Al-Quds University

Deanship of Graduate Studies

Pharmacist perception of pharmaceutical care practice in West Bank: A cross sectional study.

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M.Sc. Thesis.

Jerusalem, Palestine.

1444/2023

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Jerusalem, Palestine.

1444/2023

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Pharmaceutical Sciences Program

Thesis approval

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Master thesis Submitted and Accepted, Date: 20/5/2023

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Jerusalem, Palestine

1444/2022

Dedication:

I dedicate my master thesis to to my family and many friends. A special feeling of gratitude to my loving parents, whose words of encouragement and push for tenacity ring in my ears. My Wife who have never left my side and give me support all the way long.

Decelaration

I Certify that this thesis is submitted to the degree of Master, is the result of my own research, except where otherwise acknowledged, and that this study (or any part of the same) has not been submitted for a higher degree to any other university or institution.

Singed……..

Ali Mohammad Musaitef Ghazawna.

Date: 25/05/2023

ACKNOWLEDGEMENT

I would first like to thank my thesis advisor Dr. Maher Khdour whose door was always open whenever I ran into a trouble spot or had a question about my research or writing. He consistently allowed this research to be my own work, but steered me in the right the direction whenever he thought I needed it.

Finally, I must express my very profound gratitude to my parents and to my wife for providing me with unfailing support and continuous encouragement throughout my years of studying and through the process of researching and writing this thesis.

This accomplishment would not have been possible without them.

Abstract.

Objective and Background : Pharmaceutical care is an important aspect of modern pharmacy practice, yet little is known about how pharmacists perceive and implement it in their daily work. This cross-sectional study to examine the perspectives of community pharmacists in Palestine regarding the concept of pharmaceutical care, the frequency of its application, and the obstacles to its application.

Methodology: A self-administered survey was conducted among pharmacists working in community pharmacies. The survey assessed describe the community pharmacists' expectation to provide pharmaceutical care practice. A total of 310 pharmacists completed the survey. Pharmaceutical Care Intention scale was used to assess Pharmacuetical care expectation among community pharmacists**.**

Results: The result of our study indicated that the most Drug Related Problems reported by the participant pharmacists were adverse drug reactions (46.0%), followed by dose related problem (44.0%), need for additional drugs for untreated conditions (33.0%), and patients did not receive the drug (26.0%). One third of the pharmacist expect to "Ask patient information about their medications, diseases and medical history" in 40-60 % of the patients. More than half of the respondents (53%) "Discuss the appropriate use, side effects of drugs to prevent potential drug-related problems" in 60-100% of their patients. Comparatively, the pharmacists directly contact the primary physician to solve drug related problems and monitor patients' outcomes in only 0-20% and 20-40% of the patients.In terms of the variable perceived moral obligation , the pharmacist felt very responsible to identify any potential drug related problems and prevent it (mean= 4.0±1.14) and intervene to solve any exist drug related problem (mean= 3.9 ±1.28). To a less extent pharmacist felt responsible to collect patient-specific information (mean= 3.1 ±1.1).

For subjective norm, pharmacists were somewhat more likely to agree that physicians and other healthcare would approve of them providing pharmaceutical care services. However, 30 % still agreed that patients would approve of them providing pharmaceutical care services. Fewer respondents agreed that other pharmacists they knew how to provide pharmaceutical care services to their patients. In terms of attitude, the respondents tended to agree that providing pharmaceutical care services was very likely for the pharmacist to attract more patients to their pharmacy (4.15 ±1.06), it would be a significant benefit to patients' health outcomes (4.40 ±0.84) and it was a valuable opportunity for profession to contribute to the community, even if this increased their workload (3.97 ±1.12). They were less likely to agree that patient's appreciation of the pharmacist's value (3.87± 1.43). The multivariate analysis found only the constructs of attitude (β = 0.399, $P = 0.001$), and perceived behavioral control (β = 0.410, $P = 0.001$) to be significant predictors of pharmacists' intention to provide pharmaceutical care. Education level was the only demographic variable that was found to be significant predictors of pharmacists' intention to provide pharmaceutical care (β = 0.812, $P = 0.032$). None of the other demographic or practice setting variables was significant at $P < 0.05$. The adjusted R2 value was equal to 0.684, which means that 68.4% of the variation in intent was explained by the independent variables.

Conclusion: The respondents showed a moderate intention to practice pharmaceutical care. However, some barriers to the implementation of pharmaceutical care were identified, including lack of time, workload, and lack of space. The findings suggest that there is a need for more education and training for pharmacists to enhance their knowledge and skills in providing pharmaceutical care.

List of Abbreviations

MTM Medication Therapy Management

PCNE Pharmaceutical Care Network Europe

APhA American Pharmacists Association

HCPs Healthcare professionals

ACCP American College of Clinical Pharmacy

CPSs Pharmacy services

PC Pharamaceutical care

BPCS Behavioral Pharmaceutical Care Scale

TCM Traditional Chinese Medicine

PCI Pharmaceutical Care Intention

TPB Theory of Planned Behavior framework

SN Subjective Norm

PBC Perceived Behavioral Control

PMO Perceived Moral Obligation

DRPs Drug-related Problems.

Att Attitude

NR Not Responsible

AR A little Responsible

SR Somewhat Responsible

R Responsible

V R Very responsible

ND Not at all difficult

AD A little difficult

SD Somewhat difficult

D Difficult

VD Very difficult

NL Not at all likely

AL A little likely

SL Somewhat likely.

L Likely

VL Very likely

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Chapter One

1.1 Introduction:

Pharmacists are one of the important categories of healthcare experts(1), offering services such including evaluation providing pharmaceutical care, dispensing medical devices and medications, offering support and training, and using compounded, official, and ready-made meds (2, 3). Pharmaceutical care is the activity where a pharmacist works with a patient, the patient's doctor, and, if necessary, people from other medical specialties to oversee the best course of pharmacotherapy to get the outcomes they want and improve their quality of life (4).

Most pharmacists are served in community pharmacies, where they interact with patients on a daily basis and are responsible for their health and well-being(4). Given the amount of prescription errors and their health and economic effects, this appears to be particularly relevant(5). Pharmacist expertise enables for better treatment results and the avoidance of medication-related issues(6, 7).

The pharmacy profession is undergoing a transformation as it shifts its focus from drug delivery to patient care. Pharmaceutical care is a pretty recent field of expertise. Pharmaceutical care has not been widely implemented to far; drug dispensing remains the primary focus, particularly in the private sector. Pharmaceutical care services, on the other hand, are becoming more widely available in government hospitals.

A social need is identified by the pharmaceutical care concept, which includes a patient-centered strategy to addressing that need, the establishment of a caring therapy association, and an explanation of the physician's particular obligations. According to Hepler and Strand, this connection is founded on an agreement including the patient, who agrees to offer the specialist with permission, and the specialist, who assures the patient of competence and commitment (8). Strand went on to say that pharmaceutical care is delivered for the patient's immediate benefit, and that the pharmacist must bear direct responsibility for the care's quality.

Over time, breakthroughs in pharmacological therapies have resulted in an improvement in average life span furthermore to an increase in the overall wellbeing of the patient (9). However, the occurrence of medication mistakes and other drug-related problems has increased in response to these therapeutic pharmacological advancements . As a result, making sure drugs are safe at all stages of the pharmaceutical administration process is an important part of patient treatment.

Globally, pharmaceutical care is the basic expression was used to describe full patient care services. It is the usual name used in Europe(10), the Middle East, and by the World Health Organization . In the US, pharmaceutical care is typically referred to as Medication Therapy Management (MTM). MTM is synonymous with pharmaceutical care, and the principal steps of pharmaceutical care have been incorporated into a process known as the pharmacists patient care process. 1) Collecting the necessary patient information, 2) Assessing the collected information and analyzing the clinical impact of the medications in relation to the patient's health situation, 3) Developing a patient action plan, 4) Implementing this strategy interactively with other caregivers, and 5) Monitoring and

evaluating this plan through follow-up. In addition to MTM services, clinical pharmacy is used in some research to convey the same meaning. counterparts. Other reported major obstacles included documentation, time, and a lack of guidelines.

Although all patients should benefit from these services, it has proven extremely challenging for pharmacists to provide their patients with comprehensive pharmaceutical care. Therefore, pharmaceutical care services are particularly helpful for patients with chronic conditions who consistently use many medications and see multiple doctors (11). These services contribute to evaluating the patient's adherence to treatment regimens and addressing pharmaceutical-related issues such as prescription interactions, overlaps, and potential adverse effects, hence enhancing mortality and morbidity benefits for those patients (11, 12).

Internationally, pharmaceutical care changed community pharmacy intervention, as shown by the research. In the treatment of chronic conditions lke diabetes , coummnity pharmacists perform a crucial clinical role (13). In addition, research proved the safety and efficacy of independent prescribing by pharmacists in assisting patients with hyperlipidemia and hypertension to meet the evidence-based practice guidelines(14).

Different pharmaceutical societies in western nations such as Canada, Australia, and the United States lobbied for pharmacists' greater responsibilities(10). New laws were enacted to support pharmacists in order to offer further health services to their patients, and the term pharmaceutical care became directly regulated by law (10). For instance, pharmacists can currently provide vaccines, prescription evaluations, and disease management consultations ,(15)and they should be compensated by the government for providing these

services(16). However, pharmaceutical care services have not yet reached all pharmacists, and consequently, not all patients may be treated using this method.

Simply providing pharmacists and other healthcare professionals with evidence-based knowledge regarding the successful provision of services to patients does not guarantee the successful implementation of pharmaceutical care services, according to research(17). Internationally, the hurdles to change in pharmacy practice are nearly same. According to studies, the most frequently cited barriers are lack of support, training, and time, which diminishes patients' interest in these services and increases pharmacists' belief that consumers do not value them (14). Even though these hurdles are of the utmost importance, they are only one facet of the problem of insufficient change in the pharmaceutical profession. According to these findings, it is crucial to examine additional elements of the shift in pharmacy practice in order to generate more particular knowledge to improve pharmacists' utilization and integration of pharmaceutical care services.

1.2 Pharmaceutical care models:

For healthcare systems, medication safety is an important issue. A healthcare system with good pharmaceutical programs can guarantee the safety of medications and reduce the incidence of medicine biases. The evolution of the pharmacy sectors resulted in a shift in the pharmacist's role from that of a distributor and supplier of medications to one of setting up a more individual-centered aspect and therefore the ability to perform comprehensive pharmaceutical care. Pharmaceutical care, according to a 2013 re-definition by the Pharmaceutical Care Network Europe (PCNE), is " the participation of the pharmacist to the care of persons to be able to optimize medications utilize to enhance clinical

manifestation "(18). A pharmaceutical care approach enables drug management procedures to be delivered while keeping the patient's needs in mind. As a specialist in the therapeutic use of pharmaceuticals, the pharmacist is responsible for managing the patients' drug-related demands in accordance to guarantee that the pharmacotherapy administered is of high quality, safety, and effectiveness (19).

Pharmaceutical Care is a patient-fouced, manifestations -focused profession that involves the practitionar to collaborate with patient, his care giver and his professionals to improve health, preventing illness, in addition to evaluating, screening, introducing, and optimizing drugs use to maintain safety. and effectiveness of medication treatment strategies. Pharmaceutical Care seeks to improve the patient's well-being and obtain favorable clinical results in a budgetary framework that is reasonable.

Implementing the pharmaceutical care approach is not limited to a particular practice setting. In contrast to clinical pharmacy, pharmaceutical care has made its way into community pharmacies, although its adoption has been slow. In their daily work, community pharmacists have reported a number of obstacles regarding to the implementation of pharmaceutical care Inaccessibility to patient information and medical files, resistance from various medical professionals, incompetence and loss of confidence, and the absence of a repayment method are examples of these obstacles(20).

Following pharmaceutical care came the concepts of "medicines management" and "medicines optimization." These concepts continue to be limited interpretation by pharmacy, other sectors, and the general population(21).

To ensure positive patient outcomes, the American Pharmacists Association (APhA) established five characteristics for pharmaceutical care implementation. These five principles included the collection of patient data, evaluation of medical information, formulation of a pharmacological treatment strategy, implementation of the strategy, and checking and modification of the plan(22).

For the functional of integration of Pharmaceutical Care into the normal procedure of community pharmacists, it is crucial to comprehend their perspectives and values concerning the supplement of mental functions. To accomplish this aim, the pharmacist must, among other things, create and preserve a professional connection with the patients. In this connection, the pharmacist places the patient's well-being above all else, employs all of his or her specialized experience and abilities on behalf of the patient,and preserves a suitable concering approach towards the patient's well-being. The patient approves to provide personal details and choices, as well as take part in the therapeutic plan, in exchange for receiving care(23).

To accelerate the adoption of pharmaceutical care in the community pharmacy setting, it is necessary to establish positive collaborations with primary care doctors, to be compensated for the performance, to be provided with the essential supplies (e.g., a isolated counseling area), to have highly educated employees in an organized way , and to be able to obtain external assistance. Moreover a core part of a pharmacist's job is to individualize drug therapy based on a given patient's age, size, organ function, concomitant treatments, diet, allergies and disease states.

