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The current trends and challenges towards good community pharmacy practice and the way forward



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ABSTRACT

Background: The practice of pharmacy continues to evolve. Comprehensive research to monitor and assess the development of the practice is needed. Good Pharmacy Practices (GPP) have been adopted by many countries to enhance the quality of services. Little information is available concerning how pharmacy practices are being implemented in developing countries. Lebanon being a developing country is a good example where community pharmacy practice doesn't follow clear guidelines and no evidence of good clinical practice.

Objectives: This study aims to highlight GPP implementation, to identify obstacles impeding implementation, and to suggest how its application could be facilitated in Lebanon.

Methods: The review included studies published in English during the last five years covering aspects of pharmacy practice in relation to GPP standards. The search excluded research related to hospital pharmacy practice and primary health care centers since they have their own quality standards.

Results: The research identified 20 recent studies that covered aspects of community pharmacy practice in Lebanon in relation to GPP standards. Eight of the studies related to research and professional development, 5 related to the provision of medicines, 4 related to interaction and communication, 1 related to trainees, 1 related to pharmacotherapy monitoring, and 1 related to documentation systems. An additional 6 studies provided insight into factors that affect the pharmacy practice in general. It is apparent that the pharmacy practice would benefit if pharmacists were better supported with financial incentives and a readjustment of their working conditions as this would have a positive impact on their productivity, job satisfaction, and overall well-being. The review indicated that the standard of research and professional development was the most studied topic and it was recommended that pharmacists develop their research capabilities. It was observed that there is a tendency towards implementing Continuous Education for pharmacists and obstacles primarily included work and family commitments, lack of interest, lack of time, difficulties in commuting, and lack of competence in the use of technology. This standard is aligned with the FIP's developmental goal of continuing professional development strategies. The search also identified only one pilot study to assess GPP compliance among community pharmacies in Lebanon. This pilot study was limited and showed low adherence of community pharmacies in Lebanon to GPP standards. Barriers to implementation are lack of enforcing laws, inadequate dissemination of the standards among the community pharmacists, poor public perception, and the financial and socioeconomically crisis facing Lebanon.

Conclusion: Collaborated efforts are needed to implement GPP standards in Lebanon. It is recommended to undergo training and awareness sessions to community pharmacists thus enhancing their commitment and motivation. It is also recommended to establish key performance indicators to monitor the implementation. Indicators should include structure indicators for regulating the storage of medications, process indicators for regulating the dispensing, and outcome indicators for reporting patient safety incidents, measuring public satisfaction and the provision and use of medicines. These recommendations can be used by Health authorities and Pharmacy educational institutions in Lebanon and in all similar low-income countries.

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1. Introduction

Good Pharmacy Practice (GPP) is an international standard for pharmacy services and was set forth by the World Health Organization (WHO) and the International Pharmaceutical Federation (FIP) in 1992. The GPP components were further enhanced and approved by the WHO in 1996.¹ Traditionally, the practice of pharmacy was perceived as linking chemistry with the healthcare sciences. As such, the pharmacist was entrusted with ensuring the safe use of medications.² By the mid-1900's, and with the large-scale commercial production of medicinal products, the role of the pharmacist was limited to compounding, dispensing and labeling prefabricated drugs and was perceived as a seller in a commercial enterprise.³ Nowadays, however, the pharmacist is regarded as a healthcare professional delivering a patient-oriented practice. The evolution of pharmacy practice eventually necessitated structures to regulate and ensure that pharmacists are equipped to operate as healthcare professionals. These structures were consolidated to form what is known as Good Pharmacy Practice.

In 2006, the FIP collaborated with the WHO to launch a handbook named "Developing pharmacy practice – a focus on patient care" that was made to meet the changing needs of pharmacists and to introduce a new concept for the pharmacy practice.⁴ Jointly, the WHO and FIP defined the Good Pharmacy Practice (GPP) as "the practice of pharmacy that responds to the needs of the people who use the pharmacists' services to provide optimal, evidence-based care".⁵ Consequently, in 2020, the FIP released the FIP Development Goals that would prove to be crucial for the transformation of the profession. A summary of these developmental goals is outlined below - Table 1. The FIP Developmental Goals sought to transform the pharmacy profession at a global level by introducing frameworks for pharmacy principles such as quality assurance, leadership development, collaboration, equity and equality, impact and outcomes, pharmacy intelligence, policy development, and people-centered care. In keeping with quality improvement principles, the FIP Developmental Goals ultimately aimed towards "providing organizations, the profession, and end users with tangible, achievable, and purposeful scope of work set against clear priorities". This means that FIP supports each organization with their needs and priorities, rather than enforcing a program upon them.⁶

