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Challenges of Implementing Clinical Pharmacy Services in the Palestinian Governmental Hospitals

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Challenges of Implementing Clinical Pharmacy Services in The Palestinian Governmental Hospitals

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Thesis Approval

Challenges of Implementing Clinical Pharmacy Services in the Palestinian Governmental Hospitals

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Dedication

To my parents who because of them I became what I am today, to my children who endure my busy life every day, to my husband for his endless support, to my collogues and pharmacy staff members who helped me day by day.

To the Palestinian people who I hope that their suffering will end some day,

To any one who believes in improving quality any where,

To Rahma the Nour of my eyes,

To all of you, I dedicate this work.

Amera Sedkey Shaat

Declaration:

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

Signed----------

Amera Sedkey Shaat

Date ----------

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Abstract

Implementing clinical pharmacy services in Palestinian governmental hospitals is seriously needed and recommended. Many attempts took place to implement clinical pharmacy services within selected governmental hospitals in Gaza Strip, but non of these attempts was effective in providing wide range of clinical pharmacy services at a large scale. The recent attempt to implement clinical pharmacy services within MOH hospitals in Gaza Strip was in the year of 2004 when the General Administration of Pharmacy through its Pharmaceutical Quality Improvement Committee asked the official permission to start implement such services. An official approval from MOH was gained to start implementing such services. The objectives of this study were first, to describe driving forces and holding back forces that affected or may affect the implementation process, second to set recommendations that will help in optimizing the effectiveness of the implementation process.

A qualitative descriptive study was carried in the General Administration of pharmacy of MOH, the nine governmental hospitals in Gaza Strip in which clinical pharmacy services are proposed to be implemented and Al Azhar university. The **study sample** was key informants from different sectors in the pharmacy field who had the experience and knowledge regarding challenges that face implementing clinical pharmacy services in Palestinian governmental hospitals. Twenty five Key informants were selected for their knowledge and expertise about the topic. Data was collected through using a focus interview loosely structured questions.

Results showed that implementing clinical pharmacy services in MOH hospitals in Gaza Strip still in its primary stage and there are many factors that affect it both

positively and negatively. Factors that would promote implementing clinical pharmacy services included improving patient's quality of life, economic efficiency, provision of an ideal team work and new step towards the profession of pharmacy. Factors that would hinder and negatively impact the implementation process included administrational and ministerial changes and instability, inappropriate work place and working environment, lack of rewards and motivation, time constrains and work overload , lack of mentality regarding the concept of clinical pharmacy and absence of knowledge and communication skills and lack of training courses provided to in practice clinical pharmacists. **Conclusion**: implementing clinical pharmacy in Palestinian hospitals still in its primary phase, much to be said and done in order to make it an efficient and effective process .

Recommendation: A number of steps should be considered as pharmacy prepares to shift toward a profession-wide, patient- centered practice model. First there must be a law empowerment that support the implementation process. MOH should adopt a unifying philosophy of practice that establishes the patient as the primary beneficiary of the profession, with the pharmacist accepting shared responsibility with other health care professionals for patient care. Second, a workshops should be conducted for health care providers to introduce the term ``clinical pharmacy`` to them. Third, a clinical pharmacy a administration need to be established and it needs to be given an authority to organize the clinical pharmacy services and direct it's activities.

Fourth, more effective collaboration between pharmacy educators in Al Azhar University and decision makers in the General Administration of Pharmacy of MOH will be necessary to improve clinical pharmacists practices. Pharmacy educators can strengthen their effort to develop student's abilities to function as future clinical pharmacists professionals.

تحديات تطبيق الصيدلة السريرية في مستشفيات فلسطين الحكومية

ملخص الدراسة

ان تطبيق الصيدلة السريرية في مستشفيات فلسطين الحكومية هام ويوصى به بقوة لشدة أهميته.
كان هناك الكثير من المحاولات لتطبيق الصيدلة السريرية في مستشفيات قطاع غزة الحكومية, لكن لم تنجح أي من هذه المحاولات في توفير خدمات الصيدلة السريرية على نطاق واسع. آخر هذه المحاولات كان في عام 2004 عندما تقدمت الإدارة العامة للصيدلة ومن خلال لجنة تطوير العمل الصيدلاني التابعة لها, بطلب رسمي للبدء في تطبيق الصيدلة السريرية في مستشفيات قطاع غزة الحكومية, و لقد تم الحصول على الإذن الرسمي من وزارة الصحة الفلسطينية بالبدء في التطبيق في نفس العام0 هدف الدراسة هو وصف العوامل التي أثرت أو قد تؤثر سواء بشكل سلبي أو ايجابي في عملية تطبيق خدمات الصيدلة السريرية في مستشفيات قطاع غزة الحكومية و الخروج بتوصيات تساعد في خلق بيئة مؤازرة لتطبيق خدمات الصيدلة السريرية في كافة مستشفيات فلسطين الحكومية

منهجية الدراسة:

لقد تم استخدام الدراسة الكيفية الوصفية في كل من الادارة العامة للصيدلة في وزارة الصحة, ثمانية مستشفيات حكومية تم اختيارها للبدء بتطبيق الصيدلة السريرية بها و كلية الصيدلة بجامعة الأزهر. حيث تم عمل مقابلات شخصية مع عينة الدراسة وهم خمسة وعشرون صيدلاني يعملون في مختلف المجالات في الحقل الصيدلاني من الذين لديهم العلم والمعرفة بخصوص تحديات تطبيق خدمات الصيدلة السريرية في مستشفيات قطاع غزة الحكومية. و قد جمعت البيانات بواسطة مقابلات شخصية تم فيها طرح أسئلة تفتح مجالات أكبر للحوار , وتسمح بالاستماع إلى تفاصيل معلوماتية أكثر وضوحا فيما يتعلق بموضوع البحث.

نتائج الدراسة:

لا زال تطبيق الصيدلة السريرية في مستشفيات قطاع غزة الحكومية في مراحله الأولى وهو يواجه الكثير من التحديات. هذه التحديات يعتبر بعضها محفزا لتطبيق الصيدلة السريرية والبعض الآخر يعتبر من العوامل المثبطة من ضمن العوامل التي تساعد في الاستمرارية في محاولة تطبيق الصيدلة السريرية هو التأثير الجيد الذي يتركه تطبيق الخدمات الاكلينيكة في تحسين حياة المرضى و الفائدة الاقتصادية للنظام الصحي من خلال ترشيد استهلاك الأدوية ومنع حدوث الأخطاء الدوائية و السماح بتطبيق مجال جديد للعمل الصيدلاني المختص.
أما العوامل التي أثرت سلبا أو قد تؤثر سلبا في عملية تطبيق خدمات الصيدلة السريرية فتضمنت: التغييرات الإدارية والوزارية و قلة المعرفة والتقبل لمفهوم الصيدلة السريرية بين العاملين في المجال الصحي بالإضافة

إلى غياب بيئة عمل مناسبة تحفز الصيادلة على تقديم الخدمات المطلوبة منهم في الوقت الذي لم يتم فيه تدريبهم بشكل كافي أو إمدادهم بالمراجع العلمية المناسبة والضرورية قبل وضعهم في الأقسام.

التوصيات:

هناك العديد من الخطوات التي يجب اتخاذها من أجل ضمان الحصول على خدمات صيدلانية سريرية تساهم في حدوث نقلة نوعية في مجال العمل الصيدلاني و في الحصول على خدمات صحية تجعل مصلحة المريض هي الأهم. أولا أن تتبنى وزارة الصحة فلسفة موحدة تجعل من المريض هو المستفيد الأهم من تطبيق الصيدلة السريرية مع التأكيد على الدور الحيوي الذي يؤديه الصيدلي السريري بوصفه واحدا من الفريق الطبي الذي يقوم بالحرص على مصلحة المريض.

ثانيا, عمل ورشات عمل للتعريف بالصيدلة السريرية بين العاملين في الحقل الطبي. ثالثا, عمل دائرة خاصة بالصيدلة السريرية و اعطاءها كافة الصلاحيات لتنظيم عمل الصيدلة السريرية والاشراف على مختلف فعالياتها. رابعا, التعاون ما بين القائمين على التعليم الصيدلاني في جامعة الازهر بغزة و صناع القرار في وزارة الصحة لتحسين نوعية خدمات الصيدلة السريرية. القائمين على التعليم الصيدلاني يستطيعون مضاعفة جهدهم من أجل تطوير قدرات طلاب الصيدلة بحيث يكونون النواة المستقبلية للصيادلة السريريين.

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Definitions

ACCP

American College of Clinical Pharmacy.

Adverse drug reactions

Unwanted reaction to a medicine, such as a rash or headache, it differs from medication error which results from a patient receiving incorrect medication (Bair, and Cheminant, 1980).

A philosophy of practice

A philosophy of practice is a set of values that guides behaviors associated with certain acts, it defines the rules, roles, relationships, and responsibility of the practitioner.

Challenge

To ask for facts, a call to prove something, a demanding task or situation, dispute the truth or validity (Oxford Advanced Learner's Dictionary of current English, London, 2004).

Challenges of implementing clinical pharmacy services

Driving forces(support and opportunities) and holding back forces(weakness and threats) that may affect the implementation process.

Clinical audit

Review and assessment of performance of an individual, team, ward, unit or trust in the care and treatment of a specialized group of patients (ACCP, 1995).

Clinical governance

A framework for continuous improvement in quality of clinical services and the maintenance of high standards of care (Haslett, Kay, and Weissfellner, 1990).

Clinical pharmacist

Clinical pharmacist is primarily responsible for performing clinical pharmacy functions such as patient education and counseling, participation in treatment planning and review, drug use reviews, and consultation to medical staff regarding drug therapy selection, pharmacokinetics, nutritional support and determination of therapeutic endpoints.

Clinical pharmacology

It is the science concerned with how systems of therapeutics interact with patients.

Clinical pharmacy

It is often defined as ``The responsible provision of drug therapy for the purposes of achieving definite outcomes that improve a patient's quality of life (ACCP, 2000).

Clinical Pharmacy Administration

It is an applied field of study that deals with the research, evaluation and management of the patient, the drug, and the clinical practitioner as they relate to patient care (Einarson,1988).

Clinical pharmacy and pharmaceutical care:

The two concepts of clinical pharmacy and pharmaceutical care are closely related. Of the two, clinical pharmacy has been around the longest and the term is widely used (Franklin, 2005).

Driving Forces

Supporting and encouraging factors that would improve the chances of implementing the changes intended to be done.

Drug utilization review

The process of reviewing the way in which specified drugs are used in an institution against agreed criteria (Stroup, and Dinel, 1985).

ECCP

European College of Clinical Pharmacy

Holding Back Forces

Factors that may suppress, hinder and oppose the change intended to be done.

Hospital pharmacist

A hospital pharmacist is the pharmacist who works in a hospital, three activities are considered the foundation of him, adequate drug selection, drug information and drug delivery (Dipiro, 2005).

In Practice Clinical Pharmacist

A term was given to the pharmacists who are chosen to act as clinical pharmacists in different hospitals in Gaza Strip.

Key informants

Certain individuals who are knowledgeable of the community and target population.

Lack of mentality regarding clinical pharmacy

Lack of consensus and correct perception and understanding regarding the concept of clinical pharmacy.

Medication error

Episodes in which a patient receives incorrect medication (wrong dose, wrong drug and wrong route) it differs from an adverse reaction where the patient is receiving the correct medication but has unexpected response (Summers, et al. 1987).

Medication error reporting scheme

Schemes that collate and analyze reports of medication errors in order to identify and remedy weakness in systems and products (ESCP, 2004).

Medication history

A complete record of prescribed and over-the-counter medicines taken by an individual.

Medication information service

A pharmacy support service dedicated to the provision of information about medicines. Such services are usually staffed by specially trained pharmacists and equipped with reference books, key journals and electronic data-searching facilities.

Medicines self-administration schemes

Schemes in which patients are permitted to take their own medicines while in hospital (Leblanc, et al. 2005).

MOH

Ministry of health.

Parenteral administration

Administration of medicines by intravenous, intramuscular and intrathecal injections.

Patient centered practice model

It is a health model that puts improving patient quality of life on its top priorities and duties.

Patient education/counseling

The process of giving information to patients about their medicines, in order to help them avoid wrong use and to improve the medication use, compliance and outcomes.

Pharmacist

Pharmacists prepare and distribute medications prescribed by doctors and other health practitioners. They advise patients on the drugs they take and make sure that they avoid dangerous drug interactions (ACCP, 1999).

Pharmacist practice system

It is a professional practice affecting the public health, safety and welfare.

Pharmacokinetic drug monitoring

Monitoring of drug treatment by monitoring the levels of the drug in the bloodstream. Also known as ``therapeutic drug monitoring`` (ESCP,2004).

PQIC

Pharmaceutical Quality Improvement Committee.

Prescribing advice

Advice concerning the safety, efficacy, convenience or economy of drug treatment, given by a pharmacist to a doctor or other prescriber (ESCP, 2004).

Prescription monitoring

The process of reviewing prescriptions to check for safety and appropriateness (ESCP, 2004).

Professional clinical pharmacist

He is the clinical pharmacist who attended professional training program for clinical pharmacy.

Protocol development

The process of collecting information about the safety, effectiveness and cost of specific drugs and using it to devise procedures for their use (Siegel, Schneider, and Moore, 1984).

Therapeutic drug monitoring

Monitoring of drug treatment by monitoring the levels of the drug in the bloodstream. Also known as `pharmacokinetic drug monitoring` (Leufkens, Heskster, and Hudson, 1997).

Unit –Dose system

It is a system of distributing drugs for patients. Unit refers to the patient, and dose refers to the prescribed dose for the patient. Unit-dose dispensing of medication was developed in the 1960s to support nurses in medication administration and reduce the waste of increasingly expensive medicines (Murray, and Shojania, 2000).

Ward pharmacy

The definition of ward pharmacy is that there is a pharmacist (BSc.) working in the ward, taking care of everything that concerns medication (Dean, 2000).

Chapter 1

Introduction

Chapter 1

Introduction

Clinical pharmacy is a commonly used term in pharmacy practice, it is a health specialty which describes the activities and services of the clinical pharmacist who develop and promote the rational and appropriate use of medical products, it is often defined as ``The responsible provision of drug therapy for the purposes of achieving definite outcomes that improve a patient's quality of life`` (Helper, and Strand, 1999).

A clinical pharmacist cooperates with the health team members to ensure effectiveness and safety of the patient's drug prescription. The pharmacist educates and counsels the patient about self administration of medication and self management. Another duty of the pharmacist is to solve any drug related problems of the medicine, dosage, administration, adverse drug reaction, toxicity, contraindications and drug interactions. Besides that, the clinical pharmacist provide drug monitoring services to optimize patient's treatment (Al-Shagha and Zairi, 2001).

The critical importance of clinical pharmacy arises from the overall goal of clinical pharmacy activities which is to promote the correct and appropriate medicinal products and services. These activities aim at maximizing the clinical effect of medicine, minimizing the risk of treatment induced adverse events and minimizing the expenditures of pharmacological treatments born by the system and by the patient. Clinical pharmacy education and implementation in both governmental and non governmental sectors is very advanced and widely implemented in many developed countries like USA, but for some European countries like Norway more effort must be done to update the approach (ESCP, 2004).

Because of the critical importance of implementing clinical pharmacy services to the patient's quality of life, drug cost, and profession of pharmacy General Administration of Pharmacy and through its Pharmaceutical Quality Improvement Committee proposed a project of implementing clinical pharmacy services in Gaza Strip Governmental Hospitals, the proposal gained Ministry of Health (MOH) official approval in the year of 2004.

Pharmaceutical Quality Improvement Committee (PQIC) was assigned the task of selecting hospital pharmacists that will become clinical pharmacists, and the hospitals in which the clinical pharmacy services will be implemented.

Twenty pharmacists were selected based on a personal interview, they were assigned into nine governmental hospital in Gaza Strip.

The aim of this study is to describe the challenges of implementing clinical pharmacy services in the Palestinian Governmental Hospitals, mainly Gaza Strip hospitals , in order to get to a better understanding that enables us to act in the light of the facts found.

1.1 Objectives

1.1.1 General objective:

To describe the challenges of implementing clinical pharmacy services in the Palestinian Governmental Hospitals (mainly Gaza Strip hospitals).

1.1.2 Specific objectives:

- To describe driving forces and holding back forces that may affect the implementation of clinical pharmacy services in Palestinian governmental hospitals (mainly Gaza Strip hospitals) from pharmacist's key informants point of view.
- To provide a set of recommendations that would help in full implementation of clinical pharmacy services in the future .

1.2 Justification and significance of the study

Clinical pharmacy as a health specialty describes the activities and services of the clinical activities and services of the clinical pharmacist to develop and promote the rational and appropriate use of medicinal products and medicinal devices, it includes all the services performed by pharmacists practicing in hospitals, community pharmacies, nursing homes, home-based care services, clinic and other settings where medicines are prescribed and use. Clinical pharmacy aims to maximize safety, quality and efficiency of health system (Clark, 2001).

In April 2004, the Pharmaceutical Quality Improvement Committee of Pharmacy department of Palestinian MOH proposed a project of implementing clinical pharmacy services in Palestinian Governmental Hospitals in order to improve quality of health services delivered by the hospitals and to optimize safe, effective and economic use of medicines. The purpose of this study is to describe the factors that hinder and/or encourage the implementation of clinical pharmacy services at the Palestinian Governmental Hospitals, mainly Gaza Strip hospitals which in turn would help in developing a data base that can help in overcoming the obstacles and getting the best of the available opportunities.

1.3 Geographical Distribution

Palestinian national authority territories comprise of two areas separated geographically: West Bank and Gaza Strip. West Bank lies within an area of 5,800 km west of the Jordanian liver. It has been under Israeli Military occupation, together with East Jerusalem since June 1967. West Bank is divided into four geographical regions. Gaza Strip is a narrow piece of land lying on the coast of the Mediterranean Sea. It is very crowded place with an area of 360 km.

The population in Palestine was estimated at 3.7 million at the end of 2003, out of them 2.3 millions (63.3%) in West Bank and 1.4 millions (36.7%) in Gaza Strip.

According to the distribution of the population by Governorate, AL Khaleil Governorate has the highest rate of population at 13.9% of the total population, followed by Gaza Governorate 13.0%; AL Quads Governorate comes third with 10.8%; Jericho Governorate has the lowest rate of population at the end of 2003 at 1.1% (PCBS, 2004).

1.4 Hospitals in Palestine

In Palestine there are 78 hospitals. The population to hospital ratio is 47,922. The average bed capacity per hospital is 59.99 beds. In Gaza Strip (GS), there are 24 making (30.77%). The population to hospital ratio is 57.098. The average bed capacity per hospital is 79.88 beds. In West Bank including Jerusalem, there are 54 hospitals making (69.23%). The ratio of population per hospital is 43,844. the average

bed capacity per hospital is 51.15 bed. MOH owns and operates 23 hospitals with 2,614 beds (55.9%) for the total beds. There are 11 hospitals with 1,152 beds (44.1%) of total MOH beds in West Bank and the rest in Gaza Strip. The rest of Palestinian hospitals are NGO`S hospitals, private sector hospitals, police and General Security hospitals (PCBS, 2004).

1.5 Health finance

According to Ministry of Finance (MOH) estimation, the third year of Al Aqsa Intifada has witnessed a further steep decline in all Palestinian Economic indicators.

1.5.1 National Health Expenditures:

In a study by the World Bank in 1997, it was estimated the per capita health expenditures in West Bank and Gaza Strip at 122 US$ in 1996, which means 8.6%of the GDP.

In 2003, about 18% of all MOH-health care expenditures in Palestine were on medications and medical disposals. About 55% of the MOH budget and nearly half of all expenditures in UNRWA and non-governmental sector consist of wages and salaries and other forms of employee remuneration. About 13% and 14% of total MOH health expenditure were on treatment abroad and other operating cost respectively.

Due to current political crises a deficit in medications and medical supplies by 9.4% of total health expenditure was reported to deterioration in Palestinian economy.

The percentage of revenue collected from health insurance decreased from 16%in 1995, to 5.1% in 2000 and 4% in 2001 to 2.4% in 2002 and 2% in 2003 (PCBS, 2004).

1.5.2 MOH expenditures on medications, medical disposables and lab reagents:

In 2003, MOH expenditures on medications, medical disposals and laboratory reagents was accounted for 17,572,988 US$, which is 17.9% of the total MOH expenditure. In addition to the cost of vaccines which was accounted for 1,400,954 US$. In 2003, despite of the international funds and participation of Ministry of Finance(MOF), the deficit in medications medical disposals, and lab reagents was account at 9.4% of the postulated expenditure (PCBS, 2004).

1.5.3 Pharmacy and Pharmaceuticals:

Having essential drugs of a good quality and at a low cost is very important especially with current economical status in the Palestinian Territories. Since 2001, drugs and medical supplies finance has decreased due to drop in MOH budget and the impact of current situation on MOH total expenditure and finance. It accounted for about 23% of the MOH budget in 2003, while it has accounted for about 30% of the MOH budget in 1997.

Despite the international funds , the deficit in medications and medical disposals was accounted for 9.4% of the postulated expenditure. Medication shortage were reported

mainly in chronic medications, especially in Insulin, cancer medications and some types of pediatric medications (PCBS ,2004).

1.6 Uniqueness of Hospital Pharmacy

Hospital pharmacists practice within the framework of an organized structure called a hospital. Traditionally a hospital has been defined in terms of its form and the quantitative nature of its services, hospitals may be classified in different ways by:
Type of service, ownership, length of stay, bed capacity. The development of hospital pharmacy in different countries was vitally affected by educational standards and the talent of its practitioner. For pharmacists to function effectively it is essential that they understand thoroughly what hospital is, how it is organized, what's its functions are, and how the pharmacy services fit into the overall patient care program (Becker, Bjornson, and Kuhle, 2004).