1.3 Pharmacists' Attitudes :

Attitudes are the beliefs, emotions, or values attached to a behavior by pharmacists. In the literature, attitudes have received considerable attention as influential factors on pharmacists' behavior regarding pharmaceutical care. Reluctance and a lack of obligation on the part of pharmacists are examples of attitudes that have been recognized as significant obstacles to pharmaceutical care. Its worthmention here to defferentaite between attitudes and beliefs; attitudes are based on cognitive, affective, and behavioral information. Beliefs provide the cognitive basis of an attitude. A belief is the cognitive information that one has about an attitude object. For example, a workplace attitude might be based on beliefs, or cognitions, about one's job

Numerous research findings that examined the association between pharmacists' attitudes toward pharmaceutical care and pharmaceutical care behavior observed that attitudes had a significant impact on pharmaceutical care behavior(24).

1.4 Factors Related to Other Individuals :

Not only do pharmacists' attitudes influence their pharmaceutical care behavior, but so do their normative beliefs, i.e., whether they believe social influencers such as physicians, patients, and pharmacy managers approve or disapprove of their behavior.

PC is prevalent in regions of the world with more advanced health systems(25). Moreover, the condition may be unique in some Arab countries, where pharmacists are still somewhat product-oriented(26).

1.5 The value of Pharmaceutical Care Services:

Pharmaceutical care increases the productivity and performance of service provided by health care system through its influence on the health of individual patients. Enhancement at the micro-level have an impact on the conditions at the macro-level, i.e., when individuals within a community experience better health, the community as a whole benefits.

The services of pharmacists and their participation in individual -fouced concern have been linked to enhanced health and economic outcomes,a decrease in pharmacologic side effects, an improvement in quality of life, and a decrease in death rates(27).

1.6 Clinical Pharmacy Service:

One of the ways to put a pharmaceutical care model into reality in a hospital context is to provide a clinical pharmacy service. A integrative pharmacy procedures goal is to give patients and healthcare professionals (HCPs) with a maintenance of treatment programs plan that leads to healthy drugs usage and, as a result, reduces medication errors that can damage a patient's outcome (28). Clinical pharmacy is "a medical profession specialty in which pharmacy professionals offer patient care that maximizes pharmaceutical treatment improves the health, well-being, and illness control," according to the American College of Clinical Pharmacy (ACCP).

1.7 Clinical Pharmacist Features:

According to the ACCP, this sector should be defined by a caring approach combined with extensive pharmaco-therapeutic expertise, which assures successful treatment experience

to patients. Clinical pharmacists also contribute to the production of new ideas to enhance the health and wellbeing of patients.

The ACCP published a document in 2014 that outlined clinical pharmacists' expectations. One of the requirements was to have the requisite requirements, to offer an effective approach of treatment, to correctly monitor any pharmacy-related occurrences, and to collaborate with other HCPs(19).

Clinical pharmacy's main function is to provide pharmaceutical care to patients, which is a different and more sophisticated type of healthcare center organizations of pharmacies.

The recipient is the primary difference between the two concepts; in clinical pharmacy, the physician is the primary prevalent recepient.He obtains all of the information about mddication use from the pharmacist, whereas the patient is the central recipient of the pharmacist's decisions and responses in terms of pharmaceutical care.

Pharmaceutical care and clinical pharmacy are two concepts that support and complement one other. Clinical pharmacy is an important part of the delivery of pharmaceutical treatment and can help to improve the quality of that care due to its specialized character. The rationality and routine of clinical pharmacy can be improved and expanded through pharmaceutical care. As a framework, pharmaceutical care is frequently evaluated. Finally, the platform for clinical pharmacy is based on concept rather than association morality; nevertheless, the foundation for pharmaceutical care is based on relationship morals rather than science.

Since pharmacists in many countries are drug educators, it seems natural that they should begin providing pharmaceutical care. Pharmaceutical care is viewed as a shared

responsibility by all health providers by some European associations, whereas it is viewed as a pharmacist-only responsibility by others. Most theories now definitely state that there is a cooperative commitment among variables incorporate regarding drugs is critical, and they emphasize pharmaceutical care as a primary responsibility of the drug specialist (Pharmacist).

After dispensing, the patient should be evaluated to see if the therapy aim was met and if any negative side effects were seen. If a drug-related concern becomes obvious, the pharmacist (or another expert) should reevaluate the treatment goals and therapeutic plan, respectively.

1.8 Duties of Clinical Pharmacists:

- **As a quality medication provider:**

• The pharmacist should make sure the products they obtain are of fine standards and come from reliable suppliers.

• The pharmacist should guarantee that these items are kept in the best possible condition.

- **As an instructor and director:**

To guarantee current quality management, the pharmacist should be prompted to take part in programs for continuing education like as training.

- **As a collaborator:**

It is essential that pharmacists form strong, community-focused partnerships with groups including the pharmaceutical business, local and federal governments, national professional bodies, health care provider and general public and patients.

- **As a health provider:**

1- Contribute to wellbeing screenings to recognize people with medical conditions and those who are in danger in the group.

2-Get involved in health advancement battles to elevate consciousness about health challenges and illness treatment options.

3- Give guidance to people in order to aid them in making informed health decisions.

1.9 Pharmacy practice and pharmaceutical care in Palestine:

Some Palestinian universities introduced clinical pharmacy to their list of medical specialties for both bachelor's and master's degrees, which aided in supplying the medical field with patient-focused as opposed to product-focused health care professionals(29). Some medical institutions, such as educational and government hospitals, began to employ clinical pharmacists, but the introduction of this field into health care settings was done as a separate and isolated profession from other health professions(30). In spite of the fact that the pharmaceutical law in Palestine firmly supports the suitable and authorized distribution of medication regimens to patients, clear legislations are still necessary to define and organize the pharmaceutical care services provided by various healthcare systems(30).

Clinical pharmacy is a recent addition to the Palestinian university curriculum, and the service's incorporation into the Palestinian health sector has been extremely restricted to date.

1.10 Knowledge of Pharmaceutical Care:

Pharmaceutical care practice has been promoted as the core objective of the pharmacy profession, but its execution in many developing nations has been unsatisfactory. Just before to the successful integration of pharmaceutical care within a given health sector, pharmacists must have adequate capabilities, experience, and favorable perceptions to practice pharmaceutical care, and obstacles in a well-defined paradigm for pharmacy practice should be removed(31). African hospital pharmacists help in promoting pharmaceutical care, being cognizant of the governmental, technological, and professional obstacles to its widespread acceptance. These obstacles could be overcome and the shift to pharmaceutical care practice accomplished through collaboration between medical and academic organizations and the incorporation of novel ideas in pharmacy organization and teaching (32).

Pharmaceutical Care is a individual -fouced, manifestation-focused on pharmacy practice that entails the pharmacist working together with the patient and caregivers to promote wellness, reduce the likelihood of sickness, and analyze, check, implement, and change drug use in order to ensure the safety and effectiveness of drug therapy regimens. The objective of Pharmaceutical Care is to maximize the patient's well-being and obtain excellent clinical results within a budgetary framework that is both reasonable and sustainable(31). To reach this objective, the following steps must be taken:

- **Development of a Specialized Correlation:**

The pharmacist and the patient must interact in order to build and sustain a relationship based on care, faith, effective discussions, and teamwork, and shared decision-making. In this connection, the pharmacist places the patient's wellbeing above all else, maintains a proper behavior of concern for the patient's well being , and employs all of his/her professional knowledge and abilities on behalf of the patient. The patient agrees to provide individual details and expectations, as well as participate in the therapeutic plan, in exchange. The pharmacist provides methods to guarantee that the patient always has accessibility to medicinal treatment (33).

- **Collection of Patient-specific Medical Information:**

The patient's general health and level of activity, medical history, pharmaceutical background, social, food , exercise, any current illnesses, and financial situation were all things that pharmacists had to collect and provide. monetary and insurance situation(34). The patient, clinical documentations, the pharmacist's health/physical evaluation, the patient's family or caregiver, the patient's insurance company, and other healthcare professionals like doctors, nurses, midlevel providers, and other pharmacists may all be source of data(35). Since this data will serve as the foundation which is necessary to make decisions about the development and continuous adjustment of the pharmacological therapy strategy, it should be current, accurate, and comprehensive, as well as planned and documented so that it can be easily retrieved and modified as needed and suitable. Patient information must be kept in strict confidence(36).

- **Drug Therapy Plan Formulation.**

On the basis of a comprehensive assessment of the client, his disease progress, and its drug regimen, the pharmacist needs create an outcomes-focused drug therapy regimen with the patient, if applicable, the patient's caregiver and professionals. The plan may include several elements that describe each condition individually or ailments of the patient(35). The pharmacist should carefully evaluate the psychosocial components of the condition and the possible connection between the expense and/or sophistication of medication and patient adherence while formulating the plan. Like patient's champions, the pharmacist ensures that the patient's caregiver practitioners and the patient(37). In addition, the patient must be informed of the numerous advantages and disadvantages (e.g., cost, adverse effects, various assesing elements, etc.) of the pharmacological therapy possibilities, as well as cases in which one option may be more advantageous based on the pharmacist's expert opinion. The patient must be given a thorough and detailed explanation of the plan's important components, including his or her duties. The patient should be supplied with information at a level of comprehension. The patient's pharmacy must record the drug treatment strategy and shared as necessary with the patient's other healthcare professionals(31).

- **Execution of Drug Treatment Strategy:**

The pharmacist administering Pharmaceutical Care is ultimately responsible for ensuring that his/her patient has managed to acquire and is properly utilizing any medications, related products, and/or equipment prescribed under the drug therapy strategy. The

pharmacist must also ensure that the patient has a comprehensive awareness of the ailment and the prescribed therapy/medications.

- **Monitoring and Modification of the Therapeutic Plan:**

The The pharmacist is in favour of enforcing to check of the patient's improvement. in obtaining defined outcomes in accordance with the drug therapy plan's developed approach(38). The pharmacist organizes plan adjustments with the patient and the patient's other healthcare professionals, when needed and acceptable, to keep or improve the safety and/or efficacy of drug therapy and to assist reduce overall healthcare costs. Patient improvement is appropriately recorded in the special document and be communicated as necessary to the patient and other healthcare professionals.(39). As the patient's care environment changes, the pharmacist shares information with other healthcare professionals, so ensuring continuous medical treatment as the patient transitions between community, organizational, and long-term care settings(35).

- **Attitude of Pharmaceutical Care among Pharmaceutical Technologists:**

Nowadays, the pharmacy profession has shifted its focus from providing drugs to providing direct patient care. Pharmacists are being asked to include pharmaceutical care (PC) provision to their list of duties. (40). Hepler and Strand define PC as "the responsible provision of pharmacological therapy with the purpose of increasing a patient's quality of life." PC is a diverse and methodical approach. Working closely with patients and other healthcare professionals is something that pharmacists must do to perform three key elements: identifying drug treatment difficulties, addressing present issues with drug therapy and avoiding potential problems with drug therapy. Multiple studies have shown

that PC deployment enhances patient health manifestations and reduces health care expenses. In order to address the needs of the pharmacy industry, several worldwide expert pharmaceutical associations have adopted PC (37). Nonetheless, a number of obstacles have impeded the utilisation of PC implement, involving time limitation offering PC and loss of self-confidence among pharmacists, poor clinical expertise, and pharmacists' Connection expertise. In addition, the negative opinions of pharmacists against performing PC have acted as obstacles to the provision of PC. To properly apply the profession of PC, it is crucial to train not only the pharmacy specialists of today, but also the pharmacy experts of tomorrow(34). Numerous studies have outlined the significance of teacher pharmacists in fostering the advancement of PC practitionersThey ought to create instructional programs that support the expansion of pharmacists who are prepared to incorporate PCs into their operations. They are in charge of making sure that students fully understand PC principles and procedures. Additionally, they should provide students the confidence to take charge of PC and great clinical knowledge, exceptional communication and problem-solving skills. It is difficult for mentors to encourage their students to administer PC. By Pharmacy instructors will be able to enhance the availability of PC in clinical practice by cultivating favorable attitudes toward PC among students.