It is known that in the Arab world the practice of pharmacy has been slower to develop than in other areas and that the majority of pharmacists are practicing in the community setting. It is relatively common that the law in numerous countries in the Arab world does not require pharmacists to keep patient records or rely on computerized databases. Pharmacists are also permitted to dispense prescription drugs in pharmacies without a prescription. Such information suggests that the practice of pharmacy, especially as it relates to the community setting, is loosely monitored and regulated by governing bodies. Such an approach towards the community pharmacy practice consequently results in a compromised relationship between patients and pharmacists.⁷

In Lebanon, a study conducted in 2017 revealed that the general public did not have a proper or clear understanding of the role of the pharmacist in the healthcare system and often did not trust that the pharmacist was a source of reliable medical information.⁸ Though the Order of Pharmacists of Lebanon (OPL), the only professional association, adopted GPP standards in 2018 based on recommendations from the WHO and FIP,¹ it is unclear if these standards are being properly implemented. From a quality control standpoint, the absence of documentation regarding the implementation of GPP prompted the need for further research. This study aims to evaluate whether GPP is being implemented, to identify challenges impeding implementation, and to suggest how its application can be facilitated in Lebanon.

2. Methodology

2.1. Review process and search strategy

A research initiative was launched to evaluate studies that have tackled or assessed the implementation of good pharmacy practice in Lebanon. The review included several stages (Fig. 1). A summary of the conclusion and the recommendations of the studies were extracted and analyzed to answer the research questions and to generate an overall conclusion. The following terms were used for Pubmed search: "Lebanon, Good Pharmacy Practices, Order of Pharmacists, pharmacy profession, job satisfaction, professional practice, pharmacies, community pharmacists, workplace, surveys and/or questionnaires, continuing education, motivation, community pharmacy standards, and/ or public health".

Table 1
FIP development goals and description.

FIP Development Goals	Description
1 Academic capacity	Building on academic capacity through in-practice training with performance indicators as well as focused pharmaceutical sciences education.
2 Early career training strategy	Along with foundational training, a strategy for training pharmaceutical practitioners and scientists in drug development and safe medicines use is to be implemented.
3 Quality assurance	In order to ensure transparent and innovative processes, quality improvement strategies and quality assurance of medical products through scientific excellence have to be implemented.
4 Advanced and specialist development	Alongside training infrastructures, sector-specific frameworks that include frameworks for pharmaceutical sciences have to be implemented.
5 Competency development	Service-led competencies have to be implemented with a focus on competency-based education and training at all stages of pharmaceutical careers.
6 Leadership development	Professional accountability and leadership in healthcare have to be fostered and leadership in pharmaceutical science education, services, and research has to be promoted.
7 Advancing integrated services	Provision of professional services and healthcare in a people-centered holistic have to be ensured and integrated manner thus advancing evidence-based health benefits.
8 Working with others	Working collaboratively across multi-disciplinary teams so as to foster cooperation and innovation between the different pharmaceutical sectors.
9 Continuing professional development strategies	Building on existing strategies, developing in-practice and needs-based continuing professional development (CPD), and demonstrating clear pathways for CPD of pharmaceutical scientists.
10 Equity and equality	Ensuring clear equity and equality in training and career development in the pharmaceutical sciences as well as in the pharmaceutical care delivery and service practices. Building on equity inequality in the workforce is also recommended.
11 Impact and outcomes	Monitoring the impact of pharmaceutical services on public health and healthcare systems, the impact of pharmaceutical sciences on health improvement, as well as the impact of the workforce.
12 Pharmacy intelligence	Building on workforce intelligence through collating, sharing, and utilizing professional services and pharmaceutical science intelligence to accelerate decision making.
13 Policy development	Building upon workforce policy development and formation to incorporate pharmaceutical science policy and practice in order to implement clear and manageable strategies.
14 Medicines expertise	Developing the workforce to deliver quality expertise and scientific, evidence-based information on medicines in practice.
15 People-centered care	Supporting education and training on the prevention and therapeutic optimization of chronic conditions whilst also developing innovative treatments for them.
16 Communicable diseases	Overseeing prevention surveillance, scientific strategy management, and therapeutic optimization of communicable and vector-borne diseases.
17 Antimicrobial stewardship	Setting up infrastructures and frameworks that are supported by scientific research in antimicrobial resistance to deliver antimicrobial stewardship.
18 Access to medicines, devices, and services	Optimizing access to effective and innovative medicines, medical devices, and pharmaceutical care services through frameworks, education, and training.
19 Patient safety	Creating workforce and education strategies linked to the safe use of medicines in practice as a means of ensuring the development and safe use of quality pharmaceutical products.
20 Digital health	Facilitating the development of digital pharmaceutical care and technologies through training and education in the use of digital technology and information.
21 Sustainability and pharmacy	Enabling the delivery of sustainable pharmacy services and practices through the implementation of scientific strategies to promote sustainability in pharmaceuticals.

