

EXPLORING PHARMACISTS' EXPERIENCES WITH ANNUAL RENEWAL OF LICENSE OF PRACTICE IN NIGERIA

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ABSTRACT

Consistent with the global best practices, pharmacists practicing in Nigeria are mandated by law to renew their professional licenses annually. However, there is limited data regarding pharmacists' experience with the renewal of practice licenses in Nigeria. Therefore, we aimed to provide this data. A cross-sectional study was conducted in an online survey (using Google Form[™]). Eligible respondents were registered pharmacists in Nigeria. A questionnaire (link) that examines experiences towards renewing their license was developed and validated. The survey link was shared with the respondents via social media platforms, namely, Facebook, WhatsApp and Twitter. A total of 349 pharmacists responded to the survey,

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of which 313 (89.7%) completed the questionnaire. Of these respondents, 276 (88.2%) reported renewing their licenses annually. Among those, 18 (48.6%) do not renew their licenses due to the high cost of license renewal, 9 (24.3%) due to cumbersome process and 8 (21.6%) reported licenses not required in their place of work, were the common reasons for not renewing their licenses. A total of 277 (88.5%) respondents indicated a preference in the online method of license renewal. Of the respondents, 43.5% and 64.2% disagreed with linking Mandatory Continuing and Professional Development (MCPD) and payment of professional associations' dues with re-licensure, respectively. Twenty (6.4%) rated the performance of the Pharmacists Council of Nigeria (PCN) as excellent and 143 (45.7%) as good. A high proportion of pharmacists (276 out of 313) renew their practice licenses in Nigeria. However, a reasonable number of pharmacists 82 (29.7%) in this study reported inconsistent attitudes towards license renewal. Therefore, there is a need for interventions to encourage pharmacists to renew their licenses annually.

Keywords: Pharmacist, Licence, Nigeria, Profession, Regulation

INTRODUCTION

Pharmacy education and practice are regulated globally due to the peculiar nature of the profession in dealing with drugs and poisons. Pharmacists are among the most trusted healthcare professionals worldwide involved in patients' therapeutic drug monitoring, drug information services, adverse drug reaction monitoring and evaluation, patient counseling and education (Tilly-Gratton *et al.* 2017). They are the most accessible primary healthcare professionals, exclusively positioned to play a central role in assessing, monitoring and addressing the gaps between medications prescribed and medications taken by patients (Tilly-Gratton *et al.* 2017). Pharmacists have vast areas of practice, not only limited to hospital, community, academia, administrative, forensic and industrial pharmacy. Like in many other countries worldwide, pharmacists practicing in Nigeria are mandated (by law) to renew their professional licenses annually. This is to maintain their names on the register for pharmacists according to the existing ethical standards governing the profession in Nigeria (Pharmacists Council of Nigeria 2005).

The Pharmacists Council of Nigeria (PCN) is a Federal Government parastatal established by Decree 91 of 1992 (now Cap P17 LFN 2004) (Pharmacists Council of Nigeria 2020). The agency regulates and controls pharmacy education, practice, and training in all aspects and ramifications (Pharmacists Council of Nigeria 2020). The PCN is responsible for registration and licensure of all pharmacists, pharmaceutical premises (manufacturing, importation, distribution, wholesale, retail and hospital pharmacies) as well as the issuance of a permit to pharmacy technicians and registration and licensure of Patent and Proprietary Medicine Vendors (PPMVs) (Pharmacists Council of Nigeria 2005). The law required a registered pharmacist to renew his/her license every year to practice as a pharmacist within the year. It is illegal for a registered pharmacist to practice without a valid license (Pharmacists Council of Nigeria 2005).

However, some countries would renew/reinstate a pharmacist license only if it expired at least 2 years or less, but not more than 5 years (The State of Alaska 2019). In some instances, the defaulter is required to pay fines and pass a specific examination before the reinstatement of the license (The State of Alaska 2019).

In Nigeria, anecdotal evidence suggests that some pharmacists are reluctant to renew their license annually, while others may not be willing to renew their license based on their reasons. Recently, there were efforts by the PCN to improve license renewal by

pharmacists in Nigeria (Pharmacists Council of Nigeria 2020). First was the introduction of online licensure of pharmacists (Obanyendo 2017) and secondly, making respondents in the Mandatory Continuing Professional Development (MCPD) a prerequisite for license renewal. The MCPD was also to ensure pharmacists are up to date with the current trends in pharmacy.

