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Evaluation of the Public Pharmacies Service in Gaza Strip

Submitted by

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Evaluation of the Public Pharmacies Service in Gaza Strip

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DECLARATION

I certify that this thesis 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 mission.

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DEFINITIONS

Public (community) Pharmacies, Those privately owned establishments and provide pharmaceutical service to community with fees.

pharmaceutical service, The provision of drug products, compounding prescriptions, taking care of the community drug supply, and patient information, in addition to the provision of the Para-pharmaceutical products like medical device, herbals, infant nutrients, and cosmetics.

Public (Community) Pharmacists, The pharmacists operate the public pharmacies.

Nonprescription Drugs (OTC), The drugs, which can be dispensed without prescription. Their classification varies from country to another.

ABSTRACT

High quality pharmaceutical service is a fundamental component of the national health care policies.

The aim of this study is to provide the Palestinian community with high quality pharmaceutical service through evaluation of the public (community) pharmacies' service by determining the effect of the surrounding conditions, the compliance of public pharmacies to the legal and ethical standards, and the governmental procedures used to regulate their practice.

A cross-sectional study was applied on one hundred 100 public pharmacies in both Gaza and mid-zone governorates. The study sample included seventy-sex 76 pharmacies in Gaza Governorate and twenty-four 24 pharmacies in Mid-zone Governorate; the response rate was 97%. The data was collected from the sample through a questionnaire, a chick list, and the records of the Palestinian ministry of health (MOH) and Palestinian Pharmacists Syndicate (PPS).

The results showed that public pharmacies practice was conducted within inconvenient surroundings and the low income had affected the public pharmacies service, which led to financial failure, as 87.6% were indebted which will lead to undesirable economical consequences to the national pharmaceutical market. Pharmacists suffered from lack of suitable employment opportunities led 28.9% of them to establish new public pharmacies, which increased competition.

Pharmacy laws and ethics were ignored by many public pharmacies, 44.3% did not regard the formal price, 91.8% dispensed drugs without prescription, and 37.1% deled with informal drugs, which led to professional, ethical and economical failure and did disrepute the pharmacy as a profession and the pharmacist as medical professional, in addition to a lower quality service.

Although the ministry of health is the authority involved in regulating the public pharmacies service, 21.6% of public pharmacies were inspected by other agencies as the ministry of supply, which confused the public pharmacies conduct and decreased the feeling of professional safeguard of the public pharmacists, which affected the quality of pharmacies service. Less attention was given to increase the knowledge and skills of the community pharmacists as 6.2 % of them attended scientific lectures, and lack of training courses were applied to the pharmacist inspectors as 33.3 % of them got training courses.

For higher quality pharmaceutical service, law of pharmacy must be complied, committing with formal prices, effective intervention against the informal drugs, adopting OTC drugs policy, and reevaluation of the governmental regulating procedures. Continuous education and increasing skills of the community pharmacists and pharmacist inspectors will lead to higher quality pharmaceutical service provided by the public pharmacies to the community.

ملخص الدراسة

تقديم خدمة صيدلانية عالية الجودة يعتبر احد العناصر الاساسية لسياسة الرعاية الصحية الوطنية. الغرض من الرسالة هو تقديم خدمة صيدلانية عالية الجودة للمجتمع الفلسطيني من خلال تقييم اداء الصيدليات العامة, تحديد العوامل التي تؤثر على اداء الصيدليات, قياس التزام الصيدليات العامة بقوانين واداب مهنة الصيدلة, وقياس الطرق المتبعة في تنظيم اداء الصيدليات العامة.

استخدمت طريقة الدراسة المقطعية في الصيدليات العامة في محافظتي غزة والوسطى, وقد شملت الدراسة مائة صيدلية, منها ستة وسبعون صيدلية في محافظة غزة و اربعة وعشرون صيدلية في محافظة الوسطى . وتم اختيار الصيدليات حسب الطريقة العنقودية العشوائية, وقد بلغت نسبة الاستجابة ٩٧٪. وقد جمعت المعلومات باستخدام استبانة معدة و مدارة من قبل الباحث , ومن السجلات الرسمية لوزارة الصحة ونقابة صيادلة فلسطين.

اظهرت الدراسة بان الصيدليات العامة تؤدي عملها وسط ظروف غير مريحة مثل تدهور الوضع الاقتصادي العام وقلة الدخل مما ادى الى وقوع 87.6% من الصيدليات تحت طائلة الديون مما ينذر بعواقب غير مرغوبة على قطاع الدواء الوطني, كما يواجه الخريجون الجدد من الصيادلة مشكلة الحصول على فرص عمل لائقة مما دفع 28.9% منهم لانشاء صيدليات جديدة لضمان دخل مادي وتكون النتيجة ازدياد المنافسة. تجاهل بعض الصيدليات لقوانين واداب المهنة ,حيث لم يلتزم 44.3% من الصيدليات بالسعر الرسمي للدواء, 91.8% من الصيدليات صرفت ادوية بدون وصفة قانونية, و 37.1% من الصيدليات قامت بصرف ادوية غير رسمية نتج عنه قصور مهني واخلاقي واقتصادي اساء الى مهنة الصيدلة والصيادلة اضافة الى تدني جودة الخدمة الصيدلانية. تداخل الاختصاصات بين الجهات الحكومية ,عدم وضوح المرجعية القانونية لمهنة الصيدلة, فبالرغم من ان وزارة الصحة الفلسطينية هي الجهة القانونية المكلفة بجميع الاجراءات الرسمية المتعلقة بالصيدليات العامة فقد تعرض 21.6% من الصيدليات للتفتيش من قبل جهات اخرى مثل وزارة التموين مما ادى الى ارباك اداء الصيدليات العامة والشعور بعدم الامان المهني مما كان له اثر على مستوى الخدمة الصيدلانية. قلة الاهتمام بالتعليم المستمر للصيادلة حيث 6.2% منهم حضروا محاضرات علمية بالاضافة الى قلة الاهتمام بعمل دورات تدريبية للمفتشين الصيادلة حيث 33.3 % منهم تلقوا دورات تدريبية .

اهم التوصيات:

الالتزام بتطبيق التشريعات الصيدلانية والعمل على تحديثها امر ضروري لتنظيم اداء الصيدليات العامة وتقديم خدمة صيدلانية جيدة.

التدخل الفعال وعدم التساهل حيال ظاهرة تفاوت الاسعار وعدم الالتزام بالسعر الرسمي للادوية بحيث يشمل المورد والموزع والصيدليات واحترام التسلسل المهني والقانوني في تداول الادوية (المصنع - المستودع - الصيدلية - المستهلك) .

وضع معايير مناسبة لصرف بعض الادوية بدون وصفات طبية واستصدارلائحة وطنية بتلك الادوية لمواكبة الاقبال المتزايد على المداواة الذاتية.

عمل تحليل موضوعي لاسباب تعامل بعض الصيدليات بالادوية غير القانونية وعمل اليات لمكافحتها مع ضمان وجود الادوية اللازمة للمواطن.

الاهتمام بالتعليم المستمر و التدريب للصيادلة العاملين في الصيدليات العامة لزيادة المعرفة والمهارات المهنية لديهم و الاهتمام بالصيادلة المفتشين وتدريبهم .

مراقبة و تنظيم توظيف الصيادلة في القطاع الخاص و حمايتهم من استغلال الغير او العمل بشكل يفرض عليهم اداء مهني غير كامل .

توصيات بحثية:

عمل بحث علمي حول رضى المستهلك للخدمة الصيدلانية من اداء الصيدليات العامة.

عمل بحث علمي حول تاثير دور مورد وموزع الادوية في الخدمة الصيدلانية.

عمل بحث علمي حول فرص العمل للصيادلة.

عمل بحث علمي حول مفهوم العمل في القطاع الخاص لدى الصيدلانيات.

عمل بحث علمي حول اليات توفير الادوية اللازمة لتغطية احتياج القطاع الخاص.

ABBREVIATIONS

EDL	Essential Drug List
GDP	Gross Domestic Products
GHI	Government Health Insurance
GNI	Gross National Income
GS	Gaza Strip
NGOs	Non - Governmental Organizations
MOH	Ministry of Health
MSH	Management Science for Health
OTC	Over the Counter drugs
PCBS	Palestinian Central Bureau for Statistics
PHC	Primary Health Care
PNA	Palestinian National Authority
PPS	Palestinian Pharmacists Syndicate
SPSS	Statistical Package of Social Science
UNRWA	United Nations for Relief and Work Agency
WHO	World Health Organization

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INTRODUCTION

The civilized communities demand for the pharmaceutical service had increased. A big part of consumer expenditures for drugs and health appliances had channeled through public (community) pharmacies. In the West Bank (WB) and Gaza Strip (GS), the consumption of drugs is very high. According to PCBS, drugs present around 50% of Palestinian household expenditure on health. The total drug expenditure at 1996 was US$ 50 million (20 million by MOH, 20 million by the private sector, 8 million by NGOs, and 2 million by UNRWA) (MOH, 2001).

The private pharmaceutical sector in Gaza Strip is providing pharmaceutical service through 361 public pharmacies (up to 31/12/2003). Public pharmacies supplied with pharmaceutical preparations, raw materials, medical device, herbs, infant nutrients, and cosmetics through local pharmaceutical wholesalers and agents. The regulation of pharmacy practice is a function of the government, it resets upon the power vested in the government to protect the health, safety, and welfare of the public. Ministry of health (MOH), regulating the public pharmacies practice through the General Administration of Pharmacy (MOH, 2004).

The study was conducted in both Gaza and mid-zone governorates, at the year 2004, to assure that a relevant pharmaceutical service is being delivered to the Palestinian community through the Public Pharmacies.

1.1Objectives

General Objective

To evaluate the public pharmacies service, the effect of the surrounding conditions, and the governmental regulation on the quality of the provided pharmaceutical service in Gaza Strip.

Specific Objectives

- To determine the factors affecting the public pharmacies service.
- To measure the public pharmacies comply with legal and ethical standards.
- To measure the public pharmacies regulation.

1.2 Justification of the study

The private pharmaceutical sector is the main pharmaceutical service provider (with MOH) Palestinian MOH had designed and implemented many programs to improve the health status of the Palestinian community. Since March 2000, MOH has adopted its essential drug list (EDL) which including the drugs to be provided through the public health sector (458 items). Implementation of the essential drugs list gave the public pharmacies a chance for better drug management.

Public pharmacies in Gaza Strip are covering most of the geographic areas and providing accessible pharmaceutical service.

The total number of registered public pharmacies is high, it increased from 123 pharmacies at the end of 1993 to 402 pharmacies at the end of 2003, while 41 pharmacies were discontinued activity (MOH, 2004).

1.3 Demographic characteristics of Gaza Strip – Palestine

1.3.1 Geographic characteristics

Palestine is situated on the eastern coast of the Mediterranean sea , bordered by Lebanon on the north, Syria and Jordan on the east, the gulf of Aqaba on the south and by Egypt and the Mediterranean sea on the west(MOH, 1998).

Palestinian national authority territories compromise two geographically separated areas (the West Bank and Gaza Strip).

Gaza Strip is a narrow coastal area; it is about 360 Km^2, divided into five governorates: The Northern Governorate, Gaza Governorate, the mid-zone Governorate, Khan Younis Governorate, and Rafah Governorate. Considering the wide areas of Gaza Strip, which are occupied by Israeli settlements, the real Gaza Strip population density is higher than the estimated. The population concentrated in the cities, small villages, and eight refugee camps in which, two-thirds of population are living (MOH, 2002).

1.3.2 Population characteristics

The estimated mid year population of Gaza Strip in 2003 was 1,334,266. Population density is 3,706 persons per one Km^2, which is high in comparison with the neighboring countries (PCBS, 2003).

As the Israeli settlements in Gaza Strip occupying about 30% (108 Km^2) of the total area of Gaza Strip, the geographic area which controlled by the PNA is 252 Km^2 i.e. the real population ratio in Gaza Strip is 5,295 persons per one Km^2 (Palestine Chronicle, 2003).

The estimated number of males in Gaza Strip at year 2002 was 636 thousand compared with 625 thousand females, the sex ratio is 101.9 (MOH, 2002).

The estimated number of registered male pharmacists in Gaza Strip at the year 2003 was 775 compared with 453 females, the sex ratio is 171.1(PPS, 2004).

The estimated number of public pharmacies registered by male pharmacists in Gaza Strip at the end of year 2003 was 263 compared with 98 pharmacies registered by females, the sex ratio was 268.4 (MOH, 2004).

1.3.3 Palestinian economy

Due to the current political conflict that started on the end of the year 2000, a steep declining witnessed in Palestinian economic indicators as decrease in Gross National Income (GNI), decrease in Gross Domestic Products (GDP), and increase in population below poverty line. The World Bank estimated that

21% of Palestinians were poor before Entifada, a number that increased to about 60% by December 2002, Palestinian community is suffering from the economic consequences of several consecutive wars and political conflicts; 1948, 1956, and 1967 wars, Israeli military occupation between 1967 and 1993, 1987 Entifada, and the current Entifada (MOH, 2002).

1.3.4 Government Health Insurance (GHI)

About 50% of Palestinians were been enrolled in GHI in 1998, that percentage decreased to about 34.6% in 2002. MOH provides free of charge health insurance to about 207,434 families in Palestine; this leads to high decrease in GHI revenue and increases impacts on the government health services itself (MOH, 2002).

1.4 The Health System in Gaza Strip

MOH is the major provider for health care services in Gaza Strip. Health care services are provided free of charge for those having health insurance (Hamdan, Defever, Abdeen, 2003).

The primary health care (PHC) is the fundamental part of the Palestinian health care system. MOH is operating forty-seven primary health care centers in Gaza Strip. NGOs are the second health service provider after MOH, through ten hospitals and thirty-two primary health care centers including pharmacies. UNRWA providing health services free of charge for all refugees

through seventeen health centers. The private sector providing health services through privately owned establishments, where the provided health services are achieved with fees (MOH, 2001).

1.4.1 Pharmaceutical service providers

The pharmaceutical service in Gaza Strip is provided by four main providers, ministry of health, private sector (public pharmacies), NGOs, and UNRWA health service. The private sector is the main pharmaceutical service provider with ministry of health (MOH, 2001).

The ministry of health EDL included 458 pharmaceutical preparations, while more than 4000 drugs are available in the Palestinian market (MOH, 2002).

1.4.2 Public pharmcies in Gaza Strip

The first public pharmacy in Gaza Strip was established in 1946. Up to the year 1967, the pharmaceutical service was been provided through 10 public pharmacies (seven in Gaza city, one in Khan Younis city, and two in Rafah).

At the period of the Israeli military occupation (1968 - 1993), 113 public pharmacies were been established.

Between the year 1994 and 2003, the established public pharmacies in Gaza Strip were 279 pharmacies, forty-one pharmacies stopped functioning 1, 17, and23 consecutively (MOH, 2004).