2.2. Inclusion and exclusion criteria

Studies were included if they addressed standards of Good Pharmacy practice in community setting in Lebanon. Since English is the dominant second language after Arabic in Lebanon,⁹ only studies published in English were included in the review to prevent translation errors from impacting the study. The cutoff point for findings available on electronic databases was set to 5 years prior to conducting the review as the concept of good pharmacy practice is relatively new in Lebanon. For example, a relevant article published in 2015 that relates to the GPP standard for provision of medicines was omitted from the review. The article found that it is common practice for pharmacists in Beirut and its suburbs, especially in lower socioeconomic areas, to administer antibiotics without prescription.¹⁰

Hospital pharmacies and primary health care centers have their own quality standards and it is for this reason that research related to these institutions was omitted from the review.

3. Results

The results will be presented in sections with each section focusing on a particular issue identified within the study. The first section will deal with the governance perspective towards GPP standards. Sections that follow will present information from relevant studies focusing on GPP standards for research and professional development, provision of medicines, interaction and communication, trainees, pharmacotherapy monitoring,

documentation systems as well as factors that affect the general practice of pharmacy in Lebanon.

3.1. OPL initiatives for local Lebanese GPP standards

In 2016, the OPL published its mission, vision, and goals for protecting the rights of pharmacists by implementing standards and policies, raising the level of the profession through continuing education, and ensuring that patients had sufficient access to medications and counsel to ensure safe drug use.¹¹ Since 2016, the OPL, along with all stakeholders such as the Ministry of Public Health, the Ministry of Education and Higher Education, universities, and other professional organizations, have been working on proposals from a governance perspective to find effective responses to challenges pharmacists are facing and to obstacles that hinder the development of the profession.¹² Based on the challenges found, and driven by the guidance of the WHO and the FIP, the OPL has proposed several initiatives as part of a planned strategy to improve the profession of pharmacy and promote patient safety.¹⁴ In 2018, the OPL undertook an initiative to develop their own GPP guidelines that covered 15 aspects of pharmacy care -Table 2.

In 2019, however, the OPL conducted a pilot study to assess GPP compliance among community pharmacies in Lebanon.¹⁵ Irrespective of the limitation of the study which assessed 250 community pharmacists, the study revealed that <20% of pharmacists met the requirements of the 4 specific indicators for GPP compliance. Indicator A related to data

