T.R.N.C

NEAR EAST UNIVERSITY

INSTITUTE OF HEALTH SCIENCES

Assessment of Knowledge, Attitude and Practice of Community Pharmacists towards Pharmaceutical Care in North Cyprus

A THESIS SUBMITTED TO THE GRADUATE INSTITUTE OF HEALTH SCIENCES NEAR EAST UNIVERSITY

BY:

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In Partial Fulfillment of the Requirements for the Degree of Master of Science in Pharmacology

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Master of Science in Pharmacology

Advisor:

Assoc.Prof. Bilgen Basgut

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DEDICATION

I dedicate my dissertation work to my family and many friends. A special

Feeling of gratitude to my loving parents, especially my father

Prof. Dr. TAREK ZAROURI

Whose words of encouragement and push for tenacity ring in my ears. My sisters

Fatima and Enas have never left my side and are very special

I also dedicate this dissertation to my many friends and church family who have

Supported me throughout the process.

I dedicate this work and give special thanks to my best Teacher

Assoc. Prof. Dr. Bilgen Basgut

Who encourage me to higher ideas of life, and my wonderful friend Dr. Louai saloumi for being there for me throughout the entire master program.

Approval

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ABDULLAH TAREK ZAROURI

Abstract

Abdullah T. Zarouri, Assessment of Knowledge, Attitude and Practice of Community Pharmacists towards Pharmaceutical Care in north Cyprus. Near East University, Institute of Health Sciences, pharmacology Master's Thesis', Nicosia, 2016.

The aim of this project is to assess community pharmacists' attitudes towards their professional practice and to determine their perceived competence in various pharmaceutical activities.

The philosophy of Pharmaceutical care focuses on the responsibility of pharmacist to meet all of the patient's drug related needs, and assist the patients in achieving their goal through collaboration with other health professionals. An adequate pharmaceutical services provided by pharmacist is a vital component of health care delivery system. Pharmaceutical care (PC) as defined by Hepler and Strand is the responsible provision of drug therapy for the purpose of achieving definite outcomes that improves the patient's quality of life.

The study was conducted a prospectively between January and March, 2016.It involved community pharmacists working in pharmacies within North Cyprus. There are 190 pharmacy in Northern Cyprus, 110 questionnaires were administered out of which 80 were completed giving a response rate of 73.0% from pharmacists working in community pharmacies, between January and March; 2016. Self-administered, pretested, and structured; mainly close ended questions were used, 30 pharmacy rejected.

Conclusion:

Pharmacists in North Cyprus had positive pharmaceutical care orientations. This should

Encourage pharmacist bodies educators and regulatory agencies to design initiatives to increase the frequency and quality of practicing pharmaceutical care in community pharmacy.

In This study pharmacists clearly stated pharmaceutical care as a effort and time consuming process needing experience stress and overload in their jobs and thus community pharmacists desire additional time to interact with patients and provide pharmaceutical care to them, supporting pharmacists with competent technical staff and one or more other pharmacist can facilitate patient care centered practice in community pharmacies. Increasing the use of robotics and technicians are also common strategies to free pharmacists to do more cognitive, patient-centered tasks.

Pharmacists in North Cyprus should also be trained on rationalizing drug use for chronic patients and overcoming non adherence and therapy failure.

ÖZET

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LIST OF ABBREVIATIONS:

S. #	ABBREVATIONS	EXPLANATION
1	PC	Pharmaceutical care
2	CP	clinical pharmacist
3	CPS	clinical pharmacy services
4	ASHP	American Society of Health-System Pharmacists
5	ACCP	the American College of clinical Pharmacy
6	DRPs	drug related problems
7	ESCP	European Society of Clinical Pharmacy
8	FIP	International Pharmaceutical Federation
9	PCP	Pharmaceutical Care Planning
10	PEFRs	peak expiratory flow rates
11	EAFP	Europe association of the faculties pharmacy
12	PCNE	Pharmaceutical Care network Europe
13	TQM	Total quality management
14	CGI	Continuous quality improvement
15	DSM	Disease state management
16	WHO	world health organization
17	SOAP	Subjective information, Objective information, assessment, and planning of care
18	NEU	Near East University
19	TRNC	Turkish Republic of North Cyprus
20	EU	European Union
21	IRB	Institutional Review Board
22	SPSS	Statistical Package for the Social Science

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Introduction

The philosophy of Pharmaceutical care focuses on the responsibility of pharmacist to meet all of the patient's drug related needs, and assist the patients in achieving their goal through collaboration with other health professionals. An adequate pharmaceutical services provided by pharmacist is a vital component of health care delivery system.

Pharmaceutical care (PC) as defined by Hepler and Strand [Hepler 1990] is the responsible provision of drug therapy for achieving definite outcomes that improves the patient's quality of life. While the international Pharmaceutical Federation (FIP) defined Pharmaceutical care as the responsible provision of Pharmacotherapy for the purpose of achieving definite outcomes that improves or maintain a patient's quality of life. Pharmaceutical care is recognized as a prominent activity within a health care system, it is a structured, systematic and documented type of pharmacy practice which comprises of the detection, prevention and solution to drug related problems.The goal of pharmaceutical care is to optimize the patients' health related quality of life, and achieve positive clinical outcomes, within realistic economic expenditure.

Pharmaceutical care (PC) is defined as responsible provision of drug therapy for the purpose of achieving definite outcomes that improve patient's quality of life. PC is a groundbreaking concept in the practice of pharmacy and it emerged in the mid-1970s (Karin et al 2006). It is patient centered and outcome oriented pharmacy practice with the goal to optimize health related quality of life of the patients and to achieve positive outcomes within realistic economic expenditures (Ismail 2011).

The shift of pharmacy practice from product oriented to patient oriented results in greater interaction between pharmacists and other medical professionals and thus has culminated in safer, more effective and less costly therapy in new era of patient care. PC is new concepts in North Cyprus. Thus, a stepwise process has expected to be followed in implementing the concept and education of clinical pharmacy (CP), Pharmaceutical care

(PC) is defined as responsible provision of drug therapy for the purpose of achieving definite outcomes that improve patient's quality of life. PC is a groundbreaking concept in the practice of pharmacy.

Recently the duration of undergraduate pharmacy education has increased to five years, consisting of more clinical contents making a good opportunity for further implementation of the concept (Mesut et al 2013). The discipline of PC arose with the dissatisfaction of older practice norms and pressing need for a competent health professional with a comprehensive knowledge in therapeutic use of drugs (Eman et al 2010).

The PC framework assume a patient-pharmacist professional relationship that is based up on caring, trust, communication, corporation and mutual decision making in which the pharmacists work very closely with the patient to promote health, to prevent disease and to insure that drug therapy safe and effective (Maguy et al 2011). So level of interaction between clinical pharmacists and other medical professionals is a key for the establishment and development of PC.

Pharmacy Practice Development

Over the past half century, pharmacy professional has moved far from being just drug oriented to more concentrate on patient oriented. This move began numerous years after the creation of extensive pharmaceutical industries and their stores amid the main portion of the twentieth century and by this, pharmacists progressively lost seventy five percent of their expert capacity, that had described the work of pharmacists for about one thousand years; compounding, obtaining and putting away of drugs (Sonnedecker 1976). Pharmacists wound up turning out to be excessively popularized and lost quite a bit of their demonstrable skill (Francke 1969)Pharmaceutical care started in the 1990's as the practice where the professional (drug specialist) assumes liability for a patient's medication related needs and is considered responsible for this dedication. They were later on summed up and rehearsed world generally in larger part of the created nations (Berenguer 2004)The social requirement for both the distributive and the all the more very particular expert administrations gave by pharmacists which has been likewise all around reported.

These days, however clinical pharmacy and pharmaceutical care have turned into the predominant type of practice for a large number of pharmacists around the globe, with a hefty portion of them concentrated or sup spent significant time in the diverse regions of medicinal practice (Tonna 2008).

Pharmaceutical care

Pharmaceutical Care is 'the capable procurement of medication treatment with the end goal of accomplishing definite results which enhance a patient's Quality of Life' (Hepler 1990). Pharmaceutical care is a practice for which the professional assumes liability for a patient's medication treatment needs and is considered responsible for this dedication (Anonymous 1997). Hepler portrayed pharmaceutical care as 'an outcome oriented, agreeable, methodical way to deal with medication treatment coordinated with desired results for health related quality of life(Hepler 1996). Yet, even inside of one

nation, there can be contrasts in definitions. Where the Scottish pharmacist's organization discusses pharmaceutical care, the pharmacist's organization rather utilizes the term 'prescriptions administration' for around the same idea (Hepler 1996).

