Title

Formal and informal medicine retailers in Sub-Saharan Africa: a scoping review of research trends

Abstract

Objective. In Sub-Saharan Africa, private medicine retailers have become the first entry point to health systems, irrespective of their level of accreditation. This review aims to map the main trends in research about formal and informal medicine retailers in Sub-Saharan Africa over the past twenty years. Such an overview offers a valuable resource to understand their role and develop inclusive interventions to improve accessibility to healthcare in line with people’s health seeking behaviours. Methods. The review followed the steps recommended by the Joanna Briggs Institute. Four electronic databases were searched and complemented by manual web searches. Findings. A total of 293 publications from 23 countries met our inclusion criteria, 79% of which relate to six countries. The number of publications has been growing since 2010. Medicine retailers are distributed among three professional groups based on their accreditation level. Most studies used quantitative methods. Three topics – service provision; knowledge, attitudes, and practices; and the expanding role of medicine retailers in the health system – accounted for 67% of included studies. Most studies focus on a specific health condition of which malaria (26%) and sexual/reproductive health (13%) are most common. Conclusion. The review reveals increasing interest in medicine retailers in Sub-Saharan Africa, and rising expectations as stakeholders within health systems. The review suggests new research and interventions should focus on: moving beyond a disease-based approach; using qualitative methods; understudied countries, rural areas, and informal medicine retailers. A more dynamic, relational, and interactive approach could help better understand the sector.
Keywords: medicine retailers, pharmacies, pharmaceutical services, scoping review, Sub-Saharan Africa, low- and middle-income countries.
Introduction

Over recent decades, the global market for medicines has been growing. The success of this market is linked to multiple parameters, including the increased production of medicines, the ensuing commodification of health and its derivatives, and the increased tendency for people to self-medicate. These elements have generated a process of ‘pharmaceuticalization’, i.e. greater circulation of medicines, and their autonomous use outside the supervision of health professionals.

In Sub-Saharan Africa (SSA), the main channel for retail distribution is through medicine providers, who operate in the public or private sector. The public system faces multiple challenges, particularly in terms of securing an adequate supply of appropriate medicines. This situation ends up pushing people to buy in the private sector, where the supply sources are more diversified and do not have to follow public market regulations. The private sector includes both formal and informal medicine providers, and can potentially become problematic in terms of regulation, the quality of additional services offered (e.g. advice, testing, referral), and patient safety. Medicine providers are common in both urban and rural settings, and in recent decades, increasing numbers operate without regulation. There is considerable diversity across medicine providers, with varying characteristics across and within settings and countries. They operate in a wide variety of places, including registered pharmacies, (un)registered medicines shops, general stores, or on the street; each setting has a different impact on the service delivered and the quality of medicines sold. When people in SSA are unwell, they tend to go first to medicine providers because they are perceived to be cheaper, more accessible and convenient as well as more approachable than medical professionals in more formal settings. As such, medicine providers are de facto important stakeholders in SSA health systems. For all of these reasons, national and international programs funded


by bilateral, multilateral and, increasingly, philanthropic donors have targeted them as a means to improve access to quality medicines and healthcare.\textsuperscript{16-19}

Previous reviews have examined specific groups of medicine providers and have addressed one particular dimension of their activity.\textsuperscript{8,10,12-15} Despite the extensive literature that exists on the subject, there is no comprehensive synthesis on the diversity of the practices of formal and informal medicine providers as a whole in SSA. This review intends to fill this gap. The studies which are included collectively cover a wide range of types of medicine providers (hereinafter referred to as “medicine retailers”) and cover multiple aspects of their practices. Bringing together formal and informal medicine retailers is an informed – though potentially contentious – decision, as the objective is to emphasize people’s day-to-day practices and behaviours. It is important to note that this review does not seek to evaluate the positive or negative impact of the quality of service or medicines provided, nor to make any value judgement in relation to certain types of medicine retailers.

