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GUIDE TO AUTHORS

Pharmacists disposition to participating in professional development (PD) and skill-up programs in Southern-Nigeria: attitudes, motivations, and barriers

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ABSTRACT

This study investigates the disposition of pharmacists in Southern Nigeria toward skill-up training post-graduation, focusing on their attitudes, motivations, and barriers to participating in continuing professional development (PD) programs. A mixed-methods approach was employed, combining a structured questionnaire survey and in-depth interviews. The survey was administered to 300 pharmacists practicing in Southern Nigeria, and 30 in-depth interviews were conducted with selected participants. Descriptive statistics and thematic analysis were used to analyze the data. The results indicate that a majority of pharmacists (70%) participated in PD activities in the past year, with workshops being the most frequently attended type of training. Motivational factors included the desire to enhance professional knowledge (68%), regulatory requirements (55%), career advancement (45%), and networking opportunities (35%). However, significant barriers to PD participation were identified, including time constraints (72%), cost (56%), lack of relevant programs (48%), and insufficient institutional support (42%). Participants also highlighted the need for more practical and relevant PD programs tailored to different pharmacy practice settings. The study concludes that while there is a generally positive disposition towards PD, the barriers identified must be addressed to increase participation. Recommendations include improving institutional support, offering more affordable and tailored programs, and leveraging technology to increase accessibility. These findings provide valuable insights for policy makers, regulatory bodies, and professional associations in improving PD programs and promoting continuous professional development among pharmacists in Southern Nigeria.

Keywords: Professional development, Pharmacists, Skill-up training, Barriers, Motivating factors, Regulatory requirements.

Introduction

In recent years, the importance of continuous professional development (PD) for healthcare professionals has gained significant recognition worldwide [1]. Pharmacists, as integral members of the healthcare system, are responsible for ensuring the safe, effective, and rational use of medications. With advancements in pharmacology, therapeutic practices, and healthcare delivery, it has become crucial for pharmacists to continually update their knowledge and skills. In Nigeria, especially in Southern regions, there has been increasing awareness of the need for pharmacists to participate in skill-up training post-graduation, aiming to enhance their competencies, adapt to new healthcare challenges, and maintain relevance in the rapidly evolving medical landscape [2].

Despite the growing emphasis on skill-up training, the disposition of pharmacists in Southern Nigeria towards such programs remains an area of interest [3]. Several factors may influence their participation in PD activities, including personal motivation, institutional support, availability of resources, and the perceived relevance of training programs to their daily practice. The diversity of these factors makes it essential to explore the attitudes, challenges, and barriers faced by pharmacists in pursuing professional development opportunities post-graduation [4].

The Nigerian pharmaceutical sector faces numerous challenges, including limited access to updated information, insufficient training infrastructure, and economic constraints [5]. Pharmacists in Southern Nigeria, however, continue to play an essential role in improving patient care, especially in areas such as drug management, patient counseling, and public health initiatives. Therefore, understanding their disposition towards skill-up trainings is critical in formulating effective policies, programs, and interventions that will support their professional growth.

In recent years, various PD initiatives have been introduced by regulatory bodies such as the Pharmacists Council of Nigeria (PCN) and professional associations like the Pharmaceutical Society of Nigeria (PSN) [6]. These programs aim to bridge the gap between academic learning and practical application, particularly focusing on emerging areas like pharmacogenomics, digital health, and pharmaceutical care. Additionally, workshops, seminars, and online courses have become increasingly popular platforms for skill development among pharmacists in Southern Nigeria [7]. However, participation rates remain varied, and identifying the motivating factors or barriers is vital to improving the effectiveness and reach of these training programs.

This study aims to explore the disposition of pharmacists in Southern Nigeria towards skill-up training post-graduation, focusing on factors that either encourage or discourage participation in PD activities. By addressing these factors, stakeholders can enhance the professional growth of pharmacists and contribute to better healthcare outcomes in the region [8].