1.4.3 Public pharmacies ratio and distribution

The ratio of population to the public pharmacies in Gaza Strip is 3.696 persons per pharmacy in 2003 which is considered a high ratio. There are 63 pharmacies in north governorate, with ratio of 3.995 persons per pharmacy. 152 pharmacies In Gaza governorate, with ratio of 3.097 persons per pharmacy, 50 pharmacies In mid-zone governorate, with ratio of 3.866 persons per pharmacy, 66 pharmacies In Khan-Younis, and governorate, with ratio of 3.930 persons per pharmacy, and 30 pharmacies In Rafah governorate, with the ratio of 5.304 persons per pharmacy. Owing to the general difficulties and competition, the pharmacies` income is decreasing, and several pharmacies faced economic difficulties. To increase revenue, drugs with higher prices are provided and regulations are also sometimes ignored; the poorest strata of the population are the most affected one (MOH, 2002).

1.4.4 Control of public pharmacies practice

Ministry of Health (MOH) resembled by the General Administration of Pharmacy is regulating (registering and controlling) the activities of the public pharmacies in the Palestinian territories (MOH, 2004).

1.4.5 Establishing a new public pharmacy

Through the Licensure Committee and the General Administration of Pharmacy in the MOH, the approval for applied requests to establish a new public pharmacy is issued through two stages:

First stage issued after the following legal requirements had assured:

- Owner must be a licensed Palestinian pharmacist or of other country, which permits Palestinian pharmacists to own a public pharmacy
- Owner must have a valid license of pharmacy (in Palestine)
- Internal space of the pharmacy not less than 32^2 meters
- Distance from nearest public pharmacy, not less than 100 meters
- Pharmacy interior arrangement must comply with the MOH standards
- A signboard should be affixed in conspicuous position
- The entrance (s) must only used for the pharmacy (not shared)

Second stage issued as the defined requirements are fulfilled:

- Adequate Fittings and equipment
- Laboratory tools and requirements
- Keeping official files and registers

No permission issued to operate any new public pharmacy unless all previously mentioned requirements are fulfilled (MOH, 2004).

1.4.6 Governmental control

Public pharmacies` conduct is followed by the Pharmacy Inspection Department- General Administration of Pharmacy MOH. Pharmacy inspection is concerned with checking the compliance of the pharmacies conduct through checking the following:

- Licence renewal (for both the pharmacy and the pharmacist).
- Legitimacy of the operating staff
- Pharmacy functioning
- Fittings and equipment
- Registers and Records
- Stock management
- Unofficial (informal) drugs
- Controlled Drugs management

Violations of law defined, and reported to the General Administration of pharmacy manager. The nature of actions against violates are decided by the Licensure Committee, some of those actions were implemented through the court and by the power of police department (MOH, 2004).

1.5 Laws governing pharmacy practice

1.5.1 Laws governing pharmacy practice in Palestine

The presidential decree issued in 20 /5/1994 to regard the laws which were being implemented before 5/6/1967 in both the West Bank and Gaza Strip until adopting a unified Palestinian law, is the guide for Palestinian legislations (El-Susi, 2003).

The practice of pharmacy in Palestinian territories is regulated by two separate laws, which are outdated and dealing only with the private sector regulation; furthermore they are not consistent with one another. First in the West Bank, consists of the Jordanian Public Health Law No.43/ 1966 and the law of Jordanian Pharmaceutical Association 10/57 and second in Gaza Strip consists of the Egyptian Public Health Law 21/41 and amendments which was used before 1967. However**,** the old laws be lately supplemented by ministerial decrees, which go someway towards harmonizing the laws governing the sector in the two areas (MOH, 2001).

1.5.2 The Pharmacists ordinance (1921)

Under the title "Pharmacists Ordinance" which consists of 11 parts, to regulate the exercise of the profession of pharmacy, and the trade in drugs and poisons issued at 14 November 1921. In addition, amended by law No 59/1947, 5/1963, and 9/1963 (Sisalem, Muhanna, Eldahdoh, 1996).

1.5.3 The ministerial decrees

Many decrees were issued to regulate pharmacy practice by ministry of health: Minister's decree, dated 28/5/1997 under the title "pharmacy practice system and pharmaceutical establishments' registration". It consists of 16 rules, declaration No 732 at 19th April, 1999, prohibiting the deal with informal drugs, decree No 4 /1999, defining the departments involved in pharmaceutical inspection, and the letter No 1038 / 1996 to the police director. Director General of Pharmacy , orders and regulations No 701 / 1996, No 2151 / 2001, No 264 /2002, No 359 / 2004, No 361 / 2004, No 349 / 2004, No 350 / 2004, No 945 / 2003, No 946 / 2003, No 947 / 2003, No 349 / 2004, No 350 / 2004, and No 359 / 2004 (MOH, 2004).

1.6 Limitations of the study

The limitation of this study was the lack of resources.

LITERATURE REVIEW

2.1 Pharmacy

It is the science of preparing, dispensing, manufacturing, packing, dividing, importing, and storing the pharmaceutical preparations and raw materials (El-Susi, 2003).

Pharmacy is the art and science of preparing and dispensing medications, and the provision of drug related information to the public. It involves the interpretation of prescription orders, the compounding, labeling, and dispensing of drugs and devices, drug product selection and drug utilization reviews, patient monitoring and intervention, and the provision of cognitive services related to use of medications and devices. The current philosophy to professional practice in pharmacy is designated as "pharmaceutical care". This concept holds that the important role of the pharmacist is "the responsible provision of drug therapy for the purpose of achieving definite outcomes that improve a patient quality of life" (Knowlton, Penna, 1996).

2.1.1 Public (community) pharmacy

Most people when thinking about pharmacy tend to think firstly of public pharmacy. Public pharmacy function, in varying degrees, is to serve society's need for drug products for pharmaceutical services (Melvin R.Gibson, 1975).

Public pharmacy provide several important functions, first, public pharmacies provide distribution of prescribed drug products, second, public pharmacies are caretakers of the nation's drug supply, monitoring for diversion and improper prescribing, and accounting for the appropriate control of drugs with potential for abuse or misuse. Third, they compound prescriptions to meet the specific needs of individual patients (Kosserow, 1990).

2.1.2 Evolution of pharmacy

Pharmacy in some guise has been inseparable from humankind's history since it fulfils one of our most basic needs. As man made his way through remote times or places, he shielded himself against diseases as best as he could, often reaching out blindly towards the resources of nature but sometimes using elaborate pharmaceutical theories, techniques, and implements (Bandix, 1975).

The person who supplying this essential service may not be recognizable always as a pharmacist in our sense of the term; conversely, the pharmacist as such has been designated in a variety of ways throughout the ages, however named, it is mainly the community practitioner of pharmacy who stands within the focus (Glenn Sonnedecker, 1975).

Since the dawn of recorded history, the pharmaceutical efforts against disease are on scroll, stones, parchment, and paper (Erwin, Ackerknecht, 1975).

2.1.2.1 Antiquity

By the second millennium BC, the civilizations of Babylonia and Egypt had produced the small clay tablets and the long scrolls that service as the oldest pharmaceutical records known. They show that those people knew, however crudely, many of the basic forms of drug administration employed today e.g. gargles, suppositories, inhalations, poultices, ointments and knew hundreds of different substances used as drug (Bandix, Ebbell, 1975).

Greeks showed the fundamentals of the scientific method-observation and classification, rejection of unsupported theory and superstition, and cautious generalization and induction that remained open to critical discussion and revision. This produced less more reliance on drug therapy among many practitioners, and in neither the drug armamentarium nor the cadre of pharmaceutical work were advances as startling as might be expected (Henry, Sigerist, 1975).

2.1.2.2 Middle Age

The monasteries became the centers of the European intellectual life, including pharmaceutical study as well as practice. During the second half of the middle Ages, pharmacy gradually moved outside the monasteries and separated from medicines, and began to evolve independent standards and responsibilities in the more urbanized centers. The trend became noticeable

early in Italy, Spain, and France, which provided transit points for drugs and for pharmaco-medical knowledge flowing along Mediterranean routs from the more advanced Islamic civilization. For pharmacy, the Arabic influence was important also because we can discern the rise of the qualified pharmacist (Al-Saidalani) as a separate functionary, beginning around Baghdad later on than the first half of the 9th Century (Sami Hamarneh`s, 1975).

By the 12th Century public pharmacies probably had begun to appear in the south of Italy and France and perhaps elsewhere. By the 13th Century, the practice of pharmacy had developed sufficiently in the kingdom of the Two Sicily to justify legislation. These edicts became so influential elsewhere that they had been called the "Magna Carta" of pharmacy. That was a part of serial health legislation, that provided for the separation of pharmacy from medicine, for official supervision, and for obligating the pharmacist by oath to prepare drugs reliably, according to skilled art, in a uniform, suitable quality (David Riesman, 1975).

2.1.2.3 Modern Age

Medicine moved more boldly outside the rather rigid framework of clerical and Arabic scholasticism. Through the mastery of practical chemistry, the pharmacists of the early modern period made important discoveries to drug therapy and to the youthful science of chemistry. The specialized development of sciences basic to pharmacy of the later 18th and 19th Centuries was needed

to generate the therapeutic revolution. The scope and importance of guilds for pharmacy had varied markedly with the social circumstances of various cultural areas, with various degrees of self- governing and frequently, many schools of pharmacy opened, and pharmacy gained a better-defined place among scientific professions (Richard Palmer, 2000).

2.1.3 Forces of change

There are a number of forces at work, which is encouraging changes in pharmacy practice in communities with organized health structures. The three most definitive forces are:

1. Demand for prescription drugs has increased to create integration with the Essential Drug List (EDL).
2. Pharmaceutical innovation has accelerated the growth in the drug market.
3. The continued introduction of new, more potent, useful, and toxic drugs to replace surgery or hospitalization, or to replace other old drugs.

Due to increasing cost of drugs, many strategies applied to control costs i.e. generic incentive policies, therapeutic formularies (Sami Hamarneh`s, 1975).

2.2 Profession of pharmacy

2.2.1 Pharmacists

Are those who are educated, and licensed to dispense the drugs and to provide drug information, they are experts on medications. The people who know most about drugs are pharmacists that are their province that is their responsibility, primary in their responsibility is prescription drugs. The physician must diagnose; he must prescribe. The pharmacist handles that all-important commodity "the drug" that alleviates or cures, his approach to the handling of this important commodity must not be taken lightly, in some instances he may be a consultant to the physician on drugs. But before he can really function as a partner with the physician in therapy; both his training and experience must be so directed. The second most important responsibility the pharmacist has to the patient is in the area of OTC drugs, where the pharmacist under certain circumstances shall practice with more professional attitude toward non-prescription medication is practically axiomatic. The need for such professional pharmaceutical activity is self-evident, where the pharmacist can perform professional functions without first receiving instructions from a physician. Such type of professional practice more needed as the self-diagnosis and self-medication increases among people (Gibson, 1975).

Patients can expect that pharmacists will employ their knowledge and experience in providing pharmaceutical service for them. They can expect

that, as autonomous individuals, community pharmacists will respond to their wishes about their treatment. Patients generally choose their physicians, pharmacy, and hospital. The patients also have a right to treatment that is both safe and effective within given parameters. Not only must a drug be effective, but also it must work with a degree of safety (Musto, 2000).

One of the most important criteria for establishing whether a person is deserving of the designation "health professional" is whether in all instances the health and welfare of his patient are held paramount. If the pharmacist is to be judged a true professional by the public, he must approach those who come to him for pharmaceutical service with full care, comfort, and convenience of the sick patients rather than considering them as customers coming to purchase drugs, the drugs required must be potent pharmacologically. It is the failure of some pharmacists to fulfill this role properly, which has led to the all-too-common public impression that the pharmacist simply sells drugs rather than serving people in his essential professional capacity. People whether patients themselves, or acting in behalf of sick relatives or friends, are vitally interested in their health and that of others (Linwood, 1975).

In many instances, the visit to the public pharmacy is the last step in what may have been a lengthy, tiring, and sometimes unpleasant series of consultations, tests, and diagnosed procedures used to identify the nature of the disease. If in the last step in the process to obtain relief from pain or to restore health, the procedure that is not carried out on a high professional plane and in a

professional atmosphere; the contrast is quite glaring and harmful to the patient's progress and the image of the pharmacist as a health professional. The prescription is very important and valuable document in the eyes of the patient for it is his only record of what therapy the physician has ordered to the patient, this is all-important and he wants it treated that way. In the patient's best interest, then only a pharmacist should accept the prescription from the patient and only he should deliver the medication to the patient when it is prepared, that is more important than who counts out the specific number of capsules or tablets and prepare the label (Rockville, 1996).

The pharmacist who should deliver the medication, and communicate with the patient or his representative, explaining the directions of taking the drugs to ensure that medication is taken properly. In addition, to give attention to some effect accompanying the use of some drugs (Charles, Lesshaft, 1975).

Patients generally do not object to paying for the expertise and attention of the health professional as much as they do for drugs and services supplied them. The pharmacist, who supplies the drug at his cost and charge only a fee for service can give his full attention to the basic needs of patients in their total health care (McCarthy, 1996).

2.2.2 Concept of profession

The importance of the professional functions and the inability of the service of these functions to assess the quality of service create a relationship of trust must exist between the professional and the patient. If the professional is to place the patient's interest above the professional's immediate pecuniary gain, the professional must enjoy an income sufficiently high so that the gain from exploiting, and individual patient becomes an insignificant part of the professional's total income. Thus, the average income of the professional usually is higher than that of the non-professional (Smith, 1975).

The functional relationship of professions to society reinforces the status position of the profession, while the status itself acts as a motivating factor of occupation's drive for recognition as a profession. Thus, the functional relationship of the professions to the social progress places them in an important position in the social framework. The desire to serve a highly useful function in society is one of the main stimuli to professional behavior. Flowing from the importance of positions occupy in the society are the income, status, and power possessed by professional practitioners. The extent to which these goals are achieved is intimately related to the degree to which an occupation can validate its claim to being a profession (Myers, 1975).

2.2.3 Professional characteristics

An occupation is more or less professional than another occupation because it possesses a group of professional characteristics (Maven J. Mayers, 1975)

The first group of professional characteristics is the existence of a specialized body of knowledge, possession and utilization of which enable the practitioner to perform a highly useful social function (Montagne, McCarthy, 2000).

The rapid advances in medicine and drug therapy dictate that the pharmacist must keep developing his science after his formal education completed. To do otherwise is to deny his patients full benefits of modern science. Nothing less than, the welfare of the profession and the health of public should be concerned. In USA, extension courses have met by universities with some success - either correspondence courses or courses brought to the vicinity of the pharmacists (Shargon, 1992).

Another characteristic of a profession is the possession by its practitioners of a set of attitudes, which influences their professional behavior. The basic component of that is altruism, an unfelt concern for the welfare of others. Because of the patient's lack of knowledge, chance exists for exploitation of the patient by the professional. Because the sequences of such exploitation are severe to the patient, the practitioners must consider the needs of the patient as paramount, relegating the material needs of the practitioner to an inferior position (Marshall, 1975).

The Use of non-professional market terms and behaviors leads to professional failure for the pharmacists and the public pharmacies. In addition, deviating the attitude of pharmacists by, giving more attention to the commercial interest over the welfare and safety of their customers. Such behavior of some supplier's plays an important role in pharmacy malpractice, which may carried out by some public. Pharmacists must exclude all taboo wards and phrases in conjugation with pharmaceutical service as "cut-rate," "discount," "bargain," "buy for less," some of the guiding principles of business mortality laws on the federal and state level discourage the use of "bait" advertisements and promotions, advertising or offering at "loss leader" prices for obtaining leads or prospects, or switchover to more profitable goods (Sidney, Willing, 1975).