The principal objective of this review is to map the main trends in research about formal and informal medicine retailers in SSA over the last twenty years. It also seeks to identify and characterize existing knowledge and to highlight gaps; in this way, it aims to inform future research priorities and to contribute to the development of high-quality public health programs. We consider a scoping review to be the most suitable methodology to reach these objectives.\textsuperscript{20,21}

Methods

Scoping review methodology

The review was conducted from December 2018 to October 2019, following the steps recommended by the Joanna Briggs Institute (JBI).\textsuperscript{21} A protocol was elaborated and approved by the research team but was not registered. A search strategy was developed, tested, and validated with the assistance of a librarian. The search for published literature was performed
in the following databases: Medline via PubMed, Sociological Abstracts and Psychinfo via ProQuest, and Scopus. This selection enabled us to collect data from various disciplines, including the social sciences. The transfer of included papers from the databases to Endnote took place in March 2019. Other relevant sources of information and grey literature were identified through Google Scholar, Open Edition Journals and Cairn info on the one side and by Open Grey and the websites of international institutions and NGOs on the other. The selection and analysis of the articles was finalized by October 2019. The whole process was validated by the Information Specialist in Health Sciences at the medical library of the Université Libre de Bruxelles.

**Study eligibility**

The search strategy was developed on the “Population - Context - Concept” (PCC) model recommended by JBI, which also defined our eligibility criteria. Search terms used for the different databases are presented in Supplementary File 1. We included articles indexed in the selected databases from January 1999 to March 2019. This choice was motivated by the several trends that took place in the international public health arena. A 20-year period was considered sufficient to obtain a good overview and any longitudinal trends. Peer and non-peer reviewed resources, such as grey literature, commentaries, and opinion pieces, were included, irrespective of their study design or data collection method. Only resources available in English or French were included.

**Population**

A broad and inclusive definition of medicine retailers was applied to reflect people’s day-to-day practices: any person or organization selling medicines through retail, be they professionally trained or not and be they in possession of an official accreditation or not. We included studies in which the main investigated group was explicitly medicine retailers. The
terminology used to describe medicine retailers in our search strategy was based on the existing literature.

**Context**

We focused on SSA low- and lower-middle-income countries, leaving aside upper middle-income countries. Despite heterogeneities, low and lower-middle-income countries share characteristics that might influence the importance of medicine retailers within their national context. We used the 2018 World Bank list to identify countries for inclusion. At the national level, urban, peri-urban and rural areas were taken into consideration.

**Concepts**

Our central concept was medicine retailers. We identified three main areas of interest that correspond to three levels of analysis: macro, meso and micro. At the macro level, medicine retailers were considered public health players. The meso level focused on medicine retailers as professionals and included aspects such as training, socialization, regulation, identity, motivation, and relationships with other professional groups. The micro level included interactions between medicine retailers and their clients. However, we did not include specific concepts in our search strategy, as we wished to keep it broad and inclusive. Progressively, we were able to precise our inclusion criteria for each of the three identified areas.

**Screening, extraction, and analysis**

Two people independently screened the identified literature: AO and BS. The first screening stage was performed with titles and abstracts. Most of the excluded studies were excluded due to their research type (clinical trials) or geographical location (not SSA or not low and lower-middle-income countries). The second part of the screening process was based on the full texts. When the full text could not be found, a request was sent to the author(s) through Research Gate or by email. We finally excluded sources whose full text was not available. We developed a specific Excel table for data extraction purposes. It was tested on a reduced number of articles.
and adapted accordingly. For each source, the following information was extracted: author, year, title, focus, health issue, type of source, country, study location, study group, exclusion criteria, inclusion criteria, inclusion/exclusion decision, context or remarks, study objective, sample size, method, results/key findings, conclusions/recommendations. AO and BS resolved disagreements on study selection and data extraction by discussion in an iterative process. The extraction table is available online in Supplementary file 2.

The extraction table supported the analysis and synthesis of results. After cleaning the extraction table to only keep included articles, we classified and quantified the variables in our database and developed visual summaries. In addition to the mapping of existing dimensions, we completed the analysis by identifying research gaps.

The results, supported by a PRISMA chart and other figures, are presented in a narrative format as follows: overall descriptive profile (article type and methods, year of publication, geographical distribution, and national settings) and main analytical trends (professional groups, study focus, and health conditions). Supplementary file 3 presents a table summarising the analysed items, linked to the corresponding studies.

**Results**

Figure 1 shows the PRISMA chart and reports the number of studies included and excluded at each stage of the process.

**Overall descriptive profile**

A majority of peer-reviewed articles using quantitative methods

Of the 293 papers included in this review, 276 (94%) were peer-reviewed articles. The remaining documents were: grey literature (N = 7); papers from conferences or editorials in scientific journals (N = 4); book chapters (N = 4); and doctoral theses (N = 2). Most studies were empirical pieces (N = 258; 88%). Of these, 187 used quantitative methods (72.5%). Others
employed qualitative (14%) or mixed methods (13.5%). All other studies belonged to one of two methodological categories: analyses based on legal texts or intervention documentation (6%) or systematic or scoping reviews (5%).

