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# Provision of Sexual and Reproductive Health Services in Community Pharmacies: A Cross-Sectional Assessment of Structures and Processes in Jos, Nigeria

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***Authors' contributions***

*This work was carried out in collaboration among all authors. Author MPD conceptualized and designed the study. Authors MPD, BNJ and MPC performed statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors HAI, RCO, APD and SGM managed the literature searches, data collection and revision of the manuscripts. Authors NNW and MPD managed and analysed the research project. All authors read and approved the final manuscript.*

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## ABSTRACT

**Background:** Community pharmacies are located close to the people, open long hours and weekends, making them ideal for provision of sexual and reproductive health (SRH) services, as a means of enhancing access and achieving universal coverage. However, structures (encompassing facilities and resources such as funds, private counselling space, number and qualification of staff) and processes (denoting actual activities undertaken such as: client screening, counselling, mechanisms for referral and collaboration with other healthcare professional)

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determine the suitability and capacity of community pharmacies to deliver quality SRH services.
**Objective:** To assess the structures and processes of SRH services in community pharmacies in Jos, Nigeria.
**Methods:** A cross-sectional questionnaire survey of staff in 63 community pharmacies of Jos metropolis, Plateau state, Nigeria. Three hundred and ten copies of the questionnaire were distributed to consenting participants. Statistical Package for Social Sciences (SPSS)® version 21 was used to manage data. Results were presented as descriptive statistics for structures and processes of SRH in the study population.
**Results:** A total of 296 completed questionnaires were retrieved. Eighty-two percent of respondents reported providing SRH services, which was mainly the sale of family planning (FP) products and counselling. Majority of these services 75%, were only offered on clients' demand. SRH products sold were mainly oral contraceptive pills and the male condom. In terms of processes, about half (49.7%) of the respondents reported offering SRH services in collaboration with other health care providers, mainly in primary health care centres and private clinics. However, only a small proportion of the staff had any formal SRH specific training.
**Conclusion:** The composition and qualification of mix of staff in community pharmacies presented some inherent weaknesses in their capacity to deliver quality and effective SRH services. This may impede the desired goal of promoting wider access and achieving universal coverage of SRH services.

*Keywords: Community pharmacies; structures; processes; sexual and reproductive health services; Nigeria.*

## 1. INTRODUCTION

Matters of reproductive health (RH) encompass a spectrum of methods, techniques, and services for prevention and/or the solving of RH problems [1]. In this regard, the concept of good sexual and reproductive health (SRH) requires that individuals have the right to make choices that enable them to have satisfying and safe sex life in all its ramifications leading to "a state of complete physical, mental and social well-being in all matters relating to the reproductive system" [2]. This requires that individuals have access to accurate information on safe, effective, affordable and acceptable contraception methods to choose from; they also need to be informed and empowered to protect themselves against sexually transmitted infections, and on deciding to have children [1,2]. These services can be effectively provided in community pharmacies. Community pharmacies provide individuals with easy access to essential daily supplies. Hence, in addition to their traditional role as a source of prescription and non-prescription medicines and devices, the community pharmacy system has been listed among the range of platforms available for delivery of SRH services such as: counselling, information and referral for clinical services that cannot be provided at the pharmacy [3,4]. Consequently, community pharmacies are enabling more direct access to SRH commodities over-the-counter (OTC) or dispensed after evaluation by pharmacists [5]. Thus, pharmacies are providing expanded access to family planning especially for unmarried and younger women [6,7]. In developed countries like the United States of America and Canada, many contraceptive products including the hormonal agent levonorgestrel are approved for OTC emergency dispensing, requiring a pharmacist's prescription for insurance reimbursements [8,9]. Similarly, in the United Kingdom community pharmacists evaluate clients and supervise the sale of emergency contraceptive products [10]. Although Nigeria's Family Planning Blueprint (Scale- Up Plan) recognized community pharmacies as untapped private sector resources which can be utilized to increase the coverage of family planning service [11], the reality in Nigeria is neglect of the role of community pharmacies and drug stores in the provision of SRH services, despite these outlets being the major sources of contraceptive products [7,12].