- **Practices of Pharmaceutical Care:**

To ensure the safety and effectiveness of drug therapy regimens, the pharmacist must work in conjunction with the patient and the patient's other healthcare providers to enhance health, lower the risk of disease, and review, maintain, introduce, and adjust medication use. Pharmaceutical Care strives to achieve positive clinical outcomes within a sustainable financial framework while maximizing the patient's health-related quality of life. Building

and maintaining a relationship based on trust, caring, open communication, cooperation, and shared decision-making requires the pharmacist and the patient to work together. In this regard, the pharmacist prioritizes the patient's health over all other considerations, displays appropriate concern for the patient's welfare, and makes use of all of his or her professional expertise on the patient's behalf. In exchange for care, the patient consents to divulge personal data, including preferences, and to take part in the therapeutic plan. (41). In order to ensure that the patient always has access to pharmacy services, the pharmacist develops strategies. The general health and activity level of the patient, their past medical history, medications, social habits, diet and exercise experiences, present of any illnesses, and their financial condition are all things that pharmacists must collect and/or create. monetary and insurance situation(34). Information may include the patient, medical documents and records, the pharmacist perform physical examinations, the patient's caregiver, the patient's insurer, physicians, midwifery, midlevel practitioners, and other pharmacists(39). Given that this data will represent as the basis for decision - making encouraging the implementation and general sustitutions of the drug treatment strategy, it must be updated, precise, and exhaustive, as well as arranged and documented so that it can be easily accessed and subsequently revised and as suitable. Information about patients must be kept totally secret. The pharmacist is responsible for assessing the patient's success in implementing predetermined objectives in accordance with the planned strategy of the medication therapy plan. To sustain and improve the safety and/or efficacy of pharmacological therapy, the pharmacist organizes reasonable and proper plan modifications with the patient and the patient's other healthcare professionals(36).

In 1985, the historic "Conference of Experts on Rational Use of Medicines" was held in Nairobi, highlighting the significance of rational prescribing, appropriate dispensing, and use of medicines on the globalized market. It was decided that "inappropriate use" encompasses abuse of antibiotics, needless injections, and excessive polypharmacy. Such methods have been demonstrated to result in substantial waste of scarce health resources, poor patient outcomes, and increased adverse effects.

- **Practice Principles:**

For collaborate and initiate the patient's pharmacy document, the pharmacist performs an initial conversation with the patient. In certain circumstances (such as pediatrics, geriatrics, critical care, and communication problems), it may not be possible to establish a good communication with the patient and immediately gather information from them. Under these conditions, the pharmacist must collaborate immediately with the patient's family and professional caregiver(34).

The communication is planned and respectful of the patient's demand for privacy and confidentiality. A sufficient amount of time is provided so that inquiries and replies can be thoroughly explored without feeling as awkward or rushed(41). The conversation is used to present a pharmacy and get subjective information about individual patients document that included data concerning the patient's general health and activity status, past medical history, medication history, social history (including financial environment), and history of present illness. The patient's mental, behavioral, and perceptive states of his or her condition or sickness should also be documented. The pharmacist uses relevant and

essential health/physical evaluation tools (blood pressure monitoring, etc.) to gather patient-specific objective data.

The pharmacist integrates the information gained from the initial patient evalutation and health/physical examination with pertinent secondary sources. Sources may include, but are not restricted to, the patient's medical record or medical reports, family members, and other healthcare providers(42).

The pharmacist prepares a pharmacy document for the patient and writes the obtained data properly. The pharmacist ensures that the patient's document is adequately regulated and up-to-date, and records all pharmacist-patient interactions accurately. The the privacy of the information included in the document is strictly protected, and the necessary security systems are in place. Only with the permission of the person or as legally required is patient-identifiable information provided in the document published(34).

- **Assessment of Information:**

The pharmacist evaluates quantitative and qualitative information gathered from the patient and additional sources, and make conclusions concerning: attempts to enhance and/or guarantee the efficacy, address concerns, and/or economic growth of present or scheduled drug treatment; chances to reduce actual or prospective subsequent medication or health-related difficulties; and the timeframe of any potential pharmacist discussion that may be necessary. The pharmacist documents the evaluation's findings in the official record from pharmacy. As required and appropriate, The pharmacist examines the findings with the patient and guarantees that he or she understands the scope of the problem or illness and what to expect from its therapy.

- **Developing a Plan:**

In collaboration with other healthcare providers, the pharmacist recognises, assessing, and selects the most acceptable action(s) to: enhance and/or ensure the efficiency, safety, and/or cost-effectiveness of existing or prospective medicine; or reduce present or prospective future drug problems (41). The practitioner design plans to attain the required outcome. Establish and/or implement drug treatment tracking systems; propose nutritional status improvements; OTC drugs or non-drug interventions; refer the patient to specialist care; or execute a current medical regimen.

For each recognized problem, the pharmacist examines the patient's preferences, determines the intended and consented result, and includes these aspects into the strategy.. Specific illness condition and pharmacological therapy endpoints and monitoring endpoints may be included in the strategy(42).

The pharmacist discusses the strategy and desired goals with the patient and, if appropriate, other healthcare providers. In the patient's medical and/or pharmacy document, the pharmacist records the plan and desired objectives.

- **Strategy Implementation:**

The necessary actions are taken by the pharmacist and the patient to carry out the plan. These actions could involve, but are not restricted to, trying to contact other healthcare providers to identify prescribed drugs, introducing drug treatment, counseling patients and/or caregiver(s), organising the accomplishment of treatments and/or related supplies, which may include facilitating the patient in overcoming financial or lifestyle obstacles

that would otherwise impede the therapy plan, or organising visits with other healthcare providers to whom the patient is related.

The pharmacist works with the patient to maximize treatment compliance and involvement in the therapy plan, makes sure the patient is aware of and understands the accommodations for drug therapy monitoring (such as laboratory evaluation, blood pressure monitoring, at-home blood glucose testing, etc.), and makes sure the patient receives and is familiar with all required medications and associated equipment. The use of teaching and adherence aids, as well as descriptions that are tailored to the patient's level of comprehension, is done as needed. (43). The pharmacist ensures that adequate systems are in place to guarantee that the patient receives the necessary medications, equipment, and supplies in a timely manner. The actions used to implement the plan are recorded by the pharmacist in the medical and/or pharmacy records, together with the baseline monitoring metrics and any obstacles that need to be removed.

The pharmacist presents the plan's components to the patient and/or another healthcare provider caring for patients (s). The pharmacist shares information with other healthcare professionals as the patient's care environment changes from ambulatory to inpatient to long-term care to help guarantee continuity of treatment. (44).

- **Monitoring and Modifying the Plan:**

The pharmacist evaluates subjective and objective monitoring criteria on a regular basis to determine if the medication therapy plan's intended outcomes are being reached. The patient and pharmacist decide whether to stick with the initial course of action or make

changes. The pharmacist works with the patient, caregiver, and other healthcare professionals to create and manage the updated plan if adjustments are necessary.

The pharmacist analyzes the patient's continuous improvement in reaching anticipated benefits and gives an appropriate report to the patient's other healthcare providers. As improvement is made toward desired results, the pharmacist should offer good encouragement(40).

A method for patient follow-up is developed. The pharmacist utilizes suitable clinical judgement when determining the need to update the patient's record or pharmaceutical document with info regarding patient ’s experience, the patient's evaluation of his or her current outcomes, the physician's assessment of the patient's current status, the consideration of both subjective and objective data, and any additional plan modifications. Note should also be made of communications with other healthcare professionals(43).

1.11 Community pharmacy and pharmaceutical care in Palestine :

According to the MOH's annual report, in 2020 was 1,101 licensed pharmacies in the West Bank. These findings indicate that there is an adequate ratio of pharmacists to population. In contrast to Western countries, Palestine's community pharmacies are privately owned and chain pharmacies are absent(45).

As in the majority of nations, community pharmacies in Palestine contribute significantly to the public health system. Community pharmacies are the most reachable health orginizations due to their extended working hours, lower cost than visiting a physician's office, and lack of need for an appointment to obtain medical advice(29).

To ensure the successful implementation of pharmaceutical care in Palestine, community pharmacists must exert significant effort to raise public and medical sector expectations regarding pharmacists' role in providing care, as well as assess the potential benefits of expanding their participation in the drug use process(29).

Community pharmacies are prevalent in Palestine, particularly in rural areas. The integration of pharmaceutical care services into community pharmacy practice is hampered by the fact that pharmacists are not required by law to retain medication documentation and a portion of them lack computerized documentation systems(46).

When a study addresses the issue of pharmaceutical care in Palestine, it focuses heavily on the obstacles that impede the implementation of pharmaceutical care. The non-organized cooperation between physicians and pharmacists, the inability to access the patient's medical information, the dissatisfaction with salaries level, the absence of continuous education courses and training, and, in some cases, the lack of time and privacy to provide appropriate medical advice and counseling have been identified as the primary factors that have slowed the development of pharmaceutical care practice among community pharmacists(46).

1.12 Significance of the Study:

Pharmaceutical care services have been acknowledged as the most highly regarded model of professional pharmacy practice that permits the identification, intervention, and resolution of drug-related issues. This practice yields significant clinical outcomes and has the potential to reduce direct and indirect health system costs. However, its implementation

can be difficult and complex, necessitating research experiences aimed at overcoming obstacles, particularly in universal and free healthcare systems.

Health authorities are required to utilize pharmaceutical care practice in the nation's healthcare system in order to enhance the use of medicines and the quality of life of patients. Despite their participation in direct patient care, community pharmacists are more engaged in administrative tasks.

Pharmaceutical care is regarded as an essential component of good pharmacy practices, but it has been neglected in the Arab World by pharmacists, stakeholders, and researchers. There are limited studies that examine the practices of community pharmacies in the world, and none in Palestine; therefore, the significance of this study stems from the fact that it is the first of its kind in Palestine.

1.13 Aim and objectives of the study:

1.13.1 Aim of the Study:

This study intends to examine the perspectives of community pharmacists in Palestine regarding the concept of pharmaceutical care, the frequency of its application, and the obstacles to its application.

1.13.2 Objectives:

1-To recognize the essential element which characterizes the practice of pharmacy in Palestine.

2- To investigate pharmacists' perspectives in Palestine on how the expectations of others influence their pharmacy practice and pharmaceutical care.

3- To investigate how pharmacists in Palestine believe they preserve or expand pharmaceutical care.

4-Compare the perceptions of pharmacists in Palestine regarding their pharmaceutical care and pharmacy practice in terms of the clinical setting in which they perform.

Chapter Two

2. Literature Review:

A limited number of international and regional studies investigating community pharmacists' attitudes toward the concept of pharmaceutical care have been conducted:

- In China, a cross-sectional descriptive study was given to a quota sample of registered pharmacists at neighborhood pharmacies. The outcome of the research indicate that the pharmacists assessed had a specific level of understanding of the concept, goal, role, and implementation of pharmaceutical care, and involved in particular activities. Before universal pharmaceutical care can be realized in China, a number of hurdles must be overcome. Participation in effective continuing education programs could help overcome these obstacles, the availability of additional resources, and ability to collaborate with other health professionals(47).

- a survey given to a randomly selected group of community pharmacists in Jordan for the purpose of research. The questionnaire consisted of six various parts, including patient demographics, pharmacists' comprehension of pharmaceutical care, occurrence of practice of pharmaceutical care, pharmacists' affective responses toward pharmaceutical care, pharmacists' expectations supply particular pharmaceutical care activities, and barriers to supplying pharmaceutical care. This study demonstrates that pharmaceutical care supply in Jordan is limited at current; yet, the answering pharmacists have a comprehensive understanding of pharmaceutical care(48).

- A multicenter, face-to-face questionnaire study involving community pharmacists in Poland. This study suggests that PC integration in Poland is anticipated. Educational programs in this area are required immediately. PC availability should be included in academic pharmaceutical programs' curricula(49).

- In order to improve clinical pharmacy services (CPSs) in Indonesian hospitals, a questionnaire was given to pharmacists in Indonesia for a two-month period in 2012. The purpose of the questionnaire was to learn how pharmacists in Indonesia perceived their roles, the challenges associated with implementing CPSs, and the value of CPE. This study demonstrates that in order to improve health care in Indonesian hospitals, pharmacists' understanding of CP and CPSs still needs to be improved through CPE.(50).

- A prospective multi-center study involving three Nigerian hospitals was conducted. This research shows that the interns have a low level of knowledge, while the older participants need to engage in continuing education; however, the participants showed a high level of positive knowledge in the studied area(51).

- A questionnaire-based cross-sectional assessment of community pharmacies using a customized form of the Behavioral Pharmaceutical Care Scale (BPCS) was undertaken in late 2012/early 2013 in 16 European nations and matched to a prior assessment from 2006. This research found a small rise in European community pharmacists' self-reported administration of pharmaceutical care, as evaluated by

the BPCS. The slow advancement promotes that a number of obstacles prevent pharmacists from moving beyond their traditional roles. Future progress is likely to require support from professional organizations and more patient-centered community pharmacy arrangements, including compensation for pharmaceutical care practices(52).

- In 13 European nations, there was a questionnaire-based assessment of community pharmacies. The outcomes of this study demonstrate that pharmaceutical treatment continues to be a problem in European community pharmacies. Rarely did pharmacists participate in patient-centered professional roles, such as the adoption of clinical consequences and management plan or self-evaluation of achievement(53).

- A prospective survey was taken in 150 community pharmacies of the city of Vijaypur by administering a structured questionnaire to working pharmacists in order to assess their information, attitude, and behavior in providing pharmaceutical care. There is a deficiency in community pharmacists' knowledge and ability to practice pharmaceutical care in the delivery of pharmaceutical health care(54).