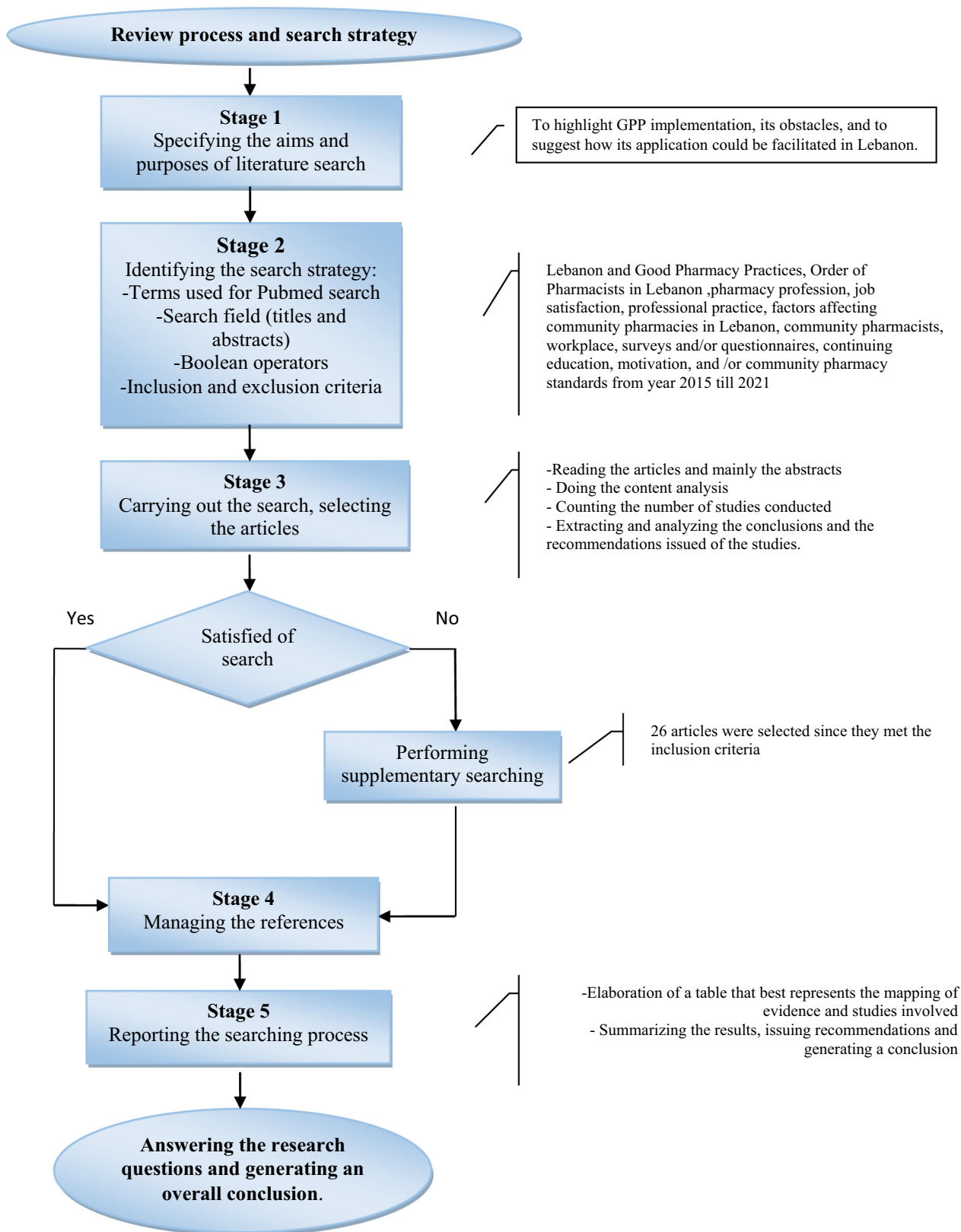


Fig. 1. Flowchart outlining different stages of the review process.

management and data recording, Indicator B related to services and health promotion, Indicator C related to dispensation, preparation, and administration of medicines, and Indicator D related to storage and facilities. The results indicated that 18. 8% of community pharmacists were generally

compliant with GPP guidelines, 23.3% were compliant with Indicator A, 21.6% were compliant with Indicator B, 14.8% were compliant with Indicator C, and 13. 2% were compliant with Indicator D. In a geographical survey, it was found that the community pharmacists practicing in the Beirut

Table 2
Summary Headlines of the GPP standards developed by the OPL in 2018 for Community Pharmacists.

Standard type*	Detailed description
Settings of a pharmacy	Appearance and cleanliness, accessibility, window dressing, dispensing, and counseling areas and staffing
Handling of stock	Purchasing, storage, and maintenance of quality
Extemporaneous compounding	Operating procedures, documentation, and raw material handling
Provision of medicines	Prescription availability, patient identification, and dispensing
Supply of nonprescription medicines	Advice on selection and use, responding to minor ailments
Interaction and communication	Communication skills of pharmacist and staff, provision of advice, promotion of good health, and provision of written information
Documentation systems	Patient medication profile, formulary systems, policies and standard operating procedures, documentation of interventions
Equipment	Availability of a refrigerator and other equipment, equipment status, routine maintenance, and validity
Resources	Availability of drug information systems and resources
Health promotion	Engagement in health promotion, participation in health promotion campaigns
Diagnostics	Provision of diagnostic tests, documentation of tests done
Pharmacotherapy monitoring	Development of pharmaceutical care plans, patient monitoring, identification of medication-related problems, interaction with prescribers, and other healthcare professionals
Research and professional development	Participation in research projects, participation in continuing education
Trainees	Acceptance of trainees, monitoring and documentation, activity description
Para-pharmaceuticals	Availability of medical devices and complementary medicines, display, information

*Reference¹¹.

area were more compliant with GPP standards as compared to other areas of the country. The study recommended working on optimizing assessment tools for GPP compliance.¹⁵

3.2. Findings of relevant studies as they pertain to GPP standards

The research identified 20 recent studies that covered aspects of community pharmacy practice in Lebanon in relation to GPP standards - Table 3. Eight of the studies related to research and professional development, 5 related to the provision of medicines, 4 related to interaction and communication, 1 related to trainees, 1 related to pharmacotherapy monitoring, and 1 related to documentation systems. An additional 6 studies were considered as they provided insight into factors that affect the pharmacy practice in general.