A notable increase in publications over the years

As presented in Figure 2, the number of studies published yearly has grown slowly but steadily since 1999, particularly since 2010. Between 2015 and 2018, there were 141 studies published, which represents almost half of all the studies included (48%).

Only six countries at the forefront

The selected studies reported experiences from 23 countries, with 6 countries accounting for 79% (N = 230) of all studies: Nigeria (N = 91), Tanzania (N = 36), Uganda (N = 34), Ethiopia (N = 27), Kenya (N = 23), and Ghana (N = 19). Nigeria was the subject of nearly a third of all studies (31%). Figure 3 shows the geographical distribution of the publications. The grey areas correspond to countries that were not included in the review, e.g., Northern African and SSA upper-middle-income countries.

A focus on urban settings

Most studies included an urban dimension (66%), exclusively (37%) or in combination with a rural component in a comparative perspective (29%). Fifty-two studies targeted exclusively rural settings (18%), while fourteen focused on the peri-urban environment (5%). Twelve percent of the studies did not clearly indicate their rural-urban focus.
Main analytical trends

Three professional groups of medicine retailers

In this review, medicine retailers were initially considered a general and unique category. However, our analysis enabled a mapping of their distribution among different groups according to their formal status. The terminology used to qualify medicine retailers in the studies and their corresponding characteristics were analysed to distinguish three distinct groups based on a decreasing level of accreditation. Details regarding the terminology attached to each group are available in Supplementary file 3.

The first group – studied in over a third of the papers (N=112 – 38%) – included the official pharmacy profession and thus those with the highest level of legal accreditation. It mainly comprised trained pharmacists and fully fledged pharmacies authorized to sell all types of medicines, including prescription medicines. However, legality involving pharmacies is mostly attached to the settings themselves and not to the individual workers, as pharmacies sometimes hire unqualified people. The surveyed literature points to the potential – and the willingness in some settings – of this professional group for playing an enhanced role in delivery of primary health and pharmaceutical care, including the screening and management of NCDs.\textsuperscript{7,14,22-32}

They also agree on some weaknesses affecting their current practice, including quality of service and provision of care, and appropriate advice on self-medication.\textsuperscript{7,33,34} However, the existing barriers to improving practice and the strategies to addressing them need to be further explored.\textsuperscript{7,34} This may require changes both in legislation and practice.\textsuperscript{22,35}

The second group – examined by over a quarter of the included publications (N=78 – 27%) – referred to an intermediary level of accreditation. It covered shops and sellers benefitting from official registration but with some limitations to their practice. These restrictions mostly concern the type of medicines they are allowed to sell, limiting these items to over-the-counter medicines. However, these regulations are not always enforced in practice. This implies that
the medicines sold in such settings include more than just the authorized ones. Among these
medicine retailers, accredited drug dispensing outlets and proprietary and patent medicine
vendors are common in Tanzania and Nigeria, respectively. Those staffing medicine retailers
in such places do not have an official diploma related to their practice but have sometimes
benefitted from other types of trainings delivered by the Ministry of Health and/or donors. The
quality of dispensing practices, available medicines and information provided, together with
the level of health knowledge, are common concerns raised in the literature about this medicine
retailers’ group. Those elements are most of the time evaluated for malaria episodes, leaving
aside other health conditions.\textsuperscript{13} Client demand appears to be a strong determinant of practices.\textsuperscript{8}
However, if improvements in these elements were made, this professional group could play a
substantive role in an improved and more comprehensive delivery system of medicines in
SAA.\textsuperscript{36}

The third group – only accounted for by 4\% of the studies (N=12) – referred to informal
medicine retailers operating explicitly outside any legal framework. The literature highlights
that this group is often associated with unskilled workers and low-quality medicines.\textsuperscript{37} The
relationships existing between this group and their users are also characterized by a stronger
social proximity than the above groups.\textsuperscript{38-40} Some authors insist on the need to integrate them
in the health system strengthening reflections on access to medicines.\textsuperscript{37,39,40} As their existence
and spread respond to an existing demand, it is recommended that a better understanding is
needed of the drivers of that demand. This would enable these outlets to be articulated to and
potentially recognised as part of the overall pharmaceutical supply chain.\textsuperscript{37,39,40}
The above groups did not always match the study groups selected by the authors of the included
papers. We identified three other categories that reflect their choices in terms of study groups
but that do not represent professional groups \textit{per se}. The first category gathers several types of
drug retailers, bringing together settings and sellers with differentiated levels of accreditation.
It addresses an activity and a sector: the retail medicines sales (N=49 – 17%).\textsuperscript{41-43} A second category includes studies combining different study groups, such as drug retailers and other types of healthcare facilities, providers and/or stakeholders (N=29 – 10%).\textsuperscript{44-46} A last category gathers studies focusing only on drug retailers’ clients or users (N=13 – 4%).\textsuperscript{47-49} Details can be founded in Supplementary file 3.