To define any occupation as a profession depends to a large degree on, whether the society views it as a profession. The first measures of social sanction are the granting of exclusive rights of practice through the licensing power of the state. Such licensing attempts to, protect the public from incompetent practitioners. Frequently it also, creates a relationship of trust between society and professionals. In addition, this trust is a measure of the degree of social sanction; however, it measured by a lack of exercise of sovereign power given the legal monopoly inherent to professional licensing, the failure of society to impose further controls on profession by implication sanctions the performance and self-regulation of profession. Another measure

of social sanction is the status, income, and power with which the society rewards the professionals (Greenwood, 1975).

2.2.4 Pharmacist responsibilities

The pharmacist is the one who dispenses the medication; he is the last member of the health care team to see the patient before the medicine is used. Therefore, it should be the pharmacist's responsibility to insure the safe and appropriate utilization of the medication by the patient. This responsibility must extended to nonprescription products (OTC) as well as prescription medication, and should include any health accessory, which the pharmacist dispenses, and patient counseling (Nielsen, 1986).

The pharmacist has viewed himself as subservient to the physician and his almighty prescriptions. In health care picture of pharmacist will need to be a full-time partner to the physician, for he is the only expert in drugs today. The deciding factor for breakaway of the professional practice of pharmacy from the business image is the ability of the pharmacist to alter his image from a purveyor of drugs to that of being a purveyor of advice and counsel both to the patient and public (Melvin R.Gibson, 1975).

2.2.4.1 The pharmacist and prescription drugs

While drugs are in pharmacists' possession prior to the Act of dispensing, they must be kept in a manner that not allows adulteration. Products that become deteriorated or lost labeled strength and potency are in violation of law. Either the holder or the dispenser of adulterated products is in violation of the law. Those that manufacture adulterated products, or cause them to be introduced into the state, violate the law (Fink, Vivian, Reid, 2003).

If a pharmacist fills a prescription according to its terms, he is not responsible if the medicine fails to cure or even does harm the person taking it. Although, the pharmacist should be careful to see that the dosage is safe under the conditions prescribed, as failure to observe this caution would constitute negligence on his part (Andrew and Peterson.2004).

The prescription refers to an order for medication, or to the medication dispensed by the pharmacist as a result of the order. A prescription order may be issued by Physician, Dentist, Veterinarian, Other licensed medical practitioners. It is specific in character in that it designates, particular medication, for a particular individual, at a particular time. The order may be written and signed or it may be dictated to a pharmacist by telephone or other device. It is the responsibility of the pharmacist to interpret the wishes of the prescriber, and thus he should be familiar with the typical form of the written prescription. It may be discussed under eight headings: details about the

patient, the date prescribed the superscription, the inscription, the subscription, the signa, the renewal instructions, and the name of the prescriber. The subscription consists of the symbol (R), a Latin verb, recipe that means take thou. The inscription is the body or the principal part of the prescription order, contains the names and the quantities of the prescribed ingredients. The inscription is the part of prescription that requires most of pharmacist's time and attention. The names of the ingredients are written in English. Although Latin is occasionally used, especially when compounding required, the subscription comprises the directions to the pharmacist for preparing the prescription. The signa comprises the directions to the patient, sometimes called signature (mark thou). The pharmacist has to place this information on the label of the container concerning quantity, frequency, and manner of administration (Ansel, 1985).

The manner of handling the prescription by a pharmacist can enhance his image in the eyes of the patient and even the physician. The proper procedure is receiving, reading, checking, pricing, numbering, preparing, rechecking, delivering, recording, and filing. Pharmacists often place a code on the prescription order (Daniel A. Hassar, 1975).

The pharmacist must not commit any alteration on the prescription contents, if any error expected he has to communicate with the prescriber . The prescription dispensed shall be stamped with the pharmacy stamp, given a

serial number and entered in detail in the prescription register (Sisalem, Muhanna, Eldahdoh, 1996).

Related drug products**:**

- Pharmaceutical equivalents, drug products contain the same active ingredient(s) are of the same dosage form and are identical in strength or concentration, and route of administration.

- Pharmaceutical alternatives, drug products contain the same therapeutic moiety but are different salts, esters, or complexes of the moiety or dosage forms.

- Therapeutic equivalents, drugs considered therapeutic equivalents that have the same clinical effect when administered to patients under the same conditions specified in the label (Poirier, Giudici, 1992).

2.2.4.2 Patient counseling

It is generally recognized that the pharmacist should counsel the patient before dispensing the medication. During this consultation with the patient, the pharmacist should provide him with such information as how, when, and how long to take the medicine, its proper storage, its side effects and contra indications, and any other information needed to insure that the patient will safely and properly use the medication. In addition to providing this information verbally, audiovisual and illustrative materials have been used

when counseling the patient. Some pharmacists are giving their patients printed instructions to take home. Patient consultation should be conducted in private and appropriate section of the pharmacy, which should be set aside for this purpose. Some pharmacists evade counseling by claiming that it is the physician's responsibility to provide this information to the patient. The physician does have an obligation to instruct the patient in this regard. The patient may be under tension in the physician's office and worried about his condition, and may not concentrate on the physician's instructions, or may be shy, embraced, or afraid to ask the physician questions. The pharmacist handles and works with drugs so much that he takes much of his knowledge for granted. He must inform the patient, how to remove from the package, how to administer, when to administer, how long to take, how to store, the side effects, food and drugs to avoid, and allergies (Linwood, 1975).

2.2.4.3 Nonprescription drug advice

While nonprescription drugs usually considered relatively safe, a variety of problems reported with their use, it should recognized that such drugs classification varies from country to another. In those countries where most of drugs are available without prescription, the responsibility is more important.

A person will not always seek the services of a physician every time he becomes ill. If an individual's symptoms are not severe, he may judge his

illness as minor and decide to treat himself. In this self-treatment, the patient may purchase a remedy, which has seen advertised, or he may seek the advice of someone else, this “someone else” should be the pharmacist. Only since 1960s, in many countries has a concentrated effort been made to educate the pharmacist to provide accurate and useful advice to the patient seeking symptomatic relief with self-medication. A number of pharmacists may have to be educated or reeducated in how to counsel the patient who decides upon self-treatment, the education process is to acquire knowledge of OTC drugs and drug products plus knowledge of the physical conditions for which the people tend to treat themselves. It should be emphasized that the pharmacists not taking the place of the physician when he recommends a nonprescription drug, the person who decides to treat himself will do so with or without the help of a pharmacist. The patient’s condition may be serious enough to require immediate medical attention. If this is the case, the pharmacist should explain the reasons for his decision to the patient and encourage him to call his physician while he is still in the pharmacy. If the patient does not know a physician, the pharmacist should provide the names of several physicians for him to choose from, or suggest that he go to the emergency room of a hospital (Melvin, Gibson, 1975).

2.2.5 Misuse of medication

A patient may misuse medication in many ways i.e. Over dosage, under dosage, taking a dose at a different time, taking a dose in a form other than that specified, using the wrong route of administration, taking outdated medication, taking someone else's medication, taking contraindicated medications, or failing to get the prescription filled (Rockville, 1991).

2.3 Laws governing pharmacy practice

Only the power of the government can assure the protection of the health, safety, and welfare of the community (Fink, Vivian, Reid, 2003).

The practice of pharmacy whether in private or public institutions is under the government control (Sisalem, Muhanna, Eldahdoh, 1996).

When going to establish legal controls for the pharmaceutical service provision ten basic principles (more or less) are considered:

- Education, and experience qualification which pharmacist must meet at the time of examination or registration.
- The agency charged with the enforcement and administration of the law.
- Granting permits for conduct of the community pharmacy, or drug store.
- The minimum of professional and technical equipment and apparatus that pharmacy must at all times possess.
- Periodic registration renewal of the pharmacist.

- The condition, which certificates of registration or store permits canceled or revoked.
- The prominent display of certificate of registration in the pharmacy.
- Penalties of violations of laws are punishable by fines in most instances.
- The discretion vested in pharmacy board, i.e. it is administrative, not legislative agency.
- The sale of proprietary and patent medicines (Nielsen, 1986).

The licensed pharmacist shall possess a general knowledge of the food, drug, and cosmetic Act and its amendments as these relate to the general practice of pharmacy. A community pharmacist must store and handle his stock according to his knowledge. If the drugs deteriorate in any manner, contain any filthy, putrid, or decomposed substances, or show evidence of inadequate or decomposed containers that render the contents injurious to health, they will be considered adulterated, the pharmacist involved is subject to prosecution and penalty. All drugs are required by law to meet the standards of strength, quality, and purity described in compendia, and should be packaged and labeled as prescribed therein as they await usage. Therefore, variant drugs that do not meet compendium standards, or do not reflect the strength, quality, or purity they purport to have; are adulterated (Shaw, 1997).

2.4 Ethics of pharmacy

The area of activities always remains for control through voluntary self-discipline. For the pharmacist that means essentially a willingness to help a patient, at whatever time or place, may assure that a qualified practitioner invariably will use his professional knowledge in the best interests of the patient and of society- within a framework of technical, legal, and ethical standards of practice (Montagne, Swarbrick, Boylan, 1992).

In pharmacy, the ethical standards have been expressed through a professional oath and a professional code. The Oath ordinarily is brief and general, intended the obedience to applicable laws, codified ethics, and dictates of conscience and religious principles. The ancient Hippocratic Oath is an example in the health field. The codes of ethics, compared with an oath, have been much more explicit. In well-elaborated form, a code provides an operational blue print of the norms of professional conduct, a concrete recital of desirable and undesirable impact on the profession's character and functional reliability. If the professional is to place the patient's interest above the professional's immediate gain, he must enjoy higher income higher than that of the nonprofessional (Karl L. kaufman, 1975).

2.4.1 The role of ethics in the advancement of pharmacy

Elliot,1975 stated that the outstanding factor determining the future of the profession of pharmacy is fundamentally moral in nature. The profession must contain a far greater proportion of members who are over sharply jealous of the high reputation of the profession and who, by energetic cooperation, are determined over to protect that reputation. Ethics and law are related in that both share the social purpose of encouraging right conduct. Law attempts to achieve its purpose through the sovereign power of government while ethics, in particular the ethics of profession, attempts to achieve its purpose without the intervention of government (Elliot, 1975).

2.4.2 Ethical responsibility

In traditional pharmacy practice, both the legal and ethical obligations of pharmacists centered on ensuring that the proper medication as ordered by the prescriber was delivered to the patient. Physicians, not the pharmacists, were the health care professionals who held ultimate responsibility for monitoring the progress of a patient and ensuring that the desired outcome was achieved. The concept of "pharmaceutical care" however, directs this responsibility to a shared obligation between the prescriber and the pharmacist. Pharmaceutical care forces pharmacy practitioners to change their focus, and broaden their professional responsibility (Montagne, Basara, Wertheimer, 1996).

2.4.3 Competence, Trustworthiness, and Caring

Pharmacists must be competent, with minimal knowledge; they will be able to do their function as therapeutic experts. Patients can seek confidential advice and help of the pharmacist and their wishes must be carried out. Pharmacist must give care for patients "a pharmacist places concern for the wellbeing of the patient at the center of professional practice" (Karl L. kaufman , 1975).

2.4.4 Ethical conflicts and issues in health care

The conflict between the personal interests of the professional and the duty to subordinate these interests to the benefit of the patient presents one of the major unresolved problems of the professions. In addition, change in patterns in pharmacy and health care delivery present additional ethical conflicts. The traditional focus of professional service has been on the individual, the ethics of professions have evolved based on primacy of the individual. Conflict will emerge with changes in the laws relating to the practice of pharmacy, in the evolution of new problems and developments in both the profession and the population it serves, and in the roles and functions of drug use in society. The conflict often might be between a certain law or regulation and an ethical principle held by the profession. Many pharmacists faced dispensing decisions in which the act of providing the drug would be in the best interests of the patient, but it also violates a specific regulation related to the practice of

pharmacy, or it would be contrary to his own beliefs and ethical standards (Marshall, 1975).

2.4.5 Reasons for ethical failure

Adherence to the ethics of pharmacy by practitioners is a result of self-interest. The profession will advance and each practitioner benefits as all practitioners maintaining high professional standards. That self-interest may not occur when there is lack of knowledge, or the orientation of the practitioner changed i.e. toward the economic benefits more than the patients` care. A pharmacist may disrepute the heritage of pharmacy profession, which maintained over the centuries by lowering the prescription prices to attract patients or for advertising purpose (Bullough, 1996).

2.5 Establishing a new public pharmacy

A permission to register (establish) a new public pharmacy to be issued for a licensed pharmacist, and no body other than pharmacist has the right to own a public pharmacy (Sisalem, Muhanna, Eldahdoh, 1996).

The pharmacist considering the establishment of a new public pharmacy should subject the basic decision to an objective analysis. The analysis should include a consideration of community needs. The community may need more pharmaceutical service facilities, or may have sufficient number of public pharmacies not providing full scope of modern services. If the analysis

indicates that there is need to establish a new public pharmacy, he must consider the legal organization for the enterprise, choosing the suitable specific location, how to obtain the necessary capital (Hoffman, 1990).

In choosing a specific community as the site for a new pharmacy, population in the area must be considered, income among the population, and the competitive climate. In some instances, a public pharmacy may established in a community because the pharmacist (owner) is determined to own his own pharmacy and wants a specific community because of personal factors such as family ties, climate, or other community considerations. The selection of the specific site will require careful consideration. The degree of success of a public pharmacy may depend upon the choice of location most suitable among those available. The majority of consumers choose the pharmacy for its location based on convenience and accessibility, as long as offering adequate service. The primary emphasis in site selection is a location that is central to the population to be served; further, the modern pharmacy must provide or near by easy access and adequate transportation (James, Richards, 1975).

Location of a new pharmacy must be at least 100 meters distance from the nearest one and additive population of thousand persons (El- Susi, 2003).

2.5.1 Public pharmacy Management

Public pharmacy requires well-developed professional skills and, in many cases, management abilities (Hoffman, 1998).

The owner of the public pharmacy continues to function as a professional and business activities, more often he is owner, manager staff pharmacist, and salesperson. Under such circumstances, it is important for the pharmacist to make the best use of the time and energy that he is able to devote to the management function of his pharmacy. The role of management must be to achieve the goals and objectives of the pharmacy and to assemble capital, fixture requirements, and people. Management is important also for planning which is vital to avoid day-to-day operation problem (Smith, 1996).

The New Jersey pharmacy Law requires that every drug store or pharmacy shall be operated or managed at all times by a registered pharmacist. The Pharmacy Act of Ohio provided that a pharmacy must be "in full and actual charge of a registered pharmacist." The Pharmacy Act of Maryland specifying that" no pharmacy shall be at any time left in charge of any person who is not a registered pharmacist (Sidney, Willing, 1975).

Absence of the charged pharmacist can be represented by, a licensed pharmacist only (Sisalem, Muhanna, Eldahdoh, 1996).

2.5.2 Capital requirements

For a new public pharmacy, the capital requirements must be predicted upon a careful evaluation of projected sale volume, volume of inventory requirements, and estimated expenses. The amount of required capital to operate a successful pharmacy is a function of the productivity of the pharmacy. The assets required represent a fixed core necessary for any pharmacy, regardless of sales volume, beyond these the amount of assets required depend on the scope of operation and the volume anticipated. Other factors have impact on capital requirements like, policy of the pharmacy owner, the mix of sales volume (Carrol, 1998).

