^{1*}, Audu B², David KB³ and Haruna A⁴

¹Department of Clinical Pharmacy and Pharmacy Management, Kaduna State University, Kaduna, Nigeria; ²National Universities Commission, Abuja, Nigeria; ³Hull York Medical School, University of York, United Kingdom; ⁴Department of Pharmaceutical and Medicinal Chemistry, Kaduna State University, Kaduna, Nigeria

Address for correspondence:

Dr. Basira Kankia Lawal
Department of Clinical Pharmacy and Pharmacy Management, Faculty of Pharmaceutical Sciences
Kaduna State University, Kaduna, Nigeria
Email: lawalbasira@yahoo.com
ORCID ID: 0000-0003-1975-0648

To cite this article: Lawal BK, Audu B, David KB and Haruna A. Experiences and Expectations of Bachelor of Pharmacy Graduates of a Newly Accredited Pharmacy School in Nigeria about Pharmacy Education and Practice. *Journal of Basic and Social Pharmacy Research*, 2022;2(3):1-12
ISSN: 2705-3245

ABSTRACT

Background: Pharmacy education in Africa continually faces challenges that influence students learning experiences making pharmacy students overwhelmed and anxious about life both in school and after school.

Objectives: To explore recent pharmacy graduates' experiences and expectations from university about the workplace.

Methods: A qualitative study using semi-structured interviews was conducted via a Google survey form that contained open ended questions. Recent Bachelor of Pharmacy graduates from Kaduna State University (KASU) who were undertaking their internship were invited to participate in the interviews to explore their perceptions about pharmacy education and practice based on their expectations and experiences. Data was analysed using simple thematic analysis.

Results: Thirteen (13) participants responded to the online interview. Eight (8) themes were generated which include decision and choice of university, expectations of studying pharmacy at the university, experiences at the faculty, expectations after graduating, experiences as an intern pharmacist, perceptions about degree obtained, perception of Pharmacy practice and theory, and suggestions for improvement.

Conclusion: The eight (8) themes deduced from the interviews reflect on the expectations and experiences that the recent graduates of the Faculty of Pharmaceutical Sciences, KASU had regarding pharmacy education and practice. The results could be utilised in improving student teaching and learning and in improving pharmacy education in the school.

Keywords: Pharmacy education; Pharmacy practice; Perceptions; Undergraduate; Nigeria

INTRODUCTION

In recent years, pharmacy education in Nigeria has undergone modest transformations into a blended science- and practice- based curriculum¹. However, pharmacy education in Africa continues to

face challenges which require interventions to maximize the students learning experiences². These challenges make pharmacy students overwhelmed and anxious about life both in school and after school³. Pharmacy education and practice in Nigeria is regulated by the Pharmacists

Council of Nigeria (PCN). The PCN is a Federal Government parastatal body charged with the responsibility for regulating and controlling pharmacy education, practice and training in all aspects and ramifications⁴. According to the PCN, there are 20 accredited Universities in Nigeria offering an undergraduate programme pharmacy degree⁴. Of these Universities, three (3) belong to States, two (2) are private universities while the remainder are Federal Universities. Most faculties of pharmacy in Nigeria offer a 5-year baccalaureate (B. Pharm) degree programme. However, plans are underway by many faculties to transition into a 6-year Doctor of Pharmacy (PharmD) degree programme. Although the content of pharmacy curricula may differ across schools, the various schools however adopt the traditional curricula as contained in the Benchmark Minimum Academic Standard (BMAS) of the National Universities Commission (NUC) containing pharmacognosy, pharmaceutics, pharmaceutical and medicinal chemistry, pharmacology and clinical pharmacy¹.

In Nigeria, a graduate pharmacist is expected to be worthy in character, one who is capable of complex problem solving, critical thinking, innovative and can continue with life-long learning, must have adequate knowledge, skills and keenness to provide comprehensive pharmaceutical services to attain best possible patient outcomes⁵. Before a Nigerian pharmacy graduate is given a licence to practice, he/she must complete a mandatory one year internship programme at an accredited centre¹. These accredited centres in Nigeria are mostly tertiary hospitals, specialist hospitals, secondary hospitals and research institutes. The purpose of the internship is to improve students' pharmacy practice skills and increase their awareness of their roles and responsibilities.