- Between July 2013 and March 2014, a questionnaire-based cross-sectional research was perfomed in the West Bank of Palestine. This research's objectives were to assess the perspectives of community pharmacists regarding their current role, the primary obstacles to pharmacological care approach, opinions regarding ongoing

training, and availability of specific services. The majority of community pharmacists in Palestine assume they are not performing their duties adequately. Community pharmacists' primary focus is dispensing prescriptions. Community pharmacists have a favorable outlook on pharmaceutical care and continuing education. It requires effort to overcome obstacles(46).

- A questionnaire focusing on community pharmacists in Harbin, China was administered. Community pharmacies served as distribution and collection points for questionnaires. Community pharmacists in Harbin, China were enthusiastic about the availability of TCM (Traditional Chinese Medicine) pharmaceuticals over-the-counter. However, they were hesitant to accept this job as their major obligation. Limited knowledge and a as their major obligation. Limited knowledge and an absence of job description of career description the domain of OTC TCM were identified as the primary reasons deterring community pharmacists from providing pharmaceutical services on OTC TCM(55).
- Community pharmacists in Bannu, Dera Ismail Khan, Hazara, Kohat, Malakand, Mardan, and Peshawar participated in a cross-sectional study in Pakistan. From July through September of 2014, the survey was performed. Twenty-two community pharmacists were selected and contacted. There are few community pharmacists in the study area. They engage in patient counseling, but encounter challenges due to a shortage of time and limited pharmacy staff. Therefore, pharmacists and other healthcare providers must greatly improve their communication to allow interprofessional collaboration(56).

- A web-based cross-sectional research of community pharmacists was performed. in the Plovdiv region of Bulgaria. A group of community pharmacists answered the survey. In general, community pharmacists in Bulgaria are pleased about delivering pharmaceutical care to pregnant women. Extra education classes and seminars will facilitate the pharmacist's active participation in the care of pregnant women(57).

- A questionnaire study was purposed to evaluate the awareness, opinions, and behaviors of community pharmacists. in Tamil Nadu, India, regarding cognitive pharmaceutical care services. There were a total of 20 items on the self-administered survey questionnaire, including a few questions measuring community pharmacists' knowledge and nine questions examining their attitudes and perceptions. Prior to the full-scale survey, the questionnaire's reliability and validity were confirmed in a pilot study with 20 participants. Two hundred fifty-six pharmacists independently answered the survey. This study found that 25% of pharmacists were familiar with questions related to pharmacy issues. Nearly 70% of respondents thought that in order to provide pharmaceutical care services, their knowledge and skills needed to be expanded. Other barriers to practicing pharmaceutical care were inadequate curriculum, training, and confidence. This demonstrated the disparity between the fundamental pharmacy curriculum and training in India and the worldwide practice standards expected for the profession. The current community pharmacy practice must shift its emphasis from product-

focused to patient-focused services. The majority of pharmacists were eager to enroll in a program to upgrade their awareness and abilities about pharmaceutical care practice(58).

- A study investigated the attitudes and practices of community pharmacists in Delta State, Nigeria, regarding pharmaceutical care This study found that community pharmacists have a good attitude toward pharmaceutical care, although their practice is inadequate. Recommendations are made for interventions such as update lectures and additional attitude shifts to increase understanding of pharmaceutical care and to foster a change in attitude(59).

- To investigate pharmacists' perspectives on pharmaceutical care (PC) in Riyadh. Over the course of three months (November 2012 to January 2013), a descriptive cross-sectional survey was undertaken at the National Guard Primary Health Center in Riyadh. A 20-item questionnaire was selected, validated, and distributed to one hundred pharmacists. When 100 respondents were contacted, 80 of them answered to our survey form for a response rate of 80%. In general, Pharmacists have favorable attitudes of PC. A total of 73 (91%) survey participants claimed that an error in prescription with inadequate information was a common occurrence in relation to the appropriateness of prescribing. Most of survery participants (78.6 %) disagreed or strongly disagreed with the statement that primary healthcare center pharmacists lack the necessary expertise and skills to offer PC. This study found that pharmacists have generally favorable sentiments toward PC(60).

- A survey was conducted to evaluate community pharmacists' (CPs) perspectives on mental health care and the obstacles they confront when offering pharmaceutical care (PC) services to these patients. A 40-item questionnaire was sent to CPs. 96 pharmacists take apart in the study. Eighty-four percent of participants agreed that CPs play a role in mental health care, while about sixty percent agreed that it is their obligation to give PC to these patients. Nearly half of respondents describe a lack of understanding as the most significant obstacle to offering this service. This is consistent with the finding that approximately sixty percent of individuals say they have a poor or average awareness of mental diseases. About 30% of participants stated that they do not keep any psychotropic medications, primarily due to medico-legal concerns and minimal prescription demand. Our results demonstrate the necessity for CPs to receive further training in managing patients with mental problems(61).

- Study assessed the perceived principal impediments to the application of the pharmaceutical care services in Philippine hospitals, both private and public. It utilized a descriptive, cross-sectional survey methodology using a self-administered survey for data gathering. The weighted mean values from the Likert scale results were used to assess the considered principal impediments to the possibility of pharmacological care. Participating in the study were 194 pharmacists from private and public hospitals in Metro Manila. According to hospital pharmacists, the absence of assistance from other health professionals represented the greatest hurdle to implementing pharmaceutical care. This outcome is

consistent with what has been observed in several nations. In contrast to their counterparts in government hospitals, private hospital pharmacists perceive the absence of financial rewards for providing pharmaceutical care as the greatest obstacles to pharmaceutical care practice in the Philippines. This may be a result of the lower income and remuneration in these sorts of hospitals compared to the Philippine government hospital. Comparing responses also revealed that government hospital pharmacists regard inadequate physical space as another important impediment to providing pharmaceutical care, but their private hospital counterparts are less likely to perceive this as a barrier. Other reported major obstacles included documentation, time, and a lack of guidelines(62). To summarize, several studies showed the important and factors affecting the implementation of pharmaceutical care component, however, those studies carried out in regional and international. Studies on provisional on pharmaceutical care services among pharmacists are lacking in Palestine.

Chapter Three

3. Methodology:

This reaserach comprised a questionnaire of licensed pharmacists practicing in West Bank community pharmacies (Ramallah , Jenin , Hebron and Nablus). The survey was administered from Feb to June 2022.

3.1 Study Design:

A cross-sectional study was provided to a group of community pharmacists with a valid license. Self-administered questionnaire was adminstred to describe community pharmacists' expectation to provide pharmaceutical care (PC) practice.

3.2 Sample size and sampling procedure:

The overall number of pharmacies in the West Bank exceeded 1100 , and we determined that a sample size of 290 would adequately represent them.(63). In order to estimate the sample size with a 5% margin of error, a 95% confidence interval, and a minimum response rate of 40%, we used the online sample size calculator at http://www.raosoft.com. The sample size requirement was 290 participants. To accomplish the study's objectives, we recruited a conveinient sample of 310 participants from the north, middle, and south areas and in order to strengthen the statistical validity of our study.

3.3 Pharmaceutical Care Intention (PCI) scale:

This is the first Arabic method to assess PC expectation among community pharmacists and has been validated psychometrically. The PCI assessment is a brief, valid, and reliable tool that consists of 23 items that indicate 6 latent variables that are consistent with the suggested updated theory of Planned Behavior (TPB) framework: intention, attitude,

subjective norm, perceived behavioral control to recognize and address drug-related concerns, as well as a sense of social responsibility(64).

PCI scale consist of 4 domains : Intention , Subjective norm , perceived behavioral control and obligation.

The five standards for profession of pharmaceutical care established by the American society pharmacist were used to evaluate the pharmaceutical care practice offered: (1) Patient data gathering, (2) examination of medical data, (3) creation of a medication therapy plan, (4) execution of the plan, and (5) monitoring and modification of the plan. As a theory-driven instrument, the PCI scale demonstrates sufficient construct reliability and validity to investigate the elements influencing the expectation of community pharmacists to give PC. Cronbach's α of the pooled items of the original PCI scale was 0.77.

For the purpose of study setting in Palestine, three PhD holder academic pharmacists with a minimum of ten years of professional experience analyzed and evaluated the questionnaire's content validity and intelligibility. Based on their input, the questionnaire 3 items were amended.

A pilot survey of 15 community pharmacists was performed. These community pharmacists were from the Northern, Central, and Southern regions. It was asked that these community pharmacists not take apart in the principal research. The pilot research's findings were eliminated from the principle research.The PCI scale showed an acceptable reliability; Cronbach's α of the pooled items of the PCI scale was 0.79.

3.4 Data collection methods:

Self-administred questionnaire that include 2 Sections : Pharmaceutical Care Intention (PCI) scale and The other component gathered information on the pharmacist's gender, age, type of practice, and number of years spent working in the pharmacy, and the highest degree the pharmacist had.

The study was carried out form February to June 2022. A computer-generated random sample was chosen from a list of all Palestinian community pharmacies in order to represent practice experience and conditions as broadly as feasible (1100 community pharmacies). The 310 community pharmacists who made up the random sample received the questionnaire by hand. The community pharmacists were contacted to set up a meeting to discuss the major parts of the questionnaire and encourage their participation. Prior to participation, each participant signed an informed consent about the privacy of acquired data.. There was no financial reward for taking part and the participants completed the questionnaires in 15 to 20 min, with 80% completing the questionnaire in 15 min or less.

3.5 Theoretical Framework:

The study instrument was developed using the Theory of Planned Behavior (TPB) framework. The TPB contends that a person's behavioral purpose foretells their actual behavior. How sincerely someone intends to engage in a conduct is reflected in their intention. A person's attitude toward engaging in the action, their impression of peer pressure to engage in the conduct (subjective norm, SN), and their perception of control over engaging in the behavior are all factors that influence behavioral intention (Perceived Behavioral Control, PBC) Fig.3.1.

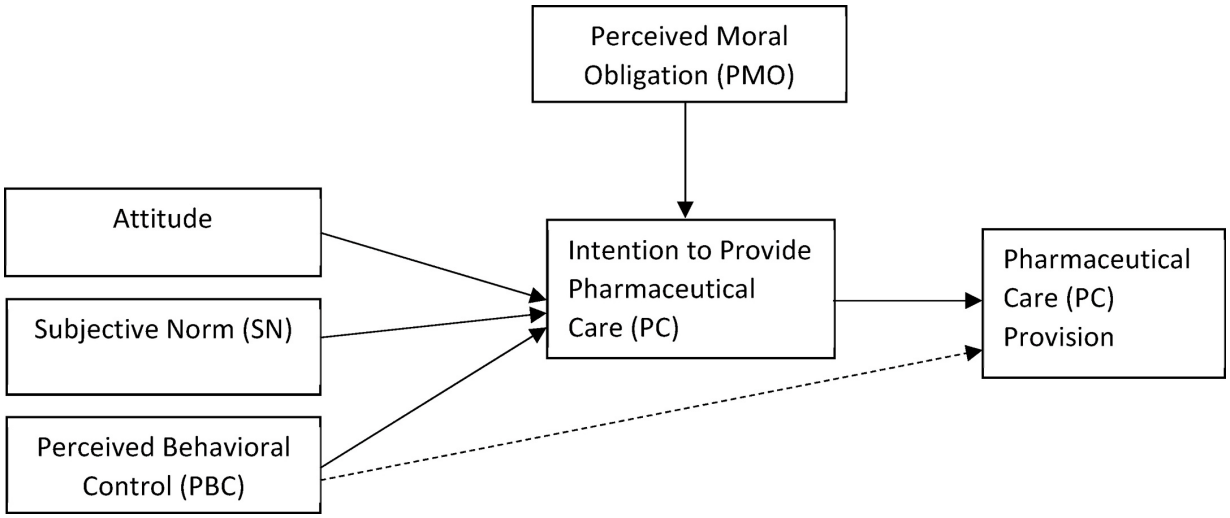

Fig.3.1: Extended theory of planned behavior(65).

The provision of PC by community pharmacists to patients with chronic diseases taking several drugs is the target behavior examined in the current study. Following psychologists' guidelines (64) and desired characteristics for the use of a theoretical framework to account for behavioral change at the level of a specific healthcare professional, the TPB was chosen to investigate how pharmacists intended to provide PC.

Intention: Items capturing the three primary PC acts, as defined by Hepler and Strand, were used to gauge pharmacists' behavioral intent to provide PC: recognizing, preventing, and resolving DRPs. (40). The pharmacists were instructed to take into account any patients with a chronic illness who visit their pharmacies in the upcoming 30 days with a new or refill prescription including a number of medications.. On a 5-point interval scale ranging from 1 = "0–20%" to 5 = "81–100%", pharmacists were asked to estimate the proportion of patients for whom they anticipated providing PC activities.

Attitude : Using items graded on a 5-point Likert scale, where 1 = "Not at all likely" and 5 = "Very likely," pharmacists were asked to evaluate the positive and negative consequences of administering PC. Items were derived from a measure designed to determine pharmacists' perspectives regarding the administration of Medication Therapy Management in the United States(66). Modifications were made to the scale to capture the opinions of community pharmacists toward increasing their responsibilities on themselves, their patients, and the profession.