Methods

Study design

This study employed a cross-sectional descriptive research design to assess the disposition of pharmacists towards skill-up training post-graduation in Southern Nigeria. The research focused on identifying the factors influencing pharmacists' participation in skill-up training programs, such as their personal motivations, institutional support, perceived benefits, and barriers to participation. Data was collected through self-administered questionnaires and structured interviews to ensure a comprehensive understanding of the participants' views.

Study area

The study was conducted in the Southern region of Nigeria, which encompasses the six geopolitical zones of South-West, South-South, and South-East. These regions include major urban centers like Lagos, Port Harcourt,Akwa-Ibom, Aba, Owerri, Awka, Enugu, Benin and Asaba, where a significant number of pharmacists are employed in various healthcare settings. These areas were selected due to their high concentration of healthcare professionals, including pharmacists. Connection with a minimum of 3 colleagues of the principal researcher assisted with the questionnaire distribution in the different locations, having been fully briefed of the research design and objectives.

Study population

The target population for this study included registered pharmacists practicing in Southern Nigeria. The participants were recruited from public and private hospitals, community pharmacies, pharmaceutical companies, and academic institutions. The inclusion criteria required participants to be licensed pharmacists who have completed their undergraduate education and are actively involved in pharmaceutical practice.

Sampling technique

A stratified random sampling technique was used to select participants. This ensured that pharmacists from different practice settings (hospital, community, industry and academia) and geographical areas (urban and semi-urban) are adequately represented in the study. The stratum was based on the type of practice and location within the Southern region. A minimum sample size of 300 pharmacists was targeted to provide reliable and generalizable results, with a 95%

confidence level and a margin of error of 5%.

Data collection instruments

Data was collected using two main instruments. A self-administered structured questionnaire was developed, containing both closed (8 questions) and open-ended questions (5 questions). The closed-ended questions assessed factors such as demographic characteristics, frequency of participation in skill-up training, sources of training, and perceived barriers and motivators. The open-ended questions allowed participants to express their opinions on how training could be improved and the challenges they face in accessing these opportunities. Secondly, an in-depth interview was conducted with a sub-group of 30 pharmacists, chosen from the sample to provide more detailed insights into their experiences and perceptions regarding PD programs. The interview guide included questions designed to explore personal experiences with training programs, challenges faced, and suggestions for improving participation.

Data collection procedure

After obtaining ethical approval from the Institutional Review Board of University of Uyo Research Ethics Committee, the questionnaires were distributed to pharmacists through a combination of face-to-face interaction, email, and online platforms. For those opting for face-to-face participation, the researcher visited selected hospitals, pharmacies, and pharmaceutical companies to administer the questionnaires. A follow-up visit was conducted to ensure a high response rate.

The in-depth interviews were scheduled with participants who expressed interest in providing more detailed responses. These interviews were conducted in a private setting to ensure confidentiality and were audio-recorded for accurate transcription and analysis.

Data analysis

After obtaining ethical approval from the Institutional Review Board of University of Uyo Research Ethics Committee, the questionnaires were distributed to pharmacists through a combination of face-to-face interaction, email, and online platforms. For those opting for face-to-face participation, the researcher visited selected hospitals, pharmacies, and pharmaceutical companies to administer the questionnaires. A follow-up visit was conducted to ensure a high response rate.

The in-depth interviews were scheduled with participants who expressed interest in providing more detailed responses. These interviews were conducted in a private setting to ensure confidentiality and were audio-recorded for accurate transcription and analysis.

Data analysis

The quantitative data obtained from the questionnaires were analyzed using descriptive statistics such as frequencies, percentages, means, and standard deviations. These were used to summarize the characteristics of the respondents and their participation in skill-up training.

The qualitative data from the open-ended questionnaire responses and in-depth interviews were transcribed verbatim and analyzed thematically. Thematic analysis allowed for the identification of common themes, patterns, and perceptions regarding the barriers and motivators for PD participation. NVivo software was used to assist in coding and categorizing the data.