Prior to graduation and internship, pharmacy students in Nigeria usually undertake two major experiential learning components in pharmacy practice as part of their B. Pharm

curriculum which are: (1) Students Industrial Work Experience Scheme (SIWES) that usually lasts for 6 months and is undertaken by fourth year undergraduate students with placement in any area of pharmacy practice, and (2) the final year clinical clerkship that usually takes place in a hospitals during a semester of the fifth year B. Pharm programme⁶⁻⁸. However, it has been reported that pharmacy students in Nigeria perceive that there are differences between classroom theory and actual practice from experiences they have had from their student experiential learnings⁷.

There is no ambiguity that undergraduate students' university expectations and experiences have some impacts on their decisive identity solidification. However, not many studies have been conducted to unearth how these experiences influence pharmacy graduates' professional practice and confidence. As such, this study aims to explore recent pharmacy graduates' experiences and expectations from university about the workplace.

METHODS

Study area

The study was carried out among recently graduated students from the Faculty of Pharmaceutical Sciences, Kaduna State University (KASU), Kaduna, Nigeria. Kaduna State University is a state owned University established in 2004. The Faculty of Pharmaceutical Sciences was established in early 2012 with the first set of students admitted later in the year for the 2012/ 2013 academic session⁹. The first and second sets of students who graduated from the faculty eventually took their Pharmacy oath on 23rd August 2019 and 10th March, 2020 respectively.

Study design

This was a qualitative study that used semi structured interviews to collect data. As the graduates were in different parts of the country undergoing their internships, and with the COVID19 pandemic, conducting

physical interviews proved difficult. It is quite evident that the COVID19 pandemic is a time of unprecedented change and disruptions which has made qualitative researchers to experience unique opportunities and challenges¹⁰. Additionally, the researchers had to adopt an approach with minimal financial and other logistic related implications. As such, an internet- based approach using a Google survey form that contained open ended questions was adopted. This approach was considered cheaper than video conferencing platforms. It also provided greater time and location flexibility for data collection^{11, 12}.

Interview guide

An interview guide for the study was developed based on a literature search of similar studies conducted with pharmacy students^{7, 13}. This guide was validated by an

expert in academia with experience in qualitative research, and then pilot tested with one of the graduates currently on internship to have a general idea on the information to be captured. The interview guide contained open ended questions with further probing questions to illicit responses from participants (Figure 1). The questions included the nature of experiences in Pharmacy school and during internship, expectations during school and during internship placement, suggestions for improvement for the faculty based on their experiences during school and internship.

Data collection

A list of all persons that had graduated so far from the faculty was obtained (22 from the first graduating set and 11 from the second set) and their contact details obtained from

1. Why did you choose to study pharmacy?
2. What were your expectations before studying pharmacy?
3. How would you describe your journey in pharmacy school?
4. What were your expectations after graduating with a B. Pharm degree?
5. Why did you choose your present place of internship?
6. How has been your internship experience so far?
7. Are your expectations of pharmacy practice so far being met during this internship period?
8. Do you perceive that pharmacy theory is different from practice?
9. Do you feel confident enough in your practice compared to other graduates from other pharmacy schools?
10. Do you feel as the first set of graduands from KASU FPS that your degree is at par with that of other graduates from other schools?
11. Are there any suggestions for KASU FPS on areas of improvement?

Figure 1: Interview guide used for the study

their faculty records. A focal person contacted each graduate to confirm the date each person started his/ her internship. Only persons who had spent at least six (6) months in their internship programme as at the time of the study were eligible to participate and included in the study. The hyperlink to the Google form containing the interview questions were sent to each graduate after explaining the purpose of the study and obtaining their consent to participate. The interview questions were

open ended questions with space for long text answers. Additionally, participants were encouraged to be free to give as much details as possible for questions asked, while assuring them of their confidentiality.

Data analysis

Data from the long text interviews were analysed using simple thematic analysis. All responses for each question were combined with each respondent given a unique code. Coding was done independently by the first

two researchers (BKL and BA) and confirmed by the other two researchers (KBD and AH).

Representative quotations are included to illustrate themes identified. Some of the quotations have been slightly edited for English structure to improve clarity.