Pharmaceutical care is a popular expression in pharmacy. However the term began in the USA, it is additionally progressively utilized as a part of Europe. The idea of pharmaceutical care is persistently being examined and the inquiry whether pharmacist ought to be the experts to convey pharmaceutical care has not yet been completely determined. Since Pharmacists in many nations are education specialists on medication, it appears to be consistent that they begin giving pharmaceutical care. Some European associations see pharmaceutical care as an obligation shared by all Health providers, while others confine it to the pharmacist. Most speculations now unmistakably express that a mutual obligation between various performers around medications is fundamental and do underline pharmaceutical care as a center obligation of the drug specialist (Pharmacist). It is not clear if other medicinal services providers concur with this perspective (Cipolle 1998). Hepler approach as of now appears to focus on the issue of preventable medication related deaths and medication morbidity markers (Hepler 2001). This is one and only part of pharmaceutical care (although important), on the grounds that if no medication related death happens, there must be approaches to enhance the life standard of a patient by fortifying the right drug use (Morris et al 2002). The present European suggestion in the field is by all accounts that pharmaceutical care is consideration around pharmaceuticals or medication treatment, and the pharmacist's guarantees that care(Anonymous1997). Under the increasing pressure of cost containment, it can likewise be perceived that, the accentuation on the humanistic results of the pharmaceutical care process (quality of life and satisfaction) appears to get lost when studied. Regardless of the presentation of humanistic outcome in the drug approval process in the most recent century, the clinical and economic results still appear to be considered as the fundamental endpoints in the assessment of clinical studies and in addition in the general medical literature. While talking about the pharmaceutical care, an appropriate analysis of the humanistic results is often ignored. The best approach to anticipate, recognize and remedy drug-related issues in a patient is to methodically investigate the patient, his medication profile and his medication use conduct. The goals

of treatment ought to be assessed. After dispensing, the patient ought to be checked whether the goal of therapy gained also, whether undesirable impacts are happening. If any drug related issue gets to be apparent, the pharmacist (or another expert) then ought to reassess the therapeutic objectives and the therapeutic plan, respectively. Obviously, the consideration must be given when a decent association with the patient exists and the pharmacist can correspond well with the patient about the pharmacotherapy and related subjects. In 1997, the American Society of Health-System Pharmacists (ASHP) has issued a set of guidelines for pharmacists to patient education and correspondence. Setting up a caring association with the patient is depicted as step one in the pharmaceutical care process. It ought to be underscored that such a relationship not only bridge information and correspondence, but also additionally emotional perspectives and sympathy (Hepler 1993).

Clinical pharmacy

The clinical pharmacy is characterized by the American College of Pharmacy (ACCP) as "a health science discipline in which pharmacists give quiet care that enhances solution treatment and advances health, and malady counteractive action". Too, they express that the clinical pharmacy has the commitment to add to the era of new learning and research that enhance the patient's health and personal satisfaction, advancing the treatment, advancing health and counteracting infection; in the meantime, the act of clinical pharmacy grasps the logic of pharmaceutical care (Daemen 2003). The European Culture of Clinical Pharmacy characterizes clinical pharmacy as, "a health forte, which portrays the exercises and administrations of the clinical pharmacist to create and advance the discerning and suitable utilization of therapeutic items and gadgets" (van Mil2000). The essential substance of clinical pharmacy is the procurement of pharmaceutical care to the patient, which is an alternate and more advanced type of healing facility pharmacy administrations.

The principle contrast between both ideas is the recipient; in clinical pharmacy, the physician is the essential common beneficiary. He gets all the data about the drug use from the pharmacist; while from the pharmaceutical care point of view, the patient is the

primary recipient of the pharmacist choices and behaviors. (Table 1) abridges the pharmaceutical care and clinical pharmacy likenesses and contrasts supplemented with different creators ideas (Nilsson 1993).

Pharmaceutical care and clinical pharmacy are ideas that backing and finish one another. Clinical pharmacy is a key segment in the conveyance of pharmaceutical care and can enhance the quality the specialized nature of pharmaceutical care. Pharmaceutical care can improve and expand the rationality and routine of clinical pharmacy. Pharmaceutical care is regularly examined as a framework. At long last, the premise for clinical pharmacy is more in science than in relationship morals, though, the premise of pharmaceutical care is more in relationship morals than in science.

Table 1. Similarities and differences between pharmaceutical care and clinical pharmacy

	PHARMACEUTICAL CARE	**CLINICAL PHARMACY**
DIFERENCES	Pharmaceutical care is the philosophy of the profession; it is not defined as an academic discipline.	It is a health science defined as an academic discipline (clinical profession).
	The understanding of the clinical pharmacy can improve the technical quality of pharmaceutical care.	The understanding of the pharmaceutical care can enrich and increase the clinical pharmacy practice.
	Includes the detection of drug needs for a particular individual and the dispensing, not only of the medication required, but also the services necessary to ensure that a treatment is safe and effective.	It is a specialty of Health sciences that incorporates the application of the scientific principles of pharmacology, toxicology, pharmacokinetics and therapeutic care of patients by pharmacists.

	Is responsible of the patient treatment results, aiming its welfare and health.	Focused in the scientific knowledge. Comprises all the processes carried out by the pharmacist, but does not concern about the results.
	It is an alliance between the pharmacist community and other professionals who care about the patient.Includesalso, theskills, privileges and responsibilities.	It is a practice which contributes to achieve a pharmacotherapy result aiming to improve the patient's quality of life.
	In the case of the detection of pharmacotherapy problems, develop (with the patient or their families) the objectives pursued in relation to pathology, to drugs and the patient.	In the case of detection pharmacotherapy problems, specify the objective pursued in relation to pathology, drugs and patient related.

ANALOGIES	Both aim to the necessity to improve efficacy and safety of the pharmacology treatment.
	Both of them detect any pharmacotherapy problems.
	Design or modify an established therapy to achieve the stated objectives, considering pharmacoeconomics principles.
	Evaluate the scientific bibliography to solve all the questions related with the patient therapy design.
	Obtain all the information necessary to prevent, detect and solve all drug related problems (DRPs) and make the correct therapeutic recommendations.
	Use the professional skills and authority to establish a collaboration relationship with the patient and other health professionals.

Part of the pharmacist in self-care and self-prescription

The pharmacist has a few capacities, delineated beneath.

As a communicator

• The pharmacist ought to start dialog with the patient (and the patient's doctor, when essential) to acquire an adequately point by point pharmaceutical history.

• keeping in mind the end goal to address the state of the patient fittingly the pharmacist must ask the patient key inquiries and go on pertinent data to him or her (e.g. instructions to take the pharmaceuticals and how to manage security issues).

• The pharmacist must be arranged and satisfactorily prepared to perform a legitimate screening for particular conditions and illnesses, without meddling with the prescriber's power.

• The pharmacist must give target data about solutions.

• The pharmacist must have the capacity to utilize and translate extra wellsprings of data to fulfill the requirements of the patient.

• The pharmacist ought to have the capacity to offer the patient some assistance with undertaking proper and capable self-prescription when fundamental, allude the patient for restorative guidance.

• The pharmacist must guarantee secrecy concerning subtle elements of the patient's condition.

Pharmaceutical care in hospital pharmacy

There are a few reasons why it is hard to get an unmistakable picture of pharmacy and pharmaceutical care rehearses in Europe. Despite the fact that the European Union (EU) has now existed for a long time, there has yet to be any harmonization in the field of essential human services even.

Despite the fact that various proposals have been made (Thomas et al 2005). Therefore, there still are significant contrasts in social insurance strategies and practices among European nations.

It appears that there basicallycannot be a uniform meaning of pharmaceutical care crosswise over Europe due to the distinctive nations, dialects and medicinal services frameworks included.

Aside from this disarray, there likewise can be a distinction in the elucidation of the term pharmaceutical care inside of one nation or between and inside of settings (such as group or doctor's facility pharmacy).

Quiet focused clinical pharmacy administrations are still ineffectively created in the vast majority of Europe (except for the UK), in spite of their showed points of interest in North America (Knapp et al 2005). With a couple of special cases, most doctor's facility pharmacy's and pharmacists concentrate on administrative issues to counteract pharmaceutical mistakes and not on care procurement to identify and manage drug-related issues. Aside from general ailment and drug arranged advising, the principle center of pharmaceutical care in the healing center setting ought to be on consistent care issues: persistent exchange and from doctor's facility, or nursing home. Concentrates on this point have been distributed in the UK, Northern Ireland and Sweden (Midlov 2005). There still ends up being a critical correspondence hindrance when patients are being exchanged from one setting to the next, bringing about numerous medication related issues. Patient instruction before release, as a component of far reaching pharmaceutical care, has been concentrated on in a facility in the UK (Rashedet al 2002). Directing was appeared to diminish spontaneous visits to the specialist and re-affirmations. Pharmaceutical care, as clinical pharmacy administrations, was steered in a geriatric team in a Belgian clinic, and many drug-related problems were detected and solved (Spinewine et al 2006).

Pharmaceutical care in community pharmacy

Pharmaceutical care models and practices vary in different nations. Repayment for psychological administrations, for instance, changes crosswise over nations in Europe, Asia, and the Americas. Rehearse based exploration has bloomed in numerous nations, with various accentuations and difficulties. This global arrangement will depict the association of group pharmacy inside of the social insurance framework and report the status of practice-based exploration. Every paper will concentrate on one nation. The arrangement will finish up with a synopsis by the arrangement editors depicting the key topics over the papers, illustrating turning points yet to be accomplished, and proposing an examination motivation for group pharmacy hone.