In reviewing the activities of hospital pharmacy practice one must conclude that no two hospital practices are alike. Of the major factors that make the uniqueness of hospital pharmacy is the organized structure of the hospital, the formalized pattern of authority, responsibility and coordination that affects every department of the overall healthcare team (Boardman and Fitzpatrick, 2001).

There is a physician-pharmacist-nurse-patient relationship in the hospital. The nurse interjects his or her professional role in the patient between the traditional physician patient roles. Thus the hospital pharmacist must work not only with the physician but

also very closely with the nurse. Since the hospital is an institution of and for the community, it is influenced heavily by the needs, expectations, and demands of the members of the community (Becker, Bjornson, and Kuhle, 2004).

1.7 Clinical Pharmacy Services

1.7.1 In West Bank:

Till now there is no clinical pharmacy services provided in the governmental hospitals in West Bank.

General Administration of pharmacy through its Pharmaceutical Quality improvement committee is planning for the implementation of clinical pharmacy services in the future.

1.7.2 In Gaza Strip:

Since the year of 1998, several attempts was made in order to implement clinical pharmacy in different Gaza Strip hospitals especially Al-Shifa and Khanyunois hospitals. Several individual attempts were made in order to practice clinical pharmacy services in different hospital settings, these attempts were made with the support of the Palestinian General Administration of Pharmacy. In April 2004 the Pharmaceutical Quality Improvement Committee of Pharmacy department of

Palestinian MOH proposed implementing clinical pharmacy services in Palestinian Governmental Hospitals in order to increase quality of health services delivered by the hospitals and to optimize safe, effective and economic use of medicines.

The project gained the support and approval of Palestinian Minister of Health (Annex 2).

In the year of 2004, a list of twenty pharmacist were proposed to the pilot implementing of clinical pharmacy services in nine hospitals in Gaza Strip, (Annex 4 and 5).

Selection of these pharmacists was based on their well and desire to act as clinical pharmacists, no specific exams took place and only verbal interview was made by a special committee of General Administration of pharmacy.

1.8 Selected hospital pharmacists to work as clinical pharmacists

The twenty pharmacists whom were selected by the General Administration of pharmacy were a Bachelor degree holders, non of them had special training courses . Prior to the selection process there was an announcement that is distributed to all hospitals in Gaza Strip, the announcement was about pharmacists who are welling to work as clinical pharmacists, the pharmacists who liked and desired to work as clinical pharmacists were interviewed, then 20 candidate were selected according to their well and desire to act as clinical pharmacist. The twenty pharmacists were assigned to the hospitals, where they originally worked. So, none of them had to switch the pharmacy that they worked in before they had shown an interest to become a clinical pharmacist (Annex 5).

A detailed job and duties guideline was given to the 20 pharmacists (Annex 6), this guideline organizes the relationship between the pharmacists and other health team providers , and describes the duties of the clinical pharmacist.

Special clinical pharmacy forms were given to the pharmacists to fill and follow with each patient they see in their rotation (Annex 7).

Job Description was proposed by the committee and distributed to the pharmacists (Annex 8).

Special orientation session on the concept of clinical pharmacy was held by the pharmaceutical quality improvement committee and the twenty pharmacists attended the orientation. After the orientation, they were named in practice clinical pharmacist with the aim of differentiating them from professional clinical pharmacists due to their lack of knowledge and expertise regarding clinical pharmacy practice and science.

On July 5, 2005 the pharmacists were asked to start practicing clinical pharmacy activities in selected departments of the hospitals they work in, the selection of the specific departments was based on the well and knowledge of the pharmacists and on the relationships they had with the departments health team members (Annex 4).

1.9 Pharmaceutical Quality Improvement Committee

Pharmaceutical Quality Improvement Committee (PQIC) is a five pharmacist committee. It was named in March 2004, in order to improve the quality of pharmaceutical care provided by pharmacist in different sectors. The committee is responsible for implementing clinical pharmacy services in the hospitals, train pharmacists to be professional clinical pharmacist, make workshops and training

programs with the assistance of pharmacy colleges instructors and other pharmacy professionals.

1.10 Governmental Hospitals that are selected for implementing clinical pharmacy services

Nine governmental hospitals in Gaza were selected by Pharmaceutical Quality improvement Committee to implement clinical pharmacy in them as follows:

1- Al- Shifa hospital in Gaza city (Four pharmacists were selected to act as clinical pharmacists).
2- Gaza European hospital in Khanyunis city (Four pharmacists were selected to act as clinical pharmacists).
3- Khanyunis hospital in Khanyunis city (Four pharmacists were selected to act as clinical pharmacists).
4- Abu Usif Alnajar hospital in Rafah city (One clinical pharmacist).
5- Kamal Edwan hospital in Beet Lahea city (One clinical pharmacist).
6- Mohammad El Dorah hospital in Al Tefah area in Gaza city (One clinical Pharmacist).
7- Shuhada El Aqsa hospital in Deer Al Balah city (One clinical pharmacist).
8- Al Nasser hospital in Gaza city(three clinical pharmacists).
9- Al Oyoon hospital in Gaza city(One clinical pharmacist).

1.11 Limitation of the study

The limitation were:

Limited educational resources like books and journals.

Limitation of transportation and mobility between Gaza Strip and West Bank, due to the difficult political situation that led to excluding the West Bank hospitals.

Chapter 2

Literature Review

Chapter 2

Literature review

2.1 Definition of Clinical Pharmacy

Clinical pharmacy is a commonly used term in pharmacy practice and in pharmacy literature. Clinical pharmacy is a health specialty, which describes the activities and services of the clinical pharmacist to develop and promote rational and appropriate use of medical products and devices by the individual and the society (Scroccaro, et al. 2000). Clinical pharmacy is often defined as the responsible provision of drug therapy for the purposes of achieving definite outcomes that improve a patient's quality of life (Helper, and Strand, 1999). A clinical pharmacist cooperates with the doctors to ensure effectiveness and safety of the patient's prescription (ESCP, 2004). The overall goal of Clinical Pharmacy is to promote the rational and appropriate use of medicinal products and services, this is achieved through; maximizing the clinical

effect of medicines, minimizing the risk of treatment induces adverse events and minimizing the expenditures for expenditures born by the National Health System and by the patient. The term ``clinical`` does not necessarily imply an activity implemented in a hospital setting. A community pharmacist may perform clinical activities as well as a hospital practitioner (Scroccaro, et al. 2000).

There are many definitions of clinical pharmacy, which is understood differently throughout the world (ACCP, 2004). The United Kingdom Clinical Pharmacy Association (UKCPA) describes clinical pharmacy encompassing the knowledge, skills and attitudes required by pharmacists to contribute to care, the European Society of Clinical Pharmacy defines it as a health specialty that describes the activities and services of the clinical pharmacist in developing and promoting the rational and appropriate use of medicinal products and devices (ESCP, 2004).

In the Clinical Pharmacy Survival Guide, clinical pharmacy, described as a name for a series of patient-services, including prescription monitoring, therapeutic drug monitoring and patient counseling. Elsewhere, clinical pharmacy is defined as the addressing the pharmacodynamics and pharmacokinetics of drugs in relation to their effects on human body. Whatever definition is adopted, it is clear that clinical pharmacy is not synonymous with hospital pharmacy. There are two reasons for this. First, hospital pharmacy encompasses a much wider range activities, such as manufacturing, quality control, supply, procurement, and systems management. Second, clinical pharmacy can also be practiced in community pharmacists (Fitzpatrick et al ,2005).

2.2 Evolution of Clinical Pharmacy Services

The concept of clinical pharmacy spray from a combination of factors, including the development of sub discipline of hospital pharmacy since the growth of clinical pharmacology, to some extent, pharmacy took over an aspect of medical care that had been partially abandon by physician. Physician turned to pharmacists more and more for drug information, especially within institutional settings. The expansion of pharmacy's role to include patient instruction on proper drug use seems a logical extension of the pharmacist's role as a tool maker (Higby, 2004).

Throughout this century, pharmacy services has experiences a gradual shift away from a traditional passive role, emphasizing drug dispensing, toward a more active role in disease and patient-oriented approach to pharmaceutical decision.

The evolution in the responsibilities of pharmacists throughout this century could be summarized as follows:

In the 1940s and 50s the main role of the pharmacist was to compound drugs, then pharmaceutical manufactures began to take over this role. In the 1960s hospital pharmacists implemented unit-dose drug distribution systems to reduce medication dispensing and administration errors. In the 70s and 80s more emphasis was made on provision of clinical pharmacy services which are patient focused, drug focused. Interdisciplinary, and data driven (Owdaa, 2004).

Globally speaking the concept of clinical pharmacy sprang from a combination of factors including the development of the sub discipline of hospital pharmacy since the 1920s, the growth of clinical pharmacology since the 1940s and innovative teaching Programs in pharmacy schools and colleges in the recent century (Higby, 2004).

Two or three decades ago, hospital pharmaceutical services were almost entirely concerned with the preparation and dispensing of medicines, with little direct patient contact. These technical services are still fundamental to the current services and have

become increasingly specialized, but they are now complemented by a wide variety of patient focused activities, theses are referred to as clinical pharmacy services. Clinical pharmacy services can influence expenditure on medicines and also improve safety and effectiveness of medicines` usage (Clark, 2001).

Pharmacy is evolving from a product-oriented to a patient oriented profession. This role modification is extremely healthy for the patient, the pharmacist, and other members of the health care team , the thing which will present pharmacists with a number of new challenges, now, more than in the past (ACCP, 2004).

2.2.1 Clinical Pharmacy services and core activities:

Clinical pharmacy services include word round participation, medication chart review, patient interview for medication history, therapeutic drug monitoring, adverse drug reactions monitoring, medication error monitoring program, patient counseling and education, staff education, drug use evaluation, participation in developing guidelines and protocols and clinical trial services (Owda, 2004).

Clinical pharmacy services always involve the following core activities:

Prescribing monitoring, prescribing advice, optimizing therapeutic use of medicines, adverse drug reaction prevention/detection, prevention and detection of medication errors, patient education/counseling and interpersonal education about medicines.

Clinical pharmacy services aim to optimize treatment of patients during their hospital stay and ensure that patients and their careers are equipped with adequate medicines management mechanisms to ensure their treatment is continued after they leave hospitals (Clark, 2001).

Four clinical pharmacy services were associated with lower hospital drug cost:

In-service education, drug information services, drug protocol management and admission drug histories (Bond, Rahel, and Franke, 1999).

2.2.2 Background knowledge of clinical pharmacist:

In order to make appropriate and correct interventions during the prescribing process, clinical pharmacists need both a strong clinical background, as well as evaluation tools to correctly judge the evidences available for the treatments. Thus, they need to know very well the diseases characteristics and their progression; the characteristics of medicines, their mechanism of action, their formulations and the way they interact with human body. In addition , they need to be able to evaluate the real value of a drug and analyzing randomized controlled trials; they need to assess risk, analyzing epidemiological studies and they need to evaluate the economic burden of a treatment related to its advantages to the patient (Scroccaro, et al. 2000).

A key component of this move towards clinical pharmacy as the standard of pharmacy practice was the recognition that pharmaceutical education would need to be more extensive and intensive. A series of studies and reports starting in the 1940s suggested the need for major changes in the education of pharmacists to meet these new demands of the profession and to better serve the health care system and society as a whole (Farris, et al. 2001).

Byrd in the year of 2002, stated that given the analysis of the health care and education environment for clinical pharmacy, the profession outlined and approved a new mission for pharmaceutical education encompassing the following key elements:

- preparing students to function as clinical pharmacy professionals and informed citizens in a changing health care system.
- generating and disseminating new knowledge, through research, about drugs and about systems clinical pharmacy.
- inculcating students with the values necessary to serve society as caring, ethical, learning professionals and enlightened citizens.
- providing students with scientific fundamentals and the attitudes needed to adapt their careers to changes in health care over time.
- encouraging students to take active roles in shaping the policies, practices, and future directions of the profession (Byrd, 2002).

2.3 Pharmacy College at Al-Azhar University

Pharmacy education has a responsibility of preparing not only for the present but also for the future, even innovating for the future and guiding the course of the profession. Pharmacy education should seriously consider placing renewed emphasis on the integration of general education outcomes (e.g., critical thinking, decision-making, valuing and ethics, communication, social interaction and citizenship, self-learning) with professional outcomes to prepare truly patient-centered, caring pharmacy professionals

(ACCP, 2000).

Al-Azhar university is the main university that provide Bachelor degree of pharmacy in Gaza Strip. It is considered one of the most important colleges in Gaza Strip. Approximately 78 pharmacists graduate from the college yearly (Palestine Al- Azhar university guide, 2004).

2.3.1 The traditional pharmacy programs for getting Bachelor degree in pharmacy include the following components:

General education, Basic physical and biological science, Biomedical science and Pharmaceutical science (Owdaa, 2004).

- general education (including the humanities, social and behavioral sciences, oral and written communication, and computer and information technologies)
- basic physical and biological sciences and mathematics
- biomedical sciences (anatomy, physiology, biochemistry or molecular biology, immunology, and biostatistics)
- pharmaceutical sciences
- clinical sciences (epidemiology, pathophysiology, clinical laboratory medicine, physical assessment, health promotion, and disease prevention)
- practice experiences (in ambulatory, inpatient, and managed-care environments; in ethical principle applications and legal issues; and in drug information management) (Byrd, 2002). The implementation of these far-

reaching changes in pharmacy education and practice will not accomplished without overcoming some significant challenges and perceived barriers. These included the need to find and organize the additional budget and faculty personnel resources to implement an entirely new curriculum . The new curricula have also required new classroom and laboratory facilities and new preceptor roles, as well as new experiential practice training sites. The need to restructure some research and graduate training programs and the opportunities to develop new clinical pharmacy residency and fellowship programs have also posed challenges. The most significant perceived barrier has been the anxiety felt among practicing pharmacists who earned the traditional BS degree. The schools need to make plans to provide nontraditional paths for practicing professionals to earn clinical pharmacy degrees and have strengthened their continuing-education programs (Byrd, 2002).

2.3.2 Pharmacy College at Al-Azhar University Role in Affecting Clinical pharmacy Profession:

Pharmacy College at AL-Azhar university plays a major role in shaping the knowledge of pharmacy graduates. In the year of 2005 pharmacy college started a Master degree program in pharmaceutical science which is very vital and important for the pharmacy profession. In 2004 renovation of pharmacy curricula took place, new courses regarding clinical pharmacy science was added, this empowers and improves clinical pharmacy background of the graduated pharmacists.

As stated by the Dean of pharmacy college, there will be clinical pharmacy Master degree program within one to two years, this will add much to the profession of pharmacy, but at the meanwhile undergraduate pharmacists usually study mainly basic pharmaceutical science but no specialized clinical pharmacy science courses are available, there is also a relative under emphasis on team-building and inter-disciplinary health management skills in the typical pharmacy curriculum. This may contribute to the main factor regarding the deficient knowledge of graduated pharmacist to act later on as clinical pharmacists.

There is a residency program in MOH hospitals and primary health centers to be attended by each pharmacy student. This residency program is part of pharmacy curricula of pharmacy collogue at Al-Azhar University. In this residency program in hospitals , pharmacy student must attend the medical morning meeting, participate in the medical round with the physicians, look at patients files and recommended test, attend the scientific lectures held by the physicians in the medical department then spend residency time in the training day in the pharmacy to recognize hospital drugs used, how they are stored, ordered, prepared and dispensed. This training program represents what is a typical clinical pharmacist should practice in the beginning of implementing clinical pharmacy service (Palestine, AL-Azhar university guide, 2004).

In the real word, pharmacists graduates will not practice what they have learned about pharmaco-dynamics, histology, and other basic pharmaceutical science. By providing such training program, pharmacists will not feel detached from what they have learned academically.

2.4 Principle Activities Of Clinical Pharmacist

Clinical pharmacist have a triple function; first in providing advice to doctors, nurses and other health care workers on clinical use of medicines, economic drug utilization and safety. Second, in offering direct patient care services through, for example medication history-taking, medicines education and advices. Third, by offering managers, including clinical managers; informed advice in respect of medicines policy and procedure, again designed to ensure safety, effectiveness and economy in medicines use (Clark, 2001).

The principle activities of clinical pharmacist include; consulting, selection of drugs, drug information , formulation and preparation, drug use studies and research, therapeutic drug monitoring, clinical trials, pharmaco-economic, and dispensing and administration.

1- Consulting; means that a clinical pharmacist analyses therapies, advices health care practitioner on the correctness of drug in providing pharmaceutical care to patients both at hospital and at community level.

2- Selection of drugs; by defining ``drug formularies`` or ``limited lists of drugs`` in collaboration with hospital general practitioners and decision makers.

3- Drug information; seeking information and critically evaluating scientific literature, organizing information services for both the health care practitioners and the patient.

4- Formulation and preparation, formulation and preparation of medicinal products and devices according to accepted standards to meet specific patient's need

5- Drug use studies and research; drug use studies, outcome research and collecting data on drug therapies.

6- Therapeutic drug monitoring; this means studying the kinetics of drugs and optimizing the dosage.

7- Clinical trials; planning, evaluating and participating in clinical trials.

8-Pharmacoeconomic; using the results of clinical trials and outcome studies to determine cost effective evaluation.

9- Dispensing and administration; studying and developing systems for the dispensing and administration of medicinal products and devices to guarantee a higher security in administration; a reduction in expenditure and a reduction in medication errors (ESCP, 2004).

Clinical pharmacists activities may also involve some or all of the following;

Medication history taking. Pharmacokinetic drug monitoring, clinical audit and protocol development (e.g. for self-administration of medicines). The effectiveness of clinical pharmacy services is critically dependent on the timing on their delivery. For example, advice on effective prescribing or patient education about how to use a medicine to get the best effect are both services that should be delivered before the event rather than after a poor choice has been made or a medicine has been taken incorrectly (Clark, 2001).

2.4.1 Levels at which Clinical Pharmacy activities influence the Correct Use of Medicine:

Clinical pharmacist has the potential to implement and influence drug related policy making decisions on which drugs deserve to be marketed, or be included in national and local formularies.

Clinical pharmacy activities may influence the correct use of medicines at three different levels; before, during and after the prescription is written.

Before the prescription: The clinical pharmacist monitors, detects and prevents harmful drug interaction adverse reactions and medication errors through evaluation of prescription profiles, he also pays special attention to the dosage of drugs that need monitoring.

During the prescription: Clinical pharmacist can influence the attitudes and priorities in of prescribes in their correct treatment.

After the prescription: after the prescription is written clinical pharmacist plays a key role in communicating counseling patients. Pharmacists can improve patient's awareness of their treatment, monitor treatment and improve patient's compliance with their medications. As a member of a multidisciplinary team, clinical pharmacist also provide integrate part of ``hospital to community`` and vise versa, assuming a continuity of information on risks and benefits of drug therapy. This influence expenditure on medicines, improve the safety and effectiveness of medicines and make a significant contribution to the avoidance of medication errors (ESCP, 2004).

2.4.2 Importance of Clinical Pharmacy Services:

Clinical pharmacy services have been shown to; Identify clinically important drug-related problems, reduce the incidence of clinically important drug- related problems, improve patient education and compliance, improve clinical outcomes, improve cost-effectiveness and reduce length of hospital stay(Hammerman, et al. 1999). More complex inpatient care resulting from new technology, higher acuity of illness, and shorter hospital stays are placing heavier demands on health care practitioners. These trends are reflected in the increasing number, types, and cost of prescribed drugs. The selection, administration, and monitoring of these drugs may best be performed by

using an interdisciplinary approach which is best implemented by provision of clinical pharmacy services (Torok and Brown, 1992). The direct involvement of a pharmacist throughout the medication-use process helps ensure continuity of care and may minimize the risk, lower the cost, and improve the outcomes associated with drug therapy (Schumock, et al. 2000).

2.5 How clinical pharmacists work

The pharmacy profession is currently presented with the challenge of completing the incorporation of pharmaceutical care into daily practice . the pharmacist must accept responsibility for each patient's drug-related outcomes to effectively provide clinical pharmacy services which includes by definition ``finding and responding to the drug therapy problems of the patient`` (Becker, Bjornson, and Kuhle, 2004).

2.5.1 Clinical Staff Pharmacist Practice Model:

Clinical Staff Pharmacist Practice Model is a new model of pharmacy practice that integrates staff pharmacists into existing clinical practice has the potential to minimize the risks, decrease the costs, and improve the outcomes associated with drug therapy. In this model a departmental committee select pharmacists for participation in the new practice model. Selection is based on assessments of candidates motivation, knowledge base, interpersonal skills, and oral communication skills once

selected each pharmacist receive a minimum of 80 hours of formalized education and training (Nesbit, et al. 2001).

2.5.2 Team Building:

The concept of clinical pharmacy emerged in the late 1960`s as society's economic base. Within this model, the pharmacist was to function as a member of the health care team able to apply knowledge, skills, and values to ensure optimal spite of this change. Pharmacists should work with other health care practitioner to reduce costs, optimize patient outcomes and decrease the frequency of preventable adverse drug events. The most important thing in clinical pharmacy work is team building and morale boosting when the availability of other rewards diminishes. Activities that build team cohesion, communication, and manual respect should be included at staff meetings. Managers should attempt to connect with practitioners on a personal level and break down traditional barriers that impede progress, when real problems occur, it is important that they are communicated openly and not be de-emphasized or dismissed as being unimportant (Boardman, Fitzpatrick, 2001).