Ethical considerations

The study was considered to be exempt for ethical approval from an institutional review board as it did not involve members of the general public or patients. However, permission was sought from the participants and only those who gave their written consent to participate were able to proceed to the online interview. In addition, no personal information was collected, and participants were assured of anonymity and provided with the option of withdrawing at any point of the study.

RESULTS

Thirteen of the 23 eligible participants responded to the invitation to participate in the online interview. As shown in Table 1, one of the respondents had just completed the one (1) year mandatory internship, four were about completing and others had spent various months into the internship. Most of the participants were undertaking the internship at tertiary hospitals with a few in general hospitals (n=2) and two others in research institutes.

Themes generated

Eight (8) themes were generated from the interview transcripts. Figure 2 highlights the themes and some subthemes generated.

Table 1: Overview of respondents

Respondent code	Months into internship	Place of internship
R1	11 th month	Research institute
R2	7 th month	Tertiary hospital
R3	11 th month	Research institute
R4	11 th month	Tertiary hospital
R5	Completed	Tertiary hospital
R6	6 th month	General hospital
R7	10 th month	Reference hospital
R8	8 th month	Federal Teaching Hospital
R9	8 th month	General hospital
R10	10 th month	Tertiary hospital
R11	11 th month	Tertiary hospital
R12	10 th month	Specialist hospital
R13	10 th month	Specialist hospital

Theme 1: Decision and choice of university and course

Majority of respondents (11/13) identified that studying at FPS KASU was by chance as Pharmacy was not their course of first choice in the University. Some had applied for other courses in the University but were given an option of changing to study Pharmacy.

“My first choice was medicine and since that was not forthcoming, I thought pharmacy was an alternative but as I gained more

understanding, I soon realised the differences and appreciated pharmacy more.” (R04)

“My being in Pharmacy school was a divine intervention, it was by chance, but I am glad it turned out that way. I say that because none of us applied for the course while filling the JAMB form. There was a need to start the Pharmacy program at KASU that session and were lucky to be selected as the pioneer set of students.” (R13)