Research, distributed between January 1966 and Walk 2008, and utilizing randomized controlled trials, was analyzed to look at:

1. Pharmaceutical careservices by a pharmacist focused at patients versus services conveyed by other healthprofessionals.

2. Pharmaceutical careservice by a pharmacist focused at patients versus the conveyance of no equivalent services.

3. Pharmaceutical care services by a pharmacist focused at healthprofessionals versus services conveyed by other healthprofessionals. Whatis more?

4. Pharmaceutical careservices by a pharmacist focused at health experts versus the conveyance of no similar services. Two creators freely explored thinks about for incorporation, removed the information and surveyed the danger of inclination of the picked considers (Nkansah et al., 2010). Forty-three studies were incorporated, of which 36 were pharmacist intercessions focusing on patients and 7 studies were pharmacist mediations focusing on healthprofessionals. For correlation:

1. The main included study demonstrated a huge change in systolic blood pressure for patients accepting prescription services from a pharmacist contrasted with normal patient from a doctor. For correlation.

2. In the five studies assessing care results, pharmacistservices diminished the frequency of remedial duplication and diminished the aggregate number of medications recommended. Twenty-nine of the 36 concentrates on reported positive clinical and patient results.

From Clinical Pharmacy to Pharmaceutical Care

As in the US, clinical pharmacy was the establishment for the advancement of pharmaceutical care in most European countries (D.M.Angaran et al 2000).in spite of the fact that there is minimal composed proof in worldwide diaries about this, clinical pharmacy began to assume a part in group pharmacies in Scandinavia and the Netherlands in the mid-1980s, when the European Society of Clinical Pharmacy (ESCP) was established. In 1991, Doug Hepler, soon after the distribution of his foundation production with Strand, (Hepler 1990) was welcome to the Danish pharmaceutical relationship in Copenhagen. This started an earth shattering chain of occasions in Europe. Pharmacists' associations in different nations gradually got to be mindful of the new expert advancement known as pharmaceutical care, especially after the community pharmacy section of International Pharmaceutical Federation (FIP) began talking about its significance in 1993 and in this manner issued an Announcement of Expert Guidelines about it in 1998. Hence in the 1990s most group pharmacists' associations in Europe began taking a gander at pharmaceutical care as the (key) future for the calling. The accompanying passages portray improvements in various European nations.

Far reaching Pharmaceutical Care

The impacts of far reaching pharmaceutical care have been concentrated particularly in the elderly and nursing home populaces of Europe. A noteworthy universal study was led toward the end of the 1990s, and the outcomes were distributed in two papers (Björkman 2002). Analysis on monetary assessments was additionally a consequence of this study. The constructive outcomes on results were not as huge of

course and contrasted per nation, yet patients' fulfillment was high all around. In France, a reference can be found to the usage of an "assessment pharmaceutique" in group pharmacy rehearse, however comes about have not been described (Lepage 2003). There likewise has been a Czech study in group pharmacy. In the Netherlands, Sweden, and the UK, some more central exploration is progressing in the fields of drug use assessment, markers for improper endorsing, and medication related issues and their severity (Buurma H et al 2004). Such studies can give a more broad perspective on the conceivable effect of far reaching pharmaceutical care. A noteworthy issue in the Netherlands is the fragmentation of patient information in the electronic patient records of group pharmacies, despite the fact that most patients there visit the same pharmacy. Not every single applicable disease were dependably documented. The Spanish method for identifying and characterizing drug-related issues (the Dadér program) has been utilized for a long time now as a part of a few nations, including Portugal. Be that as it may, just preparatory results from Spain in 2002 and results from a little pilot study in a healing facility can be found (Bicas et al 2003).

Developing to a Pharmaceutical care plan

Patient care planning includes systemically surveying a patient's health issues and needs, setting destinations, performing intercessions, and assessing results. Not all patients require a composedPharmaceutical Care Planning PCP. Pharmacists must evaluate their own patients and distinguish particular regions on which to center. For instance, the pharmacist might need to recognize patients with particular infections (e.g., asthma, hypertension, diabetes mellitus, or hypercholesterolemia).

The advancement of a PCP can be condensed as a five stage process including the SOAP configuration (Subjective information, Objective information, assessment, and planning of care).

Step 1. Gathering information

The pharmacist ought to assemble an exact solution history, including both remedy and nonprescription andhe reasons the pharmaceuticals were endorsed or taken. The pharmacist will probably need to acquire some data from the doctor, for example, lab

test results and hospitalizations. Provided that this is true, the pharmacist ought to get composed authorization from the patient before requesting this information. Once this information is ordered, the arrangement of a PCP can start.

Step 2. Identifying Problems

From the patient's medication profile, only one problem is evident: determination of asthma. In the event that material, other issue ought to additionally be recorded. Subjective and objective discoveries associated to the issue are recorded. Subjective discoveries are those that the patient portrays (e.g., 'I feel tired constantly, "I feel bloated," or "I woke up hacking"). Objective discoveries are those that can be watched or measured by the pharmacist (e.g., quiet seems tired, high blood pressure is 180/105, setting edema in lower legs). In the patient with asthma, the pharmacist would have the patient utilize a crest expiratory stream meter and record the outcomes.

Step 3. Assessingproblems:

The pharmacist analyzes and integrates the information gathered in steps 1 and 2 and draws conclusions in preparation for developing a patient-specific PCP. For example, in the asthma case, the pharmacist may first investigate the etiology of the factors that exacerbated the asthma. The pharmacist does not have to be involved in skin testing, nor does the pharmacist have to conduct a detailed, extensive history of all of the factors that may have precipitated the asthma. However, the pharmacist should attempt to determine if drugs (e.g. aspirin, nonsteroidal anti-inflammatory agents, or beta-blockers) caused or exacerbated the asthma in the patient. Thus, the importance of an accurate and complete drug history becomes evident

Next, the pharmacist evaluates the seriousness of the asthma. This could be proficient (as appeared in the arrangement) by deciding thepeak expiratory flow rates PEFR, looking at the patient's day by day side effect and top stream journal, or figuring out whether the patient had been hospitalized and set on steroids or a mechanical ventilator.

Step 4. Developing planning:

In step 4, the pharmacist establishes goals linked to each of the patient's problems and specifies a course of action aimed at meeting each goal. Each goal (i.e., craved change) ought to be expressed regarding quantifiable results that show the degree to which the specific issue has been determined. Regularly, the patient has a few issues, and the arrangement must be sufficiently exhaustive to positively affect the general strength of the patient.

Step 5. Evaluating the Achievement of Outcomes

Results that will be usedto evaluate the success of the PCP treatment arrangement must be important, quantifiable, and sensible. Results are particular, quantifiable markers for the objectives of treatment. In this way, they ought to be recognized in the arranging process. Give a more finish discourse of patient results.

The results recorded for asthma would incorporate, however not be constrained to lower recurrence and seriousness of intense intensifications, less doctor office visits, disposal of reactions, peak expiratory flow rates PEFRsthat never fall underneath 80% of past individual best anticipated rates, less crisis office visits, and support of exercises that improve the patient's personal satisfaction and might have been restricted by the infection.

Documentation ought to incorporate these segments.

1. Patient information, for example, name, restorative record number, area, date of doctor's facility confirmation (if relevant). Age, sex, stature, weight, known medicine or different sensitivities, and pharmaceutical history.

2. Name of pharmacist(s) in charge of creating and executing the PCP.

3. Patient problem(s) recorded independently altogether of potential pharmacotherapeutic impact (most noteworthy to least need). Subjective and objective information that prompt recognizable proof of a particular issue and potential medication related issues ought to additionally be incorporated.

4. Date on which a patient issue is recognized. Numerous sicknesses stay endless all through the patient's life. Issues, for example, urinary tract contamination or upper respiratory tract disease for the most part resolve in 10 to 14 days.

Role of the Pharmacist in the Health Care System

As a quality medication supplier

• The pharmacist must guarantee that the items he/she buys are from trustworthy sources and of good quality;

• The pharmacist must guarantee the best possible stockpiling of these items.

As a trainer and supervisor

To guarantee up to date quality administration, the pharmacist must be urged to take an interest in proceeding with expert improvement exercises, for example, proceeding with training.

The pharmacist is frequently helped by non-pharmacist staff and should guarantee that the administrations rendered by these assistants relate to set up gauges of practice.

To accomplish this the pharmacist must create:

• Conventions for referral to the pharmacist.

• Conventions for group health laborers included with the taking care of and conveyance of medications.

The pharmacist should likewise advance the preparation and administer the work of non-pharmacist staff.

As a collaborator

It is basic that pharmacists create quality community oriented associations with:

Health care professionals;

• National professional associations.

• The pharmaceutical industry;

• Governments (local/national).

• Patients and the general public.

In this manner, chances to take advantage of assets and mastery, and to share information and encounters, so as to enhance self-care and self-pharmaceutical, will be upgraded.

As a health promoter

As an individual from the health care team, the pharmacist must:

• take part in health screening to distinguish health issues and those at danger in the group.

• take an interest in health advancement battles to bring issues to light of health issues and ailment counteractive action.