2.5.3 Inventory

Amount of inventory necessary support sales volume may be determined by referring to data that give average for cost of goods sold and annual stock-turnover rates. Due to varying consumer preference and differences in prescribing habits of physicians, the management of inventory becomes a highly individualized management function in each public pharmacy. The wait-and-see runs the risk of losing considerable sales volume and perhaps, more importantly, the pharmacy develops a reputation for not having the stock what the patrons' desire (Hoffman, 1990).

Indirect sellers usually establish a minimum order level and emphasize rapid and frequent service delivery. Quantity-purchase discounts play an important role in decisions regarding inventory levels. The purchase of larger numbers of items will affect lower cost per item, which can be beneficial to both the pharmacy and to the public (James W. Richards, 1975).

2.5.4 Fixtures and equipment

The fixtures and equipment for any public pharmacy are related to the volume. Larger volume means more inventories, which needs more fixtures and equipment to facilitate storage and display. The size of the building and the quality of fixtures will also affect the expenditure (Andrew, Peterson, 2004).

The public pharmacies must been supplied with pharmaceuticals, equipment, and fixtures that necessary for pharmacy operation and drug keeping, in addition to the references of pharmacy and legislations (El- Susi, 2003).

Public pharmacy shall provided with correct weights and measures of the metric system and of any other recognized system employed in the pharmacy (Sisalem, Muhanna, Eldahdoh, 1996).

2.5.5 Personnel

An important aspect of public pharmacy functions is properly selected, trained, and maintained personnel. That can be predicted on an understanding

of the duties and responsibilities involved and on knowledge of the individual characteristics required for proper performance, proper orientation and training for working power can serve to increase productivity and reduce working power turnover. There must be job specifications and description for each position in his pharmacy. Over hiring and under hiring, and minimum levels of qualification should be avoided (Smith, 1996).

2.5.6 Records

The maintenance of records in the pharmacy is becoming increasingly important for legal, financial, and professional requirements. Legal records maintained accurate up-to-date on specific classes of drugs and poisons, the legal implications of these records are serious. Legal actions and penalties can be brought about if these records are improperly kept. Financial records are of value in measuring return of investment, to evaluate the current operations and to plan for future. Professional records i.e. patients` records and compounding records are of a great value for information (Marino, Zabloski, Herman, 1980). With greater pharmacist-patient orientation and patient drug-record-keeping, the pharmacist becomes the person who has all the information regarding the patient's drug consumption, prescription, and nonprescription (Melvin R.Gibson, 1975).

2.5.7 Public pharmacists' responsibility

public pharmacists have the responsibility to deliver patients individualized packages of medication containing patient-specific instructions, appropriate supplies of the medication, and essential product information that will allow the patient to assess the risks and benefits in taking the specified medication. The multiplicity of issues to be considered and the rapidity growing volume of prescriptions being dispensed have given rise to significant automation in public pharmacy practice (Hatoum, Valuck, 1996).

Compounding has always been the art and science unique to pharmacists and it continues to be a part of contemporary pharmacy practice (Rockville, 1996). Pharmaceutical preparations and medical supplies must be kept under appropriate conditions to maintain their quality, inappropriate drug keeping lead to deterioration of most of drugs, which creates medical and economical problems. Utilization of pharmaceuticals increased when using less effective products, and increase waste due to expired products (Hoffman, 1990).

Many pharmaceutical preparations are sensitive to light, and they may decompose, lose their activity and more even may become harmful to human health, so they must be set aside from the direct solar light (Florence, 1995).

Risk of ultra-violet component of the solar light, which damages the pharmaceutical preparations, must reduced by low natural light levels and construction protection from directly solar light (WHO, 1991).

Most pharmaceutical preparations and medical disposables are subject to chemical decomposition, higher temperatures accelerate the rate of decomposition of those materials accordingly, and they must be kept at appropriate temperature. Some drugs like hormonal preparations must be kept in refrigerator (Haderi, 2000).

Many products can be safely kept at uncontrolled room temperature, but extreme keeping will damage them (Connors, K. A., G. L. Amidon, et al.1986) Stock keeping temperature must be regarded. Cold, any temperature not exceeding 8 C. (46 F), refrigerator is a cold place in which the temperature is hold between 2-8C (36-46F). Cool, any temperature between 8-15 C. (46-59F). Articles, which defined to be stored in a cold place, can also be stored in a refrigerator, unless otherwise indicated. Room Temperature, controlled room temperature should be maintained thermostatically between 15 and 30 C (59-86F). Excessive Heat, temperature above 40C (104 F). Protection from freezing, it is risky of, breakage of the container, loss of strength or potency, alteration of the dosage form. Where no specific storage conditions are stated, it should be understood that the storage conditions include protection from, water, and freezing. Labeling, the label should clearly contain, ingredient(s) per dosage, all additive materials in case of parentral or topical preparations, except materials added to adjust pH or is tonicity, expiry date, particularly biological originated materials (Samaligy, Abd El-Aziz, and Sharkawy, 1995).

Reduction of waste in pharmaceuticals must begin at selection of pharmaceuticals and continue through end-use dispensing. For variety of reasons, some pharmaceuticals reach the end of their expiration date while not utilized (Lambert, Cooper, and Pagh, 1998).

The way of dealing with expired pharmaceuticals vary from one pharmacist to another, but the objective of the pharmaceutical supply must be to avoid over stock with short expiry date and to dispense the short expiry items as possible (Trent, and, Monczka, 1999).

2.5.8 Risk

The commercial activity of public pharmacy presents numerous risks of either gain or loss; such risks can be managed by careful attention in managing all components of the organization structure (Richard, Abood, 2003).

2.6 Pharmacy wholesaler

Like most wholesalers, the pharmacy wholesaler serves as the intermediary between manufacturer and retailer. Because of the special nature of the products handled and their legal restrictions, all wholesale drug firms employ registered pharmacists in supervisory capacities. This may specialize in a broad range of products sold in a pharmacy, including prescription and nonprescription drugs as well as other items (Melvin, Gibson, 1975).

The pharmacy wholesalers must be located in the main cities and towns and managed by licensed pharmacists. The drug store must be separate from the establishment other departments (El- Susi, 2003).

2.7 Public Pharmacies control

When a public pharmacy violates law, which may be committed in form of maladjusted practice, penalties are punishable (Abood, Brushwood, 2000).

Every public pharmacy must have a signboard stating the hours during which the pharmacy is open for dispensing. It is illegal to engage in a public pharmacy, the practice of medicine or treat, or prescribe treatment for persons. A pharmacist employed in a public institution shall not be the proprietor of, or conduct a public pharmacy without permission of the health director (Sisalem, Muhanna, Eldahdoh, 1996).

The free medical samples and pharmaceutical products that prepared for the advertisement purpose must not been sold and they must carry a distinguished mark on both the external and internal packs. Operating a public pharmacy without Licence been considered a violation of law that punished by closing the pharmacy, and in case of repeating; the violent will be imprisoned for not more than one year (El- Susi, 2003).

2.8 Controlled drugs

Controlled drugs include those, which obtained, kept, and dispensed according to an explicit and restrict legal controls (Musto, 2000).

Dispensing must be made only by the pharmacist, registration and other legal records also. The quantity should not be more than 120 ml (liquid) or 24 tablets of solid form. The purchaser is at least 18 years old. Any person not known to the pharmacist has to furnish suitable identification. Record book is maintained which contains, name and address of purchaser, name and quantity purchased, and date of sale (Nielsen, 1986).

Controlled drugs must keep in a locked cabinet (Quick, et al. 1997).

When a public pharmacy had been involved in loss of controlled substances must notify the regional office of the bureau in its region of the theft or significant loss upon discovery. (Richard Abood, 2003).

METHODOLOGY

This chapter will show the methods used to select the study design, sample, tools, time, place, and data analysis.

3.1 Study design

Cross-sectional design was selected for this study, through this study design we can describe the variables and examine the correlation between them. In case of this research, the cross-sectional study design was helpful in giving an overview of the public pharmacies practice and to examine correlations among the variables.

This study design is appropriate for descriptive purposes, the information collected at one point of time from a sample from the target population; it needs less time and less expensive (Coggon, Rose, and Parker, 1993).

3.2 Study population

The study population included the registered operating public pharmacies – private sector in Gaza Strip.

3.3 Study place

The study was conducted in the governorates of Gaza and mid-zone as follow:

1. El-Daraj area (11, pharmacies)
2. El-Toffah area (5, pharmacies)
3. El-Zaytoun area (5, pharmacies)
4. El-Shejaieh area (8, pharmacies)
5. El-Sabra area (3, pharmacies)
6. El-Rimal area (29, pharmacies)
7. El-Shati area (8, pharmacies)
8. El- Sheikh Rudwan area (7, pharmacies)
9. El- Nuseirat area (8, pharmacies)
10. El- Boraij and Maghazi area (8, pharmacies)
11. Der- Elbalah area (8, pharmacies)

3.4 Study period

The timeline of the study was fourteen months, from November 2003 to December 2004. The data collection started in 8/6/2004and completed in 17/7/2004.

3.5 Sample Size

The sample included one hundred registered operating public pharmacies, which were operating, and providing pharmaceutical service to the public,

distributed such as: seventy-sex pharmacies in Gaza governorate and twenty-four pharmacies in mid zone governorate.

3.6 Sampling Process

The clustered random method used in selecting the study sample. Both the governorates of Gaza and mid zone divided into geographical areas, which subdivided again according to the main streets. The total number of public pharmacies in each area was defined and the number of the sample was estimated. The sample pharmacies in each subdivision were randomly selected. The total number of pharmacies in Gaza governorate was one hundred fifty-two pharmacies; Seventy-six of them were included in the sample, and the total number of pharmacies in the mid zone governorate was fifty pharmacies twenty-four of them were included in the sample.

The members of inspection department (8 pharmacist inspectors) involved in the study through filling a chick list.

3.7 Research instrument

Two research instruments were used in the study, the first was a questionnaire designed to collect data from the public pharmacies in Arabic language to ensure the accuracy of the answers (annex 1); and an English copy was attached (annex 2). The questionnaire composed of both the close-ended and

open-ended questions. The questionnaire designed and applied by face-to-face interview. The questionnaire covered the following:

- Demographic characters of the population.
- Factors affecting public pharmacy practice.
- Public pharmacies compliance to law and ethics.
- Pharmacy practice regulating procedures.

The second instrument was a chick list designed and applied by face-to-face interview to collect data from the pharmacist inspectors (annex 3); and an English copy was attached (annex 4).

3.8 Eligibility criteria

3.8.1 Inclusion criteria

The registered operating public pharmacies, Gaza and mid-zone governorates. The public pharmacies that registered and were operating at least for one year at the time point of data collection.

3.8.2 Exclusion criteria

Not licensed public pharmacies.

3.9 Pilot study

To chick the instruments and response rate; a pilot study was been conducted before starting the collection of data, through face-to-face interviews in twelve public pharmacies (nine in Gaza city , one in El- Nuseirat ,one in El- Boraij and one in Der- Elbalah) for the questionnaire, and three pharmacist inspectors for the chick list . Response rate was 100% for both instruments.
The research instruments were subjected to few changes after the pilot study has been conducted and the instruments were finally revised.

3.10 Validity of the instruments

The instruments used for data collection in the study were discussed with an expert committee included three experts public health specialists and three expert pharmacists, as a result, some items were modified.

3.11 Ethical consideration

An approval letter to conduct the research study (annex 5) was issued by the ministry of health, and an official letter (annex 6) was issued by the Palestinian Pharmacist Syndicate-Gaza to conduct and facilitate the research study in the public pharmacies, the General Administration of Pharmacy and the Palestinian Pharmacist Syndicate-Gaza. Explanatory letters (annex 7) were provided to every participant in this study from the researcher and a copy of

the Palestinian pharmacist syndicate's approval letter. Both the letters were explaining the purpose of the study research, confidentiality, and the optional participation. The two letters were attached to every research instrument to avoid the participant's hesitation when filling the questionnaire.

3.12 Data collection

The interviews were conducted face-to-face with the pharmacists operating the public pharmacies. Visits to the public pharmacies were achieved through not previously arranged visits; the visit period was thirty minutes for.

Data collected from the Palestinian pharmacists syndicate registers, and General Administration of Pharmacy registers. A short chick list was designed (annex 3) in Arabic language and was attached by an English copy (annex 4) which was filled by the pharmacist inspectors (eight) and conducted through face-to-face interviews at the site of pharmacy inspection department.

3.13 Response rate

The response rate was high as 97% of public pharmacies participated in the study, while only 3% did not participate.

The response rate among pharmacy inspectors was 100%.

3.14 Data entry and analysis

The collected data analysis was carried on by the statistical package for social science (SPSS) version 7.5. The steps of data were, questionnaires coding, data entry and cleaning, and frequency tables and graphs of the variables.

RESULTS

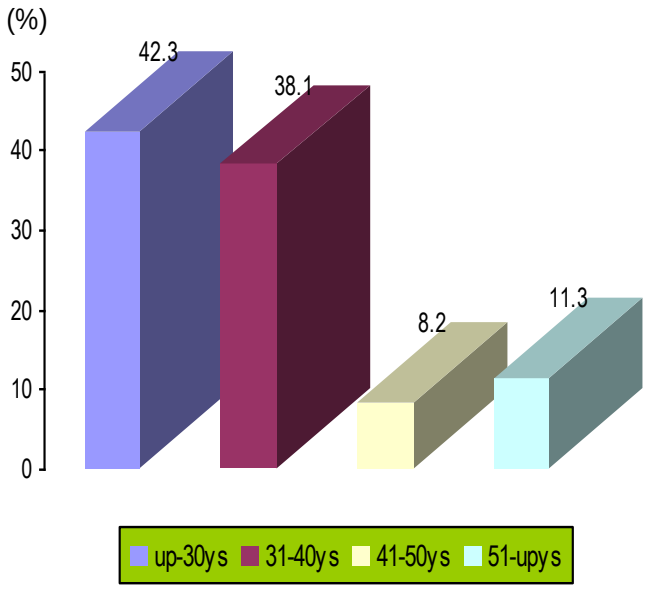
4.1 Characteristics of the Study Population:

The study included one hundred public pharmacies providing pharmaceutical service to the community.

Pharmacists' age

42.3% of public pharmacies were operated by pharmacists aged up-30 years, 38.1% aged between 31 and 40 years , 8.2% aged between 41 and 50 years, and 11.3% aged 51 years and more (figure 1).

Figure 1 distribution of pharmacies by Pharmacists age



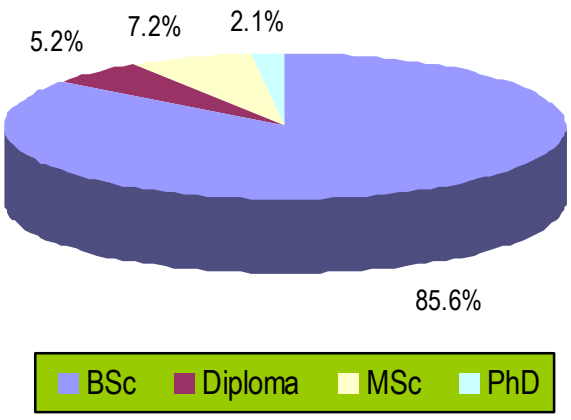
Pharmacists' gender

The male subjects were the majority of pharmacists operating the public pharmacies; they represented 86.6% of pharmacists, while the female subjects represented only 13.4%.