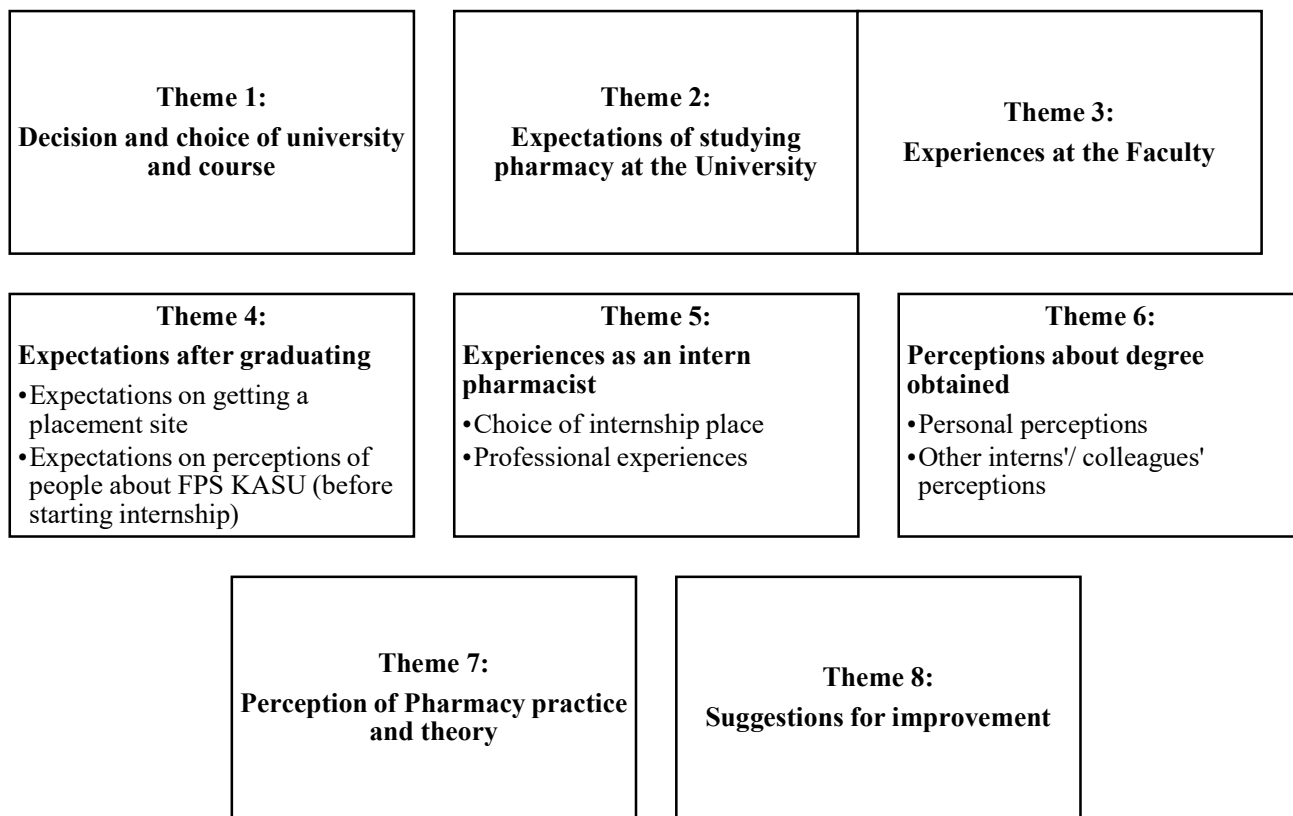


Figure 2: Themes and subthemes generated from interviews

However, other respondents noted that they sought and applied for Pharmacy as their first choice of course of study in the University. This choice was influenced by factors such as a strong desire to be in the health sciences or being motivated by a close relative who was already a practicing pharmacist.

“KASU was my first choice, and my everyday motivating factor was my Dad, he was a pharmacist also, I always wanted to be like him.” (R09)

Theme 2: Expectations of studying pharmacy at the University

Majority of the respondents had expected pharmacy to be a tough and challenging course due to what they had heard from other people and also due to the nature of the course being a science based course that deals with human lives.

“Of course, you cannot hear the word pharmacy and not have little episode of

panic attack. I always put it in mind that it's going to be difficult course”

“I never expected Pharmacy will be a simple course to study, as the course deal with human lives” (R2)

However, there were some amongst them that had not much idea of the course, while very few expected it was going to be an easy course to study, however, they eventually realised that it was a tough course to study.

“Well, I didn't know much about the course and the profession at large, I just went in with the passion of giving in my best. It was along the line the course was looking promising, interesting and difficult so to say because it was just like the only thing you were given birth to do, read, read and nothing less”. (R03)

“I had no expectations because I didn't even know what Pharmacy was”. (R13)

“Actually I thought pharmacy will be an easy going course but unfortunately it wasn't, pharmacy is nice but very stressful”. (R05)

Theme 3: Experiences at the Faculty

Many of the respondents noted how they found pharmacy school to be challenging, but exciting at the same time. They explained how they thought they couldn't even graduate, but kept pushing on, and now it seems quite memorable.

“My entire stay in the faculty of pharmaceutical sciences KASU was memorable and exciting. I was passionate about the course, and I always knew I would graduate as a pharmacist and God did it for me”.

“It was everything. Exciting, challenging, happy moments, especially when you pass a test, sad and depressing moments when you fail a test, it was just everything. I never regretted studying it because I was just optimistic, coupled with the kind of course mates and friends I was having. I was confidently sure I would graduate as a pharmacist”

“Studying Pharmacy is one of serious challenge faced in my life but it really excited when I remember, yes some time I used to ask myself if I'm going to graduate, as I saw some of my colleagues [being] withdrawn from the faculty”

Others also noted how at some point, they considered quitting and changing their course of study entirely.

“At my 2nd year, I felt like quitting or to be transferred to other departments”

The respondents further explained how being amongst the first set of students admitted into the faculty meant they were saddled with responsibilities and did not have others to look up to.

“Being one of the pioneer students provided me with opportunities to do more than a regular student in an already established school of pharmacy. The lack of senior colleagues to guide us and share their mistakes with us made us to make some avoidable mistakes, but also gave room for top-notch learning. In a bid to be better pharmacy graduates someday, we resolved to peer-mentor our classmates and junior students. This sense of responsibility provided other memorable

experiences that are pivotal to a successful practice post- graduation”

Theme 4: Expectations after graduating**i. Expectations on getting a placement site**

A few of the respondents expected that immediately after graduating with a B. Pharm degree, internship placement would be easy to find. They however realized getting a placement could be delayed.