• give counsel to people to offer them some assistance with making educated health decisions.

Specific situations

In numerous developing countries, the proportions of pharmacists and pharmacies to populace are low to the point that entrance to pharmaceutical care is hindered. In such cases, conference with other health specialists or group human services laborers, family careers and other suitable laypeople, if they have gotten the fitting pharmaceutical preparing and introduction, ought to be empowered.

Drug Misadventures

The outcomes of these medication misadventures are very broad. In the USA, roughly 3–5% of all hospitals patients are brought on by a drug related issue. Such issues rise as an aftereffect of improper prescribing, wrong administering or inappropriate medication use. More than 218, 000 individuals have died of drug related issues in 2000.

The expenses of these medication misadventures were assessed to be 170 billion US dollars, a huge measure of cash (Ernst 2001). In a global survey, found that upwards of 28% of all emergency visits were drug related (Patel et al 2002). Of these, 70% were preventable, and upwards of 24% were resulted in hospital admission. Drug classes frequently in drug related visits to emergency were (NSAIDs), anticonvulsants, anti-diabetic medications, antibiotics, respiratory pharmaceuticals, hormones, central nervous system medicines, and cardiovascular medications. Basic drug related issues bringing about emergency visits were adverse drug reactions, non-compliance, and inappropriate prescribing (De Vries 1998). It has been broadly understood that drugs might bring about a wide range of and unfavorable impacts (side effects and interactions) form an important part of drug-related problems. In Spain, a study by Marco et al. investigated the number of hospital admissions due to drug-related problems, and found a relatively low percentage (0.45%) (Marco et al 2002). A study in Denmark in 1988, found that 8% of all confirmations in one hospital were some way or another drug issue related. Literature survey surely demonstrates that an impressive part of all hospital admission are identified with adverse drug reactions. However, this information are not homogenous, i.e. large studies show a lower rate of ADR-related hospital admissions, while small studies show a higher rate. This could be because of the method for investigating accessible information, which can be more intensive in small studies. Subgroup investigation in the meta analysis of (Beijer 2002) demonstrated that for elderly individuals the chances of being hospitalized by ADR-related issues is 4 times higher than for more youthful ones (16.6% versus 4.1%). An impressive part of these hospitalizations can be counteracted. Subgroup investigation uncovered that in the elderly up to 88% of the ADR-related hospitalizations are preventable; for the non-elderly this figure is 24%. Applying the standards of pharmaceutical care might add to forestalling such medication related morbidity and mortality. (Johnson 1997).

Prevention: Medication Review and Counselling

A study in Denmark, brought out through participatory activity research, found that the discernments and authentic learning of angina pectoris patients shifted enormously, and that just a quarter effectively and reflectively self-controlled their

pharmaceutical. Half of the patients at times neglected to take their pharmaceutical (stig et al 2002). In a UK study in patients more than 75 and experiencing numerous medication treatment, Krska et al identified (potential) issues in prescription records of general professionals rehearses. (Krska et al 2001). They found that all patients had not less than two pharmaceutical care (issues that included a medication related issue) at standard. Half of these were identified from the solution records, the rest from notes and patient meetings. Such studies confirm the need to consistently guide patients. This requirement for directing has (once more) been confirmed in Finland (kansanaho et al 2002). In numerous studies, patients additionally express their wish to be guided about the correct utilization of medications. In a few nations' drug examination or survey is a standard piece of pharmacy rehearse.Distributed learn about the UK, in which pharmacists mediated in 0.74% of the apportioned things (Hawksworth et al 2001). In the Netherlands, drug stores archived their exercises as an aftereffect of imminent mechanized medicine audit; 38% of all mediations coming about because of pharmaceutical care produced alarms or different types of expert appraisals prompted an adjustment in the solution or patient training exercises. These intercessions spoke to more than 9% of all solutions administered (van Mil 2000) Buurma et al found that 4.9% of remedies for medicine just medications (mean 14.3 for each pharmacy every day) were modified in the Nether grounds to anticipate or adjust drug-related issues(Buurma et al 2001). Progressively other European nations like UK, Denmark, Sweden, Germany, Switzerland, among others additionally monitor medications apportioned to patients in mechanized databases, and this empowers planned prescription audits. There are intelligent motivations to trust that the procurement of pharmaceutical care can diminish the effect of medication related issues on clinical, humanistic and financial results of patients by enhancing the nature of the framework and the nature of individual medication treatment. Be that as it may, to date just not very many studies have demonstrated that effect in the field of humanistic outcomes, regardless of the careful examination of the issue. This may be, in any event to a limited extent, because of the deficiency of the instruments accessible. (Kleir et al 2004). In spite of the fact that the effect on fulfillment has frequently been demonstrated to, it can (and must to) be talked

about if this result has been measured suitably and if the fulfillment was the aftereffect of the pharmaceutical care process or the correspondence with the health proficiency

Evidence of Pharmaceutical Care Effectiveness

Obviously, it is just worth giving pharmaceutical care in the event that we have confirmation that the use of clinical Pharmacy and pharmaceutical care has preference for the patient and the society. During the last couple of years, distinctive scientists partially have already provided this evidence however, more robust examination is still required. In numerous parts of the world the beneficial impact of pharmaceutical care are under approach to demonstrate. Particularly in the USA, numerous publications have already showed up in peer review journals, to demonstrate that value and the Australian value proposition report additionally indicated clear proof for adequacy of pharmaceutical care services (Roughead 1990). This report managed randomized clinical trials and non-randomized studies which checked patient results as end-point, and was published in English around 1990 and 2002. Another such report was completed in the UK, and the report about peer reviewed literature incorporated some non-English papers (Anderson C 2003). During the Social Pharmacy Workshop in Malta (2004), a Danish Community Pharmacy Evidence Database was given 231 information sheets with articles subsequent to 1990, from which evidence reports about various topics are produced (Søndergaard B 2004). In 1998, Kennie, and McLean found that the nature of the published papers on pharmaceutical care can be debated, particularly in the field of process monitoring and outcomes studied, yet they additionally reasoned that the proof for the beneficial impacts of pharmaceutical care arrives in the event if you add up all productions (Kennie NR 1998, McLean W 1998). A similar conclusion was come to by Beney et al. in an audit by the Cochrane Effective Practice and Organization of Care Group (Beney et al 2001). In a few parts of world such as the UK and the Netherlands, drug specialists(Pharmacist) do give prescribing advice to doctors (pharmacotherapeutic consultations, outreach visits,

academic detailing) to influence prescribing, keeping in mind the end goal to avoid conceivable future pharmacotherapy issues (kocken 1999, de vries1998, van eijk2000). The aftereffects of this kind of interventions on prescribing quality are not always persuading (denig 2002). Up to this point, the benefits of 'full blown' pharmaceutical care in Europe have truly been demonstrated in asthma projects in community pharmacies in Denmark(Herborg 2001), Finland(Na¨rhi U 2001), Germany(Schulz M 2001), Malta(Cordina 2001), The Netherlands(van Mil 2000), Northern Ireland(Granger 1997).The effect of a hypertension projecthas been appeared in Portugal, and in Northern Ireland, a constructive outcome in the field of congestive heart failures was established. The more broad European Elderly projects (facilitated by the Pharmaceutical Care Network Europe, PCNE) has had an effect that fluctuated significantly over the distinctive parts of world (Bernsten C 2001). No publication about the benefits of pharmaceutical care in the European hospitals can yet be identified. As Bonal has as of now specified: 'The application of evidence based pharmacotherapy (in Hospitals) is not a simple assignment for three reasons: an absence of scientific documentation in numerous medical areas, an absence of power of pharmacist in Europe to take a dynamic part in choice making for medication prescription, and hesitance of a few doctors to acknowledge pharmacist inside of the health care team' (Bonal 2000). Performing research into the impacts of pharmaceutical care is problematic. The continuing education session of the community pharmacy section of FIP in Barcelona in 1999 was dedicated to teaching how to establish the value of such a new practice philosophy (Tromp 1999). The real conclusions from that session, as well as from other exploration are: Structure, procedure and outcomes should be very much checked during a study. In spite of the fact that the taking an interest pharmacist in numerous practice concentrates surely are willing to execute new procedures, practically speaking they regularly essentially often simply forget to provide care because of their product focus and time limitations. It is particularly the procedure that should be observed during a study. Regardless of results to a study as empowering or disillusioning, you should make sure that the procedure has been applied well. A production of. Represents this point (Weinberger et al 2002). A portion of the remarks on this study are condensed in an Editorial in Pharmacy World and Science, including the issue of procedure reviewing. Documentation is another difficult