2.6 Clinical Pharmacy Administration

Pharmacy administration is the style of acquisition, management, and operation of a retail pharmacy, it deals with facts and principles that are appropriately covered under economics, accounting, drug marketing, pharmacy management and pharmaceutical law. Clinical pharmacy is considered to be that part of practice concerned with patient oriented care rather than compounding , dispensing, or distributive functions. Thus

clinical pharmacy Administration may be viewed as the part of pharmacy administration that focus on the issue relating directly to patient care. It deals with the research, evaluation and management of the patient, the drug, and the health care practitioner as they all relate to patient care (Einarson, 1988).

2.7 Management of Clinical Pharmacy Services

The pharmacy manager's basic function is to identify the opportunities for clinical services, establish objectives to provide clinical services, and obtain the required resources (Guharoy, 1992). The past and present management capability within pharmacy has been and continues to the implementation of clinical services. Extensive use of pharmacy technicians, documentation and evaluation of the cost benefits of clinical services, effective pharmacy and therapeutics activities, and obtaining the necessary resources on an ongoing basis for clinical services are examples of essential pharmacy-manager results (Lipman, 1988).

For the successful implementation and management of clinical services, the pharmacy manager must manage the`` people aspects`` of change; obtain the resources of pharmacists` time, space, reference materials, and support system; and then design the operational systems that will achieve comprehensive drug-use control and appropriate patient outcomes from drug therapy. Management of a clinical program requires:

- Recognition of the potential for drugs to cause harm.

- Commitment of pharmacists ` responsibility for ensuring appropriate clinical outcomes.
- Analysis of the hospital and how clinical services can best be provided there, obtaining resources to establish or gain access to a drug information service and developing resources and support for a pharmacokinetics service.
- Designing efficient distribution systems supported by automated applications.
- Adequate technicians staff, developing a pharmacist staff that will gain physicians` and nurses` support for clinical programs.
- Developing an organized approach to keeping staff members up to date on new drugs and technology and assisting them in sharing this knowledge with physicians and nurses.
- Demanding and ensuring the quality of the clinical performance of each pharmacist. Documenting and evaluating the cost effectiveness of services provided, and recruiting and retaining good pharmacists and technicians (Smith, 1988).

2.7.1 Attitude and Behavior towards drugs:

The first step in the management of clinical pharmacy services is pharmacy managers` possession of an attitude that drugs have substantial potential to cause harm to patients. A manager of a clinical pharmacy program must believe in and be committed to the concept that pharmacists have a responsibility to ensure a appropriate clinical outcomes of patient drug therapy (Guerrero, Nickman, and Bair, 1990). The pharmacy manager must demonstrate behavior that results in the implementation of clinical pharmacy services. A manager of a ``non clinical`` pharmacy department does not

have to possess such an attitude and behavior in order to meet the responsibilities of the job (Asmler, 2002).

2.7.2 Pharmacist Time for Clinical Practice:

The manager of a clinical pharmacy program must define a comprehensive list of clinical activities for pharmacists. the expected benefits of each activity for the patient, physician, and nurse must be descried in the same time, close attention should be paid to the pharmacist's time for clinical practice. In developing such a plan, the pharmacy manager will be confronted with his or her own professional philosophy regarding pharmacists' practice. Pharmacists who are not committed to a clinical program cannot prepare or "sell" any clinical program to any health professional or hospital manager. If you do not believe in clinical services, you cannot sell them to anyone or manage such a service. After the clinical plan is completed, the next step is to define how the services can best be provided. The basic support services of drug distribution, the use of technical personnel, the use of computers and mechanization, the physical facilities, and centralization versus decentralization of services are analyzed to determine how to create and maximize pharmacists' time for clinical practice. The "ultimate" challenge is how to study one's own hospital; to define the patient-related drug problems, the facilities, and the attitudes of personnel; and to decide how best to provide clinical services (Denisco, 1986).

2.7.3 Clinical Drug Information service:

Pharmacists in clinical practice often are confronted with problems that require use of the medical library and drug references. It is not efficient to have each clinical pharmacist use time to review the literature and develop answers to all the drug therapy problems identified (Lipman, 1986). A centrally located drug information services, staffed with professional and clerical personal, will extend the pharmacist's clinical practice capabilities. In addition to support for direct patient care, the drug information service staff can provide reviews of new drugs and technology for presentation to the pharmacy and therapeutics committee and medical staff for drug formulary decisions.

The management challenge is to obtain resources to establish a drug information service or at least obtain access to an established service at another facility (Dzierba, 1990).

2.7.4 Drug Distribution Support System:

Clinical pharmacy services require drug distribution systems that result in the patient receiving the appropriate dose at the proper time. Pharmacist time for clinical practice can be maximized by the development of efficient drug distribution support systems. Unit Dose systems have been an important step forward to increase the efficiency and safety of the hospital medication system. Pharmacy managers need to design unit dose systems with the greatest efficiency and with maximal use of technical personnel (Al-Shaqha, and Zairi, 2001).

2.7.5 Intra professional Relationships:

Pharmacist practice located in the central pharmacy (in the traditional pharmacy role) results in minimal day-to-day working relationships with physicians. The working relationships with nursing can best be descried as confusing, strained, and even antagonistic, as each discipline does not fully understand the operational needs of the other. Communications are by telephone are intercom (or even non existent), and conflict often predominates. Pharmacists who practice clinically in the patient care areas work on a face-to-face basis with physicians and nurses. Communications are direct and person-to-person. Cooperation, understanding, and quality services for the patient are the results (Bruce, et al 1996). A management challenge in implementing a pharmacist clinical practice is to gain the understanding and support of physicians and nurses. Pharmacy managers must understand that the justification for pharmacist clinical services is based on the inadequacies of physicians and nurses to prescribe, administer, regulate, and monitor drug therapy safely and effectively (Muzzin, Hornosty, and Brown, 1993). To develop effective ongoing professional relationships between pharmacists and physicians and pharmacists and nurses require respect for each other's profession, clinical drug knowledge, communication skills, ability to work with people, honesty, credibility, and responsiveness to the needs of the other professionals (Al-Shaqha, and Zairi, 2001).

2.7.6 New Drugs and Technology:

A clinical pharmacy program is confronted with the necessity for pharmacists to keep up with the latest developments in new drugs and technology. The need for pharmacist to keep up on new drugs and technology and to be recognized and used as experts on drugs is a big challenge before each pharmacist. The management

challenges are the development of an organized approach to help staff pharmacists to meet this challenge and then to share their knowledge and information with the medical and nursing staffs (Smith, 1988). Physicians and nurses need to know and understand new drugs and technology to help insure appropriate clinical outcomes of patient drug therapy (Fink, et al. 1982).

2.7.7 Quality Assurance of Clinical Services:

Quality services depend on the drug knowledge and skills of the clinical pharmacist. Clinical drug knowledge, ability to communicate knowledge, ability to work well with others, and performance results are some essential capabilities of the clinical pharmacist. Pharmacy managers can not assume that every pharmacist can perform clinically. The pharmacy director is responsible for all pharmaceutical services; therefore, specific plans must be made to attract qualified pharmacists and then evaluate the performance of each clinical pharmacist. Some clinical programs are now requiring pharmacy department certification of competence for selected clinical activities (Jeffery, and Gallina, 1980).

2.7.8 Cost-effectiveness of Clinical Services:

From the beginning , clinical pharmacy services have been challenged by hospital administration, physicians, and nurses to prove cost-effectiveness. The management

challenge is for each clinical pharmacy program to document and evaluate the cost-effectiveness of the services provider (Smith, 1988).

2.7.9 Pharmacy Personnel:

The unique management challenge relating to pharmacy personnel is the recruitment and retention of pharmacists and technicians who are knowledgeable and who can work cooperatively with physicians , nurses, other hospital personnel, and each other. Pharmacy personnel in a clinical program practice in the patient-care areas and are in frequent contact with other professionals. Their conduct and performance must gain the support and confidence of physicians and nurses (Smith, 1988). If educated and trained personnel can not be recruited, then the management challenge is to provide the necessary education and training of existing staff for their new clinical practice. This education and training effort can be successful if it is planned properly, if time is made available for the staff, and if the staff members have the desire , motivation to learn and change their practice (Phillips, et al. 1987).

2.8 Challenges of implementing clinical pharmacy services

Globally speaking many counties are trying to broaden the implementation of clinical pharmacy services in its hospitals, many factors influence the implementation process both positively and negatively, by reviewing and studying the experience of other countries we will be able to learn how to deal with the issue locally (Shane, 1996).

Challenges for the implementing of clinical pharmacy services will be coping with increasing workload and limited resources; maintain training pharmacists`

competence ;planning for pharmaceutical services by patient care type and setting, continually evaluating need for current and new services, and developing a multilayer plan; and coping with rapid change (Einarson, 1988).

Pharmacists gradually are embracing changing professional roles and responsibilities, several factors may serve to impair the adoption of new roles as follow:

- Lack of consensus regarding the professional goals.
- Resistance to broadening the pharmacists responsibilities beyond dispensing Functions.
- Lack of professional competence and /or self- confidence.
- Work environment that provide little or no opportunity to provide patient-centered

  practice.
- Lack of recompense for pharmacist's clinical services
- Underdevelopment of practitioners interpersonal skills

Factors that appear likely to promote changing professional roles include opportunities to positively Impact patients` drug therapy outcome through disease state management, expanded use of technology and technicians in the dispensing process, increased demand for drug information among health professionals and consumers (ACCP, 2000).

An example of how the pharmacist role is expanded can be understood by reviewing the following example, the code of ethics of Ameican Pharmaceutical Association (APhA) which was stated in 1952 until its revision in 1969, this code says that :

`` the pharmacist does not discuss the therapeutic effects or composition of a prescription with a patient``

When any question to be asked , the pharmacist should suggest that the qualified practitioner (i.e. physician or dentist) is the proper person with whom such matters should be discussed.

After the revision in the year of 1969, the APhA revamped its code of ethics in the face of the large changes occurring in pharmacy. In stead of referring to physicians, the APhA advanced this statement on the first section of its code:

`` A pharmacist should hold the health and safety of patient to be of first consideration, he should render each patient the full measure of his ability as an essential health practitioner`` this clinical pharmacy practice bridges the gap between professional and lay understanding of drug action (Higby, 2004).

2.9 Factors that Prompt Changing Pharmacy Roles

Multiple factors can prompt changes in professional roles:

1-With increased prescribing comes more frequent medication-related problems a major area for pharmacist intervention, through the past 30 years numerous publications have detailed significant health care problems associated with drug related morbidity and mortality, for each 1$ spent on medications in nursing homes, 1.33$ is expended for drug related problems..

2- a small percentage of patients account for a high percentage of health care costs, disease state management for patients with chronic medical conditions that contribute to high resource utilization increasingly is being conducted through an interdisciplinary collaboration of health care professionals including nurses , primary care physicians, specialist physicians and pharmacist.

3- increased recognition of the need to impact clinical, economic, and humanistic patient outcomes, pharmacists are well positioned to apply the scientific method effectively to outcome analysis.

4- Pharmacists are often the health care professionals who have the greatest knowledge and skills to prevent, detect, monitor, and resolve drug-related problem. Pharmacists remain highly trusted and readily accessible to the public (ACCP, 2000).

2.10 Factors that Hinder Changing Pharmacy Roles

All new concepts face barriers and challenges, and concept of clinical pharmacy is not an exception, although the profession of pharmacy has embraced clinical pharmacy as its new mission, the implementation of clinical pharmacy services as its new mission has been slow (Newton, 2004**).**

A variety of factors may impede pharmacists ability to implement clinical pharmacy services. The barriers discussed below are not the only difficulties that will be faced, nor are they arranged in any particular order or importance.

2..10.1 Individual pharmacist characteristics (Pharmacist –related barriers):

Individual pharmacist attitudes and background knowledge and/or skill deficiencies may hamper the implementation of clinical pharmacy provided care in any practice

setting. For example some pharmacists have grown quite comfortable with traditional practice functions and may be fearful about changing to assume new unfamiliar role. The provision of clinical pharmacy services will require pharmacists to update their professional knowledge and skill base, first and foremost, pharmacists must develop a through understanding of what it means to provide clinical pharmacy services (ACCP, 2000). Pharmacists who commit to managing the pharmacotherapy of their patients must be familiar with current advances in the treatment of common diseases, and with literature resource/database that are available to assist them to make sound therapeutic decisions. The provision of clinical pharmacy services requires that pharmacists develop strong, effective problem-solving skills by benefiting from additional instruction on clinical problem solving. Oral and written communication skills are central to the provision of clinical pharmacy services. Strong communication skills are crucial for eliciting important information from patients, documenting pharmacists therapeutic decisions and counseling patients about proper use of medications. Strong communication skills are essential to convey information about patients` pharmacotherapy to physicians and other health care providers (Higby, 2004). Most pharmacists, lack sufficient time to provide clinical pharmacy services. The pharmacist's hospital pre-occupation with dispensing drug products may constitute one barrier to the acceptance of this new philosophy among product oriented practitioners. Drug distribution contributes to their major responsibility, patient care activities are a secondary focus, and are often performed when there is spare time or extra staff are available (Vree, 1990).

Pharmacists may fail to accept and fulfill the clinical pharmacy concept for the following reasons:

- Some pharmacists do not understand the responsibility for ensuring appropriate outcomes and believe that consultation and education are the only ingredients of clinical pharmacy.
- Pharmacists tend to stick to their traditional role. They continue to direct their energies towards product and service empowerment rather than focusing on patient.
- Many pharmacists are eager to become involved in patient and may be misdirected into providing patient care services that do not draw on their drug expertise. These functions may duplicate the work of other health-care professionals and may not contribute to the goal of ensuring the best drug therapy outcomes.
- Pharmacists are not accustomed to clinical pharmacy , and many lack an appreciation of its importance (Al-Shagha and Zairi, 2001).

2.10.2 Practice-Setting Constrains:

Resource constrains and other factors associated with a pharmaceutical practice are mentioned frequently as barriers to the provision of clinical pharmacy services.

For example pharmacists often complain that they do not have time to provide clinical pharmacy services in addition to their normal responsibilities. A lack of financial resources also is mentioned often as barrier to the provision of clinical pharmacy services. A gradual transition to the provision of clinical pharmacy also may be an effective means for pharmacists contend with barrier in the practice setting (Deniso, 1986).

2..10.3 Intra professional Barriers (professional and administrative barriers):

There is a lack of demand on the part of patients, clinicians, and administrators for pharmacists to take responsibility for ensuring appropriate drug therapy outcomes. This can be explained by the lack of well controlled studies on the benefits of clinical pharmacy services, and the general failure of the pharmacist profession to promote adequately the impact the pharmacists can have on patient care overall costs. The value of clinical pharmacy is simply not being perceived. Patients are familiar only with the traditional role of pharmacists, and have not been taught the need for follow-up beyond drug dispensing. Other health care professionals are generally not aware that clinical pharmacy complements their own roles, that it meets a unique need , and does not duplicate or threaten their roles. Pharmacists may be responsible for this lack of understanding (Watanabe, et al. 2005). Most pharmacists lack the communication skills necessary to promote clinical pharmacy to their collogues. Physicians as a group may resist a pharmacist's taking a more active role in patient care. Nurses too may view the presence of pharmacists on the unit as a threat (Poole, and Timothy, 2005). Administrations of most health care plans do not know that pharmacists can make contributions well beyond their traditional distributive duties. They do not hold pharmacy managers as accountable for ensuring appropriate drug therapy outcomes (Raiford, Clark, and Anderson, 1991). Professional organizations, regulatory bodies, and school/colleges of pharmacy also may perceived as barriers to the implementation of clinical pharmacy services insofar as their efforts fail to support practitioners adequately in their transition efforts. Colleges of pharmacy must assume a variety of roles to support the transition to clinical pharmacy. They must

continually evaluate and modify their professional curricula to ensure that pharmacy graduates are prepared to assume contemporary patient care roles. They must assess the continuing education needs of their alumni and provide instructional opportunities for practicing pharmacists to develop further the professional knowledge and skills required to render clinical pharmacy (ACCP,2000).

2.10.4 System Impediments (system related barriers):

It is likely that some health care professionals will resist pharmacist's assumption of patient care role. For example, nurses and physicians may review pharmacist management of pharmacy therapy as an encroachment on their professional territory. Pharmacists should not be intimidated and/or discouraged by this lack of acceptance. Rather, they should forge relationships with health professionals one at time, beginning with those individuals who are open to collaboration. Realistically, not all health professionals will completely accept pharmacist's expanded role, over time and with perseverance, most pharmacists will be able to establish themselves as integral members of the health care team (Newton, 2004**).**

A major system related barrier in health care settings is lack of a comprehensive, ongoing process for defining the appropriate outcomes of drug therapy, for employers and other purchasers to understand the quality of the health care , defining the quality and appropriateness of outcomes is needed . The health care system has became highly fragmented. There is a clear separation between activities in inpatient acute

care and activities in outpatient care. A less fragmented system is needed to allow for continuity of provision of clinical pharmacy services (Louie and Robertson, 1993). Physical facilities limit the ability of pharmacists to provide pharmaceutical care. Dedicated areas, in which the pharmacist can provide patient consultations or drug therapy information, are often lacking (Penna, 1990). Lack of ready access to clinical information limit the ability of pharmacists to provide care that ensures the appropriate drug therapy outcomes. The information to which the pharmacist includes the reason for the patients visit and admission, the patients medical history, laboratory test results, and the patient's assessment and care plans made by other providers (May, 1993). Information can be obtained from the patients themselves, from observation, and from physicians who are willing to provide it, once they know the purpose for which it is used. Consequently, unnecessary personnel and administrative costs are incurred, as pharmacists attempt to carry out their tasks of identifying potential or actual drug related problems. Patients may resist the adoption of clinical pharmacy for a variety of reasons. Some may be reluctant to spend additional time consulting with a pharmacist. Others may be concerned about cost, some patients may feel that pharmacist is trying to take over a portion of the physicians` role and want to avoid angering their own doctor. In this context, pharmacist should take the time to explain their service thoroughly to each patient. They should emphasize that clinical pharmacy complements rather than duplicates services provided by other health professionals. In addition pharmacist should describe how patients benefit from clinical pharmacy services (Louie and Robertson,1993).

A national survey was conducted in the year of 1991 by university of Texas in order to know the hospital administrators` perceptions of pharmacy directors. The hospital

administrators believed that pharmacy directors in general need to improve their relationship with the nursing staff, their basic managerial skills, and their communication skills. They believed that the pharmacy director at their own institution excelled at keeping up with progressive pharmacy practice, inventory management, and interacting with the pharmacy and therapeutics committee. The administrators indicated that it is very important for the pharmacy department to be involved in therapeutic drug monitoring and medication counseling and to be progressive in their offerings of services. Hospital administrators had a positive perception of the abilities of pharmacy directors but believed that there is still room for improvement (Raiford, Clark, and Anderson, 1991).

2.10.5 Management or department related barriers:

Pharmacy managers in acute care settings often fail to hold pharmacists and other pharmacy managers accountable for drug therapy outcomes. Job description and performance evaluation criteria for pharmacists in hospitals still reflect traditional functions and accountabilities (Gouveia, 1993). Managers and pharmacists do not jointly develop standards of competence in the area of clinical pharmacy. Evaluation and accountabilities are not related to drug therapy outcomes. Many pharmacy departments create a barrier to pharmaceutical care when they design their organization chart. Pharmacy managers lack sufficient time to plan for clinical pharmacy services and for an evolving, patient centered practice. The daily responsibilities of pharmacy managers are overwhelming and leave little time for innovation (Louie and Robertson, 1993). Current accountability structures motivate pharmacy managers to concentrate on drug products rather than the outcomes of drug

therapy. Most pharmacy managers do not take the risk necessary to demonstrate cost effectiveness of the clinical pharmacy model. They do not adjust the department's cost structure to create even small opportunities to demonstrate the cost effectiveness (Helper, 1990). Pharmacy managers also lack integrated mechanisms for measuring the impact of services on patient care, there is little consensus abut what measures should be and few resources are devoted to developing them (Helper, 1993). In large hospitals , the responsibilities for clinical and distributive activities are divided between pharmacists who are clinically- oriented and pharmacists who are distributive- oriented. This division is not efficient and wastes time. Organization charts should be redrawn, so that all pharmacists may contribute to clinical pharmacy (Gouveia, 1993).

2.11 Implementing of clinical pharmacy services and Provision of Clinical pharmacy services in different hospitals

Clinical pharmacy is practiced in many countries and makes a significant contribution to improved drug therapy and patient care. Much benefit could be gained by reviewing the experience of other countries regarding implementation of clinical pharmacy services in its hospitals.

2.11.1 Israel hospital pharmaceutical services:

A national survey was conducted in 1996 to evaluate the hospital clinical pharmacy services in Israel hospitals, survey results showed that the main services provided at

hospital pharmacies are production of pharmaceuticals, and inventory management. The pharmacy directors estimated that more than half of their pharmacists` time was spent on technical work that did not need their academic, professional knowledge. In Israel general hospitals there are on average 1.23 full time pharmacist position per 100 hospital beds and 1.09 positions for other pharmacy employee. A similar survey carried out in the United States showed an average of 7.4 pharmacists per 100 hospital beds. Pharmacists there have broad clinical roles which, in general Israeli pharmacists do not have. Computer systems are used in Israel pharmacies mainly for inventory management. About half of the directors did not think that the location, structure and furnishings of their pharmacy were appropriate for its role. Under current conditions, Israel hospital pharmacies are not organized to provide pharmaceutical services beyond inventory management and pharmaceutical production. Appropriate budgets and personnel are required to develop clinical pharmacy services at Israel hospitals. (Livny, et al. 2000).