Ethical considerations

Ethical approval was sought from the Institutional Review Board on Human Health Research, University of Uyo, before data collection began. Informed consent was obtained from all participants, and they were assured of confidentiality and anonymity. Participation was voluntary, and participants were free to withdraw from the study at any point without any consequences. Data collected was stored securely and used only for the purposes of the study.

Results

The results of this study are presented in three main sections: demographics, quantitative findings from the questionnaire responses and qualitative findings derived from the in-depth interviews. The analysis focuses on pharmacists' participation in skill-up training, the factors influencing their involvement, and the perceived barriers and motivators to continuing professional development (PD).

Demographic characteristics of participants

A total of 300 questionnaires were distributed, with 278 valid responses, yielding a response rate of 92.6%. The participants were predominantly male (56.5%), with 43.5% female respondents. The age distribution showed that 40% of participants were between the ages of 30 and 40 years, 35% were between 41 and 50 years, 18% were between 51 and 60 years, and 7% were over 60 years of age. The majority (74.8%) of the participants were employed in hospital settings, while 15.1% worked in community pharmacies, and 10.1% were employed in the pharmaceutical industry and academia.

Quantitative findings from questionnaire

Among the 278 respondents, 195 (70%) reported participating in at least one skill-up training program in the past year. Of those who participated, 40% attended training programs once or twice in the past year, while 30% attended more frequently. The remaining 83 (30%) of respondents reported that they had not participated in any form of PD in the past year (Figure 1).Of those who attended, 65% found the training to be highly beneficial in improving their practice, while 25% reported moderate benefit. Only 10% felt that the training was not particularly useful (Figure 2).

The most common types of training attended were workshops (45%), followed by conferences (30%), online courses (15%), and seminars (10%) (Figure 3).

The study revealed several motivating factors for participating in PD programs. The most cited reason for attending training was the desire to enhance professional knowledge and skills (68%). Other motivating factors included-the requirement of PD by regulatory bodies (55%), career advancement opportunities (45%), networking and collaboration with peers (35%), interest in emerging trends and new therapeutic developments (27%), and others 3%. (Figure 4)

Despite the reported benefits of PD, several barriers to participation were identified. The most significant barriers includedtime constraints (72%): Many pharmacists reported difficulties in attending training due to their heavy work schedules, particularly those in clinical settings. Cost of training (56%) was another major constraint (Figure 5**).** A considerable number of respondents mentioned that the financial cost of attending PD programs, including registration fees, travel expenses, and accommodation, was prohibitive. Some participants (48%) expressed frustration over the limited availability of locally relevant or specialized training programs.A lack of institutional support, such as time off or financial assistance from employers, was also cited as a barrier to participation.Other less common barriers included inadequate information about available training (30%), personal reluctance to engage in PD (18%), and challenges related to the accessibility of online learning platforms (10%). From the in-depth interviews conducted with respondents emphasized the need for PD programs to be more tailored to the specific needs of pharmacists in different practice settings. For example, hospital pharmacists requested more training in clinical pharmacology and therapeutic drug monitoring, while community pharmacists expressed interest in courses related to patient counseling and over-the-counter drug management.Participants highlighted the role of regulatory bodies like the Pharmacy Council of Nigeria (PCN) and the Pharmaceutical Society of Nigeria (PSN) in promoting PD. Many suggested that these bodies could play a more proactive role in organizing local PD events, subsidizing training costs, and offering online learning platforms to facilitate broader participation.

Several participants (79%) emphasized the value of hands-on workshops and practical sessions over theoretical knowledge. They felt that practical training would enable them to immediately apply newly acquired skills in their practice.While online courses were recognized as an accessible option for PD, some internet access and technical skills required to engage with online platforms effectively.