Subjective Norm (SN). Items assessed on a 5-point interval scale ranging from 1 = "0-20%" to 5 = "81-100%" were used to calculate the SN. Pharmacy staff members' perceptions of the social pressure from patients and physicians to offer PC. These items assessed injunctive norms, which are congruent with how SN was initially intended and reflect what key referent groups think a pharmacist should do. Ajzen suggested incorporating a descriptive norm measure to account for the actual behavior of key referent groups. (67). The addition of descriptive norm has demonstrated a 5 percent increase in the amount of explained variance in intention after adjusting for attitude, SN, and PBC. Since significant others are frequently thought to approve of good behavior and disapprove of bad behavior, it is likely to reduce the low variability seen with injunctive norm responses(67, 68). Therefore, a third item examining community pharmacists' perceptions of their colleagues' present practice was added.

Perceived Behavioral Control (PBC). PBC was evaluated using factors that pharmacists were asked to consider in terms of how difficult it is for them to carry out the essential PC

tasks, such as diagnosing, preventing, and resolving DRPs. The difficulty of these questions ranged from 1 (not at all tough) to 5 (very difficult).

Perceived Moral Obligation (PMO). On a 5-point Likert scale ranging from 1 = "Not at all responsible" to 5 = "Very responsible," PMO items assessed pharmacists' perceptions of their duty in providing the three most important PC tasks.

3.6 Ethical considerations:

Ethical approval:

This research gained permission by the Research Ethical Committee of Al-Quds University (Ref No: 213/REC/2021). Approval for data collection was also obtained from the Palestinian Pharmaceutical Association before initiation of this study in community pharmacies. Prior to each participant's participation in the study, informed consent was acquired. In a cover letter, respondents were informed that the information they supply will be collected anonymously for research purposes.

3.7 Data entry and analysis:

After grouping factors and providing a serial number to each patient data questionnaire, the researcher entered variables of data from questionnaires into the computer using the (SPSS) version 22.0 program. Data were reported as continuous variables with means and standard deviations and with number and percentages for categorical variables. The Mann-Whitney test was used to look for any associations between non-parametric variables, and the Kolmogorov-Smirnov test was used to determine whether the data had a normal distribution. In order to ascertain the relationship between parametric variables, the

student's t-test was employed. The Chi-square test was used to determine whether the correlations between categorical data were significant. For all analyses, a P-value of less than 0.05 was regarded as statistically significant.

Chapter Four

4. Results:

This chapter includes the study's findings as well as an analysis of the data that was gathered for the investigation. There are four sections in this chapter. The validity and reliability of the questionnaire were discussed in the first part. The study population's demographics and response rate were discussed in the second section. The third section included a summary of the survey's responses for each section. To achieve the study's goals, statistical analysis was presented in the fourth section.

4.1 Validity:

Two professors of faculty members at school of pharmacy were assessed the survey, its face validity and content were both checked. Additionally, two more faculties from public health possessed knowledge of survey research in epidemiological studies. Two faculty members were actively engaged in community practice. Their feedback and recommendations were used to do a preliminary analysis of the survey.

4.2 Reliability of the survey :

The reliability of the survey was determined using Cronbach's coefficient alpha. The survey consists of five total domain sections in addition to the demographic section. The TPB subscales in this study were structured into 5 domains with a total of 27 items: Pharmaceutical care intention PCI (8 items), attitude (8 items), SN (3 items), PBC (4 items), and PMO (4 items). Given their importance in the PC process, eight categories of DRPs were presented to the pharmacists; they were asked to mark the three most frequent problems they encounter in their practice and estimate the percentage of patients visiting their pharmacies who have chronic conditions and suffer from any of these problems.

Reliability was tested for five sections (I-V) of the survey (Table 4.1). The sixth section consists of demographic questions and DRPs were not tested for reliability.

Table 4.1: Reliability Statistics using Cronbach's Alpha

Sections	N	N. of items	Factors	Item means	Corrected total-item correlation	Cronbach's Alpha
I		**8**	PCI	**2.6**	**0.39 – 0.55**	**0.812**
II		**8**	Attitude	**4.1**	**0.36 – 0.71**	**0.871**
III		**3**	SN	**2.6**	**0.27 – 0.42**	**0.609**
IV		**4**	PMO	**3.4**	**0.43 – 0.62**	**0.799**
V		**4**	PBC	**2.55**	**0.39 – 0.70**	**0.814**

PCI = Pharmaceutical Care Intention; DRPs: Drug-related Problems; att = Attitude; SN = Subjective Norm; PBC = Perceived Behavioral Control; PMO = Perceived Moral Obligation

Participants were asked eight questions in Section I Pharmaceutical care intention (PCI). The survey's reliability for this segment was r = 0.812. The variables' intention items' means varied from 1.7 to 2.9. eight questions in Section II asked respondents to rate the participants attitudes, the reliability that corresponded to it was r = 0.871. The items in this factor had means that ranged from 3.8 to 4.9. Participants were asked three questions in Section III about their their perception of social pressure to perform the behavior (Subjective Norm, SN),. The item means varied from 1.8 to 2.9 , and the associated reliability was r = 0.609. In the subscale IV where participants asked about personal feelings of moral obligation or responsibility to carry out a certain behavior (Perceived Moral Obligation, PMO), the item means varied from 2.3 to 3.9, and the associated reliability was r = 0.799. Finally, participants were asked four questions in Section V about their perception of control over performing the behavior (Perceived Behavioral Control,

PBC). These items' means ranged from 2.1 to 3.2, and their reliability was r = 0.814 as a result.

4.3 Participants' Characteristics

During the study period, 370 pharmacists were approached and requested to participate in the study. The number of respondents who agreed to take part was 312 (312/370), making the overall response rate 84.3%, only 300 questionnaire were included in the study analysis. Due to incomplete surveys or unsigned consent forms, the twelve surveys were excluded. The demographics of the study population are shown in Table 4.2. According to descriptive statistics run on the data, there were 42.0% male respondents (n=126) and 174 were female respondents (58.0%). The majority of responders (41.7%) and (30.0%) were between the ages of 20 and 30 and 31 to 45 respectively. Most of the participants (68.0%) had a bachelor degree and approximately one third of the respondents (30.7%) were junior pharmacists having less than 3 years of working experience. Most of the participants were resident in Ramallah district (middle, 63.3%), and the only 12.0% of the participants were pharmacy owners.

Figure 4.1 illustrated the most Drug Related Problems (DRPs) reported by the participant pharmacists. The most frequently recorded were adverse drug reactions (46.0%), followed by dose related problem (44.0%), need for additional drugs for untreated conditions (33.0%), and patients did not receive the drug (26.0%).

Table 4.2. Respondents' characteristics (N=300)

Variable n (%)	**N (%)**
Gender	
Male	126 (42.0)

Female	174 (58.0)
Age	
20-30 years	125 (41.7)
31- 45 years	90 (30.0)
46- 60 years	69 (23.0)
> 60 years	16 (5.3)
Education	
Bachelor	204 (68.0)
Pharm D	88 (29.3)
Others (Ph.D, Master)	8 (2.7)
Location	
North	62 (20.7)
Middle	190 (63.3)
South	48 (16.0)
Years of practice	
< 3	92 (30.7)
4 – 10	127 (42.3)
11 – 20	66 (22.0)
> 20	15 (5.0)
Pharmacy owner	
Yes	36 (12.0)
No	264 (88.0)
No. Prescriptions	
< 100	223 (74.3)
100- 149	65 (21.7)
150 – 200	8 (2.7)
> 200	4 (1.3)
Private space	
Yes	93 (31.0)
No	207 (69.0)

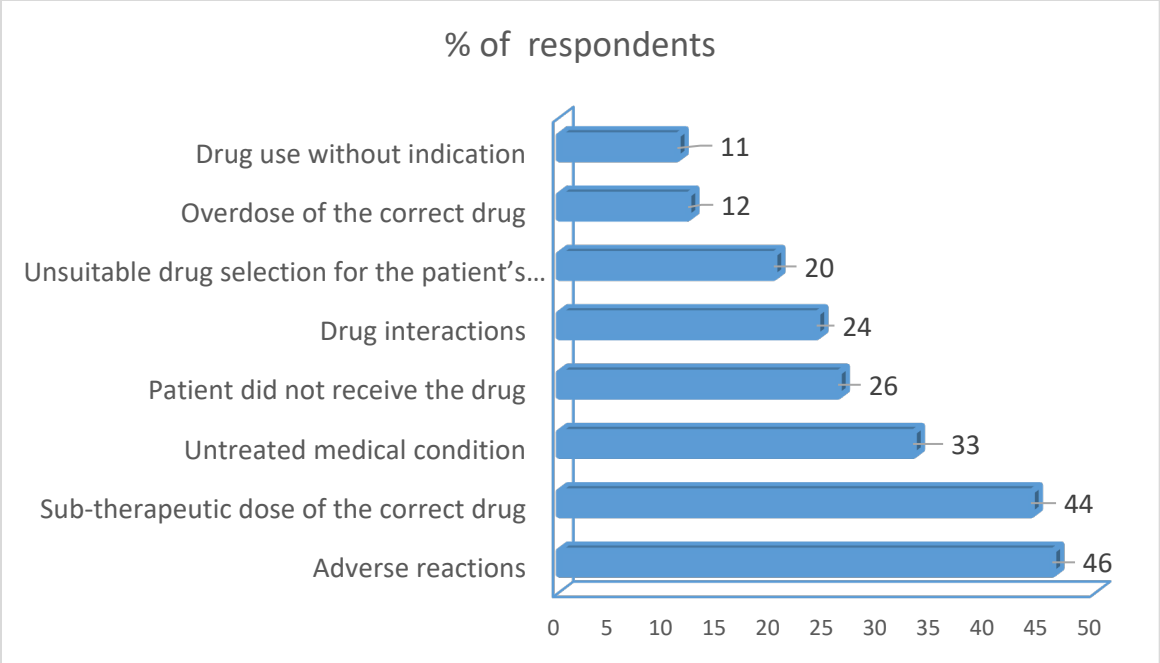

Figure 4.1: Percentages of Drug Related Problems (DRPs) reported by the participants.

The respondents showed a moderate intention to practice pharmaceutical care. The mean score for the eight statements was 2.6 ± 1.1 (Table 4.3). One third of the pharmacist except to "Ask patient information about their medications, diseases and medical history" in 40-60 % of the patients. More than half of the respondents (53%) "Discuss the appropriate use, side effects of drugs to prevent potential drug-related problems" in 60-100% of their patients. Comparatively, the pharmacists directly contact the primary physician to solve drug related problems and monitor patients' outcomes in only 0-20% and 20-40% of the patients respectively.

Table 4.3. Item scores – Pharmaceutical care intention (N=300).

Item #	For what percentage of your patients would you expect to perform the following:	0-20	21-40	41-60	61-80	81-100	Mean (±SD)
1	Ask patient information about their medications, diseases and medical history	57 (19%)	80 (26.7 %)	94 (31.3%)	57 (19%)	12 (4%)	2.62 ±1.11
2	Assess patient information to identify presence of actual or potential drug-related problems	45 (15%)	99 (33%)	69 (23%)	55 (18.3 %)	32 (10.7 %)	2.76 ±1.22
3	Discuss the appropriate use / side effects of drugs to prevent potential drug-related problems	32 (10.7)	64 (21.3 %)	45 (15%)	84 (28%)	75 (25%)	3.35 ±1.34
4	Develop a patient-specific care plan with the patient identifying the desired outcomes	61 (20.3 %)	50 (16.7 %)	80 (26.7%)	52 (17.3 %)	57 (19%)	2.98 ±1.38
5	Directly intervene to resolve identified drug-related problems without referring to the doctor	130 (43.3 %)	51 (17%)	39 (13%)	71 (23.7 %)	9 (3%)	2.26 ±1.31
6	Contact the doctor to discuss identified drug-related problems and patient-specific care plan.	72 (24%)	96 (32%)	42 (14%)	56 (18.7 %)	34 (11.3 %)	2.61 ±1.33
7	Suggest patients talk to a doctor about your recommendations	46 (15.3 %)	95 (31.7 %)	41 (13.7%)	62 (20.7 %)	56 (18.7 %)	2.95 ±1.21
8	Monitor patient adherence to the therapeutic plan	62 (20.7 %)	78 (26%)	90 (30%)	43 (14.3 %)	72 (3%)	2.44 ±1.15

In terms of the variable perceived moral obligation (Table 4.4), the pharmacist felt very responsible to identify any potential drug related problems and prevent it (mean= 4.0±1.14)

and intervene to solve any exist drug related problem (mean= 3.9 ±1.28). To a less extent pharmacist felt responsible to collect patient-specific information (mean= 3.1 ±1.1).