2.11.2 Clinical Pharmacy Services in some of US A hospital:

In Florida hospitals a survey conducted in 1977 was re administered in 1984 in order to ascertain the progress made in the implementation of clinical services in Florida hospitals, Services such as patient monitoring, in-service education, and drug-use review were being offered substantially more than in 1977. Conducting patient medication histories, attending rounds with physicians, and providing discharge consultations were the least-performed clinical services. The reasons given for not implementing these services were similar in both surveys. However, while the lack of adequately trained pharmacists was frequently cited in 1977, very few respondents

cited it as an obstacle in 1984. Several respondents indicated that they had documented cost savings attributable to their clinical pharmacy services. Clinical pharmacy programs are continuing to grow in Florida hospitals; however, pharmacy administrators appear to be having some of the same problems implementing these services as they did previously (Salem, and Doering, 1984).

In order to assess the effect of state legislation expanding the scope of pharmacy practice in health-care institutions, California hospitals were surveyed in 1982 and 1986 about pharmacists' regulation of drug therapy. The two surveys indicated that between 1982 and 1986 pharmacists became more involved in regulating drug therapy in California hospitals (Guglielmo, Schweigert, and Kishi, 1998). An extensive survey of hospital clinical pharmacy services in the Great Lakes region showed that that the provision and scope of many services were related to hospital size, hospital teaching affiliation and the education of the pharmacy director (Raehl, Bond, and Pitterle, 1990). A national survey of pharmaceutical services in federal hospitals was conducted from My to July 1993. The results showed that a computerized pharmacy system was present in 99% of the departments. More than 95% of hospitals participated in adverse drug reaction, medication error management, and drug-use-evaluation programs. A total of 93% provided drug therapy monitoring, and 89% provided patient education. About 70% provided written documentation of pharmacist interventions in the medical records, and 57% participated in drug research. A total of 42% provided pharmacist-managed drug clinics, 41% participated in drug management of medical emergencies, 30% provided written medication histories, and 30% provided drug therapy management planning. Pharmacokinetic consultations were provided by 64% of departments. About 90% had a well-controlled formulary system and prescribing restrictions. Therapeutic interchange was

practiced by 64%. Diversified pharmaceutical services included telephone or mail-in refill services (80%), mail-out pharmaceutical services (58%), and services to long-term-care facilities (49%). A total of 70% of the hospitals were affiliated with a pharmacy school (Crawford, and Santell, 1993). A study was conducted in 2000 to evaluate the relationship and association among clinical pharmacy services, pharmacist staffing and total cost of care in the United States hospitals, the result of this study suggest that increased staffing levels of clinical pharmacist and pharmacy administrators, as well as some clinical pharmacy services, were associated with reduces cost of care in United States hospitals (Bond, Raehl and Franke, 2000). Another study was conducted in 2001 to evaluate the interrelationships among mortality rates, drug costs, total cost of care and length of stay in United States hospitals and clinical pharmacy services provided, the results of the study showed that clinical pharmacy services were associated with improvement in the four variables (Bond, Raehl, and Franke, 2001). There is a direct relationships and associations among clinical pharmacy services, pharmacist staffing, and medication errors in United States hospitals. As staffing of clinical pharmacists increased, medication error decreased (Bond, Raehl, and Franke, 2002).

2.11.3 Clinical Pharmacy Services in United Kingdom

Hospitals:

Provision of Clinical pharmacy services in United Kingdom hospitals varied greatly through the past decade, in 1986 clinical pharmacy practice centered around drug monitoring (word pharmacy). Pharmacokinetic services were provided in few places, Master of science degree in clinical pharmacy was available (Cronin, 1986).

A survey of clinical pharmacy services was conducted in 1994 in order to study the extent to which clinical pharmacy services are provided in National Health Service (NHS) hospitals in the United Kingdom . Services commonly provided were inpatient drug therapy monitoring (96%), clinical trials support (92%), formulary management (89%), participation in drug and therapeutic committees (97%), and an on-site drug information center (60%). Services infrequently provided were therapeutic drug monitoring (21%), medication history-taking (16%), and a 24-hour on-site pharmacist (10%).

Several services were associated with pharmacies that employed many pharmacists, pharmacists with advanced education, or specialist clinical pharmacists and pharmacies located in medical school teaching hospitals. U.K. hospital pharmacies provided fewer patient-oriented services and more drug information, therapy monitoring, and pharmacist education services than U.S. hospital pharmacies. Provision of clinical pharmacy services in the United Kingdom was associated with employment of many pharmacists, pharmacy clinical specialists, and pharmacists with advanced education (Cotter, Barber, and Mckee, 1994).

2.11.4 Clinical Pharmacy Services in Northen Ireland hospitals:

By reviewing clinical pharmacy services in Northern Ireland it was found that clinical pharmacy services increasingly seen to be critical to patient care particularly because they provide an important element of risk management in an inherently risk-laden area. Clinical pharmacists made numerous routine interventions concerned with improving the safety and efficacy of drug therapy. A small but significant number of these are potentially life-saving and many improve the quality of life.

Clinical pharmacists have successfully identified opportunities for efficiency savings and have put them into effect through judicious use of policies and guidelines.

The importance of continuity of clinical pharmacy services across the primary/secondary care interface has been recognized and some services have been developed. Overall, good quality pharmacy have been developed in Northern Ireland (Clark, 2002).

2.11.5 Challenge of Implementing of Clinical Pharmacy Services in Malaysia:

In order to report the current status, and future trends of clinical pharmacy practice in Malaysia, data on areas related to clinical pharmacy practice in Malaysian hospitals were gleaned from previous publications, the report showed that Malaysia is capable of implementing clinical pharmacy services in hospitals and perhaps also in the community setting. The important factors in clinically oriented pharmacy practice include improvement of the drug-control process, development of physical and human resources, clinical pharmacy skills, and the training of practicing pharmacists. A number of Malaysian pharmacists have already developed a unit-dose drug distribution system, patient counseling, therapeutic drug monitoring, drug information, and total parenteral nutrition services. The pharmacy profession in Malaysia has many challenges ahead and it is hoped that every practicing pharmacist will be highly committed to future professional needs so that clinical pharmacy practice in Malaysia becomes a reality (Hassan, 1993).

2.11.6 Implementing Clinical Pharmacy Services in South Indian Teaching hospital:

Medication use problems are commonly encountered in India, implementation of clinical pharmacy services helped in improving medication use at a South Indian teaching hospital. India is a country with significant problems with medication use, but until recently Indian pharmacists have not been educated for a patient-care role.

Postgraduate pharmacy practice programs have been established at 2 pharmacy colleges in South India as a result of a joint Indo-Australian program of cooperation.

At a teaching hospital associated with the colleges, clinical pharmacy services such as drug information, medication counseling, drug therapy review, adverse drug reaction reporting, and the preparation of antibiotic guidelines are assisting clinicians to improve drug therapy and patient care. 727 requests for drug information were received from July 1997 to February 2001, and 543 suspected adverse drug reactions were evaluated from November 1997 to February 2001. The most common drug classes causing adverse drug reactions were antibiotics, non steroidal anti-inflammatory drugs, and anti tubercular agents. Physician opinion and service

utilization have also been surveyed: 82% of respondents had sought drug information from the Clinical Pharmacy Department and 71% of respondents had sought advice on individual patient management. The success of this program is raising awareness of clinical pharmacy among pharmacy educators elsewhere in India and has led to the introduction of clinical pharmacy services at other Indian hospitals

(Parthasarathi, et al. 2002).

2.11.7 Implementing of Clinical Pharmacy Services in Zimbabwe Pediatric hospital:

Implementing of clinical pharmacy services has proved to optimize clinical care provided to patients. In Zimbabwe in 1998, there was a project of implementing clinical pharmacy services in one of it's central hospitals which is Harare central hospital at the pediatric unit, the outcome was motivating to implement such services in other hospitals. The pediatric department was the chosen department for implementing clinical pharmacy services. In order to set up a clinical pharmacy services in the pediatric unit some basic requirements needed to be addressed. The chief pharmacist temporarily reorganized The available staff and designed the pediatric pharmacy team. The interventions made The available staff and designed the pediatric pharmacy team. The interventions made by the clinical pharmacists included provision of advices to nurses on IV administration, reinforcement and explanation of the ``Essential Drug List of Zimbabwe`` to ensure adequate drugs, dosing and frequency prescribed in children, provision of advices on appropriate dosing according to renal and liver function, and on administration of oral doses from tablet

forms by crushing and dispensing when appropriate, if a liquid formulation is not available, making sure that the right parenteral route was used for the patient's age, for example IV is preferred rather than IM for neonates and provision of information for the patient about drug related issues while being on the ward. To evaluate the validity of services provided by clinical pharmacists a questionnaire was designed and distributed to nursing and medical staff 90%percent believed that pediatric pharmacy services was either good or excellent, 91% thought that the relationship between pharmacy/medical and nursing staff was improved due to better communication.

The introduction of pediatric pharmacy services was an excellent way to motivate the pharmacy staff at Harare Central Hospital. The staff was receptive to a potential change in practice and greatly appreciated having direct contact with patients, families and other professionals. This short project provided evidence of how simple, basic transfer of skills, without extensive financial donations, could make an impact on the quality of health services provided (Lopez, et al. 2002).

2.11.8 Clinical pharmacy service provision in Australia—1998:

The results of a 1998 national survey of clinical pharmacy services in hospitals throughout Australia showed that the five most commonly provided services were, informal drug education for hospital staff, review of medication charts, control of drug purchasing, and inpatient dispensing. Review of medication charts and provision of drug education for the hospital staff were the most widely provided clinical pharmacy services (Wilson, et al. 2000).

2.11.9 Clinical Pharmacy practice and education in the People's Republic of China-1993:

There are two streams of medical practices in the People's Republic of China (PRC): traditional Chinese medicine and Western medicine. Hospital and community pharmacies are responsible for the dispensing of medicines used for both streams of medical practices. Forty-two colleges of pharmacy offer pharmacy education, half of which provide a Western medicine approach and the other half traditional Chinese medicine. Both types of colleges offer a four-year curriculum with options for specialization. Opportunities for graduate study are also available. Most of the graduates work in hospital pharmacies. Hospital pharmacies participate in the bulk manufacture of drugs and parenteral fluids. A bulk dispensing system is used by some hospitals; individual patient doses are dispensed in others. Recently, the need to develop clinical pharmacy services in PRC was recognized and training courses were begun. Curricula with specialization in clinical pharmacy are being considered by colleges of pharmacy (Lau, Chen, and Wang, 1993).

2.11.10 Initiation of clinical pharmacy in Greece-1996:

There was neither Clinical Pharmacy practice in Greece nor Hospital Formularies. Clinical Pharmacy (CP) services started experimentally during a 3-month period (February 1995-April 1995) at the 2nd surgical Department of "Apostle Paul-KAT" Hospitalin Athens. Since then there has been a strategy plan for further CP development. A study was conducted in 1996 to give information about these first

steps in introducing CP in Greece. The work at the Department was based on the prescription monitoring of every patient, realizing the prescribing trends and giving priority to certain prescribing problems. Eventually there was a focus on antibiotics and respiratory system drugs. Clinical pharmacy services provided were: interventions for alternative drug treatment and the duration of antibiotic treatment, interventions for individualization of drug dosage, monitoring adverse effects, discussions with patients about their drug treatment and educational presentations. The study revealed high acceptance by the medical staff. Comparison of 2 months (pre and post CP services) revealed 50.7% reduction in antibiotics and respiratory system drugs. The results of the 1st experimental 3-month period are indicative for the consequences of CP services both for the quality of pharmaceutical care and pharmaco-economics (Stathoulopoulou, Papastamatiou, and Lapidakis, 1996).

2.11.11 An introductory course to facilitate the implementation of a clinical pharmacy programe in Iraq-1986:

An introductory course in clinical pharmacy is discussed which is designed to implement the basic concepts of clinical pharmacy as well as assist in the stepwise transition from a pharmacy school, with primary emphasis on dispensing, to a more clinically (patient) oriented pharmacy program. The course is composed of a 2-h didactic session and a 3-h observation session per week for 3 months followed by daily 3-h practical clerkships for 4 months in the following areas: in-patient and out-patient hospital pharmacy, clinical laboratory, internal medicine, pediatrics, surgery, and retail pharmacy. Weekly 2-hour discussion sessions at the college or site of the clerkship are scheduled to review these experiences and introduce additional topics such as patients rights, pharmacist-patient relations, and pharmacy relations with other

health professionals. This course promotes the development of a clinically oriented attitude in students and staff members in the college, and decreases the trauma of direct change from a product-oriented to a more patient-oriented curriculum (Ezzedeen, et al. 1986).

2.11.12 Determination of the drug information needs of the medical staff of a Nigerian hospital following implementation of clinical pharmacy services-1987:

The types and frequency of questions asked of clinical pharmacists introducing clinical pharmacy services in the internal medicine wards of a Nigerian university hospital and the degree of compliance with pharmacists' recommendations were studied. The most common type of drug information request concerned the presence or the likelihood of an adverse drug reaction. Continuous interaction between pharmacists and physicians in the patient-care setting results in a better appreciation of the pharmacist's role as drug information consultant, and the consequence of this is a high degree of compliance with pharmacists' recommendations (Ette, Achumba, and Brown-Awala, 19987).

Although both the literature document the presence of effective clinical pharmacy services in a number of hospitals across some countries, still patient-oriented services is slow to emerge on a consistent and visible basis. The struggle to improve patient-

oriented clinical pharmacy services will continue until hospital pharmacy managers and pharmacists evaluate their departments care carefully and reflect on how these departments are managed. This is necessary for the successful implementation and delivery of clinical pharmacy services as a practice standard for pharmacy (Phillips, et al. 1987).

Chapter 3

Conceptual Framework

Chapter 3

Conceptual Framework

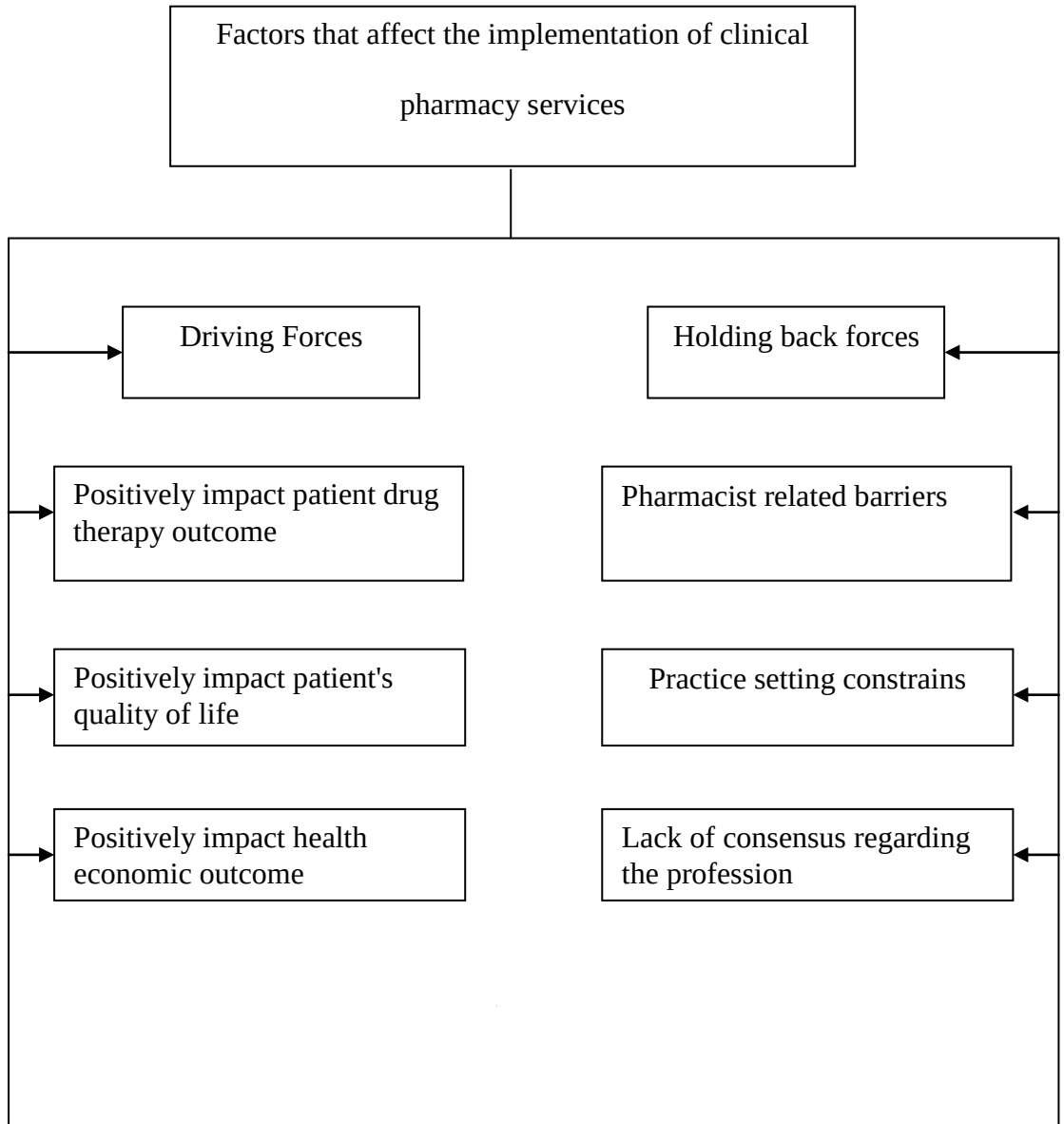
3.1 Conceptual Framework for Challenges of implementing clinical pharmacy services in Palestinian Governmental hospitals

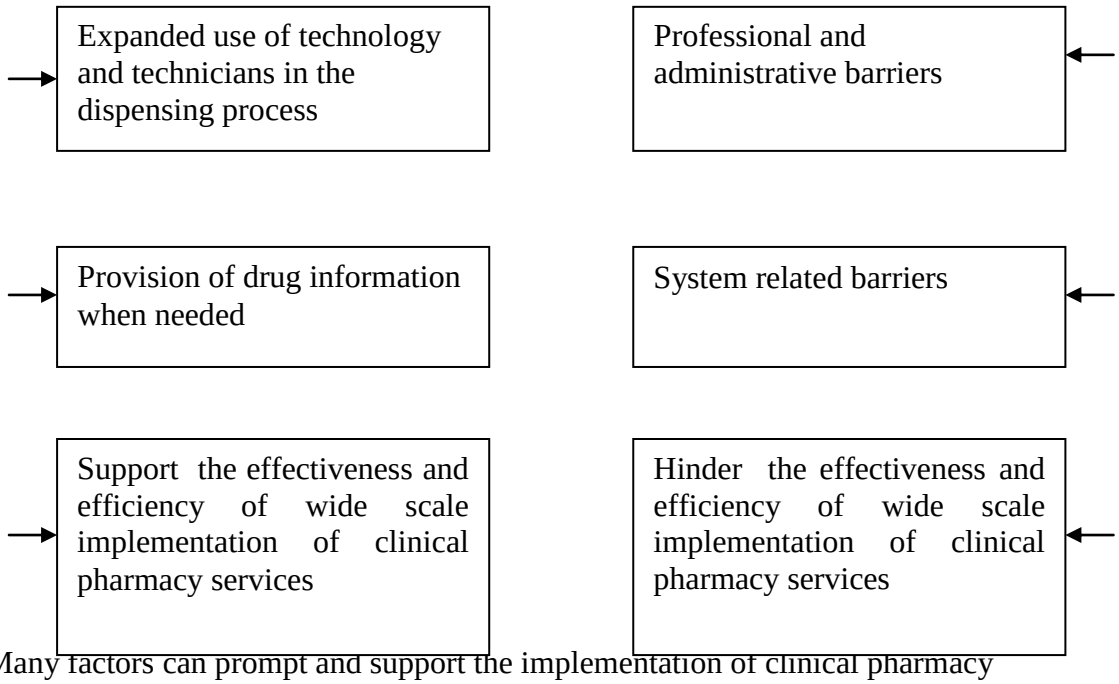
By reviewing the literature, the researcher found that many factors affect the effectiveness of implementing clinical pharmacy services not only in hospitals but also in any other health providing setting. Factors that appear likely to promote the wide distribution of clinical pharmacy services included opportunities to positively impact patients drug therapy outcome, expanded use of technology and technicians in the dispensing process, increased demand for drug information among health professionals and increased recognition of the need to impact clinical, economic, and humanistic patient outcomes.

Factors that appear likely to impair the adoption of new roles of pharmacists as clinical pharmacists and consequently will negatively impact the effectiveness of wide scale implementation of clinical pharmacy services included pharmacist-related barriers, practice-setting constrains, professional and administrative barriers and system related barriers. These factors are described by researchers, and details are mentioned in the literature review chapter. After collecting data and doing the necessary analysis the researcher will describe these relevant factors which are considered important in affecting the effectiveness of implementing clinical pharmacy services in the Palestinian governmental hospitals.

3.2 Conceptual framework (Diagram)

Theoretical Diagram of Conceptual Framework





Many factors can prompt and support the implementation of clinical pharmacy services. With increased prescribing comes more frequently medication related problems which lead to significant health care problems associated with drug related morbidity and mortality. The implementation of clinical pharmacy services will minimize such problems (ACCP, 2000).

The direct involvement of a pharmacist throughout the medication use process helps ensure continuity of care and may minimize the risk, lower the cost, and improve the outcomes associated with drug therapy (Schumock, et al. 2000).

Increased recognition of the need to impact clinical, economic, and humanistic patient outcome, pharmacists are well positioned to apply the scientific method effectively to outcome analysis.

Clinical pharmacy services have been shown to identify drug related problems, reduce the incidence of clinically important drug related problems, improve patient education and compliance and improve clinical outcome.

Pharmacists are often the health care professionals who have the greatest knowledge and skills to prevent, detect, monitor, and resolve drug-related problem.