Achieving good SRH is an essential element of universal health coverage, a central focus of goal 3 of the sustainable development goals (SDGs) [13]. However, meeting these lofty goals remain a challenge to health systems in developing countries like Nigeria, due to structural and procedural weaknesses that imposed restrictions and cost burdens to majority of the populace [14].

According to Donobedian, 'structures' which, denote the facilities and resources available in the setting of healthcare practice, and 'processes' which denote the actual activities undertaken in the giving and receiving of health care, have a causal relationship with the outcome and quality of health care provided [15]. Consequently, privacy, convenience, number and qualification of personnel, financial resources and other structural attributes have a direct influence on the processes such as the community's demand and access to care, the inter-personal exchanges encountered in the course of giving and receiving care from community pharmacies [15]. In this regard, generic assessments of the structures and processes of pharmaceutical care activities have shown the value of community pharmacists as perceived by patients, pharmacists, physicians and other health care practitioners [16,17]. However, there is a paucity of evidence of such assessments specifically targeted at the provision of SRH services in community pharmacies. Therefore, the aim of this project was to assess the structures and processes of SRH services in community pharmacies. Specifically, we sought to identify facilities and resources as well as current services offered in community pharmacies as a means of determining the readiness or otherwise, of community pharmacies and pharmacist's involvement in possible expanded roles for provision of SRH services.

## 2. MATERIALS AND METHODS

### 2.1 Study Setting, Population and Design

This was a cross-sectional questionnaire survey of all categories of frontline staff of community pharmacies in Jos metropolis, encompassing parts of Jos-North, Jos-South, Jos-East and Bassa local government areas (LGAs) of Plateau state, North-Central Nigeria. The study area was served by 112 community pharmacies registered with the Pharmacists Council of Nigeria (PCN), at the time of data collection in 2017.

### 2.2 Sampling Strategy

Fifteen pharmacy stores were randomly selected using a random number generator in each of the four LGAs in the study area. Additionally, three community pharmacies were purposively selected in view of their scale as the main community pharmacy distributors in Jos city. We approached the total population of eligible staff in the sixty-three (63) selected community pharmacies.

### 2.3 Inclusion and Exclusion Criteria

All community pharmacy workers who had direct contact with clients and patients and who consented, were included in the study. Pharmacy workers who were concerned with administrative or non-clinical roles (e.g. drivers, cleaners and messengers) within the pharmacy were excluded. Also excluded from the study were those that had worked in clinical roles but had been employed in the premises for less than six months.

### 2.4 Data Collection

Questionnaire design adopted an iterative process to develop a robust tool that was used to collect data on four aspects of SRH services in community pharmacies: Attitudes of staff in relation to SRH services, structures and processes of SRH services in community pharmacies, and demographic characteristics of community pharmacy staff engaged in the provision of SRH services. Only the sections on structures and processes are reported in this article. All staff who met inclusion criteria in the 63 selected community pharmacies were invited to participate in the study. A total of three hundred and ten (310) questionnaires were distributed to consenting participants for completion at their own convenience. A maximum of three visits were made to the selected pharmacies between April and May, 2017 for distribution and retrieval of questionnaires.

### 2.5 Data Management and Analysis

Responses from completed questionnaires were collated and coded for entry into a data base developed on the Statistical Package for Social Sciences (SPSS)® version 21. Fifty (50) questionnaires were randomly selected to check for the accuracy of data entry into the SPSS database. Structures of SRH encompassing facilities and resources were described in terms of demographic characteristics for the proportion and qualification of the various categories of community pharmacy. This was expressed using simple descriptive statistics and the results were presented as frequencies and percentages. Similarly, descriptive statistics were used to analyze processes of SRH provision in community pharmacies covering activities such

as eligibility screening for contraceptive use, family planning (FP) education and counselling, collaborative practice for SRH services and referrals to other health care practitioners.