Table 1: Demographics of respondents in the study

Characteristics	Number	Percentage frequency
Gender		
Male	157	56.5
Female	121	43.5
Age (years)		
30-40	111	40
41-50	97	35
51-60	50	18
60 and above	20	7
Area of practice		
Hospitals	69	24.8
Community pharmacy	164	59.0
Pharma industries/academia	45	16.2
Location of practice		
Uyo	38	10.1
Aba	29	10.4
Portharcourt	35	12.6
Yenagoa	30	10.8
Asaba	30	10.8
Owerri	38	13.7
Awka	42	15.1
Benin	36	12.9

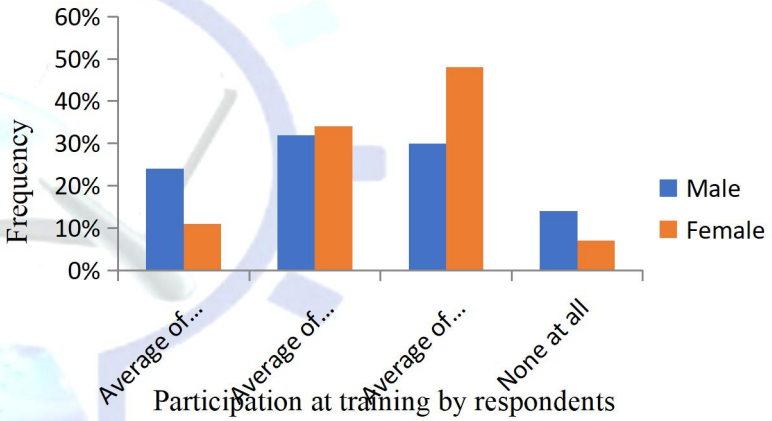

Figure 1: Pharmacists attendance at trainings

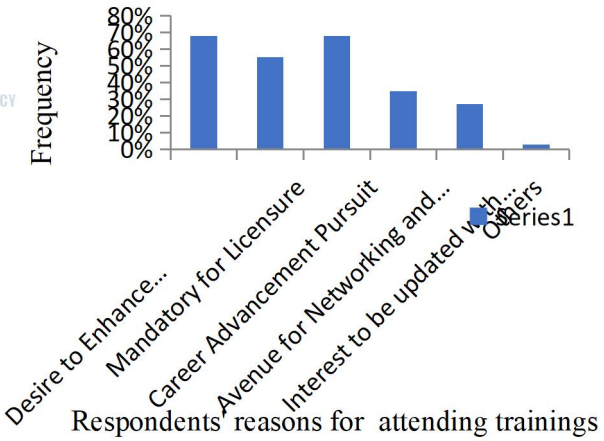

Figure 2: Motivation for attending trainings

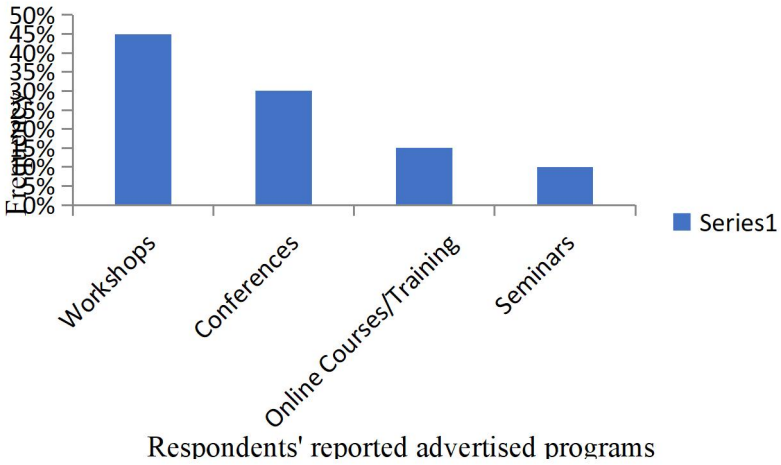

Figure 3: Types of training programs in the study area

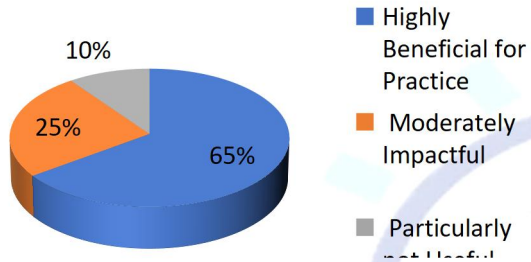

Figure 4: Respondents' perception of training programmes

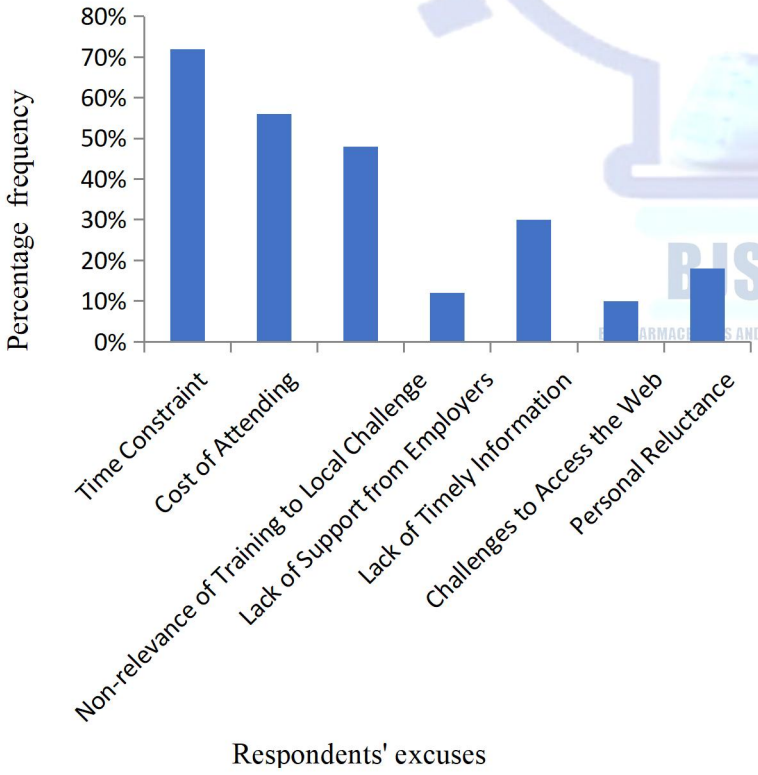

Figure 5: Barriers to attending professional development and skill-up trainings

Discussion

This study aimed to explore the disposition of pharmacists in Southern Nigeria toward skill-up training post-graduation, focusing on the factors influencing their participation in continuing professional development (PD) activities [9, 10]. The findings indicate a mixed but generally favorable disposition toward PD participation, with various factors serving as motivators and barriers to engagement. This discussion will contextualize these findings, compare them to relevant literature, and explore the implications for enhancing PD programs for pharmacists in Southern Nigeria [11].

The demographic characteristics of the participants in this study align with typical trends observed in the Nigerian pharmacy profession, where a significant proportion of pharmacists are relatively young, with a median age group between 30 and 40 years. This age group is typically at the midpoint of their careers, balancing the demands of professional practice and career advancement, which may influence their interest in skill-up training programs [12]. The male-to-female ratio in the study (56.5% males to 43.5% females) is consistent with national trends in the pharmacy profession, where a slight male predominance has been noted [13-15]. The high proportion of hospital-based pharmacists (75%) is expected given the concentration of healthcare facilities in urban areas such as Lagos, Port Harcourt, and Enugu.

The findings reveal that 70% of the pharmacists in this study participated in at least one PD activity in the past year, which is higher than the 40-50% participation rate found in similar studies conducted in other African countries [13, 14]. This suggests a relatively positive engagement with PD among pharmacists in Southern Nigeria. A significant proportion of participants attended workshops (45%), followed by conferences (30%). This preference for workshops aligns with the global trend favoring interactive, hands-on learning formats over passive learning methods such as seminars [15]. However, despite the high participation rate, 30% of respondents reported not engaging in PD in the past year, which raises concerns about the accessibility or appeal of PD programs for certain segments of the pharmacy workforce.