A variety of factors may impede pharmacists ability to implement clinical pharmacy services. Individual pharmacist attitude and knowledge and skill deficiencies may hamper the implementation of clinical pharmacy services in any clinical pharmacy provided care in any practice setting.

It is likely that some health care professionals will resist pharmacist's assumption of patient care role. Physicians as a group may resist a pharmacist's taking a more reactive role in patient care. Nurses too may view the presence of pharmacists on the unit as a threat (Poole, and Timothy, 2005).

Administrations of most health care plans do not think that pharmacists can make contributions well beyond their traditional distributive duties (Raiford, Clarck, and Anderson, 1991).

Resource constrains and other factors associated with a pharmaceutical practice are mentioned frequently as barriers to the provision of clinical pharmacy services (Deniso, 1986).

A major system related barrier in health care settings is lack of a comprehensive, ongoing process for defining the appropriate outcomes of drug therapy. Pharmacy departments create a barrier to the provision of clinical pharmacy services when they design organization chart. Pharmacy managers lack sufficient time to plan for the provision of clinical pharmacy services and for an evolving patient centered practice (Louie and Robertson, 1993).

The researcher considered the previous mentioned factors while designing the data collecting instrument and planning for the focus interviews. The factors are discussed in details in the literature review, these factors are not the only factors that may face

the implementation of clinical pharmacy services in the Palestinian Governmental hospitals.

Chapter 4

Methodology

Chapter 4

Methodology

This chapter will show the methods used to select the study design, sample, period of the study, place, data collection and data analysis.

4.1 Study Design

This is a qualitative descriptive study, it is based on the interpretation of data collected from key informant pharmacists who have knowledge that help in identifying factors that affect the implementation of clinical pharmacy services in the Palestinian Governmental Hospitals.

This type of study design is convenient for revealing and exploring the challenges that may face the implementation process, however the main disadvantage of this kind of study is in the interpretation and analysis of data collected which will be avoided by careful objective precise categorization of data obtained.

4.2 Study population

The study population included 25 key informants from MOH and Al Azhar University.

4.3 Study place

The study was conducted in:

1. General Administration of pharmacy (8 key informants).
2. Pharmacy College at AL-Azhar university (2 key informants).
3. Al- Shifa hospital in Gaza city (1 key informants).
4. Gaza European hospital in Khanyunis city (4 key informants).
5. Khanyunis hospital in Khanyunis city (2 key informants).
6. Abu Usif Alnajar hospital in Rafah city (One key informant).
7. Kamal Edwan hospital in Beet Lahea city (One key informant).
8. Mohammad El Dorah hospital in Al Tefah area in Gaza city (One key informant).
9. Shuhada El Aqsa hospital in Deer Al Balah city (One key informant).
10. Al Nasser hospital in Gaza city (three key informants).

11. Al Oyoon hospital in Gaza city (one key informant).

4.4 study period

Time line of this study was nine months from February 2005 to October 2005.

The administrative procedures including MOH authorization took place at the beginning of February 2004. Data collection started from May 2005 to July 2005.

4.5 Sample Size

The sample included 25 key informant were interviewed for their knowledge and expertise.

4.6 Sampling

It is a non probability purposive sample.

4.7 Eligibility Criteria

Inclusion criteria

Pharmacists who have professional education in clinical pharmacy science or, administrative clinical pharmacy knowledge or have practical experience of two months or more.

Exclusion criteria

- Pharmacists who do not have a professional educational diploma in clinical pharmacy or,
- Pharmacists who do not have administrative knowledge or,
- Pharmacists with practical experience of less than two months.

4.8 Data Collection

Loosely structured questions, Focus interviews were conducted.

The researcher interviewed all the target sample, interview time ranged from 35 minutes to 60 minutes. The over all time needed to collect the data was two months from May 5, 2005 to July 5, 2005, it took two months instead of one month because of the traveling obstacles faced the researcher before the disengagement took place, and because some interviewers were abroad or too busy to conduct the interview (annex 1).

4.9 Response rate

The response rate in this study was 100%, all selected key informants agreed to participate in the study. This indicates their interest in the topic to be researched.

4.10 Validity of the instrument

Content validity of the instrument used for data collection in this study by discussing the instrument with expert committee included two public health experts and, six expert pharmacists, as a result, some items were added, modified or neglected.

4.11 Ethical Matter

An official letter of request was obtained from the MOH director general to conduct the study in the General Administration of Pharmacy (annex 11), and College of Pharmacy at Al _Azhar University(annex 12), and an official letter of approval was obtained from the Helsinki committee (annex 13).

Each participant was given an explanatory letter which was given before conducting the interview (annex 15).

4.12 Data Analysis

Data were entered and analyzed using manual open coding thematically analysis.

Data analysis contained different stages as follow:

1- preparation of interview summary sheet at the end of each interview
2- descriptive codes was made which involved a systematic recording of data
3- categorization of the codes obtained
4- presentation of data by visual displays such as boxes.

Chapter 5

Results

Chapter 5

Results

5.1 Executive Summary

- There was divergent points of views considering holding back forces and driving forces that constitute the various challenges facing the implementation of clinical pharmacy services in the Palestinian Governmental Hospitals.
- All key informants agreed that creating clinical pharmacist from traditional pharmacist is considered the main challenge that need more attention and consideration.
- Intra professional barriers is considered one of the obstacles that need to be overcame in order to get to a better outcome regarding clinical pharmacy.

- Administrative issues and governmental support is one of the key factors that affect the implementation process either negatively or positively.
- Key informants had many important points and recommendations that help in recognizing many areas that strengthens the implementation process and make it more efficient and effective.
- 18 of key informants believed that holding back forces could be potential driving forces if wisdom and careful decision are taken.

5.2 Description of Driving Forces that face the implementation process

There is a consensus between key informants to consider benefits of clinical pharmacy services as driving forces that support the implementation process.

Wide range of benefits are gained by implementing clinical pharmacy services. Clinical pharmacy is very important in many aspects that make it a very good profession to adopt. Economic efficiency and improving quality of patient life are considered of the aspects of clinical pharmacy advantages.

5.2.1 Improvement of quality of patient life:

All Key informants assured that clinical pharmacy improve the quality of patients life is considered one of the most driving forces that support it's implementation in the hospitals.

> …Clinical pharmacy profession help in improving the quality of patient life by looking for possible drug interactions, appropriate drug regimen.
>
> It is the profession that minimize medical errors that are lethal in many situations and threats patient life, this is one of the driving forces that makes the implementation of clinical pharmacy services in our hospitals a necessity.
>
> -clinical pharmacy lecturer- Al Azhar university

> …Minimizing medication error that may result from drug interaction with other drug or food, or from incorrect prescription, preparation and/or administration medicine is considered one of the main benefits of clinical pharmacy which encourage us to proceed and keep going towards the full implementation of this profession in our hospitals.
>
> -General Director of Pharmacy-

The ways by which clinical pharmacy services can improve patient's quality of life (as revealed by key informants) can be summarized as follows:

- Avoidance of drug interactions with other drugs and food taken.
- Minimizing medication error that may result from incorrect prescription, dispensing, preparation and/or administration of medicine

- provision of medical information that increase patient compliance and promote correct use of medicine.

Table 5.1 shows how clinical pharmacy services can improve the quality of patients life as revealed by key informants.

Table 5.1: clinical pharmacy services that can improve patients and considered of the driving forces of the implementation process as revealed by the 25 key informants

Clinical pharmacy service provided that improve quality of patient medical care (driving force)	**Key informants**
Avoidance of drug interactions with other drugs and food taken.	25
Minimizing medication error that may result from incorrect prescription,	25

dispensing, preparation and/or administration of medicine	
Knowledge of patient medical history and avoidance of unnecessary hypersensitivity reactions	24
provision of medical information that increase patient compliance and promote correct use of medicine	23

5.2.2 Economic efficiency gained by implementing clinical pharmacy Services:

All respondents acknowledged a link between implementation of clinical pharmacy services and economic efficiency.

> …Clinical pharmacy is implemented in many developed countries for its various benefits and good outcomes, economic efficiency is one of its benefits that encourage many countries to adopt it in their hospitals.
>
> -General director of pharmacy-

The ways by which clinical pharmacy services can assure economic efficiency (as revealed by key informants) can be summarized as follows:

- Decrease patient hospitalization time by assuring good prescription, preparation and administration of drugs.
- Elimination of drug waste and duplication by provision of proper drug management.
- Minimizing medication errors that result from variety of causes.
- Assuring that the essential drug list is used properly and effectively in treating patients, and no drugs are expired without getting the maximum benefit of it.

Table 5.2 shows how clinical pharmacy services can assure economic efficiency as revealed by key informants.

Table 5.2: Economic efficiency gained by implementing clinical pharmacy services.

Clinical pharmacy service provided that assure economic efficiency (driving force)	**Key informants**
Decrease patient hospitalization time by assuring good prescription, preparation and administration of drugs	23
Elimination of drug waste and	25

duplication by provision of proper drug management	
Minimizing medication errors that result from variety of causes	25
Assurance that the essential drug list is used properly and effectively in treating patients, and no drugs are expired without getting the maximum benefit of it	23

5.2.3 Provision of an ideal medical team work:

All key informants revealed that medical team work is the best approach that ensure effective medical work, clinical pharmacist is one of the medical team members who will interact with both physicians and nurses and exchange medical information with them, this will maximize the benefits of medical service provided.

… Presence of the clinical pharmacist with the medical team during the morning meeting and the medical round will allow more medical information exchange between the physician and the pharmacist regarding the best drug to be prescribed and the proper dose and regimen, it is also very challenging for the pharmacist to read more and to improve his medical skills day by day.

Dean of Pharmacy College- Al-Azhar university

…By interacting with physicians and nurses clinical pharmacist will gain more knowledge and expertise, in the same time he/she will provide medical information on the spot, this will be very helpful in many situations.

Pharmaceutical quality improvement committee member

25 of key informants revealed that the presence of the clinical pharmacist with the medical team will allow on the spot information regarding availability of the drug in the pharmacy or in the medical stores, about proper preparation and reconstitution of drugs and the best time and route of administration, nurses will get medical information immediately, also physicians will get information that will help them in prescribing the available drugs to cover the time course needed for treatment.

…Presence of the clinical pharmacist with the medical team will bridge the gap between the hospital pharmacy and different hospital departments regarding the presence of drugs in the medical store either in the central pharmacy stores or in the central drug stores in Gaza. In many times we had to make some modifications in types of drugs requested by different hospital departments because the drug is not available or the quantity is not sufficient or limited.

- Vise general pharmacy director-

…While being with the medical team, clinical pharmacist will find himself in a very challenging situation, he/she must be able to communicate with the medical team members, answering their questions regarding medical information about drugs.

This will make her/him read more and know more, in the same time the physician will reconsider many factors while prescribing and deciding whether to continue therapy or not. One of these factors is the information provided by the clinical pharmacist, this will allow maximum health information exchange between different members of the medical team.

-Director of hospital pharmacies-

… By being in the medical round with the medical team (physicians and nurses) information could be provided about availability of the antibiotic "Rocephin" each time the physician wanted to prescribe it. In the past many patient took Rocephin then the antibiotic course was not completed because the antibiotic was not available any more. I think this kind of intervention is very vital in assuring the safety of the patient and will lead to minimizing drug waste which is very essential for our health economy.

-In Practice clinical pharmacist, pediatric department-

… In the first time I went to the nurse station to see how drug is prepared , I noticed that penicillin is prepared for 24 hours stability time, which was scientifically wrong, I spoke friendly with the nurses and provided medical information about the proper way of reconstitution of the antibiotic and that it should be discarded after being reconstituted.

-In practice clinical pharmacist-

The ways by which the presence of clinical pharmacist can optimize the medical care provided by the medical team, can be summarized as follows:

- Optimizing health information exchange between different members of the medical team.
- Provision of on spot medical information about the availability of the drug in the medical store (for physicians).
- Provide on spot information about the right way of preparing, reconstituting discarding or keeping the drug and storing it (for nurses).
- The clinical pharmacist will be the link between the pharmacy medical store and the department he/she works in, this will inform the pharmacy about drugs needed urgently in order to provide it to the medical department and about drugs that are not present in the essential drug list and need to be provided.

Table 5. 3: Clinical pharmacy services can optimize medical care obtained by the spirit of medical team.

The ways by which the presence of clinical pharmacist can optimize the medical care provided by the medical team (driving force)	**Key informants**
Will allow maximum health information exchange between different members of the medical team	25
Provision of on spot medical information about the availability of the drug in the	25

medical store (for physicians)	
Provide on spot information about the right way of preparing, reconstituting, discarding or keeping the drug and storing it (for nurses)	24
The clinical pharmacist will be the link between the pharmacy medical store and the department he works in, this will inform the pharmacy about drugs needed urgently in order to provide it to the medical department and about drugs that are not present in the essential drug list and need to be provided	24

5.2.4 Clinical Pharmacy is important for the profession of Pharmacy:

24 key informants revealed that most hospital pharmacists work as drug dispensers, the thing which does not fit the knowledge they have.

> … Why should the pharmacist study pathology, physiology and different pharmaceutical sciences if his only duty is to act as drug dispenser and drug guard keeper.
>
> -Chief pharmacist of the European hospital pharmacy-

Presence of clinical pharmacy specialization is important to the profession of pharmacy because it leads to:

- Increasing the knowledge and expertise of the pharmacist.
- Maximizes the benefit obtained by the pharmacists knowledge by practicing what was learned.
- Increase self esteem and improve self concept of the pharmacist.

Table 5.4 shows how clinical pharmacy services are important to the profession of pharmacy as revealed by key informants.

Table 5.4: Clinical pharmacy services is important to the profession of pharmacy

The ways by which clinical pharmacy is important to the profession of pharmacy:	**Key informants**
Increase the knowledge and expertise of the pharmacist	25
Give the maximum benefit obtained by the pharmacist's knowledge, by practicing	24

what was learned theoretically	
Increase self esteem and improve self concept of the pharmacist	18

5.2.5 Presence of Pharmaceutical Quality Improvement Committee:

24 key informants acknowledged the presence of Pharmaceutical Quality Improvement Committee, that proposed the implementation of clinical pharmacy services in Gaza Strip governmental hospitals from the beginning. They considered it as one of the major driving forces that should be empowered and supported.

The researcher asked the key informants about the ways this committee supported or could support the profession of clinical pharmacy, the following answers were obtained:

1- Management of clinical pharmacy services.
2- Evaluation of performance of clinical pharmacists.
3- Evaluation of clinical pharmacy economic outcome.
4- Provision of training courses to clinical pharmacists.
5- Provision of detailed guideline that regulate the relationship between the clinical pharmacist and the medical staff members.
6- Provision of job description that helped in understanding the nature of the work of the clinical pharmacist.

5.2.6 Development of the curricula of pharmacy college at Al-Azhar University, and increasing number of pharmacy graduates:

All key informants considered development of pharmacy college curricula as driving force that will help in the future preparation of clinical pharmacists. The increasing number of pharmacy graduates will provide more and more manpower that support the trend regarding implementing clinical pharmacy services.

> …introducing clinical pharmacy courses in the curricula of pharmacy college will help greatly in introducing the new concept to the pharmacy graduates and will help in preparing future competent clinical pharmacists.
>
> -Director of General Administration of pharmacy-

5.2.7 Well and Desire of the selected pharmacists to act as clinical pharmacists:

20 key informants considered the well and desire of the selected hospital pharmacists to act as clinical pharmacists as driving force that help in the effective implementation of clinical pharmacy services.

> …selection of the pharmacists to act as clinical pharmacists was based on their well, desire and interests to act as clinical pharmacists. Their determination to act as clinical pharmacists will soften many obstacles that may be found during the implementation process.

-Chief pharmacist of Pharmacy Inspection Department-

Driving forces that support the implementation of clinical pharmacy services could be summarized as follows:

1- Improvement of quality of patient life.

2- Economic efficiency gained by implementing clinical pharmacy Services.

3- Provision of an ideal medical team work.

4- Clinical Pharmacy is important for the profession of Pharmacy.

5- Presence of Pharmaceutical Quality Improvement Committee.

6- Development of the curricula of pharmacy college at Al-Azha University, and increasing number of pharmacy graduates.

7- Well and Desire of the selected pharmacists to act as clinical pharmacists.

5.3 Description of Holding Back Forces that faced or may Face the Implementation Process

Key informants had wide points of views regarding the main holding forces that may affect the implementation process in a negative way.

5.3.1 In practice clinical pharmacy staff knowledge, experience and communication skills factors:

24 of key informants revealed that lack of special training courses and specialized academic degrees is one of the challenges that face the effectiveness of the

implementation process. The 24 key informants revealed that lack of specialized scientific and communication training courses could negatively affect the implementation process by the following ways:

1- Ineffective communication between clinical pharmacists and other medical team members.
2- Lack of ability to deal with the required information on the best time and manner.
3- Misconception of the role of the clinical pharmacist by health providers due to inability of the pharmacist to communicate in a good manner.
4- Lack of training courses will lower self confidence, self image, and will create different goals and attitudes regarding clinical pharmacy profession.

…In practice clinical pharmacists were chosen on basis of their well and desire to act as clinical pharmacists, they did not get any training courses. They are only Bachelor degree holder, non of them have advanced academic degree, neither in clinical science nor in any specialized training courses in clinical pharmacy, We have to consider this point deeply when speaking about clinical pharmacy.

-The manager of hospital pharmacists-

…The biggest challenge of implementing clinical pharmacy services is creating a clinical pharmacist from a bachelor degree pharmacist who had no previous training courses nor specialized degree in clinical pharmacy science

-pharmaceutical quality improvement committee member-

…sometimes the patient asks me about the nature of his/her disease, I feel so afraid to tell, I think there is no standards for what to tell and what to keep out.

- In practice clinical pharmacist in oncology department-

… In practice clinical pharmacist has no previous knowledge about what to say or about what not to say, either to patients or to their relatives. They did not get special communication skills, or training courses that enable them to deal with medical team members or with the patients, and that's why the first recommendation that was given to the pharmacists is to observe only and not to provide any information to any patient. Just keep observing and asking for more information.

-pharmaceutical quality improvement committee member-

5.3.2 Lack of mentality regarding the profession of clinical Pharmacy:

25 key informants revealed that absence of mentality regarding the nature of the profession of clinical pharmacy is the main holding back force that my negatively affect the implementation process. All key informants revealed that this lack of mentality is due to two main factors:

1- No information culture regarding the profession of clinical pharmacy
2- Lack of philosophy that regulate the whole clinical pharmacy discipline.

…All medical field workers have their perception and knowledge about the medical role about different field workers job. For example the physician is the one who diagnoses the disease and prescribes treatment, the nurse is the one who prepares drugs and administers it to the patient, the pharmacist is the one who dispense drugs. But what is a clinical pharmacist and why there is a need for such profession?

This question will be always asked not only by nurses, physicians and other field workers but also by ordinary people who may be in contact with the clinical pharmacist.

-Director of General Administration of Pharmacy-

…When I was in the medical round that day, a physician asked me about my profession. Then I had to answer many questions regarding clinical pharmacy profession.

-in practice clinical pharmacist in the medical male department-

5.3.1 Administrational changes that stopped a system wide implementation of clinical pharmacy:

24 key informants believed that administer changes is a serious holding back force that hinder the effective implementation of clinical pharmacy services.

On Aug 1, 2005, there was a minstry decision that refers all hospital pharmacists and primary health care centers pharmacists to the managers of these hospitals and primary care centers. The general administration of pharmacy would have no authority over these pharmacists any more (Annex 9).

24 of key informants insisted that this decision negatively affected the clinical pharmacists who have worked in the hospitals. The pharmaceutical Quality

Improvement committee could not follow up those pharmacists, it could not support their function in any direction.

> …All the world is moving towards specialization, we are the only ones moving toward more centralism.
>
> -General Director of Pharmacy-
>
> …The decision was very humiliating. It was a big surprise to us. The decision was unidirectional , there was no consultation for the sake of the quality of health care.
>
> -Pharmaceutical quality improvement committee-

Whether that decision was a good one or not is not the issue the researcher is discussing here, the issue is to explore how did that decision affect clinical pharmacy implementation process.

> ... this was the gun shot directed to the head of clinical pharmacy implementation process, since that date we did not hear from the pharmacy department. No one provided us with references nor new directions. No training courses in clinical pharmacy nor in communication skills. we feel like left alone and with something that is totally new for us.
>
> -In practice clinical pharmacists-

5.3.4 lack of follow up and evaluation:

25 key informants revealed that there is lack of follow up and evaluation, this is because absence of logistic support provided by MOH.

> …for three months we could not have any communication with in practice clinical pharmacists who work in the hospitals, this is because of the ministry decision that refers these pharmacists not to the General Administration of pharmacy, but to the directors of the hospitals they are working in.
>
> -Director of Pharmaceutical Quality Improvement committee-

> …we did not hear any thing from the General Administration of pharmacy for more than two and half months, we are just left alone, I do not work as clinical pharmacist anymore, now I work as drug dispenser in the ward pharmacy.
>
> -in practice clinical pharmacist-

5.3.5 Intra-professional barriers:

23 key informants revealed that inter professional barriers is a major obstacle to face and handle during the implementation process, these barriers exist between the clinical pharmacist and other medical field workers like physicians and nurses. They added that such barriers may exist between the clinical pharmacist and his/her colleagues.

- **Clinical Pharmacist –Physician relationship**

…The traditional role of the pharmacist is to prepare and dispense drugs. To have a pharmacist interfering in the process of drug prescribing is perceived by the physician as something wrong.

It is normal for the physician to have many questions regarding the nature of the profession of clinical pharmacy, but things must be clear that the role of the clinical pharmacist is a complementary.