## 3. RESULTS

### 3.1 Community Pharmacy Structures for Provision of SRH Services

A total of 296 questionnaires were completed and retrieved, out of 310 distributed giving a response rate of 95.5%. More than half of the respondents were female, majority were within the age group of 20-29. Similarly, most of the respondents had worked in the community pharmacy for less than ten years and majority worked as pharmacy assistants (sale clerks) (Table 1).

### 3.2 Processes of SRH in Community Pharmacy

Majority of respondents (82%) reported providing SRH services in community pharmacies. This comprised mainly of the sale of family planning (FP) products and counselling services as depicted in Fig. 1.

Majority of SRH services (75%) were offered in community pharmacies on clients' demand with only 6% offered on appointment on designated clinic days. Half of these services were offered to both married and single clients. However, 83 (28%) of respondents reported offering their services only to married couples, while ten (3.4%) served only single clients. Less than half 147(49.7%) of the respondents in community pharmacies reported offering SRH services in

**Table 1. Distribution of socio-demographic characteristics of study participants (N=296)**

| Characteristics | Frequency (N) | Percentage (%) |
|---|---|---|
| **Sex** | | |
| Female | 156 | 52.7 |
| Male | 140 | 47.3 |
| | **296** | **100** |
| **Age Group** | | |
| <20 | 12 | 4.1 |
| 20-29 | 157 | 53.0 |
| 30-39 | 102 | 34.5 |
| 40-49 | 22 | 7.4 |
| 50> | 3 | 1.0 |
| | **296** | **100** |
| **Marital status** | | |
| Single | 129 | 43.6 |
| Married | 167 | 56.4 |
| | **296** | **100** |
| **Religion** | | |
| Christian (Catholic) | 71 | 24.0 |
| Christian (Protestant) | 177 | 59.8 |
| Islam | 43 | 14.5 |
| Others | 5 | 1.7 |
| | **296** | **100** |
| **Professional Sub-group** | | |
| Pharmacist | 84 | 28.4 |
| Nurse | 26 | 8.8 |
| Pharmacy Technician | 65 | 21.9 |
| Pharmacy Assistant (salesclerk) | 121 | 40.9 |
| | **296** | **100** |
| **Duration of working in community pharmacy (years)** | | |
| < 10 | 217 | 74.1 |
| 10-19 | 70 | 23.9 |
| 20-29 | 6 | 2.0 |
| | **293** | **100** |

*Frequency and percentages less than 296 and 100% respectively due to non-response by some participant*

collaboration with other health care providers, mainly in primary health care centres and private clinics. In contrast, 94 (31.8%) of them did not collaborate with other health care providers in the provision of SRH services.

In terms of specific SRH services offered in community pharmacies, majority of respondents who said they provided SRH services, 169 (69.8%) reported having been trained specifically in SRH, mainly through work based training (33%) and workshops organized by pharmaceutical companies (30%). Majority spent 5-10 hours per week, providing the service, during which time they served between 1 and 30 clients in the week preceding data collection. More than half of them 145(60%) reported charging clients for SRH service, 86% of whom charged between fifty and two hundred and fifty Naira only ($ 0.14 - $ 0.68) per session. Other details of SRH services provided by staff of community pharmacies are presented in Table 2.

### 3.3 SRH Products Sold in Community Pharmacies

All respondents reported selling SRH products which were mainly contraceptives and FP products. The majority of the products sold (66%) were obtained from pharmaceutical company representatives. However, a substantial proportion 49.5% was obtained from open market sources. Sale of SRH products generated less than 25% of weekly income for more than 90% of the respondents. Detail breakdown of the products sold in community pharmacies are provided in Table 3.