Focus of studies: an emphasis on the operational role of medicine retailers

Figure 4 presents the main trends in terms of the focus of the studies. Three focuses (service provision; knowledge, attitudes, and practices (KAP); and the expanding role of medicine retailers in the health system) accounted for two-thirds of all included studies (67%).

Service provision covers the following sub-categories: case management (N=39), dispensing practices (N=27), counselling (N=8), general service provision (N=3) and health prevention/promotion (N=2). KAP studies (N=62) investigate diverse issues whose objective is to assess and evaluate existing medicine retailers’ competences; whereas studies falling under service provision aim to understand and characterize actual practices from a broader and more systemic perspective. The focus on the expanding role of medicine retailers (N=55) comprises studies whose objective is explicitly to analyse the expansion of medicine retailers’ roles beyond their current ones. Among their expanded roles are the following: pharmaceutical care (N=6), monitoring of diseases (N=34) and public and private partnership (PPP) initiatives (N=15). Although it is recognised that medicine retailers play a significant role in service provision, the scope and quality of their practice need to be improved to address shortcomings in knowledge, services, and tools at their disposal.\textsuperscript{45,50,51} Several recommendations are suggested, such as: the provision of continuing training, supervision, and monitoring from the government; an enhanced collaboration with healthcare workers (including for referrals); a greater compliance with national policies and guidelines that also need to be better
disseminated; a better access to proper information; and the need for community awareness whose demand is a strong determinant of medicine retailers’ service provision practices.\textsuperscript{52-60}

Two other focuses reinforce the attention paid to medicine retailers within the health systems: profession and regulation, and impact studies. With 79 studies, these two focuses accounted for approximately a quarter of the included studies (27%). The professional and regulation focus characterized studies outlining the profession and the scope of its activities and addressing governance aspects (N=40). Impact studies aimed to assess the effect of interventions on medicine retailers’ competences, skills, or behaviours (N=39). Among these interventions, training was the most commonly assessed activity (N=18), followed by multi-component interventions (N=11) — half of which were on the rapid diagnostic test for malaria (N=6) — and by care model testing (N=8).

The remaining studies addressed more subjective and interpersonal aspects of medicine retailers’ practices and represented only 6%. Studies with a client perspective focus (N=9) aimed to understand the expectations and visions of clients in relation to medicine retailers’ service and activity. The health seeking behaviours (HSB) focus (N=5) here only included studies investigating the circumstances or determinants influencing the decision to visit a medicine retailer. The interaction focus (N=4) comprised studies focusing on the meaning given to the relationships and related expectations between the supply and the demand sides. This meant leaving aside aspects related to the quality of the advice given or the level of information required.

\textbf{A marked interest in malaria and sexual and reproductive health}

Figure 5 shows the main trends in terms of health conditions covered by the included studies. Details for each category are available in Supplementary File 3.
One in four studies addressed malaria (26%). This disease appeared to be predominant when considering medicine retailers’ activity. Far behind this health condition in terms of number of studies was sexual and reproductive health (13%). Medicine retailers are a major source of malaria treatment.\textsuperscript{15,17,61} However, general service provision, appropriate treatment, and medicines quality need to be improved, including by providing trainings and supervisions, introducing RTD to increase accurate diagnosis, and enforcing regulation.\textsuperscript{15,61-63} The need for training – under different forms – is the most often suggested strategy.\textsuperscript{15,62,64-67} Studies on malaria are concentrated in the following countries by decreasing order: Nigeria, Tanzania, Uganda, and Kenya. This distribution reflects the overall geographical concentration previously highlighted. The yearly trends in publications vary from one country to another, although Nigeria presents a peak of publications between 2010 and 2015. Across countries, publication peaks for malaria are observed in 2004, 2010, 2012 and 2015. Family planning and STI are the two issues addressed by SSRR studies and are almost equally distributed. If level of knowledge and practices vary across countries and professional groups, attitudes need to be improved.\textsuperscript{68-70} Medicine retailers are seen as potential important stakeholders in the delivery of sexual and reproductive health services, but their role seems to be currently underused.\textsuperscript{12,71-73} To optimise their role, training is recommended.\textsuperscript{59,68,72,74-78} Overall, publication peaks are observed in 2010, 2014 and 2017.