“I expected finding internship placement would be easy”

“I thought the ministry of health will just give us automatic internship placement”.

“I honestly thought it was going to be easy. I had planned my life with dates and duration but unfortunate for me I had to stay about 6 months before gaining an internship placement. I travelled, wrote internship exams in about 4 places. It was when I was to go to the 5th that my current employer employed me”.

However, majority of the respondents had expected that getting an internship placement immediately after graduation could be challenging.

“Right from the start I knew finding a placement for internship wasn't easy, so I didn't expect to get a placement immediately though I was hoping” (R3)

“After B. Pharm., I was aware of the challenge of getting internship placement so one had to send applications to every corner of the country” (R4)

ii. Expectations on perceptions of people about FPS KASU (before starting internship)

Some of the respondents had positive perceptions and expectations regarding their B. Pharm degree. They expected that their degree will be considered equivalent to that of interns from other Pharmacy schools.

“Not even for once have I thought my degree would be considered less than others in other institutions because we were up to the task. We were really and highly trained by qualified lecturers”. (R3)

“Being a KASU graduate has never made me timid or think lowly of my degree

because I believed the process of employment would be a fair one- not prejudiced". (R4)

However, other respondents were worried that their degree would be considered lesser than that of interns from other Pharmacy schools, particularly those coming from the premier Pharmacy schools in the country.

"I thought that my degree will be considered less than that of other graduates from other older schools". (R12)

"I also thought my degree won't be rated as high as those from premier universities". (R10)

Theme 5: Experiences as an intern pharmacist

i. Choice of internship place

While some of the respondents intentionally chose their place of internship due to reasons such as the site being a tertiary hospital, others, however, relied on choice based on availability.

"I chose a tertiary hospital because I believe it is a centre that has various fields of Pharmacy practice (special units) e. g UDDS, oncology, and anaesthesia". (R2)

"I am doing my internship in a tertiary hospital, and I choose that just to have a little more exposure in terms of disease conditions and treatment due to several clinics that do operate in the hospitals by participating in clinical ward rounds, appropriate dispensing of pharmaceutical products with proper counselling to improve patient quality of life, small scale production of some pharmaceutical products". (R5)

"A research institute. I actually sent applications across different places. My choice was a hospital setting. NIPRD [Nigeria Institute of Pharmaceutical Research and Development] was the first to call, so I didn't want to let go of the slot". (R3)

"It is a specialist hospital; I chose the facility because that was the only option I had". (R10)

"Currently doing mine in a general hospital, though not much experience will be gotten there but coupled with the fact that I do private practice where I see plenty of drugs, I didn't see it as a problem, and considering the fact that it helped me in getting an internship placement as quick as possible". (R5)

"I did my internship in a tertiary hospital, I chose that place because obviously getting internship placement is a challenge, and that was the first placement I secured". (R4)

ii. Professional experiences

Majority of the respondents gave generally positive responses regarding their internship experiences so far. They considered they were gaining valuable experiences and were having good relationships with their preceptors and other colleagues.

"The experience has been worthwhile, every day we get to learn new things. Relationship between colleagues and senior colleagues here is okay. They pull us along. The only challenging thing is financial status. We get to spend a lot. Not only the fact that the standard of living here is high, but the fact that there is no accommodation for interns, you spend some money on research and also you spend money for transportation for both hospital and community pharmacy postings". (R3)

"My experience as an intern is exquisite. My preceptors are very friendly, kind and supportive are Always ready to offer corrections, attend to my questions and receptive to my inputs and insight too. It still beats my imagination how they are able to play a combined role of teachers, senior colleagues, friends, mentors and parents". (R4)

"My experience has been amazing so far. My facility is a drilling/training ground for interns. The Education committee here are doing their best to raise well equipped pharmacists. The internship allowance is very ok". (R8)

However, there were financial concerns, and some considered that medical doctors

(interns) had better experiences with their superiors than the pharmacy interns and wished methods adopted by the doctors could be used for them.