-Chief pharmacist of Pharmacy Inspection Department-

- **Clinical Pharmacist- Nurse relationship**

…Nurses are used to their job in preparing and administrating drugs to patients. When someone come to tell them that their preparation and administration method need more attention and accuracy, they will not feel good about that, and will think that the clinical pharmacist is interfering in their own duties.

-Member of the pharmaceutical quality improvement committee-

… In the medical male department nurses used the same reconstituted vial for 24 hours stability time, when I told them friendly that this is not correct and that the remaining quantity should be discarded immediately after use, they replied they are doing the right thing to be done, that's because the quantity of the drug is scarce and not always available.

-In practice clinical pharmacist at the internal medicine department-

- **Clinical Pharmacist- Ward Pharmacist relationship**

When the researcher asked key informants about the expected barriers between clinical pharmacists and their colleagues who are ward hospital pharmacists, key informants revealed that traditional pharmacists do not have enough knowledge about the importance of the implementation of clinical pharmacy services, this lead to underestimation of the role of the clinical pharmacist.

… I like the profession of clinical pharmacy, but sometimes I get annoyed and frustrated about my colleagues underestimating comments.

-In practice clinical pharmacists-

5.3.2 Lack of Resources and references:

24 key informants insisted about the importance of presence of updated references in order to get updated information and knowledge. They insisted the importance of presence of resources in order to provide such references and to publish periodicals that express the nature of clinical pharmacy services to other medical field workers.

…Most of the hospitals have net connection but unfortunately the accessibility to the service is not applicable to the pharmacists.

-Chief pharmacist of pharmacy licensing department-

…We do not have any references here. When I need to check for any medical information, I usually refer to the books I studied in the Pharmacy College.

-In practice clinical pharmacist-

5.3.3 work force and manpower:

24 key informants revealed that the number of clinical pharmacists proposed to implement clinical pharmacy services is very small, and the required number is two pharmacists for each department in the hospital, but to start is better than not to start.

5.3.4 Work place and working environment:

15 key informants revealed that there is no suitable workplace nor working environment to enable the clinical pharmacist to do his/her work.

> …One of the duties of clinical pharmacist is to fill special reports about each patient case, and to search for the suitability of drug prescribed to the diagnosis made.
>
> Some pharmacists make their research work in the hospital pharmacy department, where other activities in dispensing and monitoring quantity activities are made.
>
> Others stay in the physicians room, or move from one department to another, there is no suitable working environment supporting clinical pharmacist activities.
>
> -Member of pharmaceutical quality improvement committee-

…There is no specific place for me as a clinical pharmacist, sometimes I will sit in the physician room after the morning round. Other times, I go to the pharmacy to participate in dispensing. There is no place for further reading and no place to locate my books and stuff.

-In practice clinical pharmacist-

…The place of the clinical pharmacist is in the pharmacy, he should share in in dispensing in addition to his clinical pharmacy duties.

-Chief pharmacist of Gaza European hospital pharmacy-

…How could I act as a medical information provider , if there is no time, place to read, or to make researches.

-In practice clinical pharmacist-

…The hospital pharmacy has limited space for the three hospital pharmacists that already exists. When they move they have big difficulties in avoiding crashing to one another. I want you to come and see the hospital pharmacy in the medical department.

-In practice clinical pharmacist-

5.3.9 Lack of Rewards and Motivation:

20 key informants revealed that absence of rewards and motivations may lead to frustration, job burnout and eventually to turnover.

…In practice clinical pharmacist has many duties to do, many reports to fill, many questions to answer and, there must be some sort of motivation to keep them in their full capacity and energy.

-Member of the pharmaceutical quality improvement committee-

5.3.10 Time Constrains and Workload:

15 key informants believed that in practice clinical pharmacists will experience time constrains and heavy workload , this may contribute to ineffectiveness in providing clinical pharmacy services.

Pharmacists who are selected to act as clinical pharmacists have to do about 11 duties every day according to the Job description, in the same time and according to Pharmaceutical Quality Improvement committee members, these pharmacists should participate in the dispensing process in the ward pharmacy and make sure that quantity of drug is maintained in its legal level.

> …The job description provided to us as in practice clinical pharmacists did not mention that we have two jobs, one of them to provide clinical pharmacy services and the other to work as ward pharmacists, I really find this thing very confusing, I do not know exactly which job should I perform.
>
> -in practice clinical pharmacist-

Table 5.5: holding back forces that affect the implementation process as revealed by key informants.

holding back forces that affect the implementation process as revealed by key informants:	**Key informants**
Lack of mentality regarding the profession	25
Lack of follow up and evaluation	25

Administrational changes and instability	24
Insufficient work force and manpower	24
Lack of resources and references	24
Lack of specialized scientific and communication training courses	24
Intra professional barriers	23
Lack of rewards and motivation	20
Inappropriate work place and working environment	15
Time constrains and heavy workload	15

Table 5.6: summary of driving forces and holding back forces that affect the implementation process as revealed by key informants.

Driving forces as revealed by key informants	Holding back forces as revealed by key informants
1- improvement of quality of patient life ▪ provision of medical information ▪ avoidance of drug interactions ▪ taking patient medical history , hypersensitivity reactions. ▪ minimizing medication error **2- Economic efficiency** • Decrease patient hospitalization time • elimination of drug waste and duplication by provision of proper drug management • minimizing medication errors • assurance that essential drug list is used	**1- Lack of mentality regarding the profession of clinical pharmacy** • No information culture regarding the profession of clinical pharmacy • Lack of philosophy that regulate the whole clinical pharmacy discipline. **2- Administrational changes and instability** • Many changes that hinder the effectiveness of the implementation process **3- Insufficient workforce and Manpower.** **4- Lack of resources and reference.**
Driving forces as revealed by key informants **3- provision of an ideal team work**	**Holding back forces as revealed by key informants** **5-lack of specialized scientific and**

• will allow max. health information exchange. • Provision of on spot information about drug availability **4- new step towards pharmacy profession** • increase knowledge and expertise of the pharmacist. • Give the maximum benefit obtained by the pharmacists knowledge, by practicing what he/she learned in the pharmacy college. • Increase self esteem and improve self concept of the pharmacist **5- well and desire of selected clinical pharmacists to act as clinical pharmacists.**	**communication skills training courses.** ▪ Ineffective communication between clinical pharmacist and other medical team members. ▪ Lack of ability to deal with the required information on the best time and manner. ▪ Misconception of the role of the clinical pharmacist by health providers due to inability of the pharmacist to communicate in a good manner **6 – Intra professional barriers** • Clinical pharmacist- physician • Clinical pharmacist- pharmacist • Clinical pharmacist- nurse
Driving forces as revealed by key informants	**Holding back forces as revealed by key informants**

6- Presence of pharmaceutical quality improvement committee, that monitor clinical pharmacists performance and services provided. 7- Development of pharmacy college curricula and increased number of pharmacy graduates.	7-Lack of rewards and motivation 8-Inappropriate work place and working environment 9-Time constrains and heavy workload. 10- lack of follow up and evaluation.

Implementing clinical pharmacy services in Gaza Strip governmental hospitals is very important for improving patients quality of life, medicine cost efficiency, and for the profession of pharmacy. Many factors affect the implementation process either positively (Driving Forces) or negatively (holding back forces). Key informants had their knowledge and expectations regarding the potent influence of these factors on the effectiveness of the implementation process. There is so much to be done in order to get the maximum benefits of the diving factors that support, encourage and motivate the effectiveness of the implementation of such services, and to avoid the negative impact of the holding back factors that may suppress, hinder and/or stop the process.

5.11 The impact of clinical pharmacy implementation on patients` life quality and health economy-(Driving Force)

25 Key informants assured that clinical pharmacy improve the quality of patients life is considered one of the most driving forces that support it's implementation in the hospitals.

With increased prescribing, comes more frequent medication-related problems major area for pharmacist intervention, through the past 30 years numerous publications have detailed significant health care problems associated with drug related morbidity and mortality, for each 1$ spent on medications in nursing homes, 1.33$ is expended for drug related problems, so clinical services have a positive impact on both patient outcomes and health care costs (ACCP, 2000).

Clinical pharmacists job description proposed by Pharmaceutical Quality Improvement Committee, regulates and guide clinical pharmacy duties to be perfumed. It stated that the pharmacist should participate with medical team members in the physician round , study and document the medical history of the patient, patient follow up and monitoring drug compliance, and monitor drug prescriptions for possible interactions and suggestion of alternative drug choices if such interaction exists.

Key informants revealed that clinical pharmacy services are patient-centered and aim at maximizing health care provided to patients. If such activities are performed correctly and honestly, it in turn will have a direct positive impact on the patient's quality of life. In this case, implementation of clinical pharmacy services will become more and more adopted by different administrations. If clinical pharmacy services is performed as suggested by the Pharmaceutical Quality Improvement

Committee both correctly and efficiently, then direct positive economic outcome will be achieved through reduction of medication error, hospitalization time and drug and disease management.

5.12 The impact of clinical pharmacy implementation on health team work (Driving Force)

All key informants revealed that medical team work is the best approach that ensure effective medical work, it optimize medical information, knowledge and expertise exchange between health team members.

Clinical pharmacist is an essential member of the health care team and he/she should cooperate with physicians, nurses and other health care professionals to optimize patients drug therapy (ACCP, 2000). The principles of practice for an integrated clinical pharmacy approach demonstrate the knowledge required for a pharmacist and the level to which the pharmacist must participate with other health-care professional in order to provide the best care. Health care professionals always will need current information about new drugs, devices, and medical advances, particularly in view of the rapid pace of new drug development and clinical pharmacists would be the main providers of such information (Al-Shaqha and Zairi, 2001).

According to key informants opinions and recommendations regarding optimizing team work, they suggested that there is a need for workshops in order to understand the clinical pharmacy concept better. There was consensus that presence of the clinical pharmacist with the health team members will make him/her a good source of information , for example provision of information about availability of drugs in the local drug store. This will help the physician to restrict prescribing to available drugs, and will help nurses to prepare the appropriate medical request and deliver it to the

pharmacy ward. This thing will insure saving time and effort for the sake of the patient. Pharmacists will gain much expertise and knowledge concerning the disease nature, and management when he/she participate in the medical round and morning meeting. Such interchange of medical information among members of the health team and the clinical pharmacy staff members will be a driving force that support the effectiveness of the clinical services to be delivered.

5.13 The impact of clinical pharmacy implementation on pharmacy Profession (Driving Force)

Pharmacy is the only health care profession that is reimbursed primarily through sale of a product rather than for provision of patient- specific service. Reimbursement of pharmacists for direct patient care services unrelated to the distribution of a product is now occurring, and concerted efforts to increase the number of pharmacists able to successfully secure this compensation are under way (ACCP, 2002).

24 key informants revealed that implementing clinical pharmacy services is a good step towards renovation of pharmacy profession, they had a consensus regarding that for pharmacists to work mainly as drug dispensers and drug guard keepers will humiliate their intellectual power and personal abilities. Implementation of such services will save the pharmacists from experiencing this work life long painful experience. Hospital pharmacists have the knowledge and expertise to practice clinical pharmacy services if they get the appropriate training.

The selected pharmacists revealed that they liked to work as clinical pharmacists because they could not endure counting pills and capsules in the time they feel themselves capable of doing more than this. This implementation will make other

health care providers reconsider their perception about pharmacists` critical role in disease and drug management and improving patients` quality of life.

5.14 Presence of Pharmaceutical Quality Improvement Committee (Driving Force)

24 key informants acknowledged the presence of Pharmaceutical Quality Improvement Committee, that proposed the implementation of clinical pharmacy services in Gaza Strip governmental hospitals from the beginning. They considered it as one of the major driving forces that should be empowered and supported. This committee is considered by key informants to be the nucleus of future clinical pharmacy administration and management discipline, that will monitor, follow up and evaluate clinical pharmacy services.

For many health systems around the world, clinical pharmacy administration emerged as a separate discipline. It is an applied field of study that deals with the research, evaluation and management of the patient, the drug, and the clinical practitioner as they relate to patient care (Einarson, 1988).

General administration of pharmacy and through it's pharmaceutical quality improvement committee played a vital role in order to start the implementation of clinical services in some of MOH hospitals. They attained the official approval from MOH. The pharmacists were to start working as clinical pharmacists, and were given special orientation course about clinical pharmacy activities.

Despite the efforts of the Pharmaceutical Quality Improvement Committee there is much still to be said and done about the issue. For more than three consecutive

months, in practice pharmacists were left alone without follow up or evaluation. No directions nor references were given to them, they are just left behind. These events lead many in- practice clinical pharmacists reconsider their decision about clinical pharmacy training. After asking the Pharmaceutical Quality Improvement Committee Director about the causes of such absence, he replied that there is no authority given to them as a committee to monitor , follow up and evaluate the hospital pharmacists after the decision of the Ministry of Health to refer hospital pharmacists to the managers of the hospitals.

This brings us to the importance of making Clinical Pharmacy department as a separate discipline that has the freedom , power of law and authority to organize the clinical pharmacy services and direct it's activities. This approach should be supported and empowered by MOH in order for the implementation process to succeed.

24 Key informants revealed that presence of Pharmaceutical Quality improvement Committee is important for managing clinical pharmacy services.

Managing clinical pharmacy services will remain a challenge. Planning appropriate services, matching resources to workload and needs, and meeting the rapid changes in hospital diversification requires substantial pharmacy management knowledge and expertise (Dzierba, 1990). Clinical pharmacy leaders and mangers should enjoy excellence in clinical pharmacy management. Attributes of excellence in clinical pharmacy management are: big- picture thinking, the ability to exploit change, and willingness to take risks. Big picture thinking means understanding trends that are shaping health care in order to determine where pharmacy fits. Pharmacists need flexibility to adopt and to change. They need to learn about the clinical, behavioral, operational, and fiscal aspects of managing the patient (Shane, 1996).

key informants insisted that a key step in meeting the challenges of managing clinical pharmacy services, is integrating the pharmacist's responsibilities for drug information and drug prescription. This step ensures the provision of the highest quality clinical pharmacy services. If clinical pharmacy services is managed appropriately, then it will affect positively the success of the implementation process and this is considered driving force. If it is, in the other hand not managed appropriately then this will impair the process, and add more constrains to the implementation process.

Pharmaceutical Quality Improvement Committee proposed a job description for clinical pharmacists. Presence of job description proven to be an effective instrument that states work regulations , responsibilities and standards. The proposed Job Description , despite being only proposed , remains a good factor that enables clinical pharmacists to understand many roles regarding their profession, this is according to key informants point of view.

5.15 Attribution of Pharmacy College in the Profession of Clinical Pharmacy (Driving Force)

All key informants considered development of pharmacy college curricula as driving force that will help in the future preparation of clinical pharmacists. The increasing number of pharmacy graduates will provide more and more manpower that support the trend regarding implementing clinical pharmacy services. They revealed that decision makers of pharmacy college, health policy planners in MOH and General administration of pharmacy must work closely with the profession, particularly in the areas of experimental education, and develop new patient-centered practice model.

Professionals must work together patiently, honestly, and meaningfully to revise pharmacy's practice systems to support a level of patient care that genuinely affects patient's drug therapy outcomes (ACCP, 2000).

Key informants revealed that the residency program that can be attended by each pharmacy student in governmental hospitals and primary care centers, is considered another factor that the pharmacy college represents to support clinical pharmacy profession. Residency program provides an empowering practice environment, that makes new graduates feel not disenchanted from what they have learned.

In the absence of an empowering environment, new graduates become disenchanted by the mismatch between what they are taught and what they actually do and more mature members of the profession grow increasingly convinced that the academy has lost touch with the real world (ACCP, 2000).

5.16 Well and desire to work as clinical pharmacist (Driving Force)

20 key informants considered the well and desire of the selected hospital pharmacists to work as clinical pharmacists, as driving force that help in the effective implementation of clinical pharmacy services.

Pharmacists' success will depend on their willingness to experiment with new services and discard services that do not substantially advance patient care. Pharmacists must monitor changes in the provision of health care, determine the implications for their practice and seek opportunities for participation outside the walls within which they have traditionally practiced (Shane, 1996). Selection of the pharmacist to act as clinical pharmacist was based on their well and desire to act as

clinical pharmacist, according to the key informants this way of selection was convenient because there is no differences between pharmacists. All of them are a bachelor degree holder, so no specific exams was made to test their knowledge regarding clinical pharmacy science and practice. Lack of any special credits for any pharmacist who wants to work as clinical pharmacist, despite the fact that he/she will suffer from time constrain and work load, makes this way of selection convenient at this stage.

The 20 key informants believed that welling to act as clinical pharmacist is considered as driving force that support the implementation process, in the same time if such well is going to fade away because of lack of support, then it will be a major holding back force, because the pharmacist will simply turn his back and return to act as drug dispenser in the ward pharmacy. It is important to protect this well and make it grow more urgently by time, good pharmacy management will keep it running.

5.17 lack of mentality regarding the profession (Holding Back Force)

25 key informants revealed that absence of mentality regarding the nature of the profession of clinical pharmacy is one of the main holding back force that my negatively affect the implementation process. All key informants revealed that this lack of mentality is due to two main factors, first No information culture regarding the profession of clinical pharmacy and second Lack of philosophy that regulates the whole clinical pharmacy discipline.

Administrators of most health-care plans do not believe that pharmacists can make contributions well beyond their traditional distributive duties. They do not hold

pharmacy managers accountable for ensuring appropriate drug therapy outcome (Scroccaro, et al. 2000). Key informants revealed that clinical pharmacy terminology is totally new for most health care providers and administrators. To most of them it is a vague terminology as they related to pharmacists, ironically this term is used worldwide by different health care systems. Illiteracy about clinical pharmacy benefits and services would impose more constrains that will resist the effectiveness of the implementation process.

5.18 A administrational Changes and Instability (Holding Back Force)

24 key informants considered administrational changes and instability as a mjor holding back force. By reviewing all the decisions regarding the implementation of clinical pharmacy in MOH hospitals and , by visiting the hospitals which is selected to implement the services in, a number of factors seemed to affect the effectiveness of the implementation process in both directions, this was revealed also by key informants who had a consensus regarding the a administrational changes and instability.

5.18.1 MOH Administrational Decisions and Health System Policies:

Holding back forces that is related to the system is called system related barriers which is a result of fragmentation of health care system (Al-Shagha, and Zairi, 2001).

By reviewing the decisions taken by MOH regarding clinical pharmacy implementation, it was found that some decisions were for the sake of the implementation process and acted as driving force that supported the issue, and some were one of the basic holding back force that hindered the continuity of the implementation process.

Ministry of health in April 2004 gave an approval for the implementation of clinical pharmacy in the MOH hospitals, this made pharmacy leaders within the General Administration of Pharmacy start acting effectively to update the approach and implement the services. Pharmaceutical Quality Improvement Committee was in charged by the General Director of pharmacy to start selecting pharmacy staff members and to try to implement some sort of clinical pharmacy services in selected governmental hospitals. In Aug 2005, there was another Ministry decision which limit the authority of the General Administration of Pharmacy, and restrict its role towards hospital pharmacists and primary

health care centers pharmacists and referring them to their administration directors of hospitals and primary care centers where they work (Annex 8).

This decision was described by one of the key informants as the gun shot directed towards the head of the clinical pharmacy implementation process.

For three consecutive months (8/2005-11/2005), there was disconnection and lack of communication between pharmaceutical quality improvement committee and hospital pharmacists, this is a major factor that influenced the implementation process in a negative way.

In practice clinical pharmacists were completely disconnected, and detached away from the committee which is supposed to provide training courses , support, follow up and evaluation. One of the pharmacists who was selected to act as a clinical pharmacist in Abu Yusif Al Najar hospital in Rafah city was transferred to work in Tal El -Sultan hospital in the same city. None of the Pharmaceutical Quality Improvement Committee knew about the decision, the General Director of Pharmacy revealed that the decision was taken without his knowledge or his consultation.

In order for the change to be successful and effective there must be law empowerment that support that change. If decisions are taken individually and without taking the new profession value into consideration, then it will fail, and no much outcome will be gained (Mullins, 1996).

5.18.2 Hospital Administration and Hospital Pharmacy Settings:

According to what is revealed by key informants, some types of hospitals in Gaza Strip will have higher level of clinical pharmacy services, and some will have lower. This is because each hospital differ from the other in a mostly every thing. For example Gaza European hospital pharmacy adopt unit dose system, full computerized system is available and accessible to every pharmacists, and references are available and attainable. While the other hospitals have ward pharmacies and even if they have computers in the hospital setting then it is not accessible to every pharmacist.

Managers and directors of hospitals are usually physicians who have different perception regarding the role of the clinical pharmacist and the importance of clinical pharmacy services. Some of the hospital managers were cooperative and were welling to provide support, others were not impressed by the idea and even prevented (indirectly) the pharmacists from acting as clinical pharmacists. This could be solved by special orientation courses to be given to directors of hospitals regarding the importance of clinical pharmacy profession to the health system and by MOH logistic support.

5.19 Intra professional barriers (Holding Back Force)

According to 23 key informants, intra professional barriers is considered a holding back force that should be overcame to get the maximum benefit of implementing clinical pharmacy services. They expressed that these barriers exist not only between clinical pharmacists and other health team members, but also between the clinical pharmacists and ward pharmacists.

One of the most important duties of the clinical pharmacists is to monitor drug related problems and medication errors that affect the patient's quality of life. This require revising drug prescribed for possible drug interaction, food drug interactions, hypersensitivity reactions, the way by which the drug is prepared and administrated, and appropriate drug dose regimen. This may be considered as interruption in the work of both the physicians and the nurses if nature of clinical pharmacy services is not fully understood (Lopez, et al. 2002).