Pharmacy practitioner's qualification

85.6% of pharmacies were been operated by pharmacists with BSc. in pharmacy which resembled the major qualification category, while 5.2% operated by pharmacist assistants, 7.2% operated by pharmacists with MSc. degree in pharmaceutical sciences, and 2.1% operated by pharmacists with PhD degree in pharmaceutical sciences (figure 2).

Figure 2 distributions of pharmacists by education level



Pharmacists' experience

4.1% of pharmacies operated by pharmacists with experience period less than one year, 25.8% with experience period of 1-5 years, and 36.1% with experience period of 6- 10 years, while 34.0% with experience period more than 10 years (table 1).

Table 1 distribution of pharmacists by experience period

Pharmacists experience	%
< 1 year	4.1
1 – 5 years	25.8
6 – 10 years	36.1
> 10 years	34.0
total	100

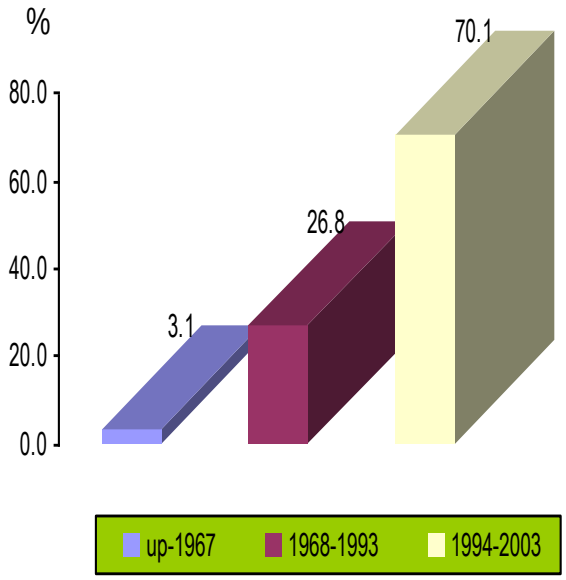
Pharmacists 'education language

3.1% of pharmacies operated by pharmacists educated with Arabic language, while 76.3% with English language, which resembles the majority of pharmacists, 7.2% with Latin languages, and 13.4% with eastern languages.

Pharmacy establishing (registering) period

3.1% of pharmacies were established at the period between 1946 -1967, 26.8% of pharmacies were established in the period between 1968 and 1993, and 70.1% were established at the period between 1994 and 2003 (figure 3).

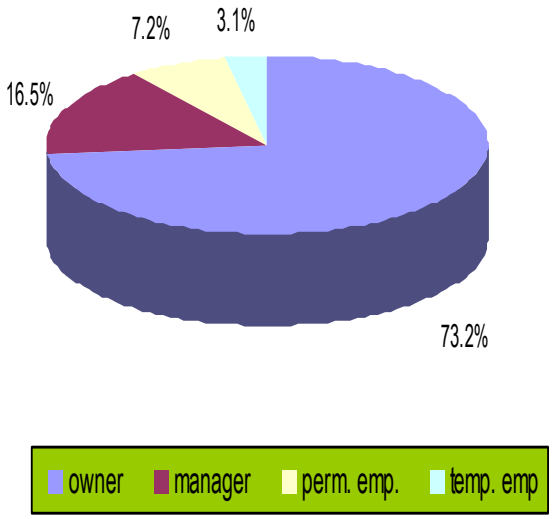
Figure 3 distributions of pharmacies by establishing period



Nature of pharmacist engagement (job)

73.2% of pharmacies were operated by the owner pharmacist, 16.5% by pharmacist manager, 7.2% by permanent employed pharmacist, and 3.1% by temporary employed pharmacist (figure 4).

Figure 4 distributions of pharmacies by pharmacist's engagement nature



4.2 Factors affecting Pharmacy Service

4.2.1 Pharmacy ownership

73.2% of pharmacies were owned by pharmacists in charge, 51.5% were owned completely by the owner pharmacist, while 21.6% is shared with other partner(s).

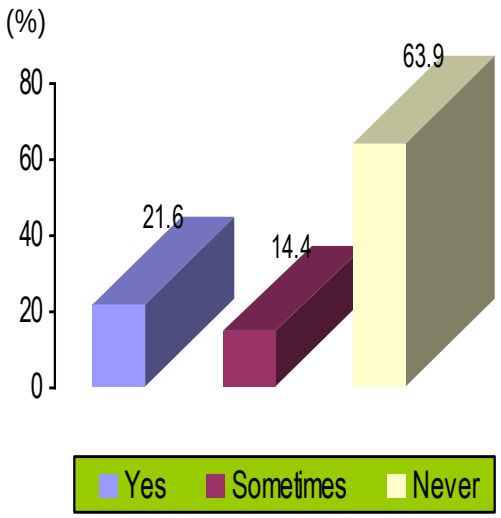
4.2.1.1 Partner's profession

The partner's profession of the owner pharmacist, 10.3% were licensed pharmacists, 5.2% licensed pharmacist assistants, and 6.2% not-pharmacy professionals.

4.2.2 Pharmacist with another job engagement

21.6% of pharmacists were engaged with other permanent jobs, and 14.4% engaged with other occasional jobs; while 63.9% were not engaged other jobs (figure 5).

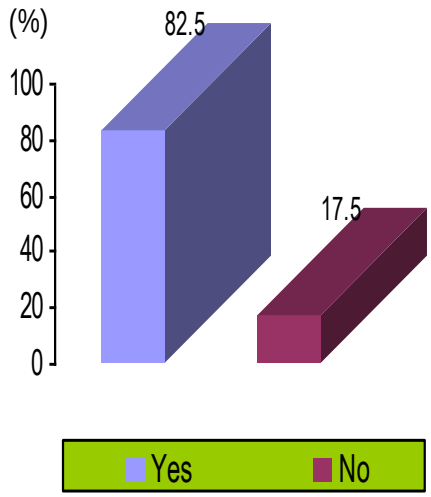
Figure 5 distribution of pharmacies by pharmacists` other job engagement



4.2.3 Working staff

82.5% of pharmacies operated by other working staff together with the pharmacist in charge, and 17.5% of pharmacies operated by the pharmacist only (figure 6).

Figure 6 distributions of pharmacies by other working staff



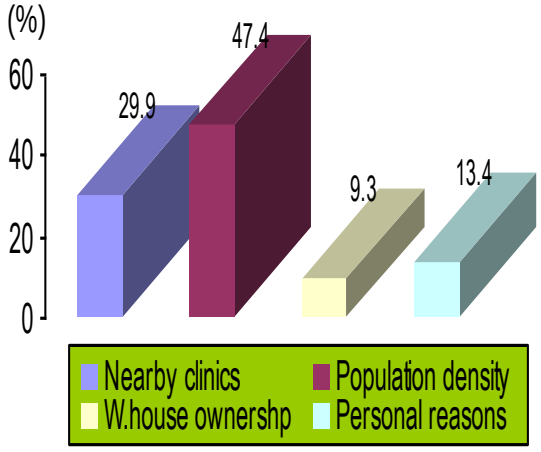
4.2.3.1 Pharmacy working staff professions

47.4% of public pharmacies operated by additional licensed pharmacists, 30.9% by additional licensed pharmacist assistants, and 4.1% by non-pharmacy professionals.

4.2.4 Pharmacy site selection

29.9% of pharmacies site were selected regarding nearby clinics, 47.4% regarding the population density, 9.3% because of building ownership, 13.4% due to personal factors (figure 7).

Figure 7 distributions of Pharmacies by site selection



4.2.4.1 New pharmacy establishment

25.8% of pharmacies established to fulfill the need of community for pharmaceutical service, 25.8% to provide more improved pharmaceutical service, while 28.9% because the pharmacist did not get a public employment, 15.5% for investment, and 4.1% did not know the reason.

4.2.5 Para pharmaceutical service

56.7% of pharmacies were providing complete pharmaceutical service as providing the Para pharmaceutical products beside the pharmaceutical products.

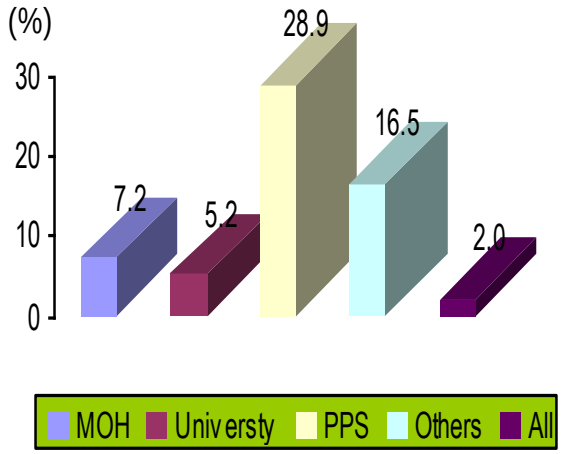
4.2.6 Scientific (pharmaceutical) activities

59.8% of pharmacists attended scientific activities programs.

4.2.6.1 Scientific activity organizer

7.2% of pharmacists were attended scientific activities programs organized by MOH, 5.2% by universities, 28.9% by PPS, 16.5% by other organizers, and 2.0% by all organizers (40.2% of pharmacists did not attend any scientific activities programs) (figure 8).

Figure 8 distribution of pharmacists by scientific activity organizer



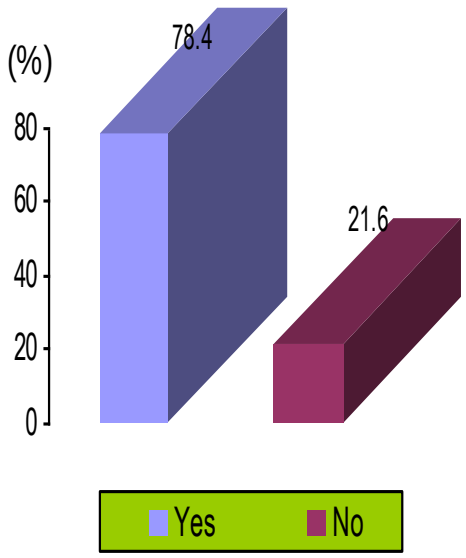
4.2.7 Pharmacist's professional perception

The community pharmacists were realizing their role as medical professionals as, 77.3% of them said that the pharmaceutical service is a basic need for community, and 19.6% said that the pharmaceutical service is a necessary need, while 3.1% it as an accessory need.

4.2.8 Drug supply with bonus

78.4% of pharmacies got free of cost quantities of pharmaceuticals as bonus, which was beneficial for the pharmacies income (Figure 9).

Figure 9 distribution of pharmacies by supply with bonus



4.2.8.1 Bonus including free medical samples

Some suppliers exploited the public pharmacies by supplying with free sample pharmaceutical products in form of bonus which must not be dispensed with fees, 5.2% of pharmacies received free medical samples as bonus from all suppliers, 35.1% from some suppliers (Table 2**)**.

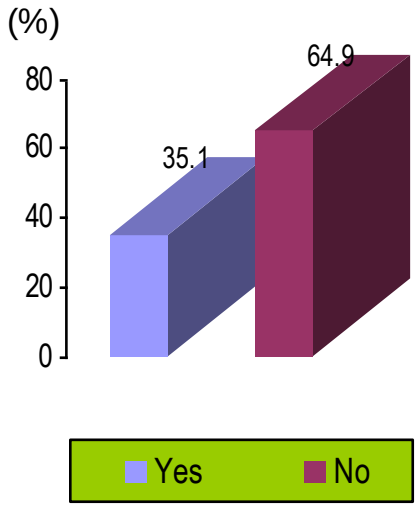
Table 2 distribution of pharmacies by bonus with free medical samples

bonus included free medical samples	%
from all suppliers	5.2
from some suppliers	35.1
did not receive free medical samples	38.1
total	78.4

4.2.8.2 Supplied drugs within the last three months of expiry dates

It was exploitation to the pharmacist and the patient to supply with nearly expired drugs, 35.1% of pharmacies received pharmaceuticals within the last three months of expiry date (Figure 10).

Figure 10 distribution of pharmacies by received drugs (within last three months of expiry)



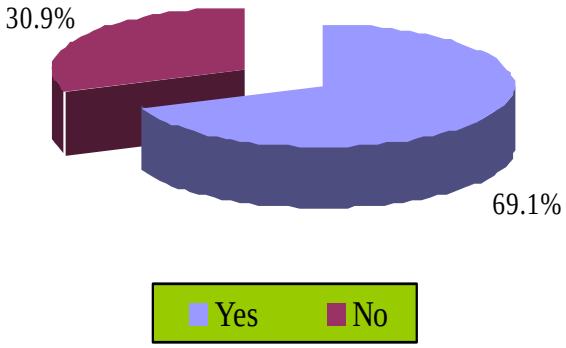
4.2.8.3 Easy supply

44.3% always supplied with their requests easily, and 48.5% sometimes supplied easily, while 7.2% were never supplied easily.

4.2.8.4 Pharmaceutical stock

69.1% of pharmacies kept adequate pharmaceutical stock, while 30.9% of pharmacies did not keep adequate pharmaceutical stock, which led to low quality service (figure 11).

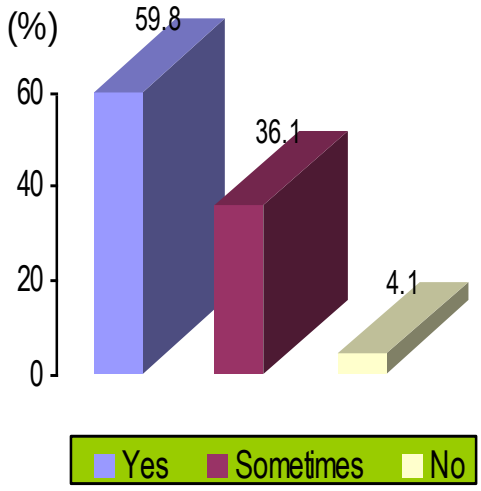
Figure 11 distribution of pharmacies by keeping adequate stocks



4.2.9 Obstacles (difficulties) facing pharmacy practice

59.8% were always facing obstacles during their activity conduct, which affected the performance of those pharmacies, and 36.1% were sometimes facing obstacles (Figure 12).

Figure 12 distribution of pharmacies by facing obstacles



4.2.9.1 Nature of obstacles

Most of obstacles facing pharmacies service were related to the law implementation, 2.1% faced because of improper implementation of law, 35.1% lack implementation of law, 4.1% suppliers less cooperation, 16.5% patients bargain, 1.0% other reasons, and 1.0% both the lack implementation of law and patient bargain (table 3).

Table 3 distribution of pharmacies by nature of obstacles

Nature of obstacle	%
improper implementation of law	2.1
lack implementation of law	35.1
suppliers less cooperation	4.1
patients bargain	16.5
other reasons	1
lack implementation of law and patient bargain	1
total	59.8

4.3 Pharmacies` economic status

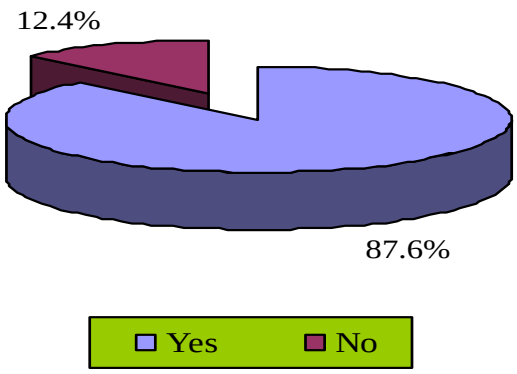
4.3.1 Pharmacy income

30.9% of pharmacies were gaining a good income, 53.6% were gaining a weak income but it was sufficient, while 15.5% with income, which was not covering the expenditures.