The study found several factors that motivated pharmacists to participate in PD programs. The most prominent motivation was the desire to enhance professional knowledge and skills, cited by 68% of respondents. This finding is consistent with the broader literature, where professional development is a key driver for PD engagement among healthcare professionals [16]. The emphasis on knowledge enhancement reflects pharmacists' recognition of the evolving nature of pharmaceutical practice and the need to stay current with emerging therapies, drug

formulations, and patient care techniques.

Additionally, 55% of participants cited the regulatory requirement for PD as a motivator. This finding is similar to studies in other countries where PD is mandatory for the renewal of professional licenses [16]. The role of regulatory bodies, such as the Pharmacists Council of Nigeria (PCN), in mandating PD activities helps to ensure that pharmacists continue to develop their skills and contribute to better healthcare outcomes. Regulatory requirements, however, should not be the sole motivator for PD engagement; intrinsic motivation related to professional development is crucial for long-term engagement.

Other motivators included career advancement (45%) and networking opportunities (35%). These factors highlight the multifaceted benefits of PD, which not only enhance professional skills but also facilitate career growth and professional relationships. The desire for career advancement is particularly important given the competitive nature of the Nigerian job market, where continuous learning is often linked to better job prospects and promotions [17-19].

Despite the positive attitudes toward PD, several barriers to participation were identified. The most significant barrier, cited by 72% of respondents, was time constraints. Pharmacists working in clinical settings, particularly in hospitals, often have demanding schedules, which limit their ability to attend training programs. This challenge is not unique to Southern Nigeria; it is a common issue among healthcare professionals globally, where clinical responsibilities take precedence over PD activities [20]. To address this, employers could consider offering time-off policies or incorporating PD activities into the workday, especially for hospital pharmacists, to ensure that skill development does not interfere with their professional responsibilities.

Cost was another significant barrier, with 56% of respondents citing it as a challenge. Training costs, including registration fees, travel expenses, and accommodation, can be prohibitive, especially for pharmacists working in private practice or rural areas where funding for PD opportunities is limited. This barrier is echoed in studies across Sub-Saharan Africa, where the high cost of PD programs is a common obstacle for healthcare professionals [21-23]. To mitigate this, regulatory bodies and professional organizations could explore partnerships with private organizations, international donors, and governmental agencies to subsidize training costs or provide scholarships to pharmacists in need [24].

The lack of relevant PD programs (48%) was also identified as a barrier, as observed in Figure 1. This suggests that many pharmacists feel that the available training opportunities are not aligned with their industrial pharmacy. Tailored programs focusing on practical skills, such as pharmacovigilance, patient counseling, and drug information management could address this gap. Pharmacists in hospital settings, for example, may require more training in clinical pharmacology and therapeutic drug monitoring, while community pharmacists may benefit from training in over-the-counter drug management and public health initiatives [25-27].

Institutional support, or the lack of it, was another barrier identified by 42% of respondents. Pharmacists working in settings without institutional backing (e.g., financial assistance, time off) were less likely to attend PD activities. This underscores the importance of institutional commitment to the professional development of employees. Employers should recognize the value of PD as an investment in their staff's skills, which ultimately enhances the quality of care provided to patients [28, 29].

The in-depth interviews provided valuable qualitative insights into pharmacists' experiences with PD. Participants expressed the need for more tailored, practical, and relevant PD programs. Many interviewees noted that while theoretical knowledge is important, practical training that can be immediately applied in their practice settings is more beneficial. This aligns with the findings of Mahomed et al. (2020), who suggested that PD should focus on practical, hands-on experiences that directly impact patient care [6].

Furthermore, the importance of support from professional bodies like the PCN and PSN was emphasized. Interviewees suggested that these organizations should play a more proactive role in organizing affordable and accessible PD programs, particularly in rural areas. Additionally, technological barriers, particularly access to the internet and online learning platforms, were raised by participants from rural areas. This highlights the need for hybrid training models that combine in-person and online learning to increase accessibility for all pharmacists, regardless of their geographic location [30].