The license renewal application processing Nigeria was also linked with annual dues for the Pharmaceutical Society of Nigeria (PSN) and its technical arms. This attachment of dues and renewal of license has been discussed among pharmacists in Nigeria. However, there is a paucity of empirical data regarding the experience with license renewal among pharmacists in Nigeria, including those who renew their licenses annually. A recent study reported pharmacists' satisfaction towards the online application process re-licensure (Okafor *et al.* 2021). However, the study did not explore the pharmacists' experience with the entire annual renewal of the license in Nigeria. Therefore, this study aims to explore pharmacists' experience with the annual renewal of licenses in Nigeria and the assessment of the awareness of the PCN certificate of registration for registered pharmacists in Nigeria.

METHODS

The present study is a cross-sectional design in the form of an online survey using Google Form. The online survey was conducted according to the Checklist for Reporting Results of Internet E-Surveys (CHERRIES) (Eysenbach 2004) and the study was reported based on the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) (Knottnerus 2008).

Study Respondents

The study respondents included registered pharmacists in Nigeria only. Pharmacists undergoing a 12-month mandatory internship programme and National Youth Service Corp (NYSC) were excluded.

We determined the minimum number of respondents in this study using a sample size calculation (single proportion formula) (Viechtbauer *et al.* 2015). However, there was no data in the published literature regarding the proportion of pharmacists who renew their licenses annually. Therefore, assuming a proportion of 50%, a *z*-value of 1.96, a *p*-value of 0.05 at a 95% confidence interval (CI), we calculated a minimum sample size of 384.

Study Procedure

This study explores pharmacists' experience regarding the renewal of licenses. However, there was no validated questionnaire in the literature for the data collection. Therefore, we developed and validated a questionnaire suitable for the research objectives, and utilised the same to collect information from the target population.

We identified items included in the questionnaire by reviewing the literature and discussing with experts on the subject matter. The items generated consist of questions assessing the experience with the annual renewal of a license, linking license renewal with MCPD, payment of PSN dues, difficulties encountered during the application process, the recommendation for defaulters and awareness of PCN certificate of registration among the respondents.

Other items included in the questionnaire were related to socio-demographic characteristics, years of professional experience, area of pharmacy practice, additional qualifications and professional association membership(s).

We validated the questionnaire for face validity by presenting the draft items to a 15-member panel of experts. The panel members consisted of pharmacists with at least 5 years post qualification experience (n = 8), vast experience in pharmacy practice research (n = 5) and two staff of PCN with long-term experience in pharmacy regulation. The panel was asked to review the items in the questionnaire and provide feedback regarding the simple wording, ease of understanding, and appropriateness based on the study objectives.

The questionnaire was revised to a final version based on the feedback received from the panel.

Recruitment

Eligible respondents were recruited for the survey through social media platforms. In this survey, the questionnaire was designed in the form of a Google Form. The survey advertisement contains information about the study, invitation, consent and a hyperlink to the Google Form. All authors and members of Young Pharmacists Scholars (YPS) distributed the advertisement to the respondents via social media platforms such as Facebook, Twitter and WhatsApp groups and personal accounts of the target respondents. Respondents could re-share the advertisement with other respondents (snow-balling sampling). Reminders were sent at time intervals, and the advertisement remained open between 16 April 2020 and 5 May 2020, until the required sample size was obtained.

Statistical Analysis

Data were exported (in Microsoft Excel Format) from the Google Form to IBM SPSS Statistics for Windows, Version 25.0. Armonk, NY: IBM Corp. Descriptive data were presented as frequency and percentages for categorical variables and continuous variables as mean (standard deviation [SD]) or median (interquartile range [IQR]), depending on the normality distribution of the data. The differences across categorical variables were analysed using Pearson's chi-squared test or Fischer's exact test as appropriate.

RESULTS

A total of 349 target respondents clicked on the survey link during the three weeks survey period. Of these respondents, 3 (0.8%) clicked on the survey link but did not attempt any question, while 33 (9.5%) respondents started the survey but did not complete it. These respondents were excluded from the study to avoid 'missing data.' Finally, 313 respondents completed the survey and were included in the analyses. The completion rate of the survey was determined to be 89.7%. The flow chart for the recruitment process is shown in Figure 1.