3.2.1. GPP standard for research and professional development

Of the eight studies relevant to the standard for research and professional development, one study found that it is not expected that all pharmacists be competent at conducting advanced research. Cited in the study, is that the research related skills are not required for most domains within the community pharmacy practice. The pharmacy practice could, however, benefit from increased research competencies among pharmacists as this would contribute to enabling disease surveillance, the surveillance of drug errors and adverse drug reactions (including side effects), validating measurement tools, evaluating associations between potential risk factors and health status, comparing the efficacy of therapeutic methods, evaluating vague therapeutic matters, and contributing towards the validation of therapeutic recommendations. It was found that this is achievable through implementing policies that encourage hiring pharmacists as researchers at the university level as well as in pharmaceutical institutions and research centers.¹⁶

Table 3
Main studies conducted in Lebanon in relation to GPP standard type.

GPP standard type	Number of studies	Reference
Research and professional development	8	Hallit et al., 2019 ¹⁶ ; Sacre et al., 2019 ¹⁷ ; Tawil et al., 2020 ¹⁸ ; Sacre et al., 2019 ¹⁹ ; Hallit et al., 2019 ³⁷ ; Iskandar et al., 2018 ⁴⁵ ; Hallit et al., 2019 ⁴⁶ ; Hallit et al., 2020 ⁴⁷
Trainees	1	Akel et al., 2020 ²⁵
Factors that could affect general pharmacy practice	6	Sacre et al., 2019 ¹² ; Farah et al., 2020 ²⁶ ; Sacre et al., 2019 ²⁷ ; Rahme et al., 2020 ²⁸ ; Hallit et al., 2019 ²⁹ ; Alameddine et al., 2019 ⁴⁸
Provision of medicines	5	Hobeika et al., 2020 ²¹ ; Hajj et al., 2019 ²² ; Al-Hajje et al., 2015 ⁴⁹ ; El Bizri and Dimassi, 2019 ⁵⁰ ; Choueiry et al., 2017 ⁵²
Pharmacotherapy monitoring	1	Domati et al., 2018 ²⁰
Interaction and communication	4	Iskandar et al., 2017 ⁸ ; Ramia et al., 2017 ²³ ; Tawil et al., 2020 ²⁴ ; Medawar et al., 2020 ⁵¹
Documentation system	1	Akel et al., 2019 ¹³
Total	26	

Another study conducted in 2017 showed that approximately 91% of 628 participants had obtained at least one continuing education (CE) credit. Of this 91%, 5.4% had enrolled in online courses, while 15.4% had completed live courses, and the remaining 79.2% had completed both online and live courses.¹⁷ It was found that enrollment in CE courses is mainly driven by personal motivation and because of a perceived value that the CE offered. A study conducted between February and May 2018 indicated that pharmacists with advanced computer literacy were more inclined to use the OPL's e-library, own a tablet, be online for 4 h daily, access a learning management system, hold a PhD or a Pharm D, and work in a hospital. Consequently, it was found that increased computer competency could in turn be used to help CE providers prepare learning materials for pharmacists that could enhance their practice and develop their computer skills.¹⁸ In fact, the OPL had introduced Law 190 in November 2011 that made CE obligatory for pharmacists.¹⁹ However, pharmacists did report encountering obstacles to participation in CE. Obstacles primarily included work and family commitments, lack of interest, lack of time, difficulties in commuting, and lack of competence in the use of technology.¹⁹