“While it is interesting, only that most interns are not carried along our knowledge is depreciating while that of MBBS is increasing”. (R11)

“Professional relationship is ok but I think Pharmacists need to be there for one another just like the way the doctors always stand for their house officers. Yes there is a financial experience, the COVID19 hazard allowance that was paid by the federal government. We have not been paid (but our senior colleagues have been paid for the three months) and anytime we talked about it our senior colleagues show nonchalant attitude and they always complain that we like money”. (R12)

Theme 6: Perceptions about the degree obtained

i. Personal perceptions

Majority of the respondents agreed that they considered their B. Pharm degree from FPS KASU to have prepared them well. They did not consider themselves inferior in knowledge compared to other interns from other universities. They considered themselves confident and believed they were well groomed.

“KASU graduates at my place of practice exhibited more confidence than almost all the other graduates from the other schools of pharmacy. FPS KASU prepared us well!” (R11)

“KASU really did well in training us. And we will represent FPS KASU anywhere and anytime. We are competitors among our peers from other schools”. (R4)

ii. Other interns’/ colleagues’ perceptions

Whereas some of the respondents noted they had never experienced direct remarks at them suggestive of their degree being lesser than others, some, however, mentioned how they sometimes were looked down upon by other interns, as they were coming from a State university. They also suggested

comments were directly made to them suggestive of being belittled. In some instances, other colleagues pretended to be unaware that there was a Pharmacy school at KASU.

“I have always been proud to say I graduated from KASU, and whenever I am asked, I say it confidently regardless of what they think. And yes, no one has ever made a comment to suggest that my degree was less than that of others.” (R4)

“They sometimes call us graduates of baby University”. (R12)

“Yes, some may think we are coming from newly or state university, but our activities prove to them that we are at the same level”. (R3)

“I've gotten questions/comments like 'Does KASU have a Pharmacy Faculty?' 'Has KASU graduated any set of pharmacists?' 'Are there even well-equipped laboratories in KASU?' 'All your lecturers come from ABU [Ahmadu Bello University, Zaria] and other renowned institutions'. But I've tried in my little way to make them realize that most of their claims and assumptions are not right”. (R9)

Theme 7: Perception of Pharmacy practice and theory

While some of the respondents suggested there was not much difference between pharmacy theory and practice, based on their experiences so far during internship, others, however, suggested there was a huge gap between theory and practice.

“There is no much gap between theory and practice, so I can't say theory and practice are entirely different from each other. But to an extent there are some theoretical aspects that are impracticable till now”. (R3)

“Overloaded with things that are not being utilized while practicing”. (R7)

“Big difference. With all sincerity, what was taught in school is far different from real life practice”. (R10)

“The theory gave me a basis for what I'm practicing here. But then, pharmacy practice requires constant learning and practice so I'm on it. In addition,

Pharmacy is a vast profession and since one wouldn't know which aspect one will specialize in, the cumulative curriculum in the undergraduate training requirement is very necessary". (R8)

"I wouldn't say students are overloaded with knowledge they may not utilize, the course content is just right to prepare graduates for challenges that come with the ever dynamic pharmacy profession. The only problem is in teaching and assessment methods utilized. They don't encourage students to know as much as they ought to. Simple concepts have oftentimes been seen as something very complex because of the gap in teaching and learning". (R13)

Theme 8: Suggestions for improvement

The respondents provided a variety of suggestions on areas where improvements could be made at FPS KASU. These included molding students to have presentation skills, more clinical skills in the curriculum, student-tutor mentorship, better time management by lecturers, and student dress code, amongst others.

"My suggestion is about the period of industrial training (IT), if there is a way that the faculty can readjust the curriculum, in such a way that a complete semester will be used by the students for IT. By so doing the students will be fully prepared and well equipped for the task ahead after their induction". (R3)

"A close student mentorship program should be implemented as this will help put students in track and control the rate of student withdrawal from pharmacy school". (R8)

"Each department should make it mandatory for students to make power point presentation at least each month of the semester. More also, students should be made to start their ward rounds since from 300 level so that they can be more clinically oriented and also apply the theoretical knowledge into clinical practice". (R9)

"If it's possible, we should try and make presentations and research a part of our curriculum so as to make the student learn on their own and to be composed also". (R5)

"Students should have a dress code that will be strictly abided by on a daily basis not just during practical". (R8)

"Extracurricular activities should be ENCOURAGED! This helps to assist the students' development other soft and hard skills that are instrumental for professional and personal growth". (R13)