Figure 5 indicates that there was interest in non-communicable diseases (NCD) in SSA (6%). Most of these studies focused on a specific health condition, while only one study addressed NCD as a whole. Publications on NCD started in 2006, with a concentration between 2016 and 2018. Because they are not specific health conditions, other programmatic areas addressed in the studies were not included in Figure 5, but details can be found in Supplementary file 3. This was the case for studies addressing medicine retailers’ relation with medicines in general,
including antibiotics (N=37 – 13%), and studies examining the broader functions played by medicine retailers within the health system, which were grouped under a category labelled “health system functioning” (N=22 – 8%).

Discussion
This review shows a marked and growing scientific interest in medicine retailers in SSA. A geographical and thematic concentration of existing knowledge was highlighted. A clear trend of the assessment of medicine retailers’ performance through quantitative methods was observed, reflecting an operational and instrumental approach to the detriment of analytical and explanatory dimensions. The literature revealed the (co)existence of multiple types of medicine retailers, characterized by heterogeneous levels of accreditation. The terminology used and the existence of multiple legal frameworks reflect both the dynamism and the complexity of the sector.

Methodological limitations
Due to the number and heterogeneity of included studies, we did not proceed to a detailed narrative analysis. We opted for a presentation of the main trends and patterns of the identified body of literature. For the same reasons and because that is not the purpose of a scoping review, the methodological rigor of the selected studies was not assessed. Initially, we planned to include all low- and lower-middle-income countries worldwide. However, during the process, we decided to restrain our geographical scope to SSA low- and lower-middle-income countries. Given the extent of the literature on the subject, this choice was necessary and addressed a literature gap. As the regulation scope of medicine retailers varies across countries, a certain imprecision regarding their legal status sometimes complicated their classification under the defined professional groups. The terminology used sometimes lacked clarity, as the same terms sometimes covered different realities depending on the countries. This might be a sign that the
boundaries between formal and informal sectors are becoming blurred. These elements reinforce our initial position on the importance of considering medicine retailers as a whole, irrespective of their formal status.

Accessing the full text of a certain number of articles proved challenging. Despite communication sent to the authors of various articles, some could not be found and were not considered in our review, although their content could have been informative. Another limitation is a probable language publication bias. Some French language publications might not have been captured in the review. Such literature tends to be underrepresented in the public health scene. Most of the identified French language articles addressing medicine retailers are usually oriented towards the social sciences and focus on the informal sector, which could explain why they were not available in public health databases. However, we paid attention to this and used specific strategies to compensate for this trend.

Based on the above results, we would like to highlight some knowledge gaps that could inspire future research and interventions.

Going beyond a disease-based approach

Most of the studies focused on a specific disease or health condition. Approximately one-quarter of the selected studies focused on malaria. This highlights that malaria remains one of the main health priorities and reflects numerous global commitments. Further research and programs could go beyond infectious diseases and curative approaches to address emerging health concerns, such as NCDs or mental health, and promotion and prevention issues. Several studies highlighted the role that medicine retailers, especially community pharmacists, could play in the management of such diseases and in pharmaceutical care in general. Such results could be helpful for policy and decision-makers in dealing with present and future health challenges in a timely manner.
Going beyond a disease-based approach would also contribute to developing an analytical framework that could be useful to adopt a more systemic perspective. In 2015, Rutta developed a conceptual framework applied to the Accredited Drug Dispensing Outlets initiative in Tanzania. However, despite its value, this framework does not address the overall role and integration of medicine retailers within the health system. Investigating medicine retailers’ motivations, career paths and the impact of those on their daily practice could contribute to a better understanding of medicine retailers’ role within health systems and the development of such a framework.

Using qualitative methods to investigate the heart of medicine retailers’ routines

Available evidence shows that the assessment of medicine retailers’ knowledge and practices is at the centre of most studies. The number of studies dedicated to service provision, KAP and impact evaluation clearly shows a strong interest in evaluating medicine retailers’ performance and their capacity to manage specific health conditions. This reflects a particular interest for the WHO “service delivery” building block, the other building blocks being less addressed in selected studies. Such operational skills are predominantly measured by quantitative methods. If the overall service quality provided by medicine retailers is important, is it possible to address those matters without understanding other aspects of their practice? As partially highlighted by Smith, few studies address issues in relation to the perceptions, representations and meanings given to their activity, such as their professional identity, incentives, interrelations and mutual expectations with other care providers or clients. This could be done by using qualitative methods to assess the complexity of the phenomenon. The use of such methods could also combat the current disease-focus and the lack of analytical framework, as previously mentioned.