3.2.2. GPP standard for provision of medicines

The literature on pharmacy practice in Lebanon, especially on community pharmacy practice, reveals that this sector is governed by the haphazard practice of dispensing medications without prescription and/or without appropriate indication(s) of use.²⁰ Another study titled "Are antibiotics substandard in Lebanon? Quantification of active pharmaceutical ingredients between brand and generics of selected antibiotics" that studied the quality of some of the antimicrobial constituents of local and brand medications in Lebanon. It was found that there was a discrepancy between the dosages mentioned on the labels and the actual dosages of the tablets.²¹ In some cases, the dosage of the tablet is lower than that which was mentioned on the label, and this is thought to cause a resistance to antimicrobial compounds because the dosage is not sufficient to eliminate all the bacteria within the patient.²¹ The findings of the study raise concerns of safety and efficacy in the provision of antibiotics.²¹

Another study titled "Assessment of knowledge, attitude and practice among community pharmacists towards dental care: A national cross-sectional survey" reveals there is, in fact, a discrepancy between the perceived and actual competency levels of community pharmacists in Lebanon. Out of a total of 497 community pharmacists, 53.3% had a good knowledge of oral health while 73.2% self-reported a good, very good, or excellent perceived knowledge towards common oral conditions and 67.2% regarded that their knowledge was obtained through personal effort.²² It is interesting to note that only 20.5% had attended conferences, seminars or training modules and that almost 18% reported not having received any training at all. The study also found that the main barriers to

having a higher competency level among community pharmacists towards dental care was limited interaction between pharmacists and dentists as well as a lack of training in oral health.²²

3.2.3. GPP standard for interaction and communication

A study was conducted in Lebanon in 2016 and it showed that 53.9% of outpatients do not regularly ask their pharmacists about the interactions of OTC drugs with their medications.²³ Another study conducted in 2017 concluded that interaction and communication between community pharmacists and patients is highly recommended to inform them about the appropriate use of medication.²⁴

3.2.4. GPP standard for documentation

Concerning the standard for documentation, the scientific committee at the OPL designed a tool for reporting adverse drug reactions and launched the program in collaboration with the MOPH. It was revealed that community pharmacists showed a positive attitude towards reporting adverse drug reactions.¹³ However, no current data about this program was found in the literature.

3.2.5. GPP standard for pharmacotherapy

A study was conducted in 2016 to assess the knowledge and readiness of community pharmacists concerning medication therapy management. The study concluded positive attitudes and knowledge despite the presence of obstacles.²⁰

3.2.6. GPP standard for trainees

A learning model was adopted in a school of pharmacy in Lebanon and was described in a study. The study showed that there is a general limitation of experiential education in Lebanon is that the concept of an onsite preceptor is still new, and the pharmacy practitioners still need to further develop their precepting skills.²⁵

3.3. Factors affecting general pharmacy practice

The literature provided valuable information regarding factors that affect mundane aspects of the community pharmacy practice. As per the findings of the research, the main aspects of pharmacy practice affected are productivity, job satisfaction, and public attitudes and perceptions towards community pharmacists.

3.3.1. Productivity

Though the productivity of community pharmacists remains poorly studied, one study revealed that the prevalence of sickness is having a major effect on the productivity of community pharmacists. It is estimated that 91% of 435 pharmacists that took part in the study reported sickness presenteeism, while 45% reported sickness absenteeism. Productivity and performance were also compromised due to a prevalence of depression and cases of insomnia.²⁶ Another study found that 54.78% of pharmacists reported experiencing physical work fatigue, 55.01% reported experiencing mental work fatigue, and 50.12% reported experiencing emotional work fatigue. According to the study, fatigue among community pharmacists correlated to education level, years of experience, working hours, stress, depression, and soft skills.^{27,28}

3.3.2. Job satisfaction

A study was carried out among community pharmacists in Lebanon that aimed to evaluate their current job satisfaction by collecting 1465 questionnaires from pharmacy owners from all over the country.²⁹ The results revealed that monthly revenue and benefit, as well as the total number of loyal customers, have declined dramatically in the last decade. In the last 10 years, the rent, total wages of assistant pharmacists and workers, income taxes, municipality fees, total bills (electricity, water, cleaning, and security) and the disposal of expired goods each year have risen significantly. 95% of pharmacy owners said they could not afford to employ more pharmacists, while 45% said they could not afford to purchase

pharmacy software. 89% of pharmacy owners admitted that, compared to today, the overall condition of their practice was better off 10 years ago.