DISCUSSION

This study explored the expectations and experiences of recent pharmacy graduates in the pharmacy school and during internship. The respondents were among the first and second sets of students that graduated from one of the new pharmacy schools in Nigeria. Previous studies have identified that there are numerous factors that influence the choice of a university undergraduate degree programme by prospective students. There are usually expectations attached to economic security of the profession and job opportunities upon graduation, the university's reputation, and influence of relatives and friends¹⁴. In this study, many of the respondents indicated they had actually chosen to study other courses (particularly medicine), but were given a choice to switch to pharmacy as similarly reported in a study in Saudi Arabia that students were admitted into pharmacy although medicine was their preferred choice¹⁵. Additionally, the first set of students admitted to study Pharmacy in FPS KASU (in 2012) were actually drawn from other departments to constitute the inaugural class after the program had been established, thus, none of them had actually applied for pharmacy. In Nigeria, high school students in their final year (senior secondary year 3) write an examination (the Unified Tertiary Matriculation Examination, commonly referred to as UTME) where they indicate their university of choice and course of choice. In previous years across the

country, many students admitted into Pharmacy tend to have initially chosen Medicine but however, were given Pharmacy as the course of study. However, of recent, this not the case as students are only admitted into Pharmacy when they have indicated it as their course of first choice in their UTME examination. Interestingly, there has been an increased acceptability of the pharmacy profession in Nigeria and many students nowadays choose pharmacy as their first choice. This has similarly been reported by Isah and colleagues, where majority of the students from three pharmacy schools in South-east Nigeria indicated pharmacy was their preferred course of study, and were mostly motivated by family influence, good job opportunities associated with the course, and its association to medical profession¹⁴.

Some of the respondents had the expectation that pharmacy was going to be a tough course to study, as it was a health science course. Studying pharmacy has commonly been acknowledged as stressful due to the heavy academic workload. However, some other respondents indicated they did not know much about the course before they started their study (*"I didn't even know what Pharmacy was"*). Additionally, the respondents noted although their experiences at pharmacy school were quite challenging, and at times considered dropping out or changing to other courses, they were glad that they could now look back and cherish the moments they had while in school.

Young pharmacy graduates are usually full of expectation and keen to get into practice to actualise their dreams. However, the challenge of getting an internship placement places a burden on these young graduates. This makes them realise that they are now into the world and may not necessarily get what they had dreamed of and may possibly have to wait for months to get a suitable placement. Whereas some did get a placement in a place they had applied, others, after much waiting, decided to take up any available place just to do the

internship and move on to other things. Most of the respondents in the study were undertaking their internship in tertiary hospitals.

The respondents in this study were peculiar as there were many factors, they needed to prove they were qualified, just like all other interns from various universities. Kaduna State University (KASU) is a State-owned university and in Nigeria, anecdotal evidence suggests there are certain premier universities that are considered to be the 'best' and 'standard'. As the first set of graduates from FPS KASU, they needed to further prove their academic prowess and potentials while disproving the assumption that they were less qualified than others. As such, the respondents indicated they had expected they would be looked down upon. Respondents felt reasonably prepared for their internship year. They also suggested that they are having a memorable internship period, and learning from their preceptors, senior pharmacists and other colleagues. Amongst the concerns raised was issue of finances, such as interns paying for association dues which they felt was not necessary. Also, interns felt they were not considered by senior colleagues when payment was made by the Government as COVID-19 hazard allowance to hospital workers especially. They felt the seniors were not proactive in ensuring interns received the allowance but rather they were made to feel like they were too interested in money.

One of the suggestions provided by the respondents in this study was in improving the pharmacy curriculum. They emphasised the need to integrate more effective teaching and learning methods, particularly through engaging students in presentations. This will help build their confidence and public speaking skills. Communication skills is considered to be an important foundation for undergraduate students' training, particularly those in the medical and health sciences as they require to gain competencies in effective communication with patients and patient relatives¹⁶.

Additionally, some of the respondents suggested on the need for FPS KASU to progress and convert the undergraduate degree to a PharmD.

One of the limitations of this study is that the interviews were not conducted in a face to face manner. Such approach could have limited the extent of rich data that could have been obtained. This study also involved recent graduates of a new pharmacy school in Nigeria. As such, results cannot be generalisable. Moreover, as the study was a qualitative study, it is only expected that results obtained may be transferable.