The mean age (SD) of the respondents was 38.0 (9.2) years old. The youngest age was 25 years old, while the oldest was 72 years old. Most of the respondents were in the age categories of 31 years old to 40 years old (48.6%), males (64.2%), with postgraduate qualification (63.6%), and from the private sector (62.0%). Also, 60.1% of the subjects included in this study had \leq 10 years of postgraduation experience. The characteristics of the respondents are presented in Table 1.



Figure 1: Flowchart of the recruitment process of respondents.

Table 1: Characteristics	of the respondents ($n = 313$).	

Variables		Frequency (%)
Age category (years old)	30 and below	70 (22.4)
	31–40	152 (48.6)
	41–50	54 (17.3)
	51 and above	37 (11.8)
Gender	Male	201 (64.2)
	Female	112 (35.8)
Level of education	B. Pharm	114 (36.4)
	Postgraduate	199 (63.6)
Area of practice	Academia	42 (13.4)
	Administration/Regulation	37 (11.8)
	Community	76 (24.3)
	Hospital	119 (38.0)
	Others*	39 (12.5)
Sector of practice	Public	194 (62.0)
	Private	119 (38.0)
Years of postgraduation experience	≤ 10 years	188 (60.1)
	11–20 years	71 (22.7)
	21–30 years	36 (11.5)
	≥ 30 years	18 (5.8)

Notes: *Others, non-governmental organisations and consultants.

Experience of Pharmacists Towards the Renewal of Annual Practice License

Annual renewal of practice license by pharmacists in Nigeria

Responding to, "do you renew your annual license every year?", 276 (88.2%) respondents responded with "Yes," while 37 (11.8%) respondents said "No." Most of those who reported renewing their practice license annually were males 181 (65.6%), 133 (48.2%) respondents in the age categories of 31 years old to 40 years old, 174 (63.0%) respondents with postgraduate qualifications and \leq 10 years of postgraduation experience. A higher proportion of respondents (143, 51.8%) who renewed their license annually reported that their organisation usually requested their annual practice license. Table 2 shows the pattern of annual renewal of practice licenses among the respondents.

Respondents who answered with the "No" option provided the following responses as reasons for not renewing their practice license annually: 18 (48.6%) feared of the high cost involved in renewing practicing license, 9 (24.3%) commented on the cumbersome process and 8 (21.6%) admitted that the PCN license is not a requirement at their place of work. In contrast, 2 (5.4%) of the respondents declined to respond.

Of the total respondents, 91 (29.1%) reported that their workplace does not request the annual practice license while 46 (14.7%) mentioned their workplace would occasionaly request for their licenses. In comparison, 21 (6.7%) responded that their organisations only need their license for staff promotion. Conversely, 155 (49.5%) answered that their practice license is requested at their workplace.

Methods of renewal of annual practice license

With regards to the methods of application of license renewal with PCN, 36 (11.5%) preferred applying through the paper-based process (manual), while 277 (88.5%) chose the online method. Of those who applied through the manual process, 25 (69.4%) said that they applied in person through PCN state and zonal offices, four through a PCN staff, 2 (5.6%) and 4 (11.1%) via professional association and organisation, respectively. Of those who prefer applying through the online process, 141 (50.9%) used mobile phones, 105 (37.9%) used laptops, 24 (8.7%) used desktop computers and 10 (3.6%) used tablets/iPads.

Linking of MCPD with the renewal of annual practice license

Respondents were asked if they agreed with linking renewal of annual license with MCPD by the PCN; 70 (22.4%) and 76 (24.3%) responded that they strongly agreed and agreed, respectively. However, 136 (43.5%) indicated that they did not agree, while 31 (9.9%) of the respondents remained neutral.