The nature of clinical services to be provided may be misconceived and misunderstood by both the physicians and the nurses, this may affect negatively the

team work interaction leading to many work problems, health team members should know and understand that the role of the clinical pharmacist is complementary and not compensatory. No one is going to replace another , it is just a cooperation process between different team members to optimize health care delivered for patient for the sake of improving his quality of life (Watanabe, et al. 2005).

5.20 Clinical Pharmacy Staff Related Factors (Staffing Factors)

The twenty pharmacists whom were selected by the General Administration of pharmacy to become in practice clinical pharmacists were a Bachelor degree holders, non of them had special training courses. Prior to the selection process there was an announcement that is distributed to all hospitals in Gaza Strip, the announcement was about pharmacists who are welling to work as clinical pharmacists. The pharmacists who liked and desired to work as clinical pharmacists were interviewed, then 20 candidate were selected according to their well and desire to act as clinical pharmacist. These twenty pharmacists were hospital pharmacists who were distributed among nine MOH hospitals, where they originally worked before conducting the interview, that means that no pharmacist had to change the hospital in which he/she is originally used to work. A detailed job and duties guideline was given and distributed among the 20 pharmacists, these guidelines regulate the relationship between the pharmacists and other health team providers, and describes the duties of the clinical pharmacist. Special orientation course about the concept of clinical pharmacy was given to the 20 pharmacist. The Pharmaceutical Quality Improvement Committee named theses 20 pharmacists "in practice clinical pharmacist" in order to differentiate them from professional clinical pharmacist due to

their lack of knowledge and expertise regarding clinical pharmacy practice and science.

On 5/7/2005 the pharmacists were asked to start practicing clinical pharmacy activities in selected departments of the hospitals they are chosen to work in, the selection of the specific department was based on the well and knowledge of the pharmacist and on the relationships they had with the department's health team members. Most of the pharmacists started attending the morning round and meeting, reviewing patients profile, observing drug prescribed and make special notes about it.

5.20.1 Lack of Specialized Knowledge and Expertise (Holding Back Force):

24 key informant revealed that lack of specialized scientific and communication training courses is considered a holding back force. Key informants believed that lack of specialized knowledge and expertise negatively affect in practice clinical pharmacist's performance, lower confidence level and self image and lead to creation of different goals and attitudes of individual pharmacists.

Different attitudes and goals of individual pharmacists often contribute to lack of cohesiveness. Pharmacists' perceptions of goals for clinical pharmacy services, as well as the proportion of time devoted to clinical services, are very important in the clinical pharmacists achievements in the working field (Guerrero, et al. 1990).

Many pharmacists choose not to intervene in a patients drug therapy because they do not believe that they have a role in disease prevention. They posses unfounded fear that there is increased risk of professional liability associated with prescription

interventions or they believe their duty to counsel is completed after asking the patient, `` Did your physician tell you how to take this medicine?`` (ACCP, 2000)

Confidence and self image are important prerequisites for pharmacists who seek to perform health care functions that traditionally have been carried by other health professionals. Good perception and positive self concept will greatly support the services to be delivered by the pharmacist, lack of such perception will impair the ability of the pharmacist to perform the services he is supposed to deliver. The only solution in this case is to give special training courses regarding that issue and to increase pharmacist competence and level of knowledge and expertise (Phillips, et al. 1987).

All the pharmacists that were selected to act as clinical pharmacist are a Bachelor degree holders, they have studied basic pharmaceutical science without any specialized courses or training courses regarding clinical pharmacy. According to key informants theses pharmacists are not well trained to deal with the information gained, they are not trained to seek the appropriate information that has credibility in the pharmaceutical world, and even if they find such information they are not trained to use it in the appropriate way, or to communicate it to its target health providers, community, or patients. No specialized courses are given to these pharmacists to increase and enhance their knowledge and expertise, the Pharmaceutical Quality Improvement Committee prepared a set of lectures to be given, but unfortunately till the moment the researcher is doing his assessment no training courses were given to them. According to the 24 key informants a new assessment of the pharmacy college curriculum should be made and the selection of clinical pharmacist should be based on the knowledge and expertise. This will put much more value on the quality of services to be delivered by them and the validity of outcome gained. They also

revealed that professionalized clinical pharmacists will be the main driving force in the implementation process. It is not difficult to give the pharmacists the courses required to make them professional clinical pharmacists. What pharmacy leaders should do is simply putting the pharmacists on the track and provide them adequate support, educational materials, training courses and motivate them by inspiring them day by day to act as clinical pharmacy professionals.

5.20.2 Lack of communication skills training programs (Holding Back Force):

According to 24 key informants, lack of communication skills training courses is considered one of the holding back forces that may impair the effectiveness of clinical pharmacy services provided.

The interpersonal skills of pharmacists are underdeveloped and undervalued, these skills are crucial to success in many interactions with patients, and other health care professionals. Pharmacy education may have neglected the link between communication ability, human relations skills, and effective professional practice (ACCP, 2000).

Key informants revealed that selected pharmacists did not receive any communication skills training courses that enable them to communicate effectively with health team members and with patients. This requires specific training courses that are effective in enabling pharmacists to communicate in a proper way, and to deliver the medical information in a way that minimize the intra professional barriers that coexist normally between health care providers.

5.20.3 Insufficient work force and manpower (Holding Back force):

24 key informants revealed that the selected number of pharmacists to act as clinical pharmacists is inconvenient and insufficient and may considered as holding back force that affect the effectiveness of the implementation process.

…We must work to solve the challenges of attaining adequate numbers of pharmacists to manage the increasing prescription volume, and adequate support help for dispensing functions, so pharmacists may devote an appropriate amount of time to direct patient care (ACCP, 1999).

According to key informants there is currently an inadequate supply of clinically trained pharmacists to deliver widespread patient care. Despite the fact that the selected number of pharmacists is not sufficient but it is enough to start with, because by reviewing how clinical pharmacy was implemented in different worldwide hospitals , it was found that in the first stage of implementation one department of one specific hospital could be started with, then different departments would follow (Lopez, et al. 2002).

Reconsidering number of pharmacists provided for different departments on basis of bed occupation rate, continuity of provision of clinical observation and follow up will promote better understanding of the effect of manpower availability for the sake of both, clinical pharmacy profession and patients quality of life (ACCP, 2000).

5.21 Lack of Motivation and Rewards (Holding Back Force)

20 key informants revealed that lack of rewards and motivation is considered one of holding back forces that will affect badly the performance of in practice clinical pharmacists.

Motivation is proven to be the key element in maximizing quality of work obtained by any worker in any field, regarding clinical pharmacy which a new specialty to be introduced and implemented provision of motivation incentives will be crucial for pharmacists who are selected to act as clinical pharmacists. Lack of motivation will lead to frustration, job burnout and finally job turn over (Mullins, 1996).

According to key informants, monetary motivation is not the sole motivating factor that may innovate health workers, despite it's critical importance in managing the daily requirements. Pharmacy leaders should find innovative way to motivate clinical pharmacy staff members since they are the nucleus of the beginning of the implementation process. Self celebration is one of the key factors that is effective and cost nothing in monetary aspect. Allow the pharmacist to express new things he/she learned , good and scientific based interventions he/she made, credible medical information he/she provided, no suppression of innovative ideas. Conducting workshops to exchange information and expertise among clinical pharmacy staff members will be brain storming to them and challenging to update their knowledge and present it in a credible way. This will keep them warmed up. Key informants believed that creation of incentives and motivating factors still very challenging and brain storming to pharmacy leaders and managers to protect pharmacy members from frustration related work problems.

5.22 Lack of References and Resources (Holding Back Force)

24 key informants revealed that lack of references and resources is considered of the holding back forces. Provision of credible updated references is very important for improving clinical pharmacy information and knowledge. Key informants believed that references and resources of credible medical information are very important for attaining credible updated medical information. Lack of such resources will serve as draw back force that negatively impact pharmacist` knowledge and performance. Most of the clinical pharmacy staff team members lack credible reference, and online information database, only pharmacists who work in Gaza European hospital pharmacy and Al Nasser pediatric pharmacy have good credible references and accessibility to on line information.

Sufficient credible references should be provided in order to allow clinical pharmacists to perform their clinical pharmacy services in a credible professional manner.

5.23 Lack of Follow up and evaluation (Holding Back Force)

According to 25 key informants lack of follow up and evaluation is considered one of the obstacles that face the implementation process.

Follow up and evaluation are very important in monitoring performance and clinical pharmacy services outcome. Pharmaceutical Quality Improvement Committee is responsible for follow up and evaluation of clinical pharmacy services. Till now there

is no written guideline that regulate and guide the evaluation process, this is a drawback point in the management of good clinical pharmacy practice.

Clinical pharmacist is in need of knowing on what basis, he/she is going to be evaluated in order to organize and monitor his performance in a successful manner (Boardman and Fitzpatrick, 2001).

Key informants revealed that no formal evaluation was made in order to know the factors that may support, hinder, threat or enhance the implementation process. Till now, there is no process evaluation to know how clinical pharmacists are performing their duties within the hospital setting. For example are they all doing clinical pharmacist job assignment or do they work as drug dispensers?

Since Aug 1, 2005, the date on which the Ministry decision No. 34 was issued, and till Nov 11, 2005 there still no communication between any member of the committee and the selected pharmacists. Now some in Practice clinical pharmacists are acting as drug dispensers, and are not attending the morning meeting, or physicians rounds for many reasons, one of them is lack of follow up and evaluation.

5.24 Time Constrains and work load (Holding Back Force)

15 pharmacists believed that in practice clinical pharmacists will suffer from time constrains and heavy workload, this is because in practice clinical pharmacists is asked to do two jobs, one of them to work as clinical pharmacist and the other is to participate in dispensing and distributing medicine in the ward pharmacy.

Pharmacists complain that the volume and time demands of dispensing prescriptions preclude using drug therapy knowledge to help patients, thus enough time should be provided to deliver patient oriented services (ACCP,2000).

Pharmacists who are selected to work as clinical pharmacists have to do about 11 duties every day according to the Job description, in the same time most of these pharmacists should participate in the dispensing process in the ward pharmacy and make sure that quantity of drug is maintained in its legal level. According to the 15 key informants this present a very heavy work load and time constrain which will affect so badly the quality of clinical services provided. Freeing in practice pharmacist time, and in charge him/her with clinical pharmacy duties will optimize clinical pharmacists performance, and improve quality of outcome gained.

The manager of a clinical pharmacy program must define a comprehensive list of clinical activities for pharmacists. the expected benefits of each activity for the patient, physician, and nurse must be descried in the same time, close attention should be paid to the pharmacist's time for clinical practice (Denisco, 1986).

5.25 Inappropriate workplace and working environment (Holding Back Force)

15 key informants revealed that there is no appropriate work place and working environment that support clinical pharmacy services.

There should be physical facilities to help the pharmacist in providing clinical pharmacy services. Lack of physical facilities limit the ability of pharmacists to provide clinical pharmacy services. Dedicated areas, in which the pharmacist can provide patient consultation or drug therapy information are often lacking (Al-Shaqha, and Zairi, 2001).

In reviewing the activities of hospital pharmacy, one must conclude that no two hospitals practice are a like. With the exception of Gaza European hospital, all hospital pharmacies are alike regarding the narrow place available for both

pharmacists and drugs, ward system pharmacists and lack of computerized system that is connected to internet that is accessible to all pharmacists.

Key informants revealed that most of the pharmacists who is supposed to practice clinical pharmacy have no place to put their books and reports, no environment that support reading and filling reports of patients, no time to read and do researches, and finally no logistic support to practice clinical pharmacy activities.

Key informants revealed that till now, the in practice pharmacist who is supposed to work as a clinical pharmacist is considered as one of the hospital pharmacy members, whose duty is to dispense drugs to different pharmacy departments and watch for the drug quantity. Till now there is no consensus regarding the place of the clinical pharmacist, 10 key informants revealed that the appropriate place for the clinical pharmacist is in the hospital pharmacy to which he/she belongs because he/she still a member of the pharmacy. 4 key informants said that the place of the pharmacist is in the physicians room because he/she is a member of the medical team and his presence will allow maximum exchange of medical information with the physicians, 11 key informant said that there must a separate workplace for the clinical pharmacist to act on the patient files and reports and to do the researches that is required to be done. It is important to provide a place at which the pharmacist could perform the activities he is required to do, that place should be provided with physical facilities that support the work. The future health care environment will hold many opportunities for pharmacists, if the leadership and management of the profession can respond quickly to focus the profession's efforts on improving patients` drug therapy outcome. The role of future pharmacy leaders will be to establish innovative working environments by projecting a unifying vision for the profession and providing monitoring to pharmacy managers and staff (ACCP, 2000).

Chapter 6

Conclusion and recommendations

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6.1 Conclusion

The pharmacy profession in Gaza Strip MOH hospitals has many challenges ahead, and it is hoped that every practicing pharmacist will be highly committed to future professional needs so that clinical pharmacy practice becomes a reality.

MOH is capable of implementing clinical pharmacy services in its hospitals and perhaps also in the community setting. The important factors in clinically oriented pharmacy practice include improvement of the drug-control process, development of physical and human resources, clinical pharmacy skills, and the training of practicing pharmacists. A number of Palestinian pharmacists have already developed a unit-dose drug distribution system especially in Gaza European hospital pharmacy.

Many factors may promote the implementation process like the need for economic efficient approach that decrease the MOH medicines expenditure, improving patient quality of life, provision of an ideal teamwork and a new step towards the profession of pharmacy.

Nevertheless implementing clinical pharmacy services in MOH hospitals still in its primary phase, and the implementation process faces many holding back forces which are able of hindering the effectiveness of the implementation process. Administrational changes and instability are considered the main holding back force

that may stop the implementation process once and for all, lack of mentality regarding the profession of clinical pharmacy, lack of specialized scientific and communication skills training courses, intra professional barriers, scarce resources and references and inappropriate work place and working environment are considered of the main holding back forces.

Also lack of rewards and motivation and time constrains and heavy workload are considered of the factors that may affect the implementation process negatively.

The time has come to unify the profession of pharmacy in pursuit of its patient care mission, pharmacy is maturing as clinical profession and it will be well positioned to transfer itself from a product oriented to a patient oriented profession.

Hospital pharmacies are alike regarding the narrow place available for both pharmacists and drugs. Key informants revealed that most of the pharmacists who is supposed to practice clinical pharmacy have no place to put their books and reports, no environment that support reading and filling reports of patients, no time to read and do researches and finally no logistic support to practice clinical pharmacy activities.

The future health care environment will hold many opportunities for pharmacists, if the leadership and management of the profession can respond quickly to focus the profession's effort on improving patient's drug therapy outcome. The role of future pharmacy leaders will be to establish innovative working environments by projecting a unifying vision for the profession and providing monitoring to pharmacy managers and staff (ACCP, 2000).

The clinical pharmacy profession as a whole must dedicate itself to a philosophy of practice that clearly identifies the patient as its primary beneficiary. Several factors may serve to impair the adoption of new roles, including lack of consensus regarding

the profession goals, resistance to broad the pharmacists` responsibilities beyond dispensing functions, lack of professional competence and/or self-confidence, work environments that provide little or no opportunity for patient-centered practice, lack of practitioners communication skills. Factors that appear likely to promote changing professional roles include opportunity to positively impact patients drug therapy outcome through disease state management and , increased demand for drug information among health professionals and consumers. For the success of the effectiveness of implementation process , first of all there, a law empowerment will support the implementation process. If additional decisions to be taken and without considering the value of the new profession the implementation process will fail to approach the concept, and poor outcome will be gained.

6.2 Recommendations

A number of steps should be considered as pharmacy prepares to shift toward a profession-wide, patient- centered practice model.

1- MOH should adopt a unifying philosophy of practice that establishes the patient as the primary beneficiary of the profession, with the pharmacist accepting share responsibility with other health care professionals for patient care.

2-- Workshops should be conducted to health care providers to introduce the term ``clinical pharmacy`` to them.

3- Establishment of Clinical Pharmacy department and give it the freedom , power of law and authority to organize the clinical pharmacy services and direct it's activities.

4- Revise Pharmacy practice system to support a level of patient care that genuinely impacts health outcome

5- Continuous education program regarding both clinical pharmacy science and communication skills should be given to clinical pharmacists.

6- Pharmacy faculty and pharmacy administration leaders need to provide the experience and cooperation necessary to develop efficacious education and training programs that can enhance the clinical practice abilities of clinical pharmacists.

7- Provide clinical pharmacists with enough credible references of scientific journals and books in addition to internet access.

8- Logistic support needs to be provided by MOH to ensure the effectiveness of the implementation process.

6.2.1 Future research recommendations:

1. Study challenges of implementing clinical pharmacy services in West Bank.
2. Evaluate the effects of implementing clinical pharmacy services on the quality of health services provided.
3. Evaluate compliance of in practice clinical pharmacists to the international standards of clinical pharmacy practice.

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Appendices

Annex 1: Data Collection instrument

Focus interview of loosely structured questions

1- What is your expectation of clinical pharmacy impact on patient life, health, economy, medical team work and profession of pharmacy?

2- What is the staffing level needed, career development, and structure and service development?

3- How are clinical pharmacy services organized in terms of personnel, management and constrains?

4- What are the expected role of a clinical pharmacist to play in the hospital, what are the resources and references that are available?

5- What are the staffing problems that may hinder the implementation of clinical pharmacy?

6- What are the factors that may support, encourage and motivate implementing clinical pharmacy services in the MOH hospitals?

7- What are the factors that may hinder , slow or block the effectiveness of the implementation process?

8- Was there any special training courses for preparing clinical pharmacists? How they were selected?

9- Will there be any clinical pharmacy support services like medicines information service, medication error reporting schemes, drug utilization reviews…etc?

10- Will there be any rewards or advance cements for clinical pharmacy practitioners?

Annex 2 : letter of first stage of implementing clinical pharmacy services directed to pharmacy general director

an National Authority
Ministry of Health
dministration of Pharmacy

السلطة الوطنية الفلسطينية
وزارة الصحة
الإدارة العامة للصيدلة

الرقم :
التاريخ :
المرفقات :

الأخ الدكتور / زياد شعث حفظه الله
مدير عام الصيدلة

تحية الوطن ،،،

الموضوع : تطبيق الصيدلة السريرية في المستشفيات

يرجى التكرم بالعلم بأن لجنة تطوير الجودة قد أتمت المرحلة الأولى لتطبيق الصي
السريرية في المستشفيات وذلك حسب البرنامج الذي تم إعداده مع الإدارة العامة للمستش
وقد أعدت اللجنة نموذج الخاص بالصيدلي السريري الذي سوف يوثق فيه المع
باسم (patient profile)

وكذلك ثم إعداد اللائحة الداخلية المنظمة لعمل الصيدلي السريري .(مرفق لسيادتكم ع
نموذج وعدد(١) لائحة داخلية) .

برجاء التكرم بمخاطبة الأخ مدير عام المستشفيات وذلك للإيعاز للاخوة مدراء المستشفيات
في تطبيق الصيدلة السريرية وذلك بالتنسيق مع مدراء الصيدليات في كل مستشفى حي
مرجعية الصيادلة السريريين في المستشفيات مدراء الصيدليات في كل مستشفى على أن ي
الصيادلة بالمرور على الأقسام مع زملائهم الأطباء وحضور التقرير الصباحي .

مع خالص التحية والاحترام ،،،

دكتور / عبد الله نصار
رئيس لجنة تطوير الجودة الصيدل

نموذج الوصف الوظيفي للصيدلي السريري
(patient profile) نموذج
نموذج اللائحة الداخلية المنظمة لعمل الصيدلة السريرية .
كشف بأسماء الصيادلة السريريين المرشحين

nex 3 : letter of first stage of implementing clinical pharmacy services directed to hospital general administrator

...Authority
Ministry of Health
Administration of Pharmacy

السلطة الوطنية الفلسطينية
وزارة الصحة
الإدارة العامة للصيدلة

الرقم : ...
التاريخ : ...
الموافق : ...

الأخ الفاضل الدكتور / فيصل أبو شهلا حفظه الله
مدير عام المستشفيات
تحية الوطن ،،،

الموضوع : تطبيق الصيدلة السريرية في المستشفيات .

نحيط سيادتكم علماً بأن لجنة تطوير الجودة قد أتمت المرحلة الأولى لتطبيق الصيدلة الس
المستشفيات وذلك حسب البرنامج الذي تم إعداده مع الإدارة العامة للمستشفيات وقد أعدت اللجن
خاص بالصيدلي السريري الذي سوف يوثق فيه المعلومات باسم (patient profile)
وكذلك تم إعداد لائحة داخلية منظمة لعمل الصيدلي السريري(مرفق لسيادتكم عدد (١) نموذج
لائحة داخلية) .

لذلك نأمل من سيادتكم التكرم بالإيعاز للأخوة مدراء المستشفيات للبدء في تطبيق الصيدلة السري
بالتنسيق مع مدراء الصيدليات في كل مستشفى حيث أن مرجعية الصيادلة السريريين في المس
مدراء الصيدليات في كل مستشفى على أن يبدأ الصيادلة بالمرور على الأقسام مع زملائه
وحضور التقرير الصباحي.

مع خالص التحية والاحترام ،،،

دكتور / زياد شه
مدير عام الصيدلة بو

مرفق لسيادتكم :
نموذج الوصف الوظيفي للصيدلي السريري
نموذج (patient profile)
نموذج اللائحة الداخلية المنظمة لعمل الصيدلة السريرية .
كشف بأسماء الصيادلة السريريين المرشحين

صادر ...
وارد ...
تاريخ ...

Annex 4 : Approval of hospital general director for pharmacists to start acting as clinical pharmacist within hospital departments.