4.3.2 Indebted pharmacies

87.6% of pharmacies were indebted, which represents the majority of pharmacies (Figure 13).

Figure 13 distributions of pharmacies by indebtedness



4.3.3 Nature of indebtedness

55.7% indebted with not-payable indebtedness, while 32.0% indebted with payable indebtedness.

4.3.4 Not- payable indebtedness:

45.4% of pharmacies with not-payable indebtedness for the pharmaceutical wholesalers (Table 4).

Table 4 distribution of pharmacies by not-payable indebtedness

Not- payable credits nature	**%**
taxes	6.2
for the pharmaceutical wholesalers	45.4
others	2.1
pharmacy facilities	1
all mentioned before	1
total	55.7

4.4 Dispensing problems

4.4.1 Dispensing problems

50.5% of pharmacies faced problems during dispensing drugs.

4.4.2 Causes of dispensing problems

Most of the dispensing problems were a result of dispensing behavior of the pharmacies, 26.8% because of dispensing drug substitutes, 3.1% because of dispensing drug equivalents, 9.3% because of incomplete prescriptions, and 7.2% because of other reasons (Table 5).

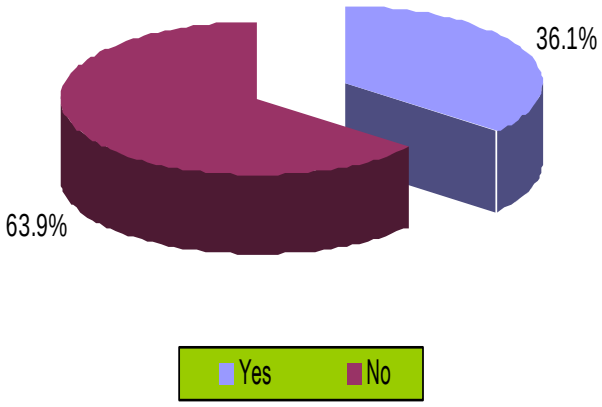
Table 5 distribution of pharmacies by causes of dispensing problem

Causes of dispensing problems	%
dispensing drug substitutes	26.8
dispensing drug equivalents	3.1
prescription alteration	1
incomplete prescriptions	9.3
other reasons	7.2
dispensing drug substitutes and incomplete prescriptions	3.1
total	50.5

4.4.3 Professional safeguard

63.9% of community pharmacists believed that there is no professional safeguard (Figure 14).

Figure 14 distribution of pharmacies by professional safeguard



4.4.4 Pharmacy theft

21.6% of pharmacies were involved in pharmacy theft.

4.4.5 Reported pharmacy thefts

11.3% of pharmacies reported theft for official departments, 9.3% of them reported to police departments only, 1.0% reported for MOH and police department.

4.4.6 Under-force dispensed controlled drugs

2.1% of pharmacies dispensed controlled drugs under the threat of force.

4.5 Conforming laws and ethics of pharmacy

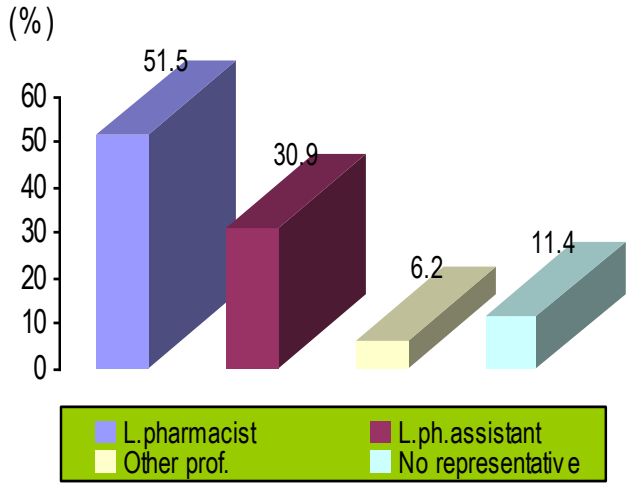
4.5.1 Registered working staff

56.7% registered all the working staff, and 10.3% registered some of the working staff, while 15.5% did not register any of the working staff.

4.5.2 Pharmacist representative profession

51.5% of charged pharmacist's absence was covered by a licensed pharmacist, 30.9% with pharmacist assistant, and 6.2% by non-pharmaceutical professional, while the rest (11.4%) with no representative (figure 15).

Figure 15 distribution of pharmacies by representative profession



4.5.3 Pharmacy equipment and facilities

1- Laboratory apparatus and facilities

52.6% of pharmacies had sufficient laboratory apparatus and facilities, while 47.4% had insufficient laboratory apparatus and facilities (table 6).

2- Fixtures and equipment

47.4% of pharmacies had sufficient Fixtures and equipment, which are necessary for proper pharmacy practice, while 52.6% had insufficient Fixtures and equipment (table 6).

3- Keeping officially files and registers

17.5% of pharmacies kept all officially required files and registers, while 82.5% did not keep all officially required files and registers which resembled the majority (table 6).

4- Keeping officially required references

11.3% of pharmacies are keeping all required references, while 88.7% are not keeping all the required references, which resembled the majority (table 6).

Table 6 distribution of pharmacies by officially required facilities

Official requirements	Pharmacies %		Total
	available	unavailable	
laboratory equipment and facilities	52.6	47.4	100
fixtures and equipment	47.4	52.6	100
files and registers	17.5	82.5	100
pharmacy references	11.3	88.7	100

4.5.4 Direct solar light

66.0% of pharmacies exposed to the direct solar light, while 34.0% did not.

4.5.5 Protection against direct solar light

12.4% of pharmacies were not protected from the direct sun light which will accelerate many pharmaceutical products decomposition.

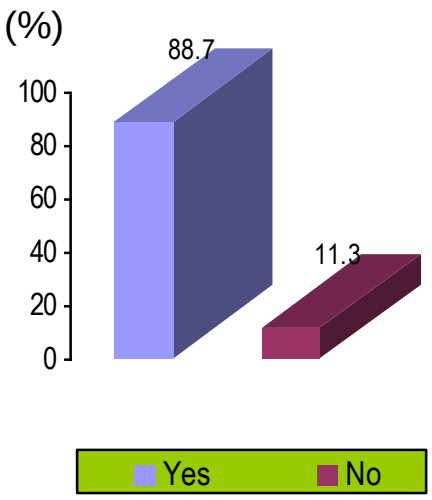
4.5.6 Guests reception area

64.9% of pharmacies got a defined area to meet guests and visitors of the pharmacy, while 35.1% did not.

4.5.7 Pharmacist continuous education

88.7% of pharmacists were continuing their education (Figure 16).

Figure 16 distribution of pharmacies by continuous education



4.5.7.1 Source of pharmacist's continuous education

Most of pharmacists were depending on self-education as, 49.5% of them were using references, 18.6% were using pharmaceutical journals and annuals, 13.4% from the internet scientific sites, and 1.0% from references and the internet (Table 7).

Table 7 distribution of pharmacies by source of continuing education

Source of pharmacist reeducation	%
using books and references	49.5
using journals and annuals	18.6
Attending academic lectures	6.2
internet scientific sites	13.4
references and internet	1
total	88.7

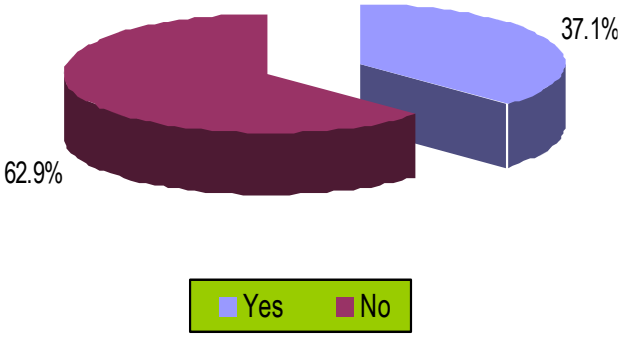
4.5.8 Licence renewal

72.2% of pharmacies renewed registry as soon as expired, while 27.8% renewed registry after been warned by MOH.

4.5.9 Informal (unofficial) drugs

37.1% of pharmacies dispensed informal drugs, while 62.9% of pharmacies did not dispense informal drugs (figure 17).

Figure 17 distributions of pharmacies by dispensing informal drugs



4.5.10.1 Informal drug source

The main source of informal drugs was the informal distributors, 34.0% of pharmacies supplied with informal drugs through informal distributor 2.1% through licensed wholesale drug stores, while 1.0% through licensed distributor, (Table 8).

Table 8 distribution of pharmacies by source of informal drugs

Source of the informal drugs	%
through licensed wholesale drug stores	2.1
through licensed individual distributor	1
through informal distributor	34
total	37.1

4.5.10.2 Reasons for dealing with informal drugs

27.8% of pharmacies were dealing with informal drugs to fill specific prescriptions, 5.2% to meet specific patient needs, and 4.1% for competition with other pharmacies (Table 9).

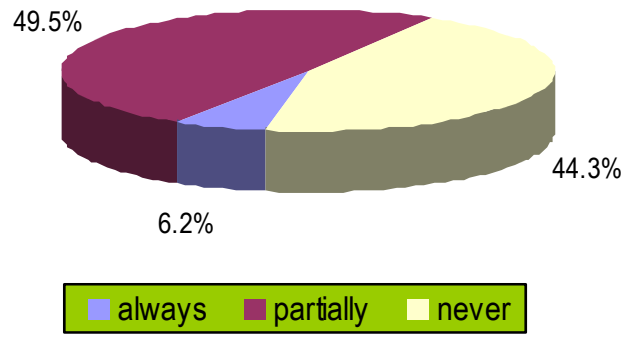
Table 9 distribution of pharmacies by reasons for informal drugs

Reasons for dealing with informal drugs	**%**
to fill specific prescriptions	27.8
to meet specific patient needs	5.2
for competition with other pharmacies	4.1
total	37.1

4.5.10.3 Committed with formal (official) price

6.2% of pharmacies were committed with the formal price, and 49.5% were partially committed with the formal price, while 44.3% did not (figure 18).

Figure 18 distribution of pharmacies by committing with formal price



4.5.10.4 Reasons for formal price disregard

The reasons for disregarding the formal price was, 26.8% because, of less law implementation, 2.1% because, of absence of law conduction and competition, 3.1% because, of no control, patient status, and competition (Table 10).

Table 10 distribution of pharmacies by reasons for formal price disregard

Reasons for disregarding the formal price	%
the patients financial status	6.2
getting drugs with price discount	1
to compete other pharmacies	3.1
less implementation of law	26.8
both of no law conduction and competition	2.1
no control, patient status, and competition	3.1
patient status and competition	1
patient status and supplied drugs price discount	1
total	44.3

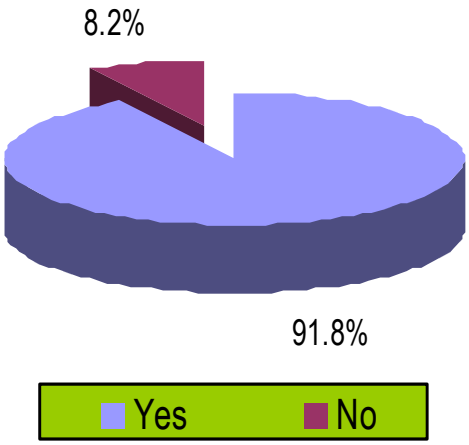
4.5.10.5 Dispensed prescriptions Sign

17.5% of pharmacies were signing the dispensed prescriptions always, and 45.4% were signing the dispensed prescriptions sometimes, while 37.1% of pharmacies did not sign the dispensed prescriptions.

4.5.10.6 Dispensing drugs without prescription

91.8% of pharmacies dispensed drugs without prescriptions, which resembled the majority, while 8.2% dispensed drugs only with prescription (figure 19).

Figure 19 distribution of pharmacies dispensing without prescription



4.5.10.7 Reasons for dispensing without prescription

39.2% of pharmacies dispensing without prescription to fulfill patients request, 21.6% according to OTC drug list, and 30.9% according to patient's case description (Table 11).

Table 11 distribution of pharmacies by reasons for dispensing without prescription

Reasons of dispensing without prescription	%
to fulfill patients request	39.2
according to OTC drug list	21.6
according to patient's case	30.9
total	91.7

4.5.10.8 Non-pharmaceutical activities

45.4% of pharmacies were involved in non-pharmaceutical activities, and 54.6% of pharmacies did not.

4.5.10.9 Disposition of the expired drugs

2.1% of pharmacies disposed the expired drugs through official departments, 27.8% returned expired drugs back to the supplier, 46.4% disposed expired drugs by their own way, and 23.7% returned some expired drugs to suppliers and disposed drugs by their own way (table 12).

Table 12 distribution of pharmacies by expired drugs disposition

Disposing expired drugs	%
Through official departments	2.1
Returned to supplier	27.8
Self managed	46.4
Returned or Self managed	23.7
total	100

4.5.10.10 Time of returning expired drugs to suppliers

33.0% of pharmacies disposed the expired drugs within three months before expiry date, and 11.3% disposed the drugs as soon as they expired, while 7.2% disposed after expiry (resembled by those returned to supplier 27.8% and those returned and self-managed 23.7%).

4.5.10.11 Deal with physicians

5.2% of pharmacies made deal with physicians like directing the patient by pharmacist towards a certain physician, while 94.8% did not.

4.6 Governmental Regulation:

4.6.1 Pharmacy law

63.9% of pharmacies practice regarded the Palestinian law, 8.3% regarded the Egyptian law, 1.0% regarded the Jordanian law, 3.1% regarded other laws, while 23.7% did not know what law they were regarding (table 13).

Table 13 distribution of pharmacies by regarded pharmacy law

Regarded law	%
Palestinian	63.9
Egyptian	8.3
Jordanian	1
Other	3.1
Did not know which law	23.7
total	100

4.6.2 Working time schedule

74.2% of pharmacies got working time schedule, and 25.8% of pharmacies did not have working time schedule.

4.6.2.1 Time schedule organizer

1.0% of pharmacies work time schedules organized by MOH, 3.1% organized by municipality, 4.1% organized by PPS, while 66.0% organized by the pharmacists themselves (table 14).

Table 14 distribution of pharmacies by time schedule organizer

Time schedule organizer	%
MOH	1
municipality	3.1
PPS	4.1
Self regulated	66
total	74.2

4.6.2.2 Night duty

51.5% of pharmacies implemented night duty, and 48.5% did not.

4.6.2.3 Night duty continuity

45.4% of pharmacies conducted night duty continuous with daily duty, and 6.2% did not.

4.6.2.4 Night duty regulator

1.0% of pharmacies` night duty was regulated by MOH, 2.0% was regulated by PPS, while 48.5% was regulated by pharmacists themselves (table 15).