Variables		Renewal of license every year		% Pharmacists licensed in	<i>p</i> -value
		Yes	No	2019*	-
Age category (years old)	30 and below	64 (23.2)	6 (16.2)		0.479
	31–40	133 (48.2)	19 (51.4)		
	41–50	45 (16.3)	9 (24.3)		
	51 and above	34 (12.3)	3 (8.1)		
Gender	Male	181 (65.6)	20 (54.1)	8,487 (57.04%)	0.170
	Female	95 (34.4)	17 (45.9)	6,391 (42.96%)	
Level of education	B. Pharm	102 (36.9)	12 (32.4)		0.591
	Postgraduate	174 (63.0)	25 (67.6)		
Area of practice	Academia	29 (10.5)	13 (35.1)		< 0.001
	Administration/ Regulation	34 (12.3)	3 (8.1)		
	Community	73 (26.4)	3 (8.1)		
	Hospital	107 (38.8)	12 (32.4)		
	Others	33 (11.9)	6 (16.2)		
Sector of practice	Public	170 (61.6)	24 (64.9)		0.700
	Private	106 (39.4)	13 (35.1)		
Years of postgraduation experience	≤ 10 years	169 (61.2)	19 (51.4)		0.139
	11 years–20 years	59 (21.4)	12 (32.4)		
	21years–30 years	30 (10.9)	6 (16.2)		
	≥ 30 years	18 (6.5)	0 (0.0)		
Difficulties during the license renewal	Yes	82 (29.7)	19 (51.4)		0.08
	No	194 (70.3)	18 (48.6)		
License requested by place of work	Yes	143 (51.8)	12 (7.7)		0.139
	Sometimes	40 (14.5)	6 (13.0)		
	Only during promotion	17 (6.2)	4 (19.0)		
	No	76 (27.5)	15 (16.5)		

Table 2: Characteristics of the respondents with regards to the annual renewal of practice license.

Notes:* Number of pharmacists licensed as of 31 December 2019 (Source: Pharmacists Council of Nigeria).

Cost implication for the renewal of annual practice license for pharmacists in Nigeria

The cost implication for renewing an annual license to practice as a pharmacist in Nigeria was investigated. The application involved the payment of license fees to the PCN and dues to professional associations. The respondents pay to PCN a range of №1,500–№4,500 (equivalent to USD3.94–USD11.81 based on the official exchange rate of 22 November 2020). Up to 160 (51.1%) respondents reported paying №1,500; 98 (31.3%) respondents paid №3,000 and 52 (16.6%) respondents paid №4,500. Further, 3 (1.0%) respondents did

not pay anything for the annual license renewal. These pharmacists are exempted from payment of license fees by the PCN based on \geq 40 years of practice.

The respondents reported dues to professional associations (PSN and other technical groups) in the range of 1000 to 150,000 per annum. The mean cost of the dues was 42,450.34 (USD111.4), and most of the respondents, 7.6%, 7.2%, and 6.9%, reported paying 50,000, 20,000 and 35,000, respectively, as dues to the professional associations. When respondents were asked to share their opinion regarding linking payment of association dues with the license renewal application, 63 (20.1%) responded that the payment should continue. However, 64.2% prefer the payment of dues to be separated and should not be a prerequisite to license renewal; 47 (15%) opined that the payment of dues should be separated from license renewal. In comparison, 2 (0.6%) suggested a downward review of the dues.

Difficulties encountered during the renewal of annual practice license by pharmacists in Nigeria

We asked the respondents if they had encountered any challenges during the renewal of the annual practice license. Two-hundred and twelve (67.7%) responded with "No," while 101 (32.3%) expressed different forms of difficulties with the application process. Table 3 presents the summary of the challenges described by the respondents.

Table 3: Reported difficulties encountered during the renewal of online license (n = 101).

Reported problem	Frequency (%)	
Login/password problems	8 (7.9)	
High cost involved (due to payment of association dues)	25 (24.8)	
Having incomplete MCPD modules	5 (4.9)	
Delay in processing and issuing license	28 (27.8)	
Administrative protocols and poor customer service	18 (17.8)	
Network issues	17 (16.8)	

Note: MCPD = Mandatory Continuing Professional Development.

Rating of PCN performance based on responding to pharmacists' complaints related to licensing renewal

Respondents rated the performance of PCN concerning responding to complaints related to challenges encountered during the renewal of the practice license. Twenty (6.4%) of the pharmacists rated the PCN performance as 'excellent,' 143 (45.7%) as 'good', 78 (24.9%) as 'poor' and 23 (7.3%) as 'very poor'. Most (86.1%) of those who rated the performance of PCN as poor and very poor were those who prefer the renewal of practice license through the online process.