وزارة الصحة
الإدارة العامة للمستشفيات

als General Administration

التاريخ: 2005/7/5

الرقم:أم

الأخوة / مدراء المستشفيات المحترمين ...

تحية طيبة وبعد ..

الموضوع/ تطبيق الصيدلة السريرية في المستشفيات.

مرفق طيه كتاب الأخ/ مدير عام الصيدلة بالمستشفيات وبشأن تطبيق نظام الصيدلة الس
المستشفيات.

للتكرم للعلم وتنسيق الأمر والمتابعة من أجل إنجاح هذا النشاط الحيوي والتطويري في مس

وتفضلوا بقبول فائق الاحترام ...

د. فيصل أبو شهلا
مدير عام المستشفيات
نائب مدير عام الوزارة

صورة للأخ/ مدير عام الصيدلة

nnex 5:The List of pharmacists who are selected to act as clinical pharmacists ,and the hospitals they are going to work in.

بسم الله الرحمن الرحيم

National Authority
istry of Health
inistration of Pharmacy

السلطة الوطنية الفلسطينية
وزارة الصحة
الإدارة العامة للصيدلة

الرقم : -----
التاريخ : -----
الإرفقات : -----

كشف بأسماء الصيادلة السريريين المرشحين للعمل في المستشفيات

مسلسل	الصيدلي المرشح	المستشفى
١-	د. رامي شراب	مجمع الشفاء الطبي "غزة"
٢-	د. نائل سكيك	مجمع الشفاء الطبي"غزة"
٣-	د.سماهر يونس	مجمع الشفاء الطبي"غزة"
٤-	د. رولا تمراز	مجمع الشفاء الطبي"غزة"
٥-	د. أميرة شعت	مستشفى ناصر "خانيونس "
٦-	د. نائلة زريق	مستشفى ناصر "خانيونس"
٧-	د. نيبال حسن	مستشفى ناصر "خانيونس"
٨-	د. فاطمة النجار	مستشفى ناصر "خانيونس"
٩-	د. علاء حلس	مستشفى غزة الأوروبي
١٠-	د. محمود الجمل	مستشفى غزة الأوروبي
١١-	د.محمد اللحام	مستشفى غزة الأوروبي
١٢-	د. خلود الفرا	مستشفى غزة الأوروبي
١٣-	د. فادي يونس	مستشفى أبو يوسف النجار
١٤-	د. وائل سالم	مستشفى كمال عدوان
١٥-	د. كمال أبو شمالة	مستشفى محمد الدرة
١٦-	د. إيمان بدوان	مستشفى شهداء الأقصى
١٧-	د. محمد الهبيل	مستشفى النصر للأطفال
١٨-	د. شريف حسان	مستشفى النصر للأطفال
١٩-	د. سيرين حمد	مستشفى النصر للأطفال

Annex 6: Guidelines that regulates clinical pharmacists activities

بسم الله الرحمن الرحيم

lestinian National Authority
Ministry of Health
eral Administration of Pharmacy

السلطة الوطنية الفلسطينية
وزارة الصحة
الإدارة العامة للصيدلة

الرقم: ٢٠٠٥/٢٠٠٦
التاريخ: ١٥/٦/٢٠٠٥م
الإرفقات:

اللائحة الداخلية المنظمة لعمل الصيدلة السريرية

أ- فيما يتعلق بالعلاقة بين الصيدلي السريري و الطبيب

١- تحديد القسم الذي سيقوم الصيدلي السريري بممارسة الصيدلة السريرية فيه .

٢- حضور التقرير الصباحي اليومي حيث يتم من خلاله تسجيل المعلومات والبيانات عن الحالات المرضية الخاصة بغرض الرجوع إليها لاحقاً .

٣- المرور مع أحد الاستشاريين في القسم بالتنسيق معه مسبقاً ويمكن عمل (Rotation) كل شهرين أو أكثر . ومن خلال المرور على المرضى يقوم الصيدلي السريري بتعبئة النموذج الخاص به (المرفق) لتوثيق الحالات ، ويمكنه تجميع الأسئلة العلمية التي يحتاجها الفريق الطبي للبحث عن الإجابة العلمية وكذلك تجميع الأمراض التي واجهها أثناء مروره مع الأطباء و عمل دراسة مفصلة عنها من كتب التخصص المختلفة و بالتالي يكتسب الصيدلي الخبرة العلمية مع مرور الزمن.

٤- عندما يأتي دور وصف العلاج يقوم الصيدلي بمراجعة العلاج الموصوف و جرعاته و مدته التأكد من تطابقها مع التشخيص و مع الحالة المرضية و خلوها من التفاعلات الدوائية و في حالة وجود تفاعلات دوائية يتم تسجيلها في النموذج الخاص بذلك (المرفق) ، و في حالة عدم توفر دو معين يقوم باقتراح البدائل المناسبة و اعطاء معلومات كافية عن الدواء البديل ، و يناقش الاحتياطات المهمة للعلاج و يقوم بمتابعة المريض فيما يتعلق بهذه الاحتياطات و كذلك التداليل الخاصة بذلك و يحث الأطباء على استخدام الأدوية التي هي ضمن قائمة الأدوية الأساسية و كذلك يحثهم على تطبيق البروتوكولات العلاجية كما جاءت في الدلائل الإرشادية لعلاج الأمراض المزمنة و التي أعدتها وزارة الصحة ، و يقوم بتوثيق جميع ما سبق في النموذج الخاص به و المرفق.

٥- يقوم الصيدلي السريري في مراحل متقدمة بتقديم محاضرات علمية للفريق الطبي.

بسم الله الرحمن الرحيم

السلطة الوطنية الفلسطينية
وزارة الصحة
الإدارة العامة للصيدلة

ian National Authority
Ministry of Health
Administration of Pharmacy

الرقم : ----------
التاريخ : ----------
المرفقات : ----------

ب- فيما يتعلق بالعلاقة بين الصيدلي السريري و التمريض

١-يقوم الصيدلي السريري ببناء علاقة طيبة مع التمريض و التعاون معهم للوصول إلى الهدف الحقيقي و هو اعطاء الدواء للمريض بالطريقة السليمة و التي تضمن فعالية أكثر و أعراض جانبية أقل.

٢-يقوم الصيدلي السريري بتزويد المعلومات الكافية عن الأدوية الوريدية(طريقة تحليلها و اختيار المحلول المناسب و مدة ثبوتيتها بعد التحليل و طريقة إعطائها و مدة الحقن...الخ) و كذلك موضوع اعطاء الدواء عن طريق الفم للمرضى بحيث لا يتعارض مع مواعيد الأكل أو مع الأدوية الأخرى.

٣-يقوم الصيدلي السريري بإعطاء فريق التمريض محاضرات علمية فيما يخص الأدوية و استعمالها بطريقة آمنة و عمل posters توضح المعلومات الهامة و تعلق في جميع الأقسام ليستفيد منها الجميع.

ج- فيما يتعلق بعلاقة الصيدلي بالمريض:-

١-يقوم الصيدلي السريري بأخذ التاريخ الدوائي للمريض و إذا كان هناك ملاحظة تحتاج إلى الانتباه يمكن للصيدلي مناقشتها مع الطبيب المعالج لأخذها في الاعتبار.

٢-في حالة شكوى المريض من أي أعراض جانبية لها علاقة بالدواء الموصوف يقوم الصيدلي بمناقشتها مع الطبيب و الاتفاق على كيفية إبلاغها للمريض.

٣-في جالة خروج المريض يقوم الصيدلي بإعطاء المريض المعلومات الكافية عن كيفية حصوله على الدواء الموصوف له -طريقة تناوله-طريقة حفظه في المنزل-الاحتياطات اللازمة ان وجدت بحيث تحقق هدف أخذ المريض لدواء فعال و آمن.

بسم الله الرحمن الرحيم

ian National Authority
Ministry of Health
dministration of Pharmacy

السلطة الوطنية الفلسطينية
وزارة الصحة
الإدارة العامة للصيدلة

الرقم : ----------
التاريخ : ----------
المرفقات : ----------

د- فيما يتعلق بعلاقة الصيدلي السريري بزملائه الصيادلة:-

حتى تعم الفائدة على جميع العاملين في الصيدلية يقوم الصيدلي السريري بصفة دورية(مر
شهرياً على أقل تقدير) بتقديم حالة من الحالات المثيرة يتم اختيارها من خلال مرٰوره مع
الأطباء((case study) و يقوم بمناقشتها معهم مناقشة علمية.

لجنة تطوير الجودة الصيد

Clinical Pharmacist Form

l name……..: Ward name……
ion date …… Discharge date……
……. Age…… Sex…… Wt……
complaint……
Drug History……
……
Diagnosis……
bed Drug:-

ng	*Drug name*	*Dose & Frequency*	*Rout of adm.*	*Duration*

tigations:-……
……

Drugs Comply With Patient diagnosis?
No ☐ Justify:-
……
……

Doses suitable for patient age, weight and pathology?
No ☐ Justify:-
……
……

he investigation comply with patient complaint?
No ☐ Justify:-
……
……

dverse reactions and precautions vs. patient disease considered?
No ☐ Justify:-
……
……

atient improve?
No ☐
hat action has been done?(i.e. drug discontinued, new drug added, dose changed)
……

u review patient investigation results?

nt……
……
……

b results confirm query diagnosis?
No ☐
nt……
……

b results achieve safe use of drug?
No ☐ specify:-
……
……

se of I.V drugs, did you check?
Correct reconstitution
Correct I.V fluid used
Correct rate of infusion and method of administration
……
……
……

you encourage the use of drugs from EDL and implementing guidelines ed by MOH?
ent:-
……
……
……

ny interaction should be recorded on drug interaction form.

acist name……*Signature*……

Annex 8: job description of clinical pharmacists

بسم الله الرحمن الرحيم

an National Authority
Ministry of Health
dministration of Pharmacy

السلطة الوطنية الفلسطينية
وزارة الصحة
الإدارة العامة للصيدلة

الرقم : ----------
التاريخ : ----------
الإشارة : ----------

الوصف الوظيفي للصيدلي السريري

المسمى الوظيفي : صيدلي إكلينيكي (رئيس قسم)
الموقع في الهيكل التنظيمي : قسم الصيدلة في المستشفى
المسمى الوظيفي للرئيسي المباشر : مدير صيدلية المستشفى

مسميات الوظائف التي تشرف عليها الوظيفة مباشرة

١- صيدلي ٢- مساعد صيدلي

ملخص الوظيفة :

تقديم الخدمة الصيدلانية في المستشفى من أجل زيادة جودة الخدمة الصحية المقدمة وتقديم دواء فعال للمرضى .

واجبات ومسؤوليات الوظيفة :-

١- المشاركة مع الفريق الطبي في المرور على المرضى وتزويد الفريق الطبي بأحدث ما توصل إ المعلومات الدوائية والصيدلانية .

٢-دراسة التاريخ المرضي للمريض وتوثيقه بالشكل المناسب .

٣-مناقشة الطبيب في الدواء الموصوف للمريض واختيار الدواء الآمن والفعال من خلال حضور الصباحي .

٤- متابعة المريض ومدى التزامه باستخدام العلاج حسب التعليمات .

٥-متابعة الوصفات الطبية ومراقبة التفاعلات الدوائية وحركية الدواء للتقليل من حدوث أخطار نتيج الدوائية .

٦- مناقشة المريض حول طبيعة مرضه والأدوية التي يستخدمها وتزويد قسم التمريض بالمعلومات

Annex 9: Ministry decision Number 34 for the year 2005

F HEALTH
s Office

وزاره الصحه
مكتب الوزير

قرار وزاري رقم (34) لعام 2005

بناءً على مقتضيات المصلحة العامة ولتنظيم العمل الاداري والفني وتوحيد النظ

الصحة في محافظات الوطن تقرر ما يلي:-

أولاً: تتبع جميع الادارات الفنية والادارية المتواجدة في المستشفيات ومراكز الرعاي

المختلفة مباشرةً الى مدراء هذه المستشفيات والمراكز الصحية الأولية كلٌ في مك

ثانياً: يشمل هذا القرار كافة الفئات من أطباء وصيادلة وتمريض وفني أشعة وفني علا

وباقي الفئات الأخرى من العاملين بالوزارة.

ثالثاً: يعمل بهذا القرار اعتباراً من 2005/8/1.

رابعاً: يلغى كل ما يتعارض مع هذا القرار.

وتفضلوا بقبول فائق الاحترام الاحترام

د. فهمي يوسف
وزير الص

صورة للسادة:
- السيد /وكيل الوزارة.
- السيد /الوكيل المساعد.
- السيد /مدير عام المستشفيات.
- السيد /مدير عام الرعاية الاولية.
- السيد /مدير عام الصيادلة.
- السيد /مدير عام العلاج التطبيعي.
- السيد /مدير عام التفتيش
- السيد /مدير الشؤن الادارية و المالية .
- السادة /مدير دائرة التمريض.
- السيد /مدير دائرة شئون الموظفين.
- السيد /مدير دائرة المختبرات.
- السيد /مدير الدائرة المالية
- السيد /مدير دائرة الأشعة ،

Annex 10: explanatory letter of the ministry decision No.34

...inian National Authority
Ministry of Health
Minister's Office

السلطة الوطنية الفلسطينية
وزارة الصحة
مكتب الوزير

وزارة الصحة (رام الله)
مكتب الوزير
الرقم ...
التاريخ ٧/٨/٢٠٠٥

الرقم: ...
التاريخ: ٧/٨/٢٠٠٥

مذكرة تفسيرية

عطفاً على قرارنا رقم (34) بتاريخ 2005/8/1 والمتعلق بتنظيم أساليب الإدارة في مختلف مؤسسات وزارة الصحة، ولإيضاح بعض اللبس الذي اعترى بعض المفاهيم الذي نجم عنه سوء فهم غير مقصود، وفي هذا الصدد نود أن نؤكد:

أولاً: أن هذا القرار جاء بعد انتظار طويل لتنظيم العلاقة الإدارية والفنية بعد أن قطّع أوصالها الاحتلال.
ثانياً: أن قرارات هذا القرار قد صيغت باستشارة المستشار القانوني ورجال الإدارة في الوزارة.
ثالثاً: وهو الأهم أن محافظات الوطن الشمالية تطبق هذا النظام منذ زمن طويل.

وفي هذا الصدد نود أن نوضح ما يلي:

1. إن الطبيب والصيدلي والممرض والفني والإداري والعامل، كلهم يتكاملون ضمن حلقة متكاملة في العلاج أو الرعايات أو لأي مجال من مجالات الصحة، وعلى ذلك ولضمان تكامل هذه الحلقة لا بد من تحركه فني وإداري في موقع حلقة الخدمة سواء كان مستشفى أو مستوصف أو عيادة ... ولا يمكن أن تقوم الإدارات العامة بالتدخل الفني أو الإداري في كل صغيرة أو كبيرة في هذه المواقع وإلا فإن المسئوليات الإدارية والفنية ستتداخل ويلزم علينا أن نبني في أساسات الطبقات الإدارية والفنية (Multi Layering Supervision) على الأفراد فلا يعلم الفرد أيهم لمن يتبع ولمن يحتكم.

2. أما الإدارات العامة فإن المهمات الملقاة على عاتقها مسئولياتها الفنية كما هي من غير مساس حول تنظيم برامج الصحة وإعداد الكوادر سواء أكان التعليم بمواقع عملهم أو الإشراف أيضاً على اختيار الأدوية والأجهزة، ومتابعة التطورات العلمية وإدخالها على هذا المجال بالتشاور مع الأطراف ذات الصلة. وهكذا فإن الإشراف الفني والإداري المركزي لن يتأثر إنما يختص برسم السياسات والخطط والتطوير بما يحقق المطالب المترقبة لوزارة الصحة.

د. ذهني يوسف الوحيدي
وزير الصحة

السلطة الوطنية الفلسطينية – وزارة الصحة – Ministry of Health – Palestinian National Authority

Annex 7

- يعمم على جميع الإدارات والدوائر والمستشفيات والمراكز الصحية ... الميدانية.

Annex 11: Approval letter from MOH

جامعة

وزارة الصحة

كليـة الصحـة العامـة

School of Public Health

القدس - فلسطين

/5/8

عطوفة/ د. عماد طرويه المحترم

وكيل وزارة الصحة المساعد

تحية طيبة وبعد،،،

الموضوع: مساعدة الطالبة أميرة شعث

تقوم الطالبة المذكورة أعلاه بإجراء بحث بعنوان:

"Challenges of implementing clinical pharmacy services in the Palestinian Governmental Hospitals"

كمتطلب للحصول على درجة الماجستير في الصحة العامة علماً بأن المعلومات سوف تك
متوفرة لدى الباحثة فقط. و عليه نرجو التكرم للإيعاز لمن ترونه مناسب لتسهيل مهمة الطال
جمع البيانات الخاصة بواسطة المقابلة الشخصية للصيادلة العاملين في كل من الإدارة الع
للصيدلة، مجمع الشفاء الطبي، مجمع النصر الطبي و مستشفى ناصر في خانيونس.

موافقتكم دعماً للمسيرة الأكاديمية

و تفضلوا بقبول فائق الاحترام ،،،

د. سوزان شعشاعه

مساعد عميد كلية الصحة العامة

مدير البرامج- غزة

وزارة الصحة
مكتب الوكيل المساعد
وارد / ٢٠١٤
التاريخ / ٢٠١٤/٥/١٤

A approval letter from Al Azhar university

جامـ

وزارة الصحة

كليـة الصحـة العامـة

School of Public Health

القدس - فلسطين

سعادة الأستاذ الدكتور هاني نجم حفظه الله

رئيس جامعة الأزهر

السلام عليكم و رحمة الله و بركاته،،،

الموضوع: مساعدة الطالبة أميرة شعث

تقوم الطالبة المذكورة أعلاه بإجراء بحث بعنوان:

Challenges of implementing clinical pharmacy services in the Palestinian Governmental Hospitals"

كمتطلب للحصول على درجة الماجستير في الصحة العامة علماً بأن المعلومـات سـوف متوفرة لدى الباحثة فقط. و عليه نرجو التكرم للإيعاز لمن ترونه مناسب لتسهيل مهمة ال جمع البيانات الخاصة بواسطة المقابلة شخصية لبعض الأكاديميين في عمادة كلية الصيدلة الموقرة.

موافقتكم دعماً للمسيرة الأكاديمية

و تفضلوا بقبول فائق الاحترام ،،،

د. سوزان شعشاعه

مساعد عميد كلية الصحة العامة

مدير إدارة برامج جامعة القدس/غز

كلية الصحة العامة / غزة

nex 13: Approval letter from Helsinki Committee

y of Health
i Committee

السلطة الوطنية الفلسطينية
وزارة الصحة
لجنة هلسنكي

/2005

التاريخ: 2005/5/3

nera Shaat

السيدة: أميرة شعت

like to inform you that the committee ssed your application about:

نفيدكم علماً بأن اللجنة قد ناقشت مقترح دراستكم حول:-

ges of Implementing Clinical y Services in the Palestinian henetal Hospitals.

تحديات تطبيق الصيدلة السريرية في مستشفيات فلسطين الحكومية.

eting on May 2005
ded the Following:-
ove the above mention research study.

و ذلك في جلستها المنعقدة لشهر مايو 2005
و قد قررت ما يلي:-
الموافقة على البحث المذكور عاليه.

Ministry of Health
Helsinki Committee

Signature
توقيع

Member | Member | Chairperson

ns:-
alid for 2 years from the date of approval to start.
is necessary to notify the committee in any change in the admitted study protocol.
he committee appreciate receiving one copy of your final research when it is completed.

Annex 14: Informed consent (Arabic copy)

نموذج موافقة لاجراء بحث

كلية الصحة العامة- فلسطين

School of Public Health

فلسطين- القدس

حضرة المشارك/المشاركة المحترم/المحترمة

أقوم بدراسة حول تحديات تطبيق الصيدلة السريرية في مستشفيات فلسطين الحكومية, علما بأن هذه الدراسة هي متطلب للحصول على درجة الماجستير في الصحة العامة من جامعة القدس-فلسطين.

الهدف من هذه الدراسة هو وصف العوامل التي قد تشجع تطبيق الصيدلة السريرية في مستشفيات فلسطين الحكومية وكذلك العوامل المثبطة التي تعيق مثل هذا التطبيق.

أتطلع لمشاركتكم في إتمام هذه الدراسة التي ليست ممولة من أي جهة كانت و لن يترتب على مشاركتكم فيها أكثر من الوقت اللازم لإتمام المقابلة.

سيتم جمع البيانات من خلال المقابلة الشخصية لمرة واحدة فقط ويستغرق ذلك تقريبا مدة 35-60 دقيقة وسيكون ذلك صباحا خلال ساعات العمل الرسمي, يحق لكم الإجابة أو الامتناع عن اجابة أي من الأسئلة التي ستوجه إليكم, وفي حال الموافقة سيتم احترام سرية المعلومات التي ستدلون بها.

وشكرا لحسن تعاونكم.

التاريخ / / 2005 الباحثة

أميرة صدقي شعت

Annex 15: Informed Consent (English Copy)

Informed Consent

Dear participant:

You are chosen to be a participant for this research, challenges of implementing clinical pharmacy services at Palestinian governmental hospitals.

You are selected for your knowledge and expertise and because you have met the selection criteria for participation.

This study is being carried out as a part of the requirements for the master degree of public health at Al_Quads University, school of public health Palestine.

The study is self funded and there is no commitment if you participate except the time needed to complete the interview which is 35-60 minutes during the working hours in the morning. You have the right to answer or refuse to answer any questions of the interview.

The aim of this study is to identify the driving forces and holding back forces that may influence the implementation process of clinical pharmacy services in the governmental hospitals.

I appreciate your participation in this research.

Best wishes

Date: / /2005 Researcher

Amera Sedkey Shaat