Table 4.4. Item scores – Perceived Moral Obligation [a] (N=300)

Item #	In your opinion, to what extent are you responsible as a pharmacist to perform the following	NR	AR	SR	R	VR	Mean (±SD)
1	Collecting patient-specific information	44 (14.7%)	27 (9%)	144 (48%)	52 (17.3%)	33 (11%)	3.1± 1.1
2	Identifying patient's drug-related problems	18 (6%)	109 (36.3%)	10 (3.3%)	94 (31.3%)	69 (23%)	3.7± 1.13
3	Intervene to prevent potential drug-related problems	7 (2.3%)	7 (2.3%)	66 (22%)	114 (38%)	106 (35.3%)	4.0± 1.14
4	Intervene to resolve existing drug-related problems	7 (2.3%)	7 (2.3%)	67 (22.3%)	139 (46.3%)	80 (26.7%)	3.9 ± 1.28

NR: Not Responsible, AR: A little Responsible, SR: Somewhat Responsible, R: Responsible, VR: Very responsible

For subjective norm, pharmacists were somewhat more likely to agree that physicians and other healthcare would approve of them providing pharmaceutical care services. However, 30 % still agreed that patients would approve of them providing pharmaceutical care services. Fewer respondents agreed that other pharmacists they knew intended to provide pharmaceutical care services to their patients (Table 4.5).

Table 4.5. Item scores – Perceive Subject Norm [a] (N=300)

Item #	In your opinion, what percentage of..	0-20	21-40	41-60	61-80	81-100	Mean (±SD)
1	Patients visiting your pharmacy would like you to provide PC	43 (14.3%)	90 (30%)	88 (29.3%)	57 (19%)	22 (7.3%)	2.44± 1.13
2	Physicians in your community would approve of you providing PC to your patients	86 (28.7%)	37 (12.3%)	100 (33.3%)	19 (6.3%)	58 (19.3%)	3.1± 1.29
3	Pharmacists working in community pharmacies provide PC to their patients	151 (50.3%)	110 (36.6%)	30 (10%)	7 (2.3%)	2 (0.7%)	2.04± 3.37

Table 4.6. Item scores – Perceived Behavioral Control [a] (N=300)

Item #	Indicate how difficult is it for you to perform the following:	ND	AD	SD	D	VD	Mean (±SD)
1	Collecting patient-specific information	68 (22.7%)	19 (6.3%)	151 (50.3%)	29 (9.7%)	33 (11%)	2.80± 1.21
2	Identifying patient's drug-related problems	123 (41%)	12 (4%)	119 (39.6%)	36 (12%)	10 (3.3%)	2.19± 1.13
3	Intervene to prevent potential drug-related problems	121 (40.3%)	16 (5.3%)	113 (37.6%)	40 (13.3%)	10 (3.3%)	2.20± 1.14
4	Intervene to resolve existing drug-related problems	151 (50.3%)	67 (7%)	21 (22.3%)	54 (18%)	7 (2.3%)	2.15± 1.28

ND: Not at all difficult. AD: A little difficult. SD: Somewhat difficult. D: Difficult. VD: Very difficult

For the construct perceived behavioral control (Table 4.6), higher percentages felt intervene to prevent or solve existing drug related problems not at all difficult. Collecting patient information pharmacists agreed that they had the necessary knowledge and skills to provide pharmaceutical acre services beneficiaries than agreed that they had the necessary support staff.

Moreover, respondents tended to agree that pharmacists would be the main professional providers of therapy management and pharmaceutical care services.

In terms of the variable attitude (Table 4.7), the respondents tended to agree that providing pharmaceutical care services was very likely for the pharmacist to attract more patients to the pharmacy (4.15 ±1.06), it would be a significant benefit to patients' health outcomes (4.40 ±0.84) and it was a valuable opportunity for profession to contribute to the community, even if this increased their workload (3.97 ±1.12). They were less likely to agree that patient's appreciation of the pharmacist's value (3.87± 1.43).

Table 4.7. Item scores – Perceive attitudes[a] (N=300)

Item #	How likely can providing pharmaceutical care in community pharmacies result in:	NL	AL	SL	L	VL	Mean (±SD)
1	Advancing the profession	11 (3.7%)	26 (8.7%)	49 (16.3%)	87 (29%)	127 (42.3%)	3.97± 1.12
2	Attracting more patients to the pharmacy	11 (3.7%)	11 (3.7%)	51 (17%)	75 (25%)	152 (50.7%)	4.15± 1.06
3	An increase in patient trust in the pharmacist	11 (3.7%)	4 (1.3%)	33 (11%)	85 (28.3%)	167 (55.7%)	4.31± 0.97
4	An increase in pharmacy revenue	8 (2.7%)	15 (5%)	36 (12%)	96 (32%)	145 (48.3%)	4.18± 1.06

5	An improvement in your job satisfaction	4 (1.3%)	10 (3.3%)	50 (16.6%)	80 (26.6%)	156 (52%)	4.34± 0.84
6	An increase in your stress level at work	4 (1.3%)	32 (10.7%)	61 (20.3%)	84 (28%)	119 (39.7%)	3.94± 1.07
7	A significant benefit to patients' health outcomes	4 (1.3%)	10 (3.3%)	46 (15.3%)	72 (24%)	168 (56%)	4.40± 0.84
8	Patient's appreciation of the pharmacist's value	37 (12.3%)	26 (8.7%)	29 (9.7%)	54 (18%)	154 (51.3%)	3.87± 1.43

NL: Not at all likely. AL: A little likely. SL: Somewhat likely. L: Likely. VL: Very likely

The multivariate analysis (Table 4.8) found only the constructs of attitude ($\beta = .399$, $P = 0.001$), and perceived behavioral control ($\beta = .410$, $P = 0.001$) to be significant predictors of pharmacists' intention to provide pharmaceutical care.

Education level was the only demographic variable that was found to be significant predictors of pharmacists' intention to provide pharmaceutical care ($\beta = .812$, $P = 0.032$). None of the other demographic or practice setting variables was significant at $P < .05$.

The adjusted R2 value was equal to 0.684, which means that 68.4% of the variation in intent was explained by the independent variables.

Table. 4.8 Multivariate linear regression analysis predicting intent to provide pharmaceutical care services

Variable	B	Standard Error	t-statistics	*P* Value
Constant	0.191	1.393	0.139	0.893
Subjective norm	0.229	0.587	0.389	0.711
Perceived moral obligatory	0.483	0.297	1.628	0.169
Attitude	0.399	0.099	4.166	**0.001**
Perceived behavior control	0.410	0.095	4.221	**0.001**
Gender[a]	0.532	0.314	1.685	0.187
Years of practice[b]	-0.280	0.489	-0.557	0.632
Education degree[c]	0.812	0.314	2.609	**0.032**
Location[d]	0.739	0.390	1.912	0.071
Pharmacy owner[e]	-0.201	0.463	-0.433	0.675

N=300. Adjusted R^2 =0.684.
[a]Gender coded, 1= male, 0 =female.
[b]Years of practice coded, 1= <3 years, 2= 4-10, 3= 11-20, 4= >20
[c]Education 1= PharmD, PhD, Master's degree, 0= Bachelor.
[d]Location coded, 1 =middle, 2 = north, 3 = south
[e]owner coded, 1 = yes, 0 = no

Chapter Five

5. Discussion

To the best of our knowledge, this research is the first to explore the pharmacist's perceptions towards pharmaceutical care services, and its association with socio-demographic characteristics among community pharmacists in the West Bank, Palestine. The present study is the first known study that used the framework of the TPB to quantitatively examine the intention of pharmacists to provide pharmaceutical care services in Palestine.

There was variation in the scores that pharmacists received on each of the five TPB scales, demonstrating that they have very varying perspectives about and levels of intent to provide patients with pharmaceutical care services (Table 4.1). All scales of Cronbach's alpha fall between 0.60 and 0.89; however, it is greater than 0.7 in 4 of the 5 major domains. The choice of summated scales for each of the constructs is supported by this level of reliability, which satisfies the generally accepted requirements for internal consistency(65). Similarly, the TPB subscales' internal consistency ranged from 0.71 to 0.95 when predicting pharmacists' intent to report major adverse occurrences to the FDA(69). Alpha values in a different study that predicted pharmacists' intention to offer drug disposal education ranged from 0.59 to 0.61(70).

In pharmacy practice, TPB was specifically used to investigate the influences on pharmacists' intentions to perform a variety of cognitive services, such as pharmaceutical

care services, prescription drug misuse education services , medication therapy management services, reporting serious adverse drug events to the appropriate authorities, and so forth(66, 69). These investigations found that TPB might effectively explain pharmacists' intentions across various cognitive services.

Pharmacists generally showed moderate intent to provide pharmaceutical care services, with more than half of the respondents (53%) “Discuss the appropriate use, side effects of drugs to prevent potential drug-related problems” in 60-100% of their patients.

More than half of the pharmacists who responded to the survey were hesitant to speak with the treating physician about the DRPs they discovered. Most of those pharmacists also stated that they would not do interventions without a doctor's referral at the same time. Participating pharmacists were more likely to request that patients speak with their treating physicians directly about the pharmacist's advice. These findings corroborate prior research on the communication gaps between physicians and pharmacists and the physicians' resistance to increased pharmacist involvement in both developed and developing countries(71).

Regarding the varying attitudes, respondents tended to concur that offering pharmaceutical care services was a worthwhile chance for the profession of pharmacist to give back to the community, even if this increased their workload. The majority of the participating pharmacists in this study had a favorable opinion of offering pharmaceutical care services. In addition, the respondents said that offering pharmaceutical care services to their patients would be helpful or beneficial. Only 54.2% of pharmacists overall believed their patients would trust them to provide therapy management services, according to a research(66). A different study found that patients did not think they needed therapy management services

and that they had more faith in pharmacists who provided MTM services to dispense medications(72). Patients must be made aware that pharmacists can and will address their healthcare problems and offer them healthcare services that will help them feel better.

Based on the theory of planned behavior (TPB), this study evaluated community pharmacists' intentions for diabetes care in Alexandria, Egypt(73). The study found that intention was significantly correlated with attitude and subjective norm, while "some physicians do not appreciate pharmacists' involvement in diabetic care" was the most specific factor that negatively influenced intention of pharmacists to provide diabetes care.

Regarding their perception of control over the provision of pharmaceutical care services, participants were in agreement about their perceived control over the provision of pharmaceutical care services. Moreover, respondents tended to agree that pharmacists would be the main professional providers of therapy management and pharmaceutical care services. The majority of participants were confident in their ability to offer pharmaceutical care services quickly and simply. Higher percentages felt intervene to prevent or solve existing drug related problems not at all difficult. Collecting patient information pharmacists agreed that they had the necessary knowledge and skills to provide pharmaceutical acre services beneficiaries than agreed that they had the necessary support staff.

Similar findings were reached by an earlier study(74). Collaboration between doctors, nurses, and pharmacy technicians is necessary for the delivery of pharmaceutical care services(75, 76), as is the availability of a documentation system(77), access to patients' medical records(78), support from pharmacy managers, patient acceptance(79), and time to dedicate to pharmaceutical care services. As a result, even if pharmacists were competent

and confident enough to offer these services, they would still need additional assistance to carry it out(80).

Similarly, in a study by Li et al. the respondents were more likely to believe they had the knowledge and abilities needed to participate in COVID-19 management when it came to the variable perceived control behavior, with 83.8% of them offering positive comments. Approximately 71.3% of people said they had access to trusted resources for information and recommendations regarding COVID-19 infection. In contrast, the respondents were less likely to concur that they had enough time, software support, or hardware to carry out COVID-19-related tasks(81).

Subjective norm was not a significant predictor of intention to provide pharmaceutical care in the present study. In the contrary, Herbert et al (82)revealed that pharmacists were somewhat more likely to concur that patients and owners would be happy with them if they provided therapy management than they were to concur that doctors would be happy if they did so. Nevertheless 68.1% of respondents were still in agreement that doctors would approve with them offering therapy management services.

Moreover, Li et al (81)found that the respondents were more likely to agree that the pharmacy personnel, whose opinions they valued, and the health care professionals would expect them to take part in managing the outbreak and provide pharmaceutical care. They were less likely to agree that their patients, customers, and the community would have the same expectations. Only 51.4%of the respondents agreed that the people who were important to them would expect them to take part in managing the infection outbreak.

As expected among demographic variables higher education like (Pharm D, MSc and Ph.D) degree was found to be significant predictor of providing pharmaceutical care services among participating pharmacists. Similarly in a study conducted in Argentina (83)revealed that The education and training of pharmacists in pharmaceutical care practice , mediated by the skills in pharmaceutical care of pharmacists has a positive correlation on pharmaceutical care practice. The skills together with the sources explain 11.1% of the pharmaceutical care practice ($p<0.01$).

Ten Yemeni pharmacy schools that offer undergraduate pharmacy programs participated in a cross-sectional study. A well-structured, validated, and self-administered questionnaire was used to evaluate the barriers to pharmaceutical care provision as perceived by Yemen pharmacists(84). Pharm.D showed higher attitudes' total scores, median (IQR): 4.3 (4.1– 4.4), 4.2 (4– 4.2) and 4 (3.9– 4.2) for Pharm.D, bachelor of pharmacy and bachelor of clinical pharmacy respectively, (p-value = 0.032).