Suggested penalties for defaulters of renewal of practice license

We asked the respondents to suggest penalties for pharmacists who refuse to renew their annual practice licenses in Nigeria. Of the total respondents, 11 (3.5%) recommended delisting the names of the defaulters from the pharmacists' register; 43 (13.7%) suggested

issuance of a query; and 211 (67.4%) proposed payment of a fine. However, 48 (13.7%) of the respondents decided to be neutral.

Awareness of PCN Certificates of Registration as a Pharmacist in Nigeria

We assessed the awareness and experience of the respondents towards PCN certificates of registration as a pharmacist in Nigeria. Of the 313 respondents, 182 (58.1%) said they were aware of the certificate. In contrast, 129 (41.2%) were not aware of a PCN certificate of registration being issued to pharmacists in Nigeria. Two of the respondents did not respond to the question. Among those aware, 103 (56.6%) responded that they had received the certificate from PCN, while 79 (43.4%) said they were yet to receive the certificate. The mean years it takes for the respondents to receive the PCN certificates was 7 years, the minimum and maximum years were 5 years and 25 years, respectively.

PCN data on registration and renewal of practice license of pharmacists in Nigeria

As of 31 December 2019, the total number of registered pharmacists in Nigeria was 25,870, of which 14,742 (56.98%) renewed their license. This data shows that (43.02%) pharmacists did not renew their licenses in 2019. The pictorial presentation is shown in Figure 2.



Figure 2: The proportion of licensed pharmacists in Nigeria as of 31 December 2019. (Source: Pharmacists Council of Nigeria 2020)

DISCUSSION

To our knowledge, based on the available literature, the present study was the first to explore the experience of pharmacists with the annual renewal of the professional license in Nigeria. We found that 88.2% of the respondents renew their professional licenses annually, while 11.8% responded that they did not consistently renew their licenses following the PCN guidelines. Common reasons for non-renewal of license annually were high cost

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involved, clumsy renewal process and license not required in respondents' place of work. The cost involved in the license renewal ranges from USD3.94 to USD11.81 (payment to PCN) and (payment to PSN), respectively. The most preferred method of license renewal among the respondents was the online application process. However, about 44% and 64% did not support linking license renewal with MCPD and payment of PSN dues. Therefore, interventions are needed to encourage pharmacists to renew their licenses annually and PCN to review the license application process.

Similar studies are limited in the literature to enable the comparison of our study findings. Although the proportion of pharmacists who reported renewing their licenses every year may be considered high (88.2%), the target is to have all pharmacists renew their licenses annually based on the PCN Act. In Nigeria, the PCN Act 91 of 1992 (Cap P17 LFN 2004) mandates pharmacists to renew their licenses annually to practice legally (Pharmacists Council of Nigeria 2005). This implies that practicing without a current license is illegal. Also, to encourage license renewal every year, the PCN attached a fine (penalty) to the registration fees of any year skipped by a pharmacist without license renewal (Pharmacists Council of Nigeria 2005). As well as a penalty of late application (after March) (Pharmacists Council of Nigeria 2005). This late penalty is also similar to the North Carolina Board of Pharmacy (NCBP) (North Carolina Board of Pharmacy 2021). Similar to the provisions of the law, about 67% of respondents in our study also suggested payment of a fine as a penalty for failure to renew their annual licenses. Therefore, interventions such as improved awareness and enforcement of PCN laws may enhance pharmacists to renew their licenses annually in Nigeria.

Worldwide, pharmacists are required to pay annual license renewal fees. In this study, the fees paid by the respondents for license renewal (in USD) was lower than the USD200 in some states in the US, such as North Carolina and Michigan (North Carolina Board of Pharmacy 2021); AUD408 in Australia (Consumer, Building and Occupational Services 2021); and ZAR2,161 in South Africa (South African Pharmacy Council 2021). The practicing license fee is lower than other health professionals such as medical doctors (N6,000–N10,000) (MDCN 2021). In this study, the lower fees (compared to other countries and professionals in Nigeria) may have contributed to the high proportion of license renewal among the respondents.