point in the pharmacy practice environment. In any case, for a study it is important to have great information, implying that the taking an interest pharmacist truly should archive everything the researchers inquires. Analysts have the commitment to choose the perfect measure of appropriate indicators to be archived. That is a demanding procedure, expertise in specific clinical fields, in addition to the information about the everyday practice in the pharmacy. On a more coordinated level, achievement of total care process in the pharmacy recorded and examined, e.g. around one specific disease or group of patients. Obviously, the above conclusions are to some degree inconsistent and rely on upon the selected research point of view. For the researchers it can be useful to consider the Kozma model of outcomes (kozma1993). Looking at that model from our perspective, we can identify a lack of good and validated instruments for assessing, especially the humanistic outcomes of pharmaceutical care, like satisfaction, knowledge, attitudes and beliefs, or quality of life (Tully 1999). The PCNE has tended to these topics while working conference in 1999, 2001, and 2003. An instrument to assess the attitudes towards medicines is now being validated in the PCNE, but in the meantime, other validated instruments have also become available in Europe, e.g. an instrument dealing with patient's beliefs that was published in 1999 in the UK (Horne 1999). Constraints on pharmaceutical care the requirements on the procurement of pharmaceutical care do not contrast much from remains of the world. Obviously, there is a great deal of difference in qualities in health care frameworks and pharmacist education in Europe than in the USA or Australia. The essential concern is that the expert that ought to give pharmaceutical care can just be a pharmacist or a clinical pharmacologist. Others have not got a preparation that is likely ensure the fundamental learning to reveal drug-related issues. In any case, it must be focused on that giving pharmaceutical care requires more than learning alone (van mil 2001).The provider ought to additionally have certain abilities and attitude, and one can think about whether pharmacists for sure have the suitable skill in Europe. Another significant hindrance is the absence of resources in the pharmacy, which interprets into the absence of independent reimbursement for pharmaceutical care activities. (Rossing 2001). There is an endless deliberation if pharmaceutical care gives 'Value for cost'. (Crealey GE 2003). The difficult connections between pharmacist as advisors and the prescribers have likewise been the subject for considerations and

research. (Muijrers et al 2003).A glance at the skill required for pharmaceutical care functions, shows the necessities for education. For clinical practice, pharmacist will require learning about pharmacology, pharmacotherapy and clinical pharmacy. Clinical Pharmacy is one of the foundations of pharmaceutical care, and competence is required for performing drug use evaluation (due to recognize and avoid drug-related issues), for recording and for reacting to indications at the counter. So as to enhance clinical information, can be considered consolidating certain parts of the pharmacists' educational modules with the medical education (Kinget R 2000). The European Association of the Faculties of Pharmacy (EAFP) in 1999 has found out the pharmacist demand in community and hospital have the capacity to react. They recommended an adjustment in the structure for the curriculum. In their report, a clear shift is proposed during the study for pharmacist, from laboratory-based sciences to practice and clinical sciences. There is still a part for the basic education so as to learn clinical sciences since despite everything you require a specific foundation on chemistry, physics and biology. Be that as it may, it would likely additionally be prudent, from the earliest starting point of the educational modules, to pay care on healthcare framework and social pharmacy. Particularly, social pharmacy would help the students to put the more theoretical subjects in a society-oriented perspective (Sørensen EW 2003). After the basic education, it stays fundamental that pharmacists(pharmaceutical care provider) join in proceeding with skill development. It will be clear that the recommended educational modules likewise will prompt a field of pharmacy practice research, which is at present barely being tended to in the European universities on a substantial scale, aside from the UK and some Scandinavian countries.

Implementation

Regardless of the previously stated limitations, everyday use of the standards of pharmaceutical care is being executed in Europe. And, a certain form of pharmaceutical care already existed in many countries where often standards and protocols for the coaching of self-care were implemented already by the end of the recent century. Also, compensation for a few types of pharmaceutical care (pharmaceutical care services) can now be gotten by pharmacist in five European countries: The Netherlands, Portugal,

Switzerland, Germany, and the UK. In The Netherlands, some insurance agencies (e.g. Achmea) have started connecting a little repayment to the procurement of pharmaceutical care in specific fields like incontinence exhorting. In Portugal, a fruitful disease-state management (DSM) program for diabetic patients completed by pharmacist was critical to the concurred repayment contract with the Ministry of Health (personal communication Dr. Suzette Costa, ANF, October 2003). One major new advancement is the idea of family or domiciliary pharmacies in Germany. These are community pharmacies with an emphasis on case management for significant disease states. Under this program, the patients pick their family pharmacyfrom the participating pharmacies. All individual and drug information is recorded and prepared in the pharmacy's computer which implies that all pharmaceuticals (prescriptions and over the counter), supplements and devices are conveyed by this pharmacy. These pharmacy additionally offer medication regimen evaluation, potentially incorporating cost investigation in a further step. The concurred family/domiciliary pharmacyidea (contract with medical coverage reserves) incorporates compensation for cutting edgeadministrations i.e. pharmaceutical care. (Himstedt 2004).Their focus on outcome research has increasingly come to include implementation research as well. Since Tokyo 1993, the community pharmacy section of FIP offers a comprehensive continuing education/professional development programme at their annual meetings (van Mil 2004). Additional tools and approaches available to facilitate implementation of pharmaceutical care services include training courses, manuals, marketing support, quality circles, disease management, total quality management (TQM) and continuous quality improvement (CGI) programmes, pseudo-customer methodology, to name a few. They are developed either by pharmacy associations (e.g. ANF in Portugal, WINaP in the Netherlands, ZAPP/ABDA in Germany, TIPPA-programme in Finland, SAV in Switzerland, Apoteket in Sweden) or foundations (Spain), university-based departments (UK, Finland), private institutes (QIPC or SIR in the Netherlands) or colleges (Pharmakon in Denmark). Many implementation projects are not really monitored well. In Denmark, a system of participatory action research has been developed at the university, where pharmacy students address patient as to their expectations and assess the level of implementation of care in a pharmacy during their internships. These studies seem to give good results that

are relevant for practice (Haugbolle 2002). Elsewhere sometimes pseudo customers are being used. (De Almeida 2003).

Future Developments

It might be expected that pharmaceutical care will be beneficial for the patient. Be that as it may, before the future advancements of pharmaceutical care in Europe can be examined, various essential choices must be made basically on a political level:

(1) Pharmaceutical care is a unique administration or a commitment inside of the (para) therapeutic callings, to be directed at all times for each patient. In a few countries (e.g. The Netherlands, France, Morocco, USA), pharmacist or pharmacy student understudies convey a promise equivalent to, or looking like, the vow of Hippocrates, Asaf, Galien, or Maimonides. Since those experts have expressed that they will do everything conceivable to advance health and evade damage to the patient, it is coherent that pharmaceutical care ought to be a piece of their ordinary expert life, and compensated in the aggregate proficient expense, when the expert has beaten the vital abilities and learning. In different countries, the procurement of pharmaceutical care might be viewed as a different or propelled administration e.g. for specific understanding needs, and such an administration ought to in the end be compensated independently as well. Be that as it may, likewise under such circumstances, the way that pharmacistsare experts will in the end drive them (from a moral viewpoint) to begin giving pharmaceutical care. (Dessing 2003)

(2) Mostly identified with this issue, it should be talked about if compensation for the pharmaceutical care procedure or pharmaceutical care administrations is alluring and in the end accessible. (MacKeigan 2001). That question is not specific for Europe. In a few countries where drug use examination in blend with clinical intercessions has been defined as a different movement for a gathering of particularly prepared pharmacistslike in Australia or in Quebec, Canada, compensation can be acquired (Benrimoj 2000). As effectively said some time recently, compensation for a predetermined number of pharmaceutical care such as administrations can now be acquired in some European countries too, and the attainability of compensating specific pharmaceutical care like administrations is being concentrated on in the UK.

(3) Would all pharmacists in all circumstances have the capacity to convey the full extent of pharmaceutical care or not. The more constrained additionally possibly beneficial ideas can e.g. be found when taking a gander at 'pharmaceutical care at the counter/the guiding pharmacy venture (in Denmark, Sweden or Spain) (Herborg 2001).

Material and Method

The study was conducted a prospectively between January and March, 2016.It involved community pharmacists working in pharmacies in North Cyprus. There are 190 pharmacies in North Cyprus, 110 questionnaires were administered out of which 80 completed giving a response rate of 73.0% from pharmacists were working in community pharmacies, between January and March 2016,30 pharmacies rejected. Self-administered, pretested, and structured.Mainly close ended questions were used. We use samequestionnaires with the other study (Nigeria; 2014). The questionnaire was structured such that it consists of different parts, as mentioned:

1-Part one: Demographic characteristics.

2-part two: Knowledge on pharmaceutical services.

3-Part three: attitude towards the practice of pharmaceutical care.

4-Part four, pharmaceutical care practice

5-part five: Barriers to executions of pharmaceutical care.

A pilot study was conducted on 17 pharmacists to determine the applicability of the questionnaire.

Descriptive statistics was used to summarize the data and organize them into groups depending on the parts of the questionnaires. It was designed also using a 2 point likert response format consisting of Yes and No, Agree and Disagree, and a few open ended questions.

Statistical analysis:

Distinct investigation was utilized to analyze the study's consequences. An information collection form was utilized to facilitate the information extraction process. All gathered information was examined statistically by utilizing Statistical Package for the Social Science (SPSS) programming version 22.0 and Graph pad prism version 6.07. The values are given as a percentage of total case number. Chi square test or fisher's exact test was used as an appropriate for categorizing the data.Pearson Chi-Square orFisher's Exact Test $P < 0.05$ was accepted as statistically significant. Continuous data was expressed as mean (± standard deviation) or median (range), while absolute information was communicated as frequency and percentage (%).