**Table 2. Nature of SRH services provision by community pharmacy staff**

| Service element | Frequency | Percentage (%) |
|---|---|---|
| **Approximate number of clients served (n=242)** | | |
| 1-5 | 120 | 49.6 |
| 6-10 | 67 | 27.7 |
| 11-15 | 18 | 7.4 |
| 16-20 | 13 | 5.4 |
| >21 | 9 | 3.7 |
| Missing | 15 | 6.2 |
| **Total** | **242** | **100** |
| **Approximate time (hours) spent providing SRH services in the Last one week (n=242)** | | |
| <5 | 77 | 31.8 |
| 5-10 | 104 | 43.0 |
| 11-15 | 42 | 17.4 |
| 16-20 | 9 | 3.7 |
| >21 | 10 | 4.1 |
| **Total** | **242** | **100** |
| **Source of specific SRH training of community pharmacy staff (n=169)** | | |
| University Course | 35 | 20.7 |
| Pharmaceutical company workshop | 50 | 29.6 |
| Non-Governmental Organization (NGO) workshop | 28 | 16.6 |
| Work based training | 56 | 33.1 |
| **Total** | **169** | **100** |
| **Referral of clients to other health care providers for SRH services** | | |
| Yes | 183 | 75.6 |
| No | 53 | 21.9 |
| Missing | 6 | 2.5 |
| **Total** | **242** | **100** |

*Frequency and percentages less than 296 and 100% respectively due to non-response by some participants*

**Table 3. SRH products sold in community pharmacies**

| Product | Frequency | Percentage (%) |
|---|---|---|
| Combined oral contraceptive pills (COC) | 255 | 86.4 |
| Progestin only pills (POP) | 245 | 83.1 |
| Injectable contraceptives | 229 | 77.4 |
| Cervical cap | 25 | 8.4 |
| Intra-Uterine Contraceptive Devices (IUCDs) | 22 | 7.5 |
| Condoms (male) | 290 | 98.0 |
| Condoms (female) | 113 | 38.8 |

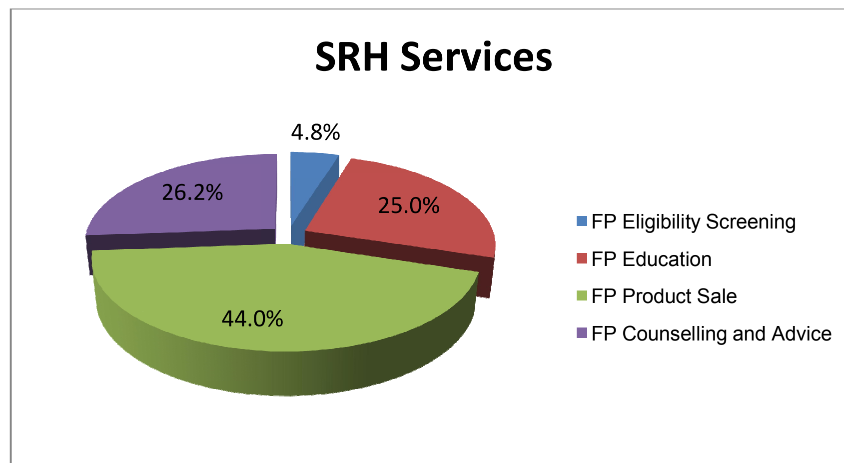


**Fig. 1. Type of SRH services provided in community pharmacies**
*Key: FP =Family Planning*

## 4. DISCUSSION

Community pharmacies have potential for expansion of SRH services as revealed in this study. This advantage can be exploited when we consider the fact that studies have shown that community pharmacies are well suited for expanding access to SRH services due to their extensive geographical spread among the populace and their extended opening hours [9,18]. However, this study identified inherent weaknesses in the structures and processes involve in the provision of SRH. These weaknesses negate the philosophy of the ICPD program of action, which requires governments in all countries to take deliberate steps to guarantee universal access by all individuals of appropriate ages to SRH services [2].