Table 15 distribution of pharmacies by night duty regulator

Night duty regulating department	%
MOH	1
PPS	2
Self regulated	48.5
total	51.5

4.7 Public pharmacies control

4.7.1 Pharmacy inspection rounds (year 2003)

Pharmacist inspectors were covering the public pharmacies as, 39.2% were visited more than 4 times, 52.6% were visited less than 4 times, 6.2% did not remember the number, and only 2.1% of pharmacies were not visited by pharmacy inspectors.

4.7.2 Inspection visits nature

100.0% of pharmacies were inspected by the pharmacy inspectors through not previously arranged visits.

4.7.3 Inspection criteria

Referring to the inspection form, which designed by the General Administration of pharmacy, the pharmacy inspectors, checked the following:

- 95.9% of pharmacies were checked for Licence validity.
- 91.8% of pharmacies were checked for files and registers.
- 97.9% of pharmacies were checked for storing conditions.
- 85.6% of pharmacies were checked for laboratory facilities.
- 100.0% of pharmacies were checked for controlled drugs.
- 97.9% of pharmacies were checked for informal drugs (Table 16).

Table 16 distribution of pharmacies by inspection criteria

Inspection criterion	% checked	% not checked
Licence validity	95.90	4.10
files and registers	91.80	8.20
storing conditions	97.90	2.10
laboratory facilities	85.60	14.40
controlled drugs	100.00	0.00
informal drugs	97.90	2.10

4.7.4 Inspection round time

57.7% of inspection rounds achieved within less than 30 minutes, and 40.2% of inspection rounds achieved within more than 30 minutes, while 2.1% of pharmacies did not remember.

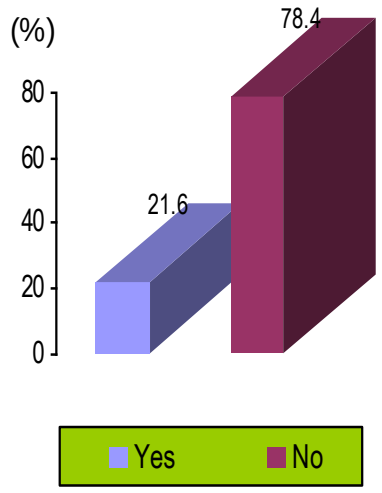
4.7.5 Penalties (punishments)

2.1% of pharmacies received penalties, while 97.9% of pharmacies did not.

4.7.6 Inspection by other agencies

21.6% of pharmacies inspected by agencies other than inspection department-MOH (figure 20).

Figure 20 distribution of pharmacies inspected by other agencies



4.7.7 Other inspecting agencies

1.0% of pharmacies inspected by other departments of MOH, 16.5% by other ministries (ministry of supply), and 4.1% by police departments (table 17**)**.

Table 17 distribution of pharmacies according to inspection by other agencies

Other Inspecting departments	%
MOH departments	1
Other ministries (ministry of supply)	16.5
Police department	4.1
total	21.6

4.7.8 Pharmacy inspection

The pharmacy inspection department at the General Administration of Pharmacy was inspecting the community pharmacies through eight pharmacist inspectors.

- 33.3% of Inspectors were having the manual of law and its amendments,
- 40.0% were having defined inspection standard,
- 33.3% were employed through specific examination,
- 33.3% did have all facilities to achieve inspection duties,
- 66.7% faced obstacles while inspecting pharmacies,
- 33.3 % attended training courses.

Table 18 distribution of Pharmacist inspectors' facilities

Pharmacist inspectors	%
having the manual of law and its amendments	33.30
having defined inspection standards	40.00
employed through specific examination	33.30
having all facilities to achieve inspection duties	33.30
filling only one inspection form every visit	100.00
Inspecting pharmacies alone	0.00
collecting drug samples for analysis	0.00
faced obstacles while inspecting pharmacies	66.70
attended training courses	33.30
no defined work time schedules for Pharmacies	100.00
no defined night duty schedules for Pharmacies	100.00
PPS was informed when violations law	16.70

DISCUSSION

Public pharmacy function, in varying degrees, is to serve society's need for drug products and for pharmaceutical services. Pharmacists in these sites provide several important functions: first, community pharmacists provide distribution of prescribed drug products. Second, community pharmacists are caretakers of the nation's drug supply, monitoring for diversion and improper prescribing, and accounting for the appropriate control of drugs with potential for abuse or misuse. Third, they compound prescriptions to meet the specific needs of individual patients (Kosserow, 1990).

Most people when thinking about pharmacy tend to think firstly of public pharmacy (Melvin R.Gibson, 1975).

The pharmacist is the one who dispenses the medication; he is the last member of the health care team to see the patient before the medicine is used. Therefore, it should be the pharmacist’s responsibility to insure the safe and appropriate utilization of the medication by the patient. This responsibility must extended to nonprescription products (OTC) as well as prescription medication, and should include any health accessory (which the pharmacist dispenses), and patient counseling (Nielsen, 1986).

In health care picture of pharmacist will need to be a full-time partner to the physician, for he is the only expert in drugs today. The deciding factor for breakaway of the professional practice of pharmacy from the business image

is the ability of the pharmacist to alter his image from a purveyor of drugs to that of being a purveyor of advice and counsel both to the patient and public (Melvin R.Gibson, 1975).

5.1 Characteristics of the Study Population

The distribution of community pharmacists by sex is not fair concerning the number of female pharmacy graduates and the number of registered female pharmacists by the Palestinian Pharmacists Syndicate (PPS) - Gaza Strip.

Only 13.4%of the community pharmacists included in this study; were female pharmacists.

-The sex ratio of pharmacists operating the public pharmacies is 646.3.

- The number of all registered male pharmacists in GS at the end of 2003 was, 775 compared with 453 females, the sex ratio is 171.1 (PPS, 2004).

- The estimated number of pharmacies registered by male pharmacists in GS at the end of 2003 was 263 compared with 98 by females, the sex ratio was 268.4 **(**MOH, 2004).

- The sex ratio in Palestine at the end of 2002 equals 101.9 (MOH, 2003).

A considerable number of public pharmacies were operated by young aged pharmacists with less than 30 years old (42.3%) and little period of experience less than 5 years (29.9%). The local universities provide a relatively high number of pharmacy graduates every year, which considered as over demand.

Concerning the absence of organized employment opportunities, the problem accumulates year by year (MOH, 2002).

The number of public pharmacies has been duplicated many times within the last ten years (70.1%) of public pharmacies were established at the period between 1994 and 2003). It would be considered a good indicator for developed pharmaceutical service provision if they were established in regard to the public needs and national health policies, as 15.5% of pharmacies where established for investment, and 4.1% of pharmacies where established for no clearly defined reason.

Since 1946 to the end of 2003, the number of public pharmacies which had been established was 402 public pharmacies, 41 were discontinued activities, while 361 pharmacies still operating (MOH, 2004).

5.1.1 Pharmacy Ownership

Although, when applying to register a new public pharmacy, the first condition is, the Licence issued only to a licensed pharmacist (MOH, 2004).

A permission to register (establish) a new public pharmacy to be issued for a licensed pharmacist, and no body other than pharmacist has the right to own a public pharmacy (Sisalem, Muhanna, Eldahdoh, 1996).

Some pharmacists ignored the previously mentioned condition (pharmacy ownership), as 21.6% of public pharmacies were shared property with other

partner(s) (5.2% with licensed pharmacist assistants, and 6.2% not-pharmacy professionals, and 10.3% with pharmacists).

In such cases of law ignorance, both the professional and ethical failure may adhere to the pharmacies` practice in form of malpractice.

Some of pharmacists did not get an employment, and has no sufficient resources to establish (independently) a public pharmacy. They might be forced to do by informal partnership with other persons even if those "other persons" are not pharmacy professionals. In such cases, the pharmacist is vulnerable to stand against the law and ethics of pharmacy profession. Because he cannot take the correct professional decisions especially when the partners are not pharmacists, the risk of malpractice, violation of law and punishable penalties are emerging.

5. 1.2 Other Job Engagements

Some of community pharmacists were engaged with other jobs, as 21.6% and 14.4% with either permanent or occasional jobs. It is an indicator for poor job satisfaction, which may lead to pharmacy mismanagement and malpractice.

According to MOH rules, the public pharmacy must be managed (all the time) by the owner pharmacist, or pharmacist manager with full time and supervision (MOH. 2004).

Because the owner of the public pharmacy has to continue functioning as professional and business activities, more often he is owner, manager staff

pharmacist, and salesperson; he has to give the best use of the time and energy that he is able to devote to the management function of his pharmacy. The role of management must be to achieve the goals and objectives of the pharmacy and to assemble capital, fixture requirements, and people. Management is important also for planning which is vital to avoid day-to-day operation problem (Smith, 1996).

A pharmacist employed in a public institution or service shall not be the proprietor of, or conduct a public pharmacy without permission of the director of health (Sisalem, Muhanna, Eldahdoh, 1996).

5.1.3 Establishing a new public Pharmacy

Some public pharmacies established without objective analysis considering the professional requirements such as, the community need for pharmaceutical service and improving the quality of that service. As 28.9% of pharmacies were established because the pharmacist did not get an employment chance, 15.5% for investment, while 4.1% did not know the reason.

Selection of the specific site will require careful consideration. The degree of success of a public pharmacy may depend upon the choice of location most suitable among those available. In some cases must choose among what available rather than what desirable. The majority of consumers choose the pharmacy for its location based on convenience and accessibility, as long as

offering adequate service. The primary emphasis in site selection is a location that is central to the population to be served; further, the modern pharmacy must near by easy access and adequate transportation (James, Richards, 1975). The pharmacist considering the establishment of a new public pharmacy should subject the basic decision to an objective analysis. The analysis should include a consideration of community needs. The community may need more pharmaceutical service facilities, or may have sufficient number of pharmacies not providing full scope of modern services. If the analysis indicates that there is need to establish a new pharmacy, he must consider the legal organization for the enterprise, choosing the suitable specific location, how to obtain the necessary capital (Hoffman, 1990).

Location of a new public pharmacy must be at least 100 meters distance from the nearest one and additive population of thousand persons (El- Susi, 2003).

5.1.4 Pharmacists continuous education

There is no programmed reeducation or continuous education policy at the National level. The pharmacists as accomplishing their formal education they have to depend upon themselves in continuous education, especially those having interest while the rest will lose some of their knowledge and skills by time. MOH, PPS, pharmacy institutions, and Local universities are concerned with continuous education policies.

There is less number of highly educated community pharmacists, as the public pharmacies are operating by pharmacists with PhD (7.2%), and MSc. (2.1%) degrees in pharmaceutical sciences, which resembles another indicator for the absence of continuous education policies by the concerned authorities.

88.7% of community pharmacists were updating their pharmacy knowledge continuously. Community pharmacists were depending on references (49.5%), annuals (18.6%), and the internet (13.4%) sources.

40.2% of community pharmacists did not attend any scientific activities programs. Although, the community pharmacies service is an important integral to the MOH health service, MOH reeducation programs included the pharmacists working in its institutions only which were in form of continuous education and training courses through both local and abroad programs. Reeducation is a fundamental demand for increasing and updating the pharmacist's knowledge to give the best quality of pharmaceutical service.

The first group of professional characteristics is the existence of a specialized body of knowledge, possession and utilization of which enable the practitioner to perform a highly useful social function (Montagne, McCarthy, 2000).

The profession will advance and each practitioner benefits as all practitioners try to maintain high professional standards. That self-interest may not occur when there is lack of knowledge, or the orientation of the practitioner changed toward the economic benefits more than the patients` care (Bullough, 1966).

The rapid advances in medicine and drug therapy dictate that the pharmacist must keep developing his science after his formal education completed. To do otherwise is to deny his patients full benefits of modern science. Nothing less than, the welfare of the profession and the health of public should be concerned. In USA, extension courses have met by universities with some success - either correspondence courses or courses brought to the vicinity of the pharmacists (Shargon, 1992).

Pharmacists must be competent, with minimal knowledge to be able to do their function as therapeutic experts. Patients can seek confidential advice and help of the pharmacist must be carried out (Karl L. kaufman, 1975).

Public pharmacy requires well-developed professional skills and, in many cases, management abilities (Hoffman, 1998).

5.1.5 Concept of Pharmacy

Most of pharmacists realizing the importance of their role and the nature community need for their professional service, as 77.3% of them considering the need for pharmacy service is basic, and 19.6% as necessary.

The community pharmacists perception towards their profession will affect their attitude and behavior and will affect the image of pharmacy as a profession in the eyes of public. A profession characteristic is the possession by its practitioners of a set of attitudes, which influences their professional

behavior. The basic component of that is altruism, concern for the welfare of others (Marshall, 1975).

Most people when thinking about pharmacy tend to think firstly of public pharmacy (Melvin R.Gibson, 1975).

5.2 Factors affecting pharmacy service

5.2.1 Pharmaceutical Supplies

The supply with bonus is beneficial for pharmacies and contributes in increasing their income; most of public pharmacies were supplied with bonus (78.4%) from some suppliers. during the current national economical status provision with bonus will support both the public pharmacies and patients.

Quantity - purchase discounts play an important role in decisions regarding inventory levels. The purchase of larger numbers of items will affect lower cost per item, which can be beneficial to both the pharmacy and the public (James W. Richards, 1975).

But some Suppliers provided some public pharmacies (40.3%) with bonus including free medical samples (not for sale), also 35.1% of pharmacies received pharmaceuticals within the last three months of expiry date which considered as violation of law and ethics by suppliers, and exploitation to both the public pharmacy and the patient. The free medical samples and pharmaceutical products that prepared for the advertisement purpose must not

been sold and they must carry a distinguished mark on both the external and internal packs (El- Susi, 2003).

The Use of non-professional market terms and behaviors leads to professional failure for the pharmacists and the public pharmacies. In addition, deviating the attitude of pharmacists by, giving more attention to the commercial interest over the welfare and safety of their customers. Such behavior of some supplier's plays an important role in pharmacy malpractice, which may conduct by some public pharmacies. (Sidney, Willing, 1975).

5.2.2 Obstacles facing Pharmacy Practice

Most of public pharmacies are not conducting easily, which will lead to waste of efforts and time beside inconvenient practicing environment, as just 4.1% of public pharmacies were not facing obstacles.

The public is the mainly affected by receiving low quality service due to the obstacles facing pharmacy practice. There is evidence to the importance of pharmacy practice regulations, and the power of the government to implement those laws. That is the main factor for the professional practice safeguard, and assurance to the requested quality standards of pharmaceutical service provided through the public pharmacies, as 35.1% of pharmacies faced obstacles because of lack implementation of law, and 2.1% because of improper implementation of law.

Only the power of the government can assure the protection of the health, safety, and welfare of the community (Fink, Vivian, Reid, 2003).

5.2.3 Financial Status of Pharmacies

Some pharmacies are threatened by fail to continue practice due to the financial problems. As only 30.9% of pharmacies were gaining good income, and 87.6% of pharmacies were indebted; the financial situation of most of the public pharmacies is risky, which may affect not only the quality of pharmaceutical service; but also the chance of those pharmacies to continue.

The magnitude of the financial risk consequences may extend to affect the pharmaceutical suppliers, as 45.4% of pharmacies operating with not-payable indebtedness for the pharmaceutical wholesalers. A deficit in the national pharmaceutical market may develop in form of shortage in pharmaceuticals, low quality supply, and increased prices.