Many studies present training as a solution to improve medicine retailers’ performance. However, some initial evidence reveals that knowledge is not the only influence on practice.
Previous reviews highlighted that a more holistic and context-based approach tends to provide better outcomes than training alone. This includes local mechanisms of enhanced accountability, demand-side actions, and interventions targeting market-based, regulatory, and institutional aspects.\textsuperscript{8,11,13,14,82} Most studies focus on the supply side, and the nexus between supply and demand is somehow forgotten. When investigated, this nexus is mostly appreciated through simulated client surveys, which have the advantage of reducing observer bias but also give rise to questions about the ethicality of the methodology.\textsuperscript{83} In this review, few studies focused on client perspectives and other aspects related to demand. This reflects an interest in practical dimensions to the detriment of explanatory factors. Going beyond a supply-side analysis would help us understand the influence of the demand on medicine retailers’ behaviours and sales practices. This aspect has been highlighted by several authors as insufficiently investigated.\textsuperscript{8,11,13} A more dynamic, relational, and interactive approach could help us better understand the sector. Exploring relationships maintained among medicine retailers themselves and with diverse stakeholders would help to understand their impact on the quality of case management.

Using qualitative methods, such as participatory observation, would allow immersion in medicine retailers’ daily routines and contribute to an in-depth understanding of the dynamics surrounding retail medicine sales.\textsuperscript{15} This knowledge would contribute to informing future interventions beyond capacity building.

\textit{Including understudied countries, rural areas, and professional groups}

We emphasized in our results a pronounced geographical concentration in six countries. Previous reviews have also highlighted a similar focus on English-speaking countries.\textsuperscript{8,11,15} Several explanations for this have been proposed, including flaws in the search strategy and/or a lack of interest in medicine retailers in French-speaking countries.\textsuperscript{8} These highly studied
countries are the favourite beneficiaries of several donors. For example, all of them except Ethiopia were among the targeted countries in the operational pilot phase of the Affordable Medicines Facility - malaria launched in 2009, i.e. a funding mechanism developed to improve universal access to artemisinin-based combination therapies (ACTs) and delay resistance against other treatments.\cite{84,85} Such global initiatives tend to generate related research and publications.\cite{17} This element could explain the geographical concentration as well as the high number of publications focusing on malaria and the publishing peaks. In Tanzania, the two phases of the Accredited Drug Dispensing Outlets program probably contributed to those trends as well. Because of this geographical focus, medicine retailers in other parts of SSA are practically unexamined. Some SSA countries are totally absent from this review, including Swaziland, Mauritania, Lesotho, and Mozambique. The understudied countries present opportunities for future research and innovative interventions. The above discussion on the pronounced geographical concentration of included studies could extend to consideration of how it reflects other current movements such as the decolonization of global health.\cite{86} However, we believe this goes beyond the scope of this paper.

This review also highlights a marked interest in urban settings, with 2/3 of the studies including an urban dimension, exclusively or combined with a rural component. The attention paid to cities has been previously highlighted by Smith\cite{7}, among others. This focus on cities is probably due to the number of publications addressing formal medicine retailers, our first professional group. Trained pharmacists and official pharmacies tend to be mostly concentrated in SSA cities.\cite{11,42} Population density and the related existing supply due to a more concentrated demand can also partly explain this urban focus.\cite{8} This indicates opportunities to cover current gaps in terms of national settings, such as rural and peri-urban areas, and in terms of professional groups based on medicine retailers’ formal status.
Conclusion

This review reveals an increasing and strong scientific interest in medicine retailers in SSA. The selected studies were numerous and heterogeneous and covered a broad range of topics. This study has shown several knowledge gaps related to medicine retailers’ practices. In addition to the development of an analytical and systemic framework, medicine retailers’ daily routine, motivations, and relationships with other stakeholders are potential research areas. Giving more attention to demand is also needed to explore mutual expectations and corresponding influences. Qualitative methods could help capture the above dimensions. Filling these gaps will inspire national dialogues, guide future decisions, and stimulate innovative interventions. The suggested research perspectives can also contribute to improved health care provision and strengthened health systems by addressing key challenges at stake in the medicine retail sector.

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.
REFERENCE LIST