3.3.3. Public attitudes & perceptions

Despite the presence of highly skilled pharmacists in Lebanon, public attitudes and perceptions regarding community pharmacists are relatively negative.⁸ A study conducted between January and April 2016 found that the aspects of pharmacy services most relevant to patients included respect, patience, interacting with a welcoming team, having their needs met quickly, as well as a respect for patient confidentiality. At the same time, another study indicated that 38.7% of patients do not discuss prescribed medications with their physicians, 61.2% do not read the leaflet containing valuable information relating to the medication, and 53.9% of patients do not ask the pharmacist about possible interactions of OTC medications with prescribed medications.²³

4. Discussion

This research provided an overview of the most current studies reflecting the implementation of GPP standards in Lebanon. To our knowledge, no similar reviews have been previously published. The review indicated that the standard of research and professional development was the most studied topic and it was recommended that pharmacists develop their research capabilities. It was observed that there is a tendency towards implementing CE for pharmacists and that this standard has been a strategic goal for the OPL. This standard is aligned with the FIP's developmental goal of continuing professional development strategies and can be considered a tool for maintaining high qualified pharmacists and promoting the growth and development of services within the community pharmacy setting. Minor studies related to the provision of medicines and pharmacotherapy monitoring were found. It was noted that other prominent areas of research addressed interaction and communication as well as patient perceptions. In addition to these areas of study, the review provided us insights into factors that could affect pharmacy practices. It is apparent that the pharmacy practice would benefit if pharmacists were better supported with financial incentives and a readjustment of their working conditions as this would have a positive impact on their productivity, qualifications, and overall well-being. The assessment of pharmacy practices in Lebanon as they pertain to medication, education, and patient perception were discussed in several studies.^{18,23,30} A considerable amount of research has been conducted to address the needs and challenges of pharmacists and this research has been essential to identifying how the practice of pharmacy could be improved. The assessment of GPP standards in Lebanon was examined in only one pilot study.¹⁵ Lack of research into the implementation of GPP standards suggests that it is possible that GPP standards are not being upheld. Such a conclusion is supported by an analysis of literature which reports that pharmacists are dispensing prescription medication without a prescription and that the productivity of pharmacists has been compromised due to a prevalence of fatigue and illness. Reports of a generalized distrust towards the competency of pharmacists by patients and the general public also support this claim. While it could be that substandard practice conducted by pharmacists is contributing to a negative public attitude towards them, it is also possible that patients are not engaging pharmacists in the healthcare process thereby compromising the pharmacist's ability to aid the patient. As such, it would be advisable that both pharmacists and patients act with more involvement and concern in order to improve the quality of healthcare.

4.1. Challenges affecting the implementation of GPP

According to internationally conducted studies, factors that contribute towards successful implementation of GPP can be summarized into the following seven points³¹⁻³⁶: shared leadership, systematic approach, good communication, flexibility for community pharmacists, adequate resources, commitment, and evaluation.

Consequently, successful implementation of GPP in Lebanon is achievable but will require a dedicated and unified effort. With regards to the seven factors contributing to successful implementation of GPP, it is observable that there is no clear effort towards implementation. For example, the OPL has drafted GPP standards that are contextualized to suit Lebanon and have raised them to the MOPH (see point 1,4,5, & 7). The literature, on the other hand, suggests that GPP is not being implemented in Lebanon, indicating that they have not yet been adopted by the MOPH. Also, a strategy for the training of those involved in upholding GPP standards is not available (see point 2). The research also revealed that the pharmacy sector is not actively engaged in upholding GPP as there are no documents in the literature to indicate that good communication regarding GPP is being maintained (point 3 & 6). It is also important to note that the Lebanese population has reported the lowest public satisfaction score across Middle Eastern Arab Countries towards the governmental response on covid-19 pandemic that was positively associated with the political crisis and the existing corruption.³⁷ These challenges and in addition to the economic and financial crisis can also be considered as one of the major barriers that may inhibit the forward adoption of GPP standards within the Lebanese context

Barriers towards good pharmacy practice in Lebanon correlate with other barriers of other studies that hinder the implementation and assessment of GPP.³⁸ At the national level the major barriers were lack of will to follow-up on the implementation of GPP. The major barriers identified at the pharmacist level were mind-set as well as resistance to change.^{38,39} Lack of time, lack of understanding, lack of training, and resource constraints were also indentated as main barriers at the pharmacist level.^{39,40} Whereas time constraints, excessive bureaucratic and administrative workload, workforce shortage, lack of support from employers and other colleagues were identified as structural barriers.⁴⁰ Finally, poor communication with other pharmacists and healthcare professionals, and lack of support from professional associations were identified as the two major environmental barriers.^{38,40}