Keywords: Attitude, knowledge, practice, community pharmacists, pharmaceutical care

Ethical Consideration

Confidentiality was guaranteed during the study and furthermore patient's persistent privacy, a letter of moral clearance was submitted to Near East Institutional Reviews Board (IRB) of Near East University Hospital that assigned this research as being just observational study and hence viewed as not requiring moral regard. Just initials were utilized during the study without recording patient's location or other related not clinical essential individual data.

Results

110 questionnaires were administered out of which 80 were completed giving a response rate of 73.0%. 73% of respondents were females while males accounts for 27.5%. Age distribution of respondents showed that 46.25% of the workforces are above age 31.Those within 1-5 years of working experience forms 47.5% of respondents (Table 1).

Ninety-two percent of the respondents offered advice and counseling during dispensing. Only 28% defined pharmaceutical care as dispensing of medication to patient only. 92% feels review of patient's drug therapy and secondary changes to prescriptions was necessary. And 71.25% agree that pharmacists should take full responsibility of drug related needs of patients. However, 31.25% defined Pharmaceutical Care as a responsibility of pharmacists to dispense and counsel the on drugs prescribed by him or the physician. (Table 2)

On attitude to practice of Pharmaceutical Care 62% of respondents feels Pharmaceutical Care is a mandate of pharmacists only, 85% see it as a primary responsibility of pharmacists only. High extents 98.75% are of trust that pharmaceutical care is a significant method of practice and will serve to enhance patients health needs. 98.75% agrees that practicing pharmaceutical care inpharmacies will expand patients' confidence in the profession and enhance pharmacy practice. While 78% are of the opinion that practicing pharmaceutical care is resource intensive that is time consuming, requires more man power and isnot worth the trouble. 94.50% believes in order to assure

themselves a place in health care team, community pharmacist must practice pharmaceutical care.(Table 3)

On practice of respondents to91% of community pharmacists collect information from patients before dispensing the prescribed drug. 97% normally identifies prescription problems. 68% had a case of adverse drug reactions (ADR'S) report by patients while 82.5% agree that changing of prescribed medication is part of pharmaceutical care.(Table 4)

On barriers to implementation of pharmaceutical care, 71% agrees that poor relationship of community pharmacists with other health care members is one of the barriers while 30% agrees to the fact that lack of confidence in pharmacist themselves is the reason. 80% agrees that lack of trained personnel and support staff needed to offer pharmaceutical care is a barrier. (Table 5)

In compairing pharmacists perceptions toward pharmaceutical care, no significant difference was noticed between females and males . While young and new pharmacists significantly (p=0,0001) believe more than older more experienced pharmacists that a pharmacist is only responsible to dispense or counsel the patients on drug prescribed by him or the physician's. They significantly less (p=0,02) agreed with changing prescriptions when needed as being part of the pharmaceutical care provided by a pharmacist, on the other side young pharmacists saw collecting patient information and history as a major component of pharmaceutical care while old pharmacists didnot agree with it (p=0,031).

Table 1. Demographic data of Respondents		
Characteristics	**No of Respondents (n=80)**	**Percentage of respondents %**
Sex:		
Male	22	27.5
Female	58	72.5
Age:		
21 -25	26	32.5
26-30	17	21.25
31 and above	37	46.25
Years of Experience:		
1 to 5	38	47.5
6 to 10	8	10
11 to15	7	8.75
16 to 20	3	3.75
21 and above	24	30

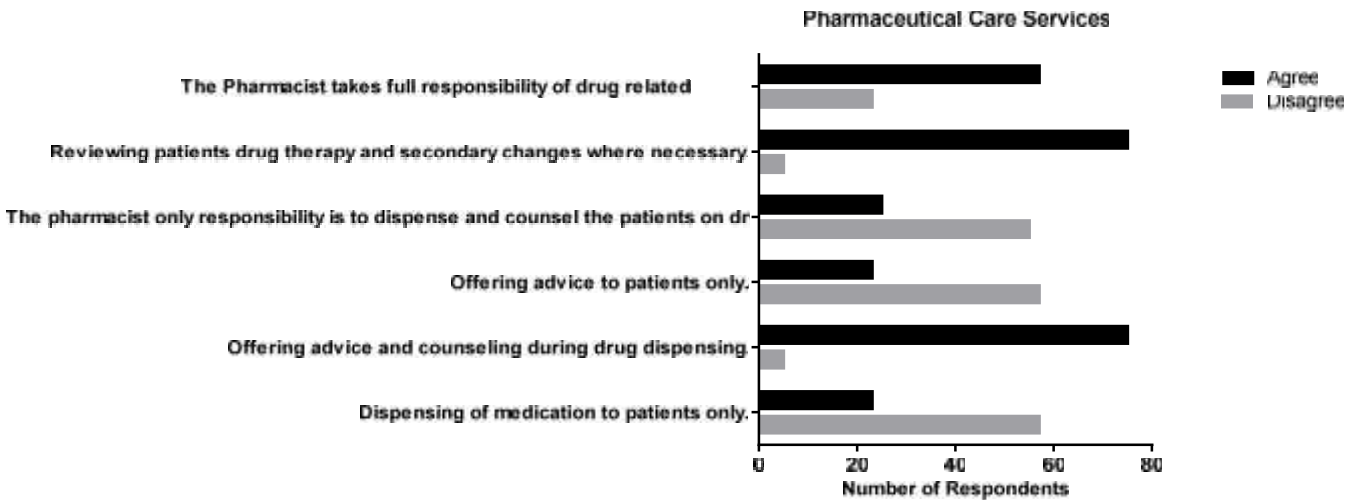

Figure 1: Distribution of knowledge on Pharmaceutical care services related with number of respondents.

Table 2. Distribution of knowledge on Pharmaceutical care services

Pharmaceutical care services	**Agree (%)**	**Disagree (%)**
Dispensing of medication to patients only.	28.75%	71.25%
Offering advice and counseling during drug dispensing.	92.50%****	7.50%
Offering advice to patients only.	28.75%	71.25%
The pharmacist only responsibility is to dispense and counsel the patients on drug prescribed by him or the physician's.	31.25%	68.75%
Reviewing patients drug therapy and secondary changes where necessary.	92.5%****	8%
The Pharmacist takes full responsibility of drug related	71.25%	28.75%

****** (P<0.0001) statistically significant when compared to other groups**

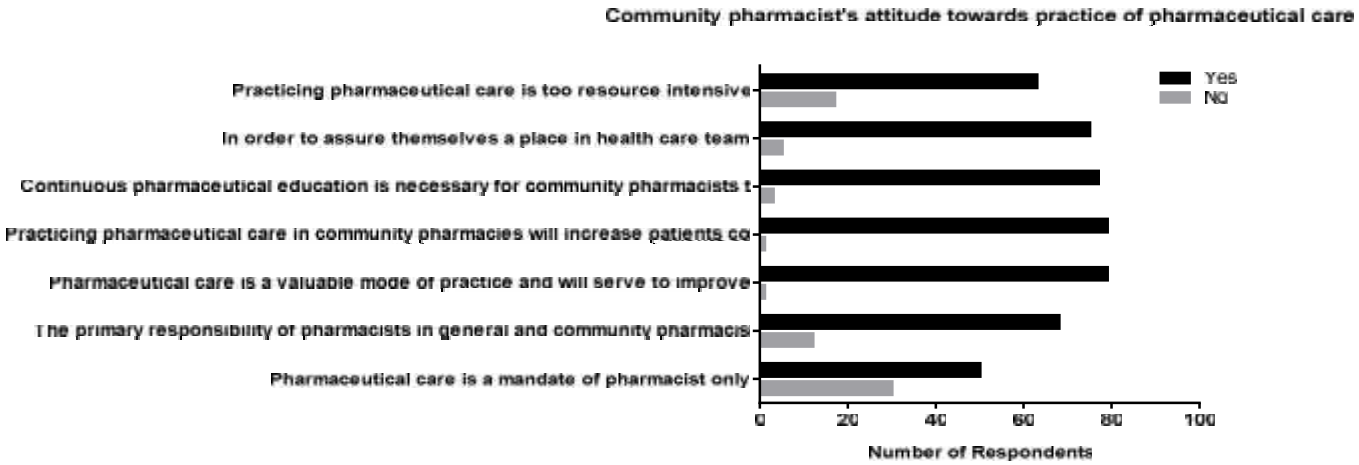

Figure 2:Community pharmacist's attitude towards practice of pharmaceutical care related with number of respondents.

Table 3: Community pharmacist's attitude towards practice of pharmaceutical care.