Limitations

There are several limitations to this study that need to be acknowledged. Firstly, it is important to recognize that this study is cross-sectional in nature, which means that determining causal relationships between variables is not possible. Secondly, the use of a self-reported questionnaire as the method of data collection introduces the possibility of reporting or recall bias. Thirdly, the sample used in this study was obtained through non-probability convenience sampling, which restricts the generalizability of the findings to other populations. Fourthly, it is worth noting that relying on data concentrated from the middle governorates of the West Bank, specifically Ramallah, Jerusalem, and Jericho, may

limit the external validity (i.e., generalization) of the results. Additionally, employing a convenient sampling method may introduce subjective selection bias.

Chapter Six:

6. Conclusion and Recommendations:

6.1 Conclusion:

The study provides insight into the perceptions of pharmacists towards pharmaceutical care practice. The respondents showed a moderate intention to practice pharmaceutical care .The majority of pharmacists recognize the importance of pharmaceutical care in optimizing patient outcomes and improving healthcare quality.Pharmacists believe that the implementation of pharmaceutical care requires better communication with physicians and other healthcare professionals.Some barriers to the implementation of pharmaceutical care were identified, including lack of time, workload, and lack of resources.

6.2 Recommendations:

- There is a need for more training and education for pharmacists to enhance their knowledge and skills in providing pharmaceutical care.
- Pharmacists should collaborate more closely with physicians and other healthcare professionals to promote the implementation of pharmaceutical care and to ensure patient safety.
- Policymakers and healthcare providers should provide better resources and incentives to encourage pharmacists to practice pharmaceutical care more effectively.

- Further research is needed to investigate the impact of pharmaceutical care on patient outcomes and to identify best practices for implementing pharmaceutical care in different healthcare settings.

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Appendixes:

Appendix A:

Al-Quds Ethical committee approval Letter.

Al-Quds University
Jerusalem
Deanship of Scientific Research

بسم الله الرحمن الرحيم

جامعة القدس
القدس عمادة
البحث العلمي

Research Ethics Committee
Committee's Decision Letter

Date: December 22, 2021
Ref No: 213/REC/2021

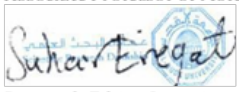
Dears Dr. Maher Khdour, Mr. Ali Ghazawna,

Thank you for submitting your application for research ethics approval. After reviewing your application entitled "Pharmacist perception of pharmaceutical care practicing in West Bank: A cross sectional study", the Research Ethics Committee confirms that your application is in accordance with the research ethics guidelines at Al-Quds University.
We would appreciate receiving a copy of your final research report/ publication.
Thank you again and wish you a productive research that serves the best interests of your subjects.

PS: This letter will be valid for two years.

Sincerely,

Suheir Ereqat, PhD
Associate Professor of Molecular Biology



Research Ethics Committee Chair

Cc. Prof. Imad Abu Kishek - President
Cc. Members of the committee
Cc. file

Abu-Dies, Jerusalem P.O.Box 20002
Tel-Fax: #970-02-2791293 research@admin.alquds.edu

Appendix B:

Concent Form:

عنوان البحث:

تصور الصيدلي للرعاية الصيدلانية في فلسطين.

اسم الباحث:

علي محمد مصيطف غزاونة.

اخي\ اختي المتطوع(ة) هذا البحث هو احد الابحاث الطبية التي تقوم بها كلية الصيدلة في جامعة القدس للحصول على درجة الماجستير ويهدف الى تحسين نوعية حياة المرضى.

ارجو ان ابين ما يلي :

ان مشاركتك في هذا البحث طوعية تماما" ، ومن شأنها افادة المجتمع وعملية البحث العلمي بشكل عام.

في حال مشاركتك بالبحث ، سيبقى اسمك طي الكتمان ، ويحق لك الانسحاب متى شئت من دون أي اثر يذكر عليك .

يجدر الاشارة ان لجنة البحث العلمي في جامعة القدس قد وافقت على اجراء البحث ، وتعتبر هي اللجنة المؤسسية والمرجعية للبحوث والدراسات.

موافقة المتطوع:

انا المتطوع.....قرأت المعلومات المذكورة اعلاه وفهمتها ، وبناء عليه فإنني وافق على المشاركة في البحث.

التوقيع: التاريخ:

Appendix C:

Questionnare in English:

A Survey on Pharmaceutical Care Practice in Community Pharmacies

Dear colleague: Thanks for your valued participation

This study aims to assess your attitude towards pharmaceutical care practice. A definition of pharmaceutical care is provided. Your answers are important to help us better understand the reasons and the perceived challenges to why community pharmacists provide/ do not provide pharmaceutical care services.

Please note that <u>there are no right or wrong answers</u>. Select the answer that best describes <u>your opinion</u>.

This survey has many questions about drug-related problems. Please refer to the definition given below when answering these questions:

<u>Drug-related problems:</u> events involving a patient's drug treatment that actually or potentially interfere with the achievement of an optimal outcome of medical care.

Q1. There are 8 categories of drug-related problems. Check the <u>most common 3 categories</u> patients suffer from in your practice:

- ☐ Untreated medical condition
- ☐ Unsuitable drug selection for the patient's condition (wrong drug)
- ☐ Overdose of the correct drug
- ☐ Sub-therapeutic dose of the correct drug
- ☐ Drug use without indication
- ☐ Adverse reactions
- ☐ Drug interactions
- ☐ Patient did not receive the drug(s) (e.g., economic or social barriers, unavailable suitable formulation)

For ALL the following questions, Check ONLY ONE answer that best describes YOUR OPINION

Q2. Think about ALL patients with **chronic diseases** who visit your pharmacy and are on **multiple medications**.

In your opinion, what percentage of those patients suffer from any of the eight drug-related problems specified in the first question?

☐ 0-20%	☐ 21-40%	☐ 41-60%	☐ 61-80%	☐ 81-100%

Q3. Now, think about ALL patients with **chronic diseases** who **will visit** your pharmacy **within the next 30 days** with a new or a refill prescription containing **multiple medications**.

For what percentage of those patients would you expect to perform the following: ….?

	0 - 20 %	21 - 40 %	41 - 60 %	61 - 80 %	81 -100 %
Ask patient information about their medications, diseases and medical history	○	○	○	○	○
Assess patient information to identify presence of actual or potential drug-related problems	○	○	○	○	○
Discuss the appropriate use / side effects of drugs to prevent potential drug-related problems	○	○	○	○	○
Develop a patient-specific care plan with the patient identifying the desired outcomes and means to achieve them (drugs, lifestyle change, health education)	○	○	○	○	○
Directly intervene to resolve identified drug-related problems without referring to the doctor	○	○	○	○	○
Contact the doctor to discuss identified drug-related problems and patient-specific care plan.	○	○	○	○	○
Suggest patients talk to a doctor about your recommendations	○	○	○	○	○
Monitor patient adherence to the therapeutic plan	○	○	○	○	○
Monitor the effect of drug therapy and patients' achievement of the desired health outcomes	○	○	○	○	○
Document processes involved in items stated above in a patient file	○	○	○	○	○

Think about all patients with <u>chronic conditions</u> who visit your pharmacy and are <u>on multiple medications</u>

Q4. In your opinion, to what extent are you responsible as a pharmacist to perform the following: …….?	Not at all responsible	A little responsible	Somewhat responsible	Responsible	Very Responsible
Collect patient-specific information (Ex. Information about medications, disease, medical history)	○	○	○	○	○
Identify patient's drug-related problems	○	○	○	○	○
Intervene to prevent potential drug-related problems	○	○	○	○	○
Intervene to resolve existing drug-related problems	○	○	○	○	○
Monitor the outcomes of drug therapy	○	○	○	○	○
Document patient care activities in a patient file	○	○	○	○	○

Q5. Please indicate how difficult is it for you to perform the following: …….?	Not at all difficult	A little difficult	Somewhat difficult	Difficult	Very difficult
Collecting patient-specific information (Ex. Information about medications, disease, medical history)	○	○	○	○	○
Identifying patient's drug-related problems	○	○	○	○	○
Intervene to prevent potential drug-related problems	○	○	○	○	○
Intervene to resolve existing drug-related problems	○	○	○	○	○
Monitoring the outcomes of drug therapy	○	○	○	○	○
Documenting patient care activities in a patient file	○	○	○	○	○

Q6. In your opinion, to what extent is the pharmacist responsible if the patient's drug-related problems interfere with the achievement of the optimal outcome of treatment

☐ Not at all responsible	☐ A little responsible	☐ Somewhat responsible	☐ Responsible	☐ Very Responsible

Please refer to the definition of "Pharmaceutical Care" when answering the next questions

Pharmaceutical Care is defined as:

The responsible provision of drug therapy to achieve definite outcomes that improve or maintain a patient's quality of life.

These outcomes are:
1. Cure of a patient's disease.
2. Elimination or reduction of a patient's symptoms.
3. Stopping or slowing a disease process.
4. Preventing a disease or symptoms.

Q7. Have you ever heard about the concept of "Pharmaceutical Care"?

☐ Yes ☐ No

Q8. In your opinion, what percentage of patients visiting your pharmacy would like you to provide pharmaceutical care?

☐ 0-20%	☐ 21-40%	☐ 41-60%	☐ 61-80%	☐ 81-100%

Q9. In your opinion, what percentage of physicians in your community would approve of you providing pharmaceutical care to your patients?

☐ 0-20%	☐ 21-40%	☐ 41-60%	☐ 61-80%	☐ 81-100%

Q10. How likely can providing pharmaceutical care in community pharmacies result in: ……?	Not likely at all	A little likely	Somewhat likely	Likely	Very Likely
Advancing the profession	○	○	○	○	○
Attracting more patients to the pharmacy	○	○	○	○	○
An increase in patient trust in the pharmacist	○	○	○	○	○
An increase in pharmacy revenue	○	○	○	○	○
An improvement in your job satisfaction	○	○	○	○	○
An increase in your stress level at work	○	○	○	○	○
A significant benefit to patients' health outcomes	○	○	○	○	○
Patient's appreciation of the pharmacist's value	○	○	○	○	○

Q11. In your opinion, what percentage of pharmacists working in community pharmacies provide pharmaceutical care to their patients?

☐ 0-20%	☐ 21-40%	☐ 41-60%	☐ 61-80%	☐ 81-100%

Q12. Your answers about yourself and your work environment will inform us about the representation of different pharmacists' segments in this study:

Age: ..... Years

Gender: Male ☐ Female ☐

Highest Degree: Bacherlor ☐ Pharm D ☐ Other ☐ Please mention .....

Duration of experience as a pharmacist (After graduation) .....Year(s) .....Month(s)

Pharmacy type Independent (1 Branch) ☐ Chain (2 or more branches) ☐

Are you the pharmacy owner? Yes ☐ No ☐

Dispensing volume (Prescriptions/day) ☐ < 100 ☐ 100- 149 ☐ 150 - 199 ☐ 200 - 249 ☐ > 250

On average, how many hours do you work weekly? I work ..... hrs per day for ..... days a week

Does the pharmacy have a private place for patient counseling? Yes ☐ No ☐

Q13. Finally, we would like to know your suggestions to deal with barriers to the provision of pharmaceutical care to patients in community pharmacies in Egypt.

1- ----------

2- ----------

3- ----------

-THANKS FOR YOUR PARTICIPATION-

Appendix D:

Questionnare in Arabic:

دراسة عن ممارسة الرعاية الصيدلانية في صيدليات المجتمع

A Survey on Pharmaceutical Care Practice in Community Pharmacies

زميلنا العزيز: شكرًا على مشاركتك القيمة

يهدف هذا الاستبيان لمعرفة رأيك نحو ممارسة الرعاية الصيدلانية. يحتوي الاستبيان علي تعريف للرعاية الصيدلانية. إن إجاباتك مهمة لمساعدتنا على فهم الأسباب والتحديات التي تدفع الصيادلة في صيدليات المجتمع لتقديم أو عدم تقديم خدمات الرعاية الصيدلانية.