4.2. GPP implementation strategies and the way forward

The results of this study were similar to results of other studies and serve as a starting point towards motivating government bodies to facilitate the process of improving and establishing a national performance measurement system for good practices.⁴¹ The Lebanese health authorities are encouraged to manage the situation wisely and adopt the current recommendations. One actionable step would be to set high priority key performance indicators that would be monitored and regulated by the OPL and the MOPH as a major part of the GPP implementation plan. It is suggested

that the indicators include structure indicators for regulating the storage of medications, process indicators for regulating the dispensing of medications, and outcome indicators for reporting incidents related to patient safety and medication use. Examples of a structure indicator could be to ensure the presence of a calibrated data logger in the community pharmacy. Process indicators could include monitoring the frequency and type of prescription errors. And an example of an outcome indicator could include measuring public satisfaction of community pharmacy services. These recommendations are similar to those presented in an international scoping review study that was published in 2019.⁴²

The OPL is encouraged to help pharmacists introduce a data collection plan with appropriate tools, inform pharmacists regarding the formula used for each indicator, and to notify them of the inclusion and exclusion criteria. This practice is already being implemented internationally with some degree of success. In Romania, for example, pharmacy performance indicators for the recognition of good pharmacy practices are determined by the Order of the Minister of Health. In order to promote the implementation of the principles of good pharmacy practice, the Romanian College of Pharmacists has developed monitoring methods of standardized pharmacy operating procedures and even some pharmacist assessment procedures which track the performance of community pharmacy practitioners.⁴³

A continuous monitoring system for the implementation of GPP standards in Lebanon could be formulated as part of an academic initiative by university pharmacy students whereby senior students could collaborate with pharmacists to generate academic reports regarding the implementation of GPP standards. These reports will, in turn, be submitted to the OPL for assessment after being reviewed by the relevant faculty at academic institutions. The feasibility of this procedure should be tested in future research projects.

Finally, in order to properly implement GPP, a clear framework must be first established to describe the implementation and monitoring processes. This framework should be recognized at the national, municipal/governorate, and at the organizational levels^{11,35,44} Fig. 2.

5. Conclusion

Though Lebanon could benefit greatly from implementing GPP standards, there is substantial evidence to indicate that although GPP standards have been developed, they are not being maintained. The main barriers of implementation are likely influenced by the absence of enforcing laws and the socio-economic crisis facing Lebanon. This would be reflected in the quality of patient care, the well-being of practicing community pharmacists, and public perception towards pharmacy practice in general. It is recommended that the MOPH and the OPL review their strategic plan,

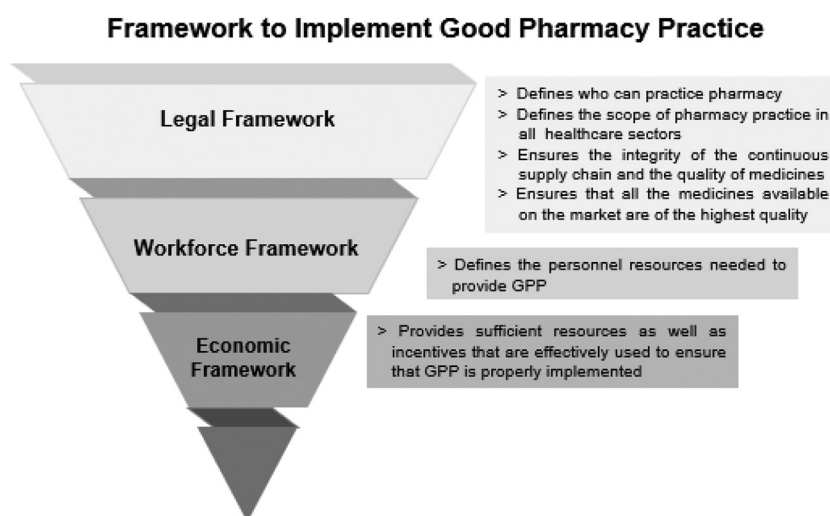


Fig. 2. Framework to implement Good Pharmacy Practice. *References.^{11,35,44}

integrate GPP and FIP developmental goals as strategic objectives, formulate a detailed action plan with a clear timeframe through applying SWOT (strength, weakness, opportunities and threads) and PESTEL analysis techniques (political, economic, social, technological, environmental, legal factors). It is also suggested to conduct regular assessment, to evaluate progress overtime and to identify new trends.

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Declaration of Competing Interest

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None.

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