CONCLUSION

Eight (8) themes, reflecting the perceptions of recent graduates of the Faculty of Pharmaceutical Sciences, KASU regarding pharmacy education and practice were deduced from the study. The themes constituting the expectations and experiences during undergraduate study showed that the graduates had expected Pharmacy education to be challenging and they had a seemingly positive experience while at school. The themes reflecting expectations and experiences after graduation (internship period/pharmacy practice) highlighted how these graduates had positive perceptions of their degree which provided them with a solid foundation to practice confidently as pharmacists.

Furthermore, the suggestions provided by the graduates to the faculty could be utilised in improving student teaching and learning, and in improving the undergraduate pharmacy curriculum.

ACKNOWLEDGEMENTS

The authors would like to thank all participants for their contribution to this study. The authors would also like to appreciate Dr. M. A Ladan who took part in validating the interview guide.

The authors declare no conflicts of interest.

REFERENCES

1. Awaisu A, Mohammed S and Yakubu R. Pharmacy Practice in Nigeria. In: Fathelrahman A, Ibrahim M and Wertheimer A, (eds.). Pharmacy practice in developing countries: achievements and challenges. 1st ed.: Academic Press, 2016, p. 343-69.
2. Okoro RN and Biambo AA. Pharmacy students' perceived professionalism and application of bioethical principles: Implications for teaching pharmacy ethics for patient-centred pharmacy practice. *Pharmacy Education*, 2020;20:158-67.
3. Adebisi YA, Agboola P and Okereke M. COVID-19 pandemic: medical and pharmacy education in Nigeria. *International Journal of Medical Students*, 2020;8:162-4.
4. Pharmacists Council of Nigeria (PCN) [online] www.pcn.gov.ng [Accessed: 24 Oct 2021].
5. National Universities Commission (NUC). Benchmark for Minimum Academic Standards for Undergraduate Programmes in Pharmacy. Abuja: National Universities Commission, 2018.
6. Ikhile I and Chijioke-Nwauche I. Pharmacy education in Nigeria: The progression. *World Journal of Pharmaceutical Research*, 2016;5:258-72.
7. Abdu-Aguye S, Yusuf H, Agbale E, Auwal F and Ma'aji H. Connections between classroom theory & real world practice: Exploring the perspectives of undergraduate students at a Nigerian faculty of pharmacy. *Pharmacy Education*, 2019;19:185-9.
8. Abdu-Aguye S, Yusuf H and Abubakar A. Student Perceptions on Experiential Learning within the BPharm Curriculum in Nigeria. *Nigerian Journal of Pharmaceutical Sciences*, 2017; 16:58-63.

9. Faculty of Pharmaceutical Sciences. Undergraduate Students' Handbook. Kaduna: Kaduna State University, 2018.
10. Lobe B, Morgan D and Hoffman KA. Qualitative data collection in an era of social distancing. *International Journal of Qualitative Methods*, 2020; 19:1609406920937875.
11. Cater JK. Skype a cost-effective method for qualitative research. *Rehabilitation Counselors & Educators Journal*, 2011;4:3.
12. Jankowski NW and Selm Mv. Epilogue: methodological concerns and innovations in internet research [online]. 2005. <https://repository.ubn.ru.nl/handle/2066/56846> [Accessed: 5 Jun 2021]
13. Mak V, March G, Clark A and Gilbert AL. Australian intern pharmacists' perceived preparedness for practice, and their expectations and experiences of the internship year and future career intentions. *Integrated Pharmacy Research and Practice*. 2013;2:25-34.
14. Isah A, Mosanya AU, Enwereakuh UA, Ma'aji HU, Ukoha-Kalu OB, Ibezim IC *et al.* Choice of pharmacy, professional perceptions, and career plans of students in three Nigerian schools of pharmacy. *Pharmacy Education*, 2021; 21:65-72.
15. Alhaddad MS. Undergraduate pharmacy students' motivations, satisfaction levels, and future career plans. *Journal of Taibah University Medical Sciences*, 2018;13:247-53.
16. International Pharmaceutical Federation (FIP). FIP pharmacy education in sub-Saharan Africa [online]. 2020. <https://www.fip.org/press-releases?press=item&press-item=87> [Accessed: 5 Jun 2021]