Although none of the respondents complained about payment of fees to PCN, about half of those who default renewing licenses annually reported dues to professional associations as barriers to the annual renewal of license, the respondents reported paying up to №150,000 annually to professional associations as dues. This amount is more than 30 times the maximum license fee payable to PCN. Unlike other countries, including those in Africa, dues to a professional association are not a prerequisite for the annual renewal of the license. In Nigeria, dues to PSN and other technical groups are part of the mandatory requirement for license renewal. This requirement is also similar to Jordan's (Nazer and Tuffaha 2017). Therefore, the high proportion (64%) of respondents who recommended separating dues from the application process suggests the need for PCN to review the license renewal application process.

Using the Continuing Education Programme (CEP) as a prerequisite for pharmacist re-licensure varies among countries (Driesen *et al.* 2007). While it is mandatory in many countries such as the US (Department of Health 2021), Saudi Arabia (Saudi Commission for Health Specialists 2021) and South Africa (van Huyssteen *et al.* 2020), CEP is not obligatory in other countries like Egypt and Belgium (Driesen *et al.* 2005; Ibrahim 2012).

CEP (referred to as the MCPD) is mandatory and a prerequisite for license renewal in Nigeria. However, about 44% of the respondents in our study do not support the linking of MCDP with license renewal. This finding is similar to the pharmacist's preference for introducing CEP in Egypt (Ibrahim 2012). The fear of not meeting up with the required CEP points and additional financial burden could be the reason why the respondents in our study opposed the connection of the MCPD with re-licensure. Given that CEP can maintain professional competence and keep pharmacists abreast of new knowledge, future studies should explore the impact of MCPD in enhancing knowledge among pharmacists in Nigeria.

With the introduction of the online methods of license renewal in Nigeria, about 75% of the respondents rated the performance of PCN on license renewal as good and very good. However, the 25% of those who rated PCN as poor and very poor suggest the need for improvement. Such improvement interventions should focus on addressing delays in issuing licenses by PCN and the high cost of dues to PSN. These were the two significant challenges related to licensing renewal described by the respondents in this study.

Although most respondents are aware of the PCN certificate of registration, about 41% were unaware. The possible reason for the lack of awareness could be that the PCN certificate of registration is not a requirement for practicing, employment or promotion in Nigeria. Even though the certificate is not necessary for practicing as a pharmacist (compared to license), there is still a need for improved awareness at pharmacy schools, induction of new pharmacists and MCPD programmes.

We assessed the proportion of pharmacists who renewed their license with PCN from 31 December 2019. The data showed that out of the 25,870 registered pharmacists in Nigeria, only 14,742 (59.9%) renewed their practice licenses. This data implied that 43.1% of registered pharmacists were not licensed in 2019. This proportion is consistent with the 2018 data, where 40.0% of pharmacists did not renew their licenses in Nigeria (Ekpenyong *et al.* 2018). The PCN data suggest that many respondents in our study did not renew or receive their licenses from PCN.

The implication of the study

Regardless of the area of practice and workplace license demand, pharmacists should regularly renew their license in furtherance of the cause of the profession. Furthermore, the overall population of pharmacists is grossly inadequate to cater to the country's pharmaceutical needs, with an estimated population of over 200 million. This corroborates the reported shortage of healthcare professionals workforce, including pharmacists in low-income countries (John and Bates 2015). It also guarantees public safety and belief in the quality and competence of all healthcare professionals in service delivery (McKim *et al.* 2013). This underscores the need for PCN and accredited pharmacy schools in Nigeria to redress this challenge, especially with the increasing demands in pharmaceutical care services.

Limitations

The following study has the following shortcomings. First, respondents in the present study were recruited through an online survey, limited only to those who have access to the internet. However, face-to-face interview with eligible was not feasible due to the lack of funding. Secondly, our sample is not large enough regarding the number of respondents. This limitation may affect the generalisation of our study findings to all pharmacists in Nigeria. Therefore, future studies with adequate funding should consider online and face-to-face surveys and target a larger sample size.

CONCLUSION

Our findings demonstrate that a high proportion of pharmacists renew their practice licenses annually. Common reasons for non-renewal of license annually were high cost, clumsy renewal process and license not required in respondents' workplace. Also, most respondents did not support linking the re-licensure with MCPD and payment of professional associations' dues. More than half of the respondents were aware of the PCN certificates of registration as a pharmacist. Therefore, there is a need for interventions to encourage pharmacists to renew their licenses annually and a policy direction for PCN to review the license application process and enforcement of the provisions of PCN laws to fine license renewal absconders.

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