Conclusion

This study provides important insights into the factors that influence pharmacists' participation in PD in Southern Nigeria. While there is a generally positive disposition toward PD, several barriers such as time constraints, cost, and lack of relevant programs need to be addressed to increase participation. By offering more tailored, accessible, and practical training opportunities, and strengthening the role of professional bodies in supporting PD, the pharmacy profession in Southern Nigeria can better equip itself to meet the evolving demands of healthcare delivery and improve patient outcomes.

Recommendations

made to improve the engagement of pharmacists in PD activities in Southern Nigeria. Employers should provide financial assistance, time off, or other forms of support to enable pharmacists to attend PD programs without sacrificing their professional responsibilities.

Efforts should be made to reduce the cost of PD programs, either through subsidies or partnerships with international organizations. Additionally, the availability of local, relevant, and affordable PD opportunities should be expanded, particularly for pharmacists in rural areas.

PD programs should be more focused on practical skills and tailored to the needs of pharmacists in various practice settings (e.g., clinical, community, and industry).Online and hybrid learning platforms should be utilized to overcome geographical barriers, especially for pharmacists in underserved areas.Regulatory bodies like the PCN and PSN should take a more active role in organizing PD events, ensuring their relevance, and making them accessible to all pharmacists across the country.

Ethical Consideration

Data availability

The datasets generated and/or analyzed during the current study are available from the corresponding author on reasonable request. All data supporting the findings of this study have been included within the article and its supplementary materials where applicable.

Conflict of interest

The authors declare no conflict of interest related to the publication of this manuscript.

Compliance with ethical guidelines

This study was conducted in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. Ethical approval was obtained from the appropriate ethics review board, and informed consent was obtained from all individual participants involved in the study.

Authors' contributions

SOA conceptualized and designed the study, supervised data collection, and contributed to manuscript writing. JIA and PJE conducted the data analysis and interpreted the results. AEA assisted with data collection, reviewed the manuscript, and provided critical revisions. All authors read and approved the final manuscript.

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References

1. Akinmoladun F, OlanipekunT, Olayemi J. Professional Development of Pharmacists in Nigeria: A Review of Training Needs and Strategies. Nigerian Journal of Pharmacy, 2021;56*(2)*: 45-55.
2. Bashir R, Aliyu S, Musa U. The Role of Continuous Professional Development in Advancing the Career of Pharmacists in Nigeria. African Journal of Pharmacology,2021; *8*(1), 25-35.
3. Cohen MS, Okello A, Bukachi F. Barriers to Continuing Professional Development for Healthcare Workers in Sub-Saharan Africa: A Systematic Review. International Journal of Medical Education, 2022;13(3), 140-150.
4. Haddad MS., Fadlelmawla M, Ali MA. The Impact of Continuing Education on Pharmacists' Practice in the Middle East: A Review. Pharmacy Practice, 2021; 19*(2*), 112-120.
5. Jafaru MS., Nwosu EC, Eke M. Professional Development and Training Needs of Nigerian Pharmacists: A Case Study of Northern Nigeria. Journal of Pharmacology and Therapeutics, 2022;16(4), 232-240.
6. Mahomed RA., Matos SI, Musa B (2020). Factors Affecting Participation in Continuing Professional Development Among Healthcare Professionals in Sub-Saharan Africa. Journal of Continuing Education in the Health Professions, 2020; 40(2), 128-137.
7. Molefe G, Mphahlele M, Chirwa T. Barriers to Continuing Professional Development in Africa: A Systematic Review of the Literature. African Health Sciences, 2020; 20(3), 938-947.
8. Omar HM, El-Ezzat S, Fathy SM. Continuing Education and Professional Development for Pharmacists: Opportunities and Challenges. Journal of Clinical Pharmacy and Therapeutics, 2021; 46(6), 1421-1429.
9. Cohen MS, Bukachi F. Continuing Professional Development for Pharmacists in Sub-Saharan Africa: Current State and Future Directions. Pharmacy Practice, 2021;18(1): 72-79
10. Bashir R, Musa U. Enhancing the Role of Pharmacists in Healthcare: Continuous Professional Development Strategies. Pharmacological Reports,2020; 72(5): 1237-1243.
11. FadlelmawlaM, Ali MA. The Need for