Attitude	**Yes (%)**	**No (%)**
Pharmaceutical care is a mandate of pharmacist only	62.50%	37.50%
The primary responsibility of pharmacists in general and community pharmacists is to provide pharmaceutical care.	85%	15%
Pharmaceutical care is a valuable mode of practice and will serve to improve patient health needs.	98.75%****	1.25%
Practicing pharmaceutical care in community pharmacies will increase patients confidence in the profession and enhance pharmacy practice	98.75%****	1.25%
Continuous pharmaceutical education is necessary for community pharmacists to practice pharmaceutical care.	96.25%	3.75%
In order to assure themselves a place in health care team, community pharmacists must practice pharmaceutical care.	94.50%	5.50%
Practicing pharmaceutical care is too resource intensive, time consuming and requires more man power.	78.75%	21.25%

****** (P<0.0001) statistically significant when compared to other groups**

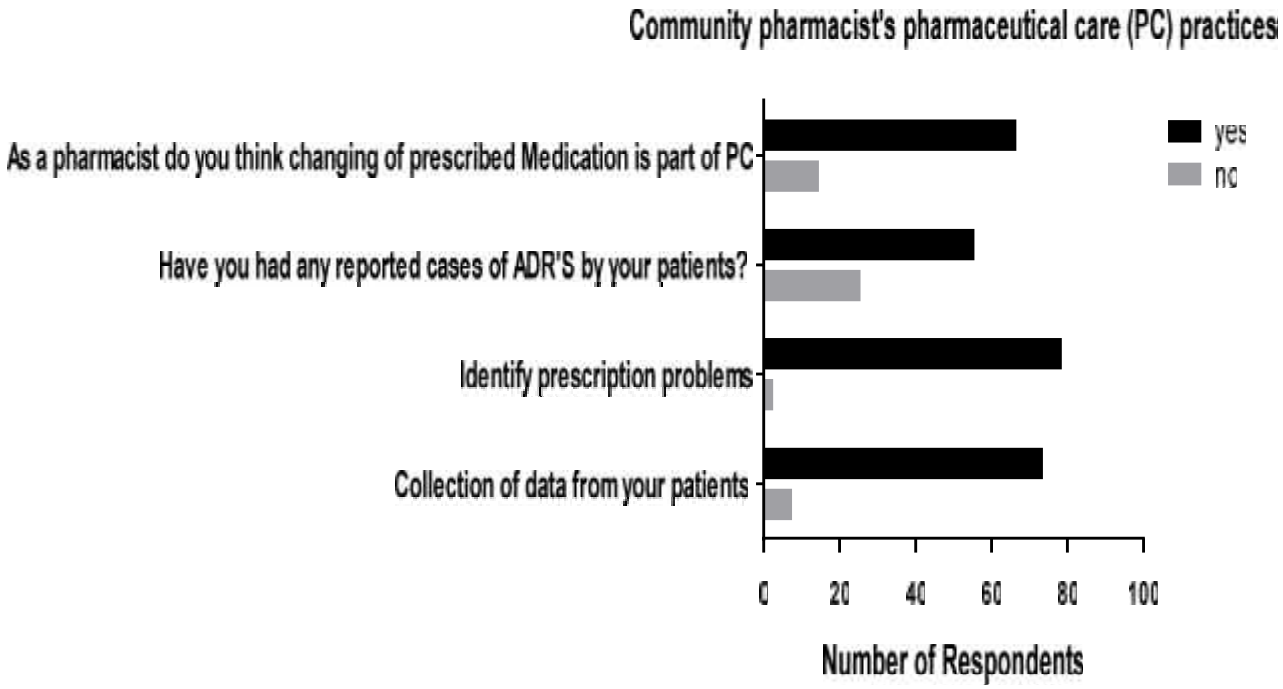

Figure 3:Community pharmacist's pharmaceutical care practices related with number of respondents.

Table 4: Community pharmacist's pharmaceutical care practices

Practice	**Yes (%)**	**No (%)**
Collection of data from your patients.	91.25%	8.75%
Identify prescription problems.	97.50%****	2.50%
Have you had any reported cases of ADR'S by your patients?	68%	32%
As a pharmacist, do you think changing of prescribed Medication is part of pharmaceutical care?	82.50%	17.50%

****** (P<0.0001) statistically significant when compared to other groups**

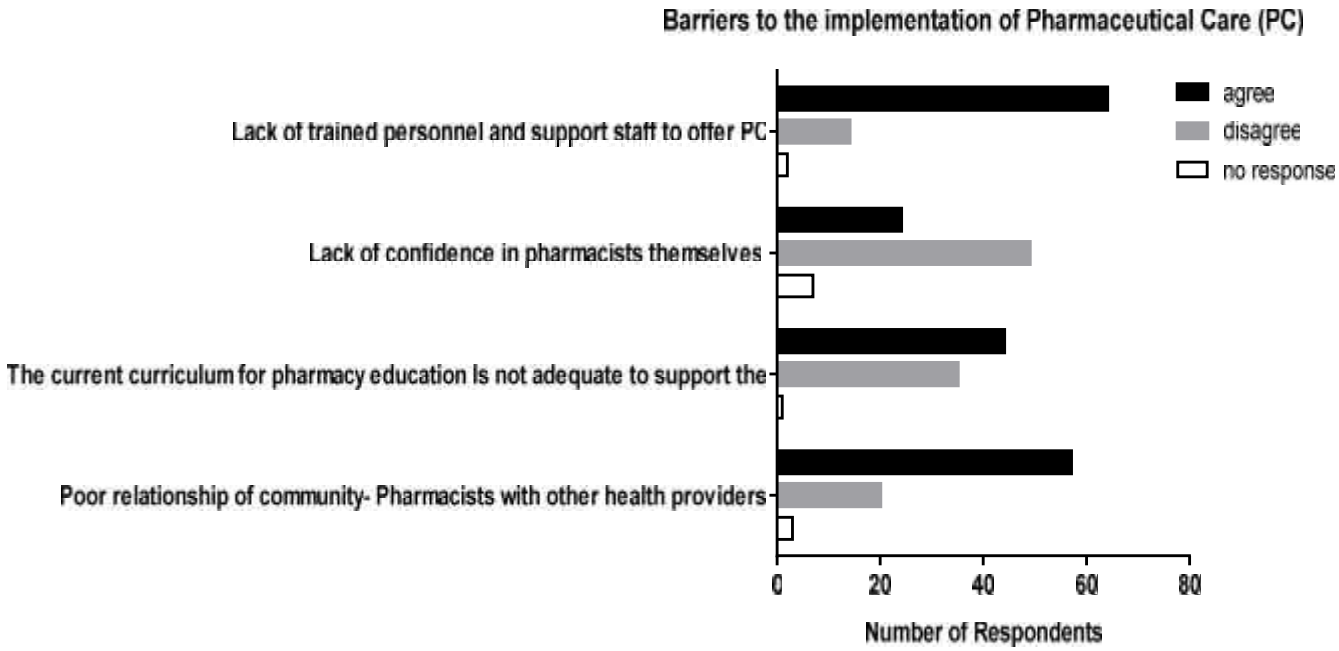

Figure 4:Community pharmacist's pharmaceutical care practices related with number of respondents.

Table 5. Barriers to the implementation of Pharmaceutical Care

Barriers	**Agree (%)**	**Disagree (%)**	**No Response (%)**
Poor relationship of community-Pharmacists with other health providers.	71.25%	25%	3.75%
The current curriculum for pharmacy education Is not adequate to support the practice.	54%	43.75%	2.5%
Lack of confidence in pharmacists themselves.	30%	61.25%	8.75%
Lack of trained personnel and support staff to offer Pharmaceutical care.	80%****	17.50%	2.50%

****** (P<0.0001) statistically significant when compared to other groups**

Discussion

In this survey we explored pharmacists' attitude and their self-reported behavior towards ADR in private community pharmacies in North Cyprus. This study described the attitude of Turkish pharmacies towards pharmaceutical care. It also assessed some factors that could lead to the observed attitude score. The instrument used for the assessment was a standardised questionnaire (Dunlop, 2011) that has been used in many regions of the world (Aburuz 2012)(Fang 2011) (Grootheest 2002) and is used here in North Cyprus for a similar assessment.

The results obtained from this study are interesting and provide an insight into pharmacists' perceptions of their professional practice. There are a number of trends which are evident, some of which are not surprising, while others are rather worthy of note. The survey response rate was good (78%) and revealed that majority of pharmacists employed in community pharmacies were females, middle-aged Turkish having bachelor degrees in pharmacy. This is comparable to the study carried out in SaudiArabia by Saleh A, 2012 in which the response rate was 71.7% but in contrast to our study majority of pharmacists employed in community pharmacies were males. In contrast one study in Nigeria by Ezeudoetal, 2006 showed that Nigerian hospital pharmacists have a negative attitude towards pharmaceutical care. This was reflected in the fact that 26 - 30 year old pharmacists and pharmacists with 1-5 years of experience showed the highest positive attitude towards pharmaceutical care in the sub-demographic groups.

Nevertheless, attention need to be paid to older pharmacists to foster positive attitude in them as these represent the leaders of the profession who should show the younger pharmacists the way forward in the practice of pharmacy. The negative attitudes identified in this study could have been caused by the lack of adequate infrastructure and logistics for the implementation and sustenance of pharmaceutical care. As such efforts need to be made towards the provision of the necessary infrastructure and logistics that will encourage the integration of the philosophy and principles of pharmaceutical care in the practice of pharmacy in North Cyprus.