Despite the reported suitability and potential of community pharmacies for delivery of SRH services, the demographic structure of the community pharmacy workforce in our study revealed an inherent weakness in the capacity to effectively and efficiently provide SRH services. The scenario in which only about 30% of the work force were skilled health workers (pharmacists and nurses), with some prior education and training on SRH matters places some limitations on their capacity to provide SRH services especially with regards to education and counselling of clients. This position was highlighted in the response of study participants (majorly of the sales clerks/pharmacy attendant category), who although agreed that SRH services should only be provided by trained personnel, also admitted their own lack of specific training on SRH. This reiterates the position of previous research about the need for specific public health training for pharmacist, especially in the area of SRH [19]. Ironically, there are serious concerns on the state of readiness of pharmacists to offer SRH services. Questions have been raised regarding the SRH contents of pharmacy curriculum worldwide; to adequately meet the training needs of pharmacists for evidence based pharmaceutical care especially in developing countries like Nigeria, where the subject of sex still remains a taboo [20].

This finding corroborates report of Schwandt et al. [21], who surveyed health workers in six Nigerian cities. The authors found providers with lower health related education and training (community health extension workers) were more likely to exhibit biases and restrict provision of contraceptive products and services to clients [7,21]. SRH education and counselling offered by untrained personnel, inadvertently affect outcomes, which in turn might hinder trust in the ability of community pharmacies to offer these services. Consequently, community pharmacists must systematically enhance their own capacity and training, along with that of their subordinate staff, in order to strategically improve their participation in the provision of SRH services. Adequate SRH training of community pharmacy staff will improve the image of the pharmacy profession and in turn, help to reduce the negative perception of the profession, which is seen more in terms of business and trade rather than the patient oriented clinical practice. This is particularly important, because the service orientation of community pharmacies is needed to expand SRH access. It is encouraging that where community pharmacy has engaged in the provision of SRH services, results have shown increased access to young people, without accompanying increase in risky sexual behaviours [5].

Our findings with regards to sale of male condom being the most common SRH service rendered in community pharmacies agree with reports by Corroon et al. that affirmed drug stores and community pharmacies in Nigeria and Kenya, as the major sources of oral contraceptive pills, emergency contraceptives and condoms [7]. This however, runs contrary to the body of evidence that suggests community pharmacies have the potential for extending roles beyond the sale of SRH products [5,22-25]. This means that the goal of universal access to SRH services will remain a mirage, unless some positive policy and practice initiatives are taken. Hence, our study findings provide a good starting point for the development of policy on community pharmacy provision of SRH. The result will feed into the needs assessment and evaluation stages of policy development cycle. Specifically, the study finding highlights the apparent gap in the education and training of community pharmacy staff for the provision of SRH. In this regard, the Pharmacy Council of Nigeria (PCN) can incorporate relevant and practical contents of SRH and public health into the mandatory continuing professional development program requirement for re-certification and renewal of practice licenses of pharmacists. In addition, the Council can commission more focused research projects to assess other training needs of community pharmacy workforce for the provision of SRH and public health services in general.

Our study had some limitations. The design of the study relied on a respondents' self-reports which could be subject to social desirability biases. However, this was mitigated by adopting robust measures in the development of the questionnaire. Moreover, the questionnaire method of data collection ensured that a wide range of respondent was sampled to capture a fair representation of characteristics of community pharmacies across the study area. Another limitation was the localization of the study area, which restricts our capacity to generalize across community pharmacies in Nigeria.

## 5. CONCLUSION

Community Pharmacies in our study presented some inherent weaknesses in terms of structures and processes for SRH services, majorly due to the composition and qualification mix of the community pharmacy workforce, which currently may not be optimal for extending SRH services in community pharmacies beyond the sale of products.

## CONSENT AND ETHICAL APPROVAL

The study was approved by the Health Research and Ethics Committee of Plateau State Specialist Hospital. In addition, verbal permission was obtained from the management of all participating community pharmacies. Prospective participants were properly briefed about the research and assured of confidentiality. Those who agreed to participate signed the consent form attached to the questionnaire before responding to the questionnaire items.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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