Practical Continuing Education Programs for Pharmacists in Developing Countries. Global Health Journal, 2020; 35(2): 74-80.
12. Okonkwo, A. E., &Agbo, P. A. (2021). Perceived Barriers to PD Participation Among Pharmacists in Nigeria. Journal of Pharmacy Education, 85(3): 291-298.
13. Akinmoladun F, Olayemi J. The Role of Professional Associations in Facilitating Continuing Professional Development for Pharmacists. Pharmaceutical Journal of Nigeria,2022; 22(1): 11-19.
14. Molefe G, Mphahlele M. Evaluating the Impact of Continuing Professional Development on Healthcare Service Delivery. Global Journal of Health, 2021*; 13*(2): 75-82.
15. OlayemiJ, Fagbohun OO. Motivating Factors for Continuing Professional Development Among Nigerian Pharmacists. African Journal of Pharmacy and Pharmacology,2021; 15(6): 210-218.
16. Haddad MS, El-Ezzat S. Investigating Barriers to Continuing Professional Development Among Healthcare Professionals in Nigeria. Journal of Continuing Medical Education, 2022; 17(5): 312-319.
17. Nnamdi CM,Akinmoladun F. Online Continuing Education for Pharmacists: Opportunities and Challenges. Pharmacy Education Review, 2020;15(4): 49-56.
18. Tella S, Adamu SM. Institutional Support for Pharmacists' Continuing Education in Nigeria: A Review. Pharmacy Management Review, 2021; 32(1): 23-28.
19. Akinmoladun F,Okonkwo AE. Addressing Barriers to Continuing Education for Pharmacists in Nigeria. Pharmacist Journal of Nigeria, *2020;* 58(1): 34-40.
20. TellaS, Adamu SM, Olayemi J. Time Constraints as a Barrier to Continuing Professional Development in Healthcare: A Nigerian Perspective. Nigerian Medical Journal, 2020; 61(2): 105-110.
21. Olayemi J, Bashir R. Continuing Education and the Professional Development of Nigerian Pharmacists. International Journal of Pharmacy Education,2020; 9(3): 188-194.
22. JafaruMS, Eke M. Professional Development Among Healthcare Workers: Challenges and Opportunities. Journal of African Pharmacy,2020; 14(2): 101-107.
23. Bashir R, Aliyu S. Addressing the Training Needs of Pharmacists in Nigeria: A Comprehensive Review. Pharmaceutical Practice, 2022; 18(4): 25-33.
24. Mahomed RA and Musa, B. (2021). Professional Development in Nigeria: How to Overcome Barriers to Continuing Education. Nigerian Journal of Clinical Pharmacology, 9(4), 67-74.
25. Fadlelmawla M andTella S. Time Constraints and Financial Barriers in Continuing Professional Development for Pharmacists in Africa. Journal of Continuing Education in the Health Professions, 2021; 43(2): 185-192.
26. Haddad MS and Omar HM. The Role of Online Learning in Continuing Professional Development for Pharmacists. Pharmacy Education, 2020; 13(2): 99-104.
27. Okonkwo AE and Nnamdi CM. Pharmacists' Attitudes Towards Continuing Education Programs in Nigeria. Nigerian Journal of Pharmaceutical Sciences, 2021; 19(3): 91-98.
28. MolefeG, Chirwa T. Practical Approaches to Enhancing Continuing Education for Healthcare Workers in Sub-Saharan Africa. African Health Sciences 2020, 20(1): 110-117.
29. Akinmoladun F andTella S. Impact of Regulatory Bodies on Continuing Professional Development for Nigerian Pharmacists. Pharmacy Regulation and Development Journal, 2021 14*(2): 58-66*.
30. Tella S and Mahomed RA. Bridging the Gap in Continuing Professional Development for Nigerian Pharmacists. Journal of Pharmacy and Therapeutics, 2020; 5(1): 48-54.