Mostly the poor strata of the Palestinian community with no GHI will be the more affected (MOH, 2003).

The commercial activity of public pharmacy presents numerous risks of either gain or loss; such risks can be managed by careful attention in managing all components of the organization structure (Richard, Abood, 2003).

The amount of required capital to operate a successful pharmacy is a function of the productivity of the pharmacy. The assets required represent a fixed core

necessary for any pharmacy, regardless of sales volume, beyond these the amount of assets required depend on the scope of operation and the volume anticipated. Other factors have impact on capital requirements like, policy of the pharmacy owner, the mix of sales volume (Carrol, 1998).

5.2.3 Stock Inventory

Some public pharmacies (30.9%) were not keeping adequate stocks of pharmaceuticals to provide the proper pharmaceutical service to the public. Insufficient stock inventory will decrease the sales and disrepute the public pharmacy. Amount of inventory may be determined by referring to data that give average for cost of goods sold and annual stock-turnover rates. Due to varying consumer preference and differences in prescribing habits of physicians, the management of inventory becomes a highly individualized management function in each public pharmacy. The wait-and-see runs the risk of losing considerable sales volume and perhaps, more importantly, the public pharmacy develops a reputation for not having the stock what the patrons' desire (James, Richards, 1975).

public pharmacists have the responsibility to deliver patients individualized packages of medication containing patient-specific instructions, appropriate supplies of the medication, and essential product information that will allow the patient to assess the risks and benefits in taking the specified medication (Hatoum, Valuck, 1996).

5.2.4 Dispensing Problems

(50.5%) of public pharmacies suffered from dispensing problems in the area of the prescription drugs due to undefined pharmacy profession characters, and outdated laws governing pharmacy practice. Most of dispensing problems were done by the pharmacists dispensing behavior as, 26.8% of pharmacies faced problems because of dispensing drug substitutes, 3.1% because of dispensing drug equivalents, and 1.0% because of prescription alteration.

Pharmacy is the art and science of preparing and dispensing medications and the provision of drug related information to the public. It involves the interpretation of prescription orders, the compounding, labeling, and dispensing of drugs and devices, drug product selection and drug utilization reviews, patient monitoring and intervention, and the provision of cognitive services related to use of medications and devices, the current philosophy or approach to professional practice in pharmacy is designated as "pharmaceutical care". This concept holds that the important role of the pharmacist is "the responsible provision of drug therapy for the purpose of achieving definite outcomes that improve a patient quality of life" (Knowlton, Penna, 1996).

It is the failure of some pharmacists to fulfill this role properly, which has led to the all-too-common public impression that the pharmacist simply sells drugs to consumer rather than serving people in his essential professional

capacity. People whether patients themselves, or acting in behalf of sick relatives or friends, are vitally interested in their health (Linwood, 1975).

Patients generally do not object to paying for the expertise and attention of the health professional as much as they do for drugs and services supplied them. The pharmacist, who supplies the drug at his cost and charge only a fee for service can give his full attention to the basic needs of patients in their total health care (McCarthy, 1996).

It is the responsibility of the pharmacist to interpret the wishes of the prescriber, and thus he should be familiar with the typical form of the written prescription (Ansel, 1985).

Pharmacy is the science of preparing, dispensing, manufacturing, packing, dividing, importing, storing, and selling the pharmaceutical preparations and raw materials (El- Susi, 2003).

The pharmacist should not commit any alteration on the prescription contents, if any error expected he has to communicate with the prescriber (Sisalem, Muhanna, Eldahdoh, 1996).

5.2.5 Professional Safeguard

Many of community pharmacists (63.9%) believed that, there is no professional safeguard. As the income, status, and power of them are not achieved; most of community pharmacists feeling unsafe professionally.

The functional relationship of professions to society reinforces the status position of the profession, while the status itself acts as a motivating factor in an occupation's drive for recognition as a profession. Thus, the functional relationship of the professions to the social progress places them in an important position in the social framework. The desire to serve a highly useful function in society is one of the main stimuli to professional behavior. Flowing from the importance of positions occupy in the society are the income, status, and power possessed by professional practitioners. The extent to which these goals achieved is intimately related to the degree to which an occupation can validate its claim to being a profession (Myers, 1975).

To define any occupation as a profession depends to a large degree on, whether the society views it as a profession. The first measures of social sanction are the granting of exclusive rights of practice through the licensing power of the state. Such licensing attempts to, protect the public from incompetent practitioners. Frequently it also, creates a relationship of trust between society and professionals. In addition, this trust is a measure of the degree of social sanction; however, it is measured by a lack of exercise of sovereign power given the legal monopoly inherent to professional licensing, the failure of society to impose further controls on profession by sanctions the performance and self-regulation of profession (Greenwood, 1975).

5.2.6 Pharmacy Theft

Some public pharmacies where involved in pharmacy theft (21.6%), not all of them has been reported (11.3%) by the official departments. All the reported pharmacy thefts had been reported to the police departments, while few of them had been reported to MOH and/or PPS, which indicates the absence of communication between the public pharmacies and the professional legal agencies, which should be involved in such cases.

Any pharmacy involved in loss of controlled substances must notify the regional office of the bureau in its region of the theft or significant loss upon discovery (Richard, 2003).

5.3 Conforming laws and ethics of pharmacy

5.3.1 Law Obedience

In many cases, the charged pharmacist absence was been covered by pharmacist assistant (30.9%) and in other pharmacies (6.2%) with non-pharmacy practitioner. According to the law, the pharmacy activities should not be conducted in absence of registered pharmacist, so 37.1% of pharmacies had violated law when they were functioning under management of persons other than registered pharmacists.

Public pharmacy must be managed all the time by a registered pharmacist (MOH, 2004).

The New Jersey pharmacy Law requires that every drug store or pharmacy shall be operated or managed at all times by a registered pharmacist. The Pharmacy Act of Ohio provided that a pharmacy must be "in full and actual charge of a registered pharmacist." The Pharmacy Act of Maryland specifying that" no pharmacy shall be at any time left in charge of any person who is not a registered pharmacist. (Sidney H. Willing, 1975).

The practice in a public pharmacy must conduct under full responsibility and direct supervision of the charged pharmacist, and job description for the other human working staff of the pharmacy must be defined. According to the laws governing pharmaceutical practice in GS; the absence of the charged pharmacist can be represented by a licensed pharmacist only (Sisalem, Muhanna, Eldahdoh, 1996).

5.3.2 Fixtures, Equipment and Necessities

Some public pharmacies (47.4%) are not capable to conduct pharmaceutical compounding when it is prescribed due to the shortage of laboratory facilities. Compounding has always been the art and science unique to pharmacists and it continues to be a part of contemporary pharmacy practice (Rockville, 1996).

Every public pharmacy shall be provided with correct weights and measures of the metric system and of any other recognized system employed in the pharmacy (Sisalem, Muhanna, Eldahdoh, 1996).

Some public pharmacies (52.6%) did not get complete equipment, which affects their practice negatively; they have no adequate equipment and facilities to keep their stocks according to the required standards.

Fixtures and equipment for any pharmacy are related to the volume. Larger volume means more inventories, which needs more fixtures and equipment to facilitate storage and display. The size of the building and the quality of fixtures will also affect the expenditure (Andrew, Peterson.2004).

Pharmaceutical preparations and medical supplies must be kept under appropriate conditions to maintain their quality, inappropriate drug keeping lead to deterioration of most of drugs, which creates medical and economical problems. Utilization of drugs will increase when using less effective products, and increase waste due to expired products (Hoffman, 1990).

The public pharmacies must be supplied with pharmaceuticals, equipment, and fixtures that necessary for pharmacy operation and drug keeping, in addition to the scientific references of pharmacy and legislations (El- Susi, 2003).

Majority of pharmacies 82.5% did not keep all the officially required files and registers. It is difficult to get information about the legal and financial status of those pharmacies, also there is lack of information about history of the patient's therapy.

The maintenance of records in the pharmacy is becoming increasingly important for legal, financial, and professional requirements. Legal records maintained accurate up-to-date on specific classes of drugs and poisons, the legal implications of these records are serious. Legal actions and penalties can be brought about if these records are improperly kept. Financial records are of value in measuring return of investment, to evaluate the current operations and to plan for future. Professional records i.e. patients` records and compounding records are of a great value for information (Marino, Zabloski, Herman, 1980). With greater pharmacist-patient orientation and patient drug-record-keeping, the pharmacist becomes the person who has all the information regarding the patient's drug consumption, prescription, and nonprescription (Melvin R.Gibson, 1975).

5.3.3 Protection against Direct Solar Light

Some public pharmacies (12.4%) are not being protected against the direct solar light i.e. receiving both the heat and ultra-violet components of the solar light, which enhance chemical decomposition of pharmaceutical preparations. Many pharmaceutical preparations are sensitive to light, and they may decompose, lose their activity and more even may become harmful to human health, so they must be set aside from the direct solar light (Florence, 1995).

Risk of ultra-violet component of the solar light, which damages the pharmaceutical preparations, must reduced by low natural light levels and construction protection from directly solar light (WHO, 1991).

Most pharmaceutical preparations and medical disposables are subject to chemical decomposition, higher temperatures accelerate the rate of decomposition of those materials accordingly, and they must be kept at appropriate temperature (Haderi, 2000).

Many products can be safely kept at uncontrolled room temperature, but extreme keeping may lead to damage some items (Connors, Amidon, Kennon, and Wiley, 1979)

Pharmaceutical preparations and medical supplies must be kept under appropriate conditions to maintain their quality, inappropriate drug keeping lead to deterioration of most of drugs, which creates medical and economical problems. Utilization of pharmaceuticals will increase when using less effective products, and increase waste due to expired products (Hoffman, 1990).

5.3.4 Informal (unofficial) Drugs

Many public pharmacies dispensing informal drugs, those drugs did not pass the official quality assurance procedures (i.e. local quality control analysis); they are considered with doubtful effect and furthermore, may become

hazardous. There are 37.1% of pharmacies deled with informal drugs, and 34.0% of pharmacies supplied with those informal drugs through informal wholesalers. That is described as professional failure accompanied with high risk of medication failure also. As there are, 27.8% of pharmacies were dealing with informal drugs to fill specific prescriptions and 5.2% to fill specific patients need. It is an indication that there is an external factor forcing some pharmacies to deal with some brands of informal drugs other than seeking to increase their pharmacies` income.

Although, MOH has a limited role in assuring the quality of the formal drug supply of the private sector, the informal drugs adds another risk to the quality of drugs utilized by public. Such drugs resemble not only an economical problem but also a source for unsecured drugs with doubtful effect and safety.

When a public pharmacy violates law, which may be committed in form of maladjusted practice, penalties are punishable (Abood, Brushwood, 2000).

Because of the special nature of the products handled and their legal restrictions, all wholesale drug firms employ registered pharmacists in supervisory capacities. This may specialize in a broad range of products sold in a pharmacy, including prescription and nonprescription drugs as well as other items (Melvin, Gibson, 1975).

The pharmacy wholesalers must be located in the main cities and towns and managed by licensed pharmacists. The drug store must be separate from the establishment other departments (El- Susi, 2003).

5.3.5 Formal Prices

Pharmaceutical formal prices were disregarded by a considerable number of pharmacies (44.3%). most of pharmacies disregarded the formal prices for many reasons; the most distinct is the absence of the government control (26.8%). It is the role of government and PPS to regulate pharmacy practice.

If the professional is to place the patient's interest above the professional's immediate pecuniary gain, the professional must enjoy an income sufficiently high so that the gain from exploiting, and individual patient becomes an insignificant part of the professional's total income. The average income of the professional usually is higher than that of the non-professional (Smith, 1975).

Lack of implementing pharmacy law is the major leading cause for disregarding formal prices.

5.3.6 Prescription Sign

Public pharmacies not giving attention to prescription sign after dispensing. Only 17.5% of pharmacies were committed with signing the dispensed prescription. Although, the prescription drugs area is the only described in the local pharmaceutical law, it was ignored by most of pharmacists.

The manner of handling the prescription by a pharmacist can enhance his image in the eyes of the patient and even the physician. The proper procedure is receiving, reading, checking, pricing, rechecking, numbering, preparing,

rechecking, delivering, recording, and filing. Pharmacists often place a code on the prescription order (Daniel A. Hassar, 1975).

The prescription dispensed shall be stamped with the pharmacy stamp, given a serial number and entered in detail in the prescription register (Sisalem, Muhanna, Eldahdoh, 1996).

5.3.7 Nonprescription Drugs Dispensing

The local pharmacy law restricted the pharmacist responsibilities within the prescription drugs area only, most of the pharmacies (91.8%) violating law as they were dispensing drugs without formal prescriptions. Furthermore, up to this moment, there is no description for the pharmacist as a partner of the health care professions, and no local formal OTC drugs list.

In traditional pharmacy practice, both the legal and ethical obligations of pharmacists centered on ensuring that the proper medication as ordered by the prescriber was delivered to the patient. Physicians, not the pharmacists, were the health care professionals who held ultimate responsibility for monitoring the progress of a patient and ensuring that the desired outcome was achieved. The concept of "pharmaceutical care" however, directs this responsibility to a shared obligation between the prescriber and the pharmacist. Pharmaceutical care forces pharmacy practitioners to change their focus, and broaden their professional responsibility (Montagne, 1996).

While nonprescription drugs usually considered relatively safe, a variety of problems reported with their use, it should recognized that such drugs classification varies from country to another. In those countries where most of drugs are available without prescription, the responsibility is more important. Only since 1960s, in many countries has a concentrated effort been made to educate the pharmacist to provide accurate and useful advice to the patient seeking symptomatic relief with self-medication. A number of pharmacists may have to be educated or reeducated in how to counsel the patient who decides upon self-treatment, the education process is to acquire knowledge of OTC drugs and drug products plus knowledge of the physical conditions for which the people tend to treat themselves (Melvin, Gibson, 1975).

A patient may misuse medication in many ways i.e. Over dosage, under dosage, taking a dose at a different time, taking a dose in a form other than that specified, using the wrong route of administration, taking outdated medication, taking someone else's medication, taking contraindicated medications, or failing to get the prescription filled (Rockville, 1991).

5.3.8 Non-Pharmaceutical Activities

Public pharmacies established to provide the pharmaceutical service according to the described parameters. Many pharmacies (54.6%) were providing non-pharmaceutical activities.

Pharmacists in these sites provide several important functions, first, community pharmacists provide distribution of prescribed drug products, second, community pharmacists are caretakers of the nation's drug supply, monitoring for diversion and improper prescribing, and accounting for the appropriate control of drugs with potential for abuse or misuse. Third, they compound prescriptions to meet the specific needs of individual patients (Kosserow, 1990).

It is illegal to engage in a public pharmacy the practice of medicine or treat, or prescribe treatment for persons (Sisalem, Muhanna, Eldahdoh, 1996).

5.4 Governmental Regulation

5.4.1 Laws of pharmacy

The legal guide of pharmacy practice is not only outdated but also vague in some occasions. As the community pharmacists were not regarding one law, which indicates the failure of the concerned authorities (MOH, PPS, and universities) in assuring that every graduated pharmacist must have enough knowledge about pharmacy law before conducting as a community pharmacist. Even those regarding Palestinian law (63.9%) did not implement it completely as it was discussed in the previous monograph. Furthermore, some pharmacist