In our study, male had a less positive attitude than their female counterpart. This may show that males have less disposition towards pharmaceutical care.

Data in our study suggest that participants who have more practical experience have less positive attitudes toward PC. Participants who are early in their professional years have higher positive attitudes toward PC. This could be due to the pharmacy practice courseat their timewere not yet offering advance PC services and education. As a result, older pharmacists did not observe the incorporation of PC into routine pharmacy practice.

In answering questions relating to pharmaceutical care, i.e. to what degree respondents perceived the activities listed to be the responsibility of the pharmacist, it appears that respondents are not fully convinced that pharmaceutical care activities are the responsibility of the pharmacist and are still somewhat distant from the concept of the pharmacist as a provider of patient care.

Most of community pharmacists surveyed (32%) were not aware of the ADR reporting program in North Cyprus. This finding is nearly similar to the results reported for Hong Kong pharmacists and far higher than figures reported by Grootheest AC et al, 2002 and Green CF et al, 1999 for Holland (1%) and UK (7%)community pharmacists who were not aware of the ADR reporting program in their countries. These findings may indicate poor program announcement to community pharmacists which is augmented by the fact that most community pharmacists where educated and had their practice in countries that have weak or no ADR reporting programs. The findings emphasize the urgent need to educate and inform the community pharmacists about the ADR reporting program. This effort should be continuous since most of the community pharmacists were practitioners who work for few years and therefore will continue to practice for tenths of years.

Strengths and limitations of the study:

Obtaining 80 responses out of 110 distributed questionnaires could be considered as good response rate for this study, this number forming more than 73% of total licensed pharmacists in Northern Cyprus can be also considered as a reflective sample size.

A second strength of this study is that the surveyed pharmacists included those of all major cities in North Cyprus: Lefkosa, Magusa, Guzelyurt and Girne.

The questionnaire was translated into Turkish language by a linguistic expert, the questionnaire was also dispensed face to face which allowed data collectors to further explain or clarify ambiguous questions and items.

Pharmacists who participate in the survey generally were positive toward delivering pharmaceutical care to patients. But also pharmacists who were not willing to participate may have had different views, especially those of older ages since majority of responders were young or middle aged.

Pharmacists receiving their degree in the decades prior may have different perspectives and lived experiences concerning applicability of pharmaceutical care services in Northern Cyprus.

Of the limitations of our study was no wide range of variations on pharmacist respond maybe due to close ageing and experiences also a question should be asked whether the positive attitudes and practice claims match with the reality of pharmacy practice in Northern Cyprus, which could be further studied with better objective tools.

From the findings of this study we recommend, though the pharmacists in Cyprus showed positive attitudes and perception yet its crucial to develop and maintain continues educational programs that aim developing a standard understanding and perception of pharmaceutical care and guide pharmacist in developing and maintaining necessary competences for delivering pharmaceutical care, it's important to develop regulatory systems to assure standardization of pharmaceutical care services delivered at community pharmacies and also to assure the preparedness and competence of new graduates to provide a patient care centered service that goes with the global advances in pharmacy practice pharmaceutical care delivery.

Surveys and observations should be used also to gather data on pharmacist beliefs about patient non-adherence, therapy failure and adherence perspectives and interventions. This could be useful for designing educational interventions or practice based interventions that affect medication use in a constructive, evidence-based manner consistent with patient-centered care.

Conclusion:

Pharmacists in North Cyprus had positive pharmaceutical care orientations. This should

Encourage pharmacist bodies' educators and regulatory agencies to design initiatives to increase the frequency and quality of practicing pharmaceutical care in community pharmacy.

In This study pharmacists clearly stated pharmaceutical care as a effort and time consuming process needing experience stress and overload in their jobs and thus community pharmacists desire additional time to interact with patients and provide pharmaceutical care to them, supporting pharmacists with competent technical staff and one or more other pharmacist can facilitate patient care centered practice in community pharmacies. Increasing the use of robotics and technicians are also common strategies to free pharmacists to do more cognitive, patient-centered tasks.

Pharmacists in North Cyprus should also be trained on rationalizing drug use for chronic patients and overcoming non adherence and therapy failure.

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Appendix I: Questionnaire in English

Demographic data of Respondents					
Sex		Male		Female	
Age	21-25		26-30	31 and above	
Years of experience	1-5	6-10	11-15	16-20	21 and above

Distribution of knowledge on Pharmaceutical care services		
Pharmaceutical care services	**Agree**	**Disagree**
Dispensing of medication to patients only.		
Offering advice and counselling during drug dispensing.		
Offering advice to patients only.		
The pharmacist only responsibility is to dispense and counsel the patients on drug prescribed by him or the physician's.		
Reviewing patients drug therapy and secondary changes where necessary.		
The Pharmacist takes full responsibility of drug related		

Community pharmacist's attitude towards practice of pharmaceutical care.		
Attitude	**Yes**	**No**
Pharmaceutical care is a mandate of pharmacist only		
The primary responsibility of pharmacists in general and community pharmacists is to provide pharmaceutical care.		
Pharmaceutical care is a valuable mode of practice and will serve to improve patient health needs.		
Practicing pharmaceutical care in community pharmacies will increase patients confidence in the profession and enhance pharmacy practice		
Continuous pharmaceutical education is necessary for community pharmacists to practice pharmaceutical care.		

In order to assure themselves a place in health care team, community pharmacists must practice pharmaceutical care.		
Practicing pharmaceutical care is too resource intensive, time consuming and requires more man power.		

Community pharmacist's pharmaceutical care practices		
Practice	**Yes**	**No**
Collection of data from your patients.		
Identify prescription problems.		
Have you had any reported cases of ADR'S by your patients?		
As a pharmacist, do you think changing of prescribed Medication is part of pharmaceutical care?		

Barriers to the implementation of Pharmaceutical Care			
Barriers	**Agree**	**Disagree**	**No (response)**
Poor relationship of community- Pharmacists with other health providers.			
The current curriculum for pharmacy education Is not adequate to support the practice.			
Lack of confidence in pharmacists themselves.			
Lack of trained personnel and support staff to offer Pharmaceutical care.			

Appendix I: Questionnaire in Turkish

Eczacıların demografik bilgileri					
Cinsiyet		Erkek		Kadın	
Yaş	21-25		26-30	31 ve yukarı	
Tecrübe yılı	1-5	6-10	11-15	16-20	21 ve yukarı

Farmasötik Bakım Hizmetlerinde Bilginin Dağılımı		
Farmasötik Bakım Hizmetleri	Katılıyorum	Katılmıyorum
Sadece hastalara ilaç dağıtımı		
İlaç dağıtımı sırasında tavsiye ve danışma sunma		
Sadece hastalara tavsiye sunma		
Eczacının tek sorumluluğu, kendi veya doktor tarafından reçetesi verilen ilaç hakkında hastalara tavsiye ve danışma sunmaktır.		
Hastaların ilaç tedavisini ve gerektiğinde ikincil değişiklikleri gözden geçirmek		
Eczacılar ilgili ilacın tüm sorumluluğunu taşır		

Pratik ve farmasötik bakıma karşı eczacıların tutumu		
Tutum	**Evet**	**Hayır**
Farmasötik bakım sadece eczacıların yetkisindedir		
Eczacıların en önemli sorumluluğudur ve eczanelerin en önemli sorumluluğu farmasötik bakım hizmeti vermektir		
Farmasötik bakım uygulamanın değerli bir halidir ve hastaların sağlık ihtiyaçlarını karşılamak için verilir.		
Toplumda eczanelerde yapılan farmasötik bakımlar hastaların eczaneye olan güvenini kazanması ve eczanede yapılan uygulamaları artıracak		
Sürekli bir farmasötik eğitimi eczaneler için farmasötik bakım		

hizmeti sağlama açısından gereklidir.		
Eczanelerin sağlık hizmetleri takımında bir yer edinmeleri için farmasötik bakım hizmetleri vermesi gerekir.Farmasötik bakım hizmetleri sağlamak çok yoğun kaynak ağırlıklı, zaman harcayıcı ve daha çok insan gücüne ihtiyaç duyar.		

Eczanelerin farmasötik bakım hizmetleri		
Pratik	Evet	Hayır
Hastalarınızdan veri toplamak.		
Reçete sorunlarını bulmak.		
Hiç advers ilaç reaksiyonu olan hasta durumu bildirimi aldınız mı?		
Eczacı olarak reçetede yazılan ilacı değiştirmeyi düşündünüz müİlaçların farmasötik bakımın bir parçası olduğunu düşünüyor musunuz?		

Farmasötik bakımın uygulanmasında kısıtlamalar			
Kısıtlamalar	**Katılıyorum**	**Katılmıyorum**	**Hayır (cevap)**
Eczanelerin diğer sağlık hizmetleriyle zayıf bağlantısı.			
Eczacılık eğitiminin mevcut müfredatı pratiği desteklemek için yeterli değildir.			
Eczacıların kendilerine güven eksikliği.			
Farmasötik bakım hizmeti sağlamak için eğitimli personel ve destek ekibi eksikliği.			