يرجى ملاحظة أنه لا توجد إجابات صحيحة أو خاطئة. اختر الإجابة الأقرب إلى رأيك

يحتوي الاستبيان على العديد من الأسئلة حول المشاكل المتعلقة بالدواء. يرجى الرجوع إلى التعريف التالي عند الإجابة على هذة الأسئلة:

المشاكل المتعلقة بالدواء: هي أحداث ترتبط بالعلاج الدوائي للمريض والتي تتعارض أو من المحتمل أن تتعارض مع تحقيق النتيجة الأمثل للرعاية الطبية

س.1 هناك 8 فئات للمشاكل المتعلقة بالدواء. اختر الثلاث فئات الأكثر شيوعًا التي يعاني منها المرضى خلال عملك:

- ☐ حالة طبية لا يأخذ المريض علاج لها
- ☐ اختيار دواء غير مناسب لحالة المريض (دواء خاطئ)
- ☐ دواء مناسب لحالة المريض بجرعة زائدة
- ☐ دواء مناسب لحالة المريض بجرعة أقل من الجرعة العلاجية
- ☐ تعاطي دواء دون وجود دواعي للاستعمال
- ☐ تفاعلات ضارة للأدوية Adverse reactions
- ☐ تداخلات دوائية Drug interactions
- ☐ عدم حصول المريض على الدواء لأسباب اقتصادية أو اجتماعية أو لعدم توفر الدواء في تركيبة مناسبة

بالنسبة لجميع الأسئلة القادمة: اختر إجابة واحدة فقط هي الأقرب لوجهة نظرك

س.2 فكر في جميع مرضى الأمراض المزمنة الذين يزورون الصيدلية التي تعمل بها و يتعاطون أدوية متعددة.

في رأيك، نسبة كم من هؤلاء المرضى يعانون أيًا من المشاكل الثمانية المتعلقة بالدواء الموضحة بالسؤال الأول؟

% 20 – 0 ☐	% 40 – 21 ☐	% 60 – 41 ☐	% 80 – 61 ☐	% 100 – 81 ☐

س.3 الآن، فكر في جميع مرضى **الأمراض المزمنة** والذين سيزورون الصيدلية التي تعمل بها خلال **ال 30 يومًا القادمة** مع وصفة طبية (روشتة) **جديدة أو مكررة** تحتوي على **أدوية متعددة**.

في نسبة كم من هؤلاء المرضى تتوقع قيامك بالآتي: ..... ؟

	20 - 0 %	40 - 21 %	60 - 41 %	80 - 61 %	100 - 81 %
• سؤال المريض معلومات تتعلق بالأدوية الخاصة به والأمراض التي يعاني منها والتاريخ المرضي	○	○	○	○	○
• تقييم المعلومات الخاصة بالمريض لتحديد وجود أو احتمال حدوث مشاكل متعلقة بالدواء	○	○	○	○	○
• التحدث مع المريض حول الاستخدام المناسب للدواء والأعراض الجانبية لتجنب حدوث مشاكل متعلقة بالدواء	○	○	○	○	○
• وضع خطة رعاية خاصة بالمريض بالاشتراك معه تتضمن تحديد النتائج المرجوة وكيفية الوصول إليها (علاج دوائي – تغيير نمط الحياة – تثقيف صحي)	○	○	○	○	○
• التدخل المباشر لحل المشاكل المتعلقة بالدواء التي حددتها دون الرجوع للطبيب	○	○	○	○	○
• التواصل مع الطبيب لمناقشة المشاكل المتعلقة بالدواء التي حددتها وخطة رعاية المريض	○	○	○	○	○
• تقترح للمريض التحدث مع طبيب حول توصيات أعطيتها للمريض	○	○	○	○	○
• متابعة مدى التزام المريض بالخطة العلاجية	○	○	○	○	○
• متابعة تأثير العلاج الدوائي وتحقيق المريض للنتائج الصحية المرجوة	○	○	○	○	○
• توثيق المهام التي قمت بها في الخطوات السابقة في ملف خاص بالمريض	○	○	○	○	○

فكر في جميع مرضى الأمراض المزمنة الذين يزورون الصيدلية التي تعمل بها و يتعاطون أدوية متعددة

س.4 في رأيك، إلى أي مدى تتحمل كصيدلي مسئولية القيام بما يلي: .....؟	غير مسئول على الإطلاق	مسئول قليلًا	مسئول إلى حد ما	مسئول	مسئول جدًا
جمع معلومات خاصة بالمريض (مثل معلومات عن الأدوية والأمراض والتاريخ الطبي)	○	○	○	○	○
تحديد المشاكل المتعلقة بالدواء لكل مريض	○	○	○	○	○
التدخل لمنع المشاكل المحتملة المتعلقة بالدواء	○	○	○	○	○
التدخل لحل المشاكل القائمة (الحالية) المتعلقة بالدواء	○	○	○	○	○
متابعة نتائج العلاج الدوائي	○	○	○	○	○
توثيق أنشطة رعاية المريض في ملف خاص به	○	○	○	○	○

س.5 بالنسبة إليك، ما مدى صعوبة القيام بما يلي: .....؟	غير صعب على الإطلاق	صعب قليلًا	صعب إلى حد ما	صعب	صعب جدًا
جمع معلومات خاصة بالمريض (مثل معلومات عن الأدوية والأمراض والتاريخ الطبي)	○	○	○	○	○
تحديد المشاكل المتعلقة بالدواء لكل مريض	○	○	○	○	○
التدخل لمنع المشاكل المحتملة المتعلقة بالدواء	○	○	○	○	○
التدخل لحل المشاكل القائمة (الحالية) المتعلقة بالدواء	○	○	○	○	○
متابعة نتائج العلاج الدوائي	○	○	○	○	○
توثيق أنشطة رعاية المريض في ملف خاص به	○	○	○	○	○

س.6 في رأيك، إلى أي مدى يعتبر الصيدلي مسئولاً إذا تعارضت مشاكل المريض المتعلقة بالدواء مع تحقيق المريض النتيجة الأمثل للعلاج؟

غير مسئول على الإطلاق	مسئول قليلًا	مسئول إلى حد ما	مسئول	مسئول جدًا
☐	☐	☐	☐	☐

الرجاء الرجوع إلى التعريف التالي "للرعاية الصيدلانية" عند الاجابة على الأسئلة القادمة

الرعاية الصيدلانية (Pharmaceutical Care) هي

توفير العلاج الدوائي بصورة مسئولة لتحقيق نتائج محددة تهدف لتحسين أو الحفاظ على جودة حياة المريض (Patient's Quality of Life)

وتتمثل هذه النتائج فيما يلي:

1. علاج المرض بصورة تامة
2. القضاء على الأعراض المرضية أو تخفيفها
3. إيقاف أو إبطاء عملية تطور المرض
4. منع ظهور مرض أو أعراض مرضية

س.7 هل سمعت من قبل عن مفهوم "الرعاية الصيدلانية" *(Pharmaceutical Care)*؟

☐ نعم ☐ لا

س.8 في رأيك، ما نسبة المرضى في الصيدلية التي تعمل بها الذين يرغبون أن توفر لهم الرعاية الصيدلانية؟

% 20 – 0	% 40 – 21	% 60 – 41	% 80 – 61	% 100 – 81
☐	☐	☐	☐	☐

س.9 في رأيك، ما نسبة الأطباء في مجتمعك الذين يرحبون بقيامك بتوفير الرعاية الصيدلانية لمرضاك؟

% 20 – 0	% 40 – 21	% 60 – 41	% 80 – 61	% 100 – 81
☐	☐	☐	☐	☐

س.10 ما احتمال أن يؤدي توفير الرعاية الصيدلانية في صيدليات المجتمع إلى ما يلي: .... ؟	غير محتمل على الإطلاق	محتمل قليلًا	محتمل إلى حد ما	محتمل	محتمل جدًا
النهوض بالمهنة	○	○	○	○	○
جذب المزيد من المرضى للصيدلية	○	○	○	○	○
زيادة ثقة المريض في الصيدلي	○	○	○	○	○
زيادة في إيرادات الصيدلية	○	○	○	○	○
تحسن مستوى رضاك الوظيفي (Job satisfaction)	○	○	○	○	○
زيادة مستوى الإجهاد (Stress) في العمل	○	○	○	○	○
فائدة كبيرة على نتائج المرضى الصحية	○	○	○	○	○
تقدير المريض لقيمة الصيدلي	○	○	○	○	○

تصور الصيدلي عن ممارسة الرعاية الصيدلانية في الضفة الغربية: دراسة مقطعية.

إعداد الطالب : علي محمد مصيطف غزاونة.

المشرف الدكتور : ماهر خضور.

ألملخص.

الملخص والاهداف : تعتبر الرعاية الصيدلانية جانبًا مهمًا من ممارسات الصيدلة الحديثة ، ومع ذلك لا يُعرف سوى القليل عن كيفية إدراك الصيادلة لها وتنفيذها في عملهم اليومي. تهدف هذه الدراسة المقطعية إلى فحص وجهات نظر صيادلة المجتمع في فلسطين فيما يتعلق بمفهوم الرعاية الصيدلانية وتواتر تطبيقها ومعوقات تطبيقها..

المنهجية: تم إجراء مسح ذاتي بين الصيادلة العاملين في صيدليات المجتمع. يصف المسح الذي تم تقييمه توقعات صيادلة المجتمع لتوفير ممارسة الرعاية الصيدلانية. أكمل المسح 310 صيادلة. تم استخدام مقياس نية الرعاية الصيدلانية لتقييم توقعات الرعاية الدوائية بين صيادلة المجتمع.

النتائج: أشارت نتائج دراستنا إلى أن معظم المشاكل المتعلقة بالأدوية التي أبلغ عنها الصيادلة المشاركون كانت تفاعلات دوائية ضائرة (46.0٪) ، تليها مشكلة متعلقة بالجرعة (44.0٪) ، والحاجة إلى أدوية إضافية للحالات غير المعالجة (33.0٪) ، والمرضى لم يتلقوا الدواء (26.0٪). ثلث الصيدلي باستثناء "اسأل المريض عن معلومات عن أدويتهم وأمراضهم وتاريخهم الطبي" في 40-60٪ من المرضى. أكثر من نصف المستجيبين (53٪) "ناقشوا الاستخدام المناسب ، والآثار الجانبية للأدوية للوقاية من المشاكل المحتملة المتعلقة بالأدوية " في 60-100٪ من مرضاهم. نسبيًا ، يتصل الصيادلة مباشرة بالطبيب الأساسي لحل المشكلات المتعلقة بالأدوية ومراقبة نتائج المرضى في 0-20٪ فقط و20-40٪ من المرضى. وفيما يتعلق بالالتزام الأخلاقي المتصور ، شعر الصيدلي بمسؤولية كبيرة في تحديده. أي مشاكل محتملة متعلقة بالأدوية ومنعها (المتوسط = 4.0 ± 1.14) والتدخل لحل أي مشكلة متعلقة بالأدوية (المتوسط = 3.9 ± 1.28). إلى حد أقل شعر الصيدلي بالمسؤولية عن جمع المعلومات الخاصة بالمريض (المتوسط = 3.1 ± 1.1). بالنسبة للقاعدة الذاتية ، كان الصيادلة أكثر ميلًا إلى حد ما للاتفاق على أن الأطباء وغيرهم من الرعاية الصحية سيوافقون على تقديم خدمات الرعاية الصيدلانية لهم. ومع ذلك ، وافق 30٪ على موافقة المرضى على تقديم خدمات

الرعاية الصيدلانية لهم. وافق عدد أقل من المستجيبين على أن الصيادلة الآخرين الذين يعرفونهم يعتزمون تقديم خدمات الرعاية الصيدلانية لمرضاهم. فيما يتعلق بالموقف ، مال المستجيبون إلى الاتفاق على أن تقديم خدمات الرعاية الصيدلانية كان من المرجح جدًا أن يجذب الصيدلي المزيد من المرضى إلى الصيدلية (4.15 ± 1.06) ، وسيكون ذلك مفيدًا بشكل كبير للنتائج الصحية للمرضى (4.40 ± 0.84) وكانت فرصة ثمينة للمهنة للمساهمة في المجتمع ، حتى لو أدى ذلك إلى زيادة عبء العمل لديهم (3.97 ± 1.12). كانوا أقل احتمالا للموافقة على تقدير المريض لقيمة الصيدلي (3.87 ± 1.43). وجد التحليل متعدد المتغيرات (الجدول 4.8) فقط بنيات الموقفβ = 0.399) ، (P = 0.001، والتحكم السلوكي المدرك410. = β) ، (P = 0.001لتكون تنبئًا مهمًا لنية الصيادلة لتوفير الرعاية الصيدلانية . كان مستوى التعليم هو المتغير الديموغرافي الوحيد الذي وجد أنه ينبئ بشكل كبير نية الصيادلة لتوفير الرعاية الصيدلانية β = .812) ، .(P = 0.032لم يكن أي من المتغيرات الديموغرافية أو ممارسة الإعداد الأخرى كبيرة في .05.> P كانت قيمة R2 المعدلة تساوي 0.684 ، مما يعني أن 68.4٪ من التباين في النية تم تفسيره بواسطة المتغيرات المستقلة..

الخاتمة: أظهر الصيادلة المشاركون في الدراسة نية متوسطة لممارسة الرعاية الصيدلانية. ومع ذلك ، تم تحديد بعض العوائق التي تحول دون تنفيذ الرعاية الصيدلانية ، بما في ذلك ضيق الوقت وعبء العمل ونقص المساحة. تشير النتائج إلى أن هناك حاجة لمزيد من التعليم والتدريب للصيادلة لتعزيز معارفهم ومهاراتهم في تقديم الرعاية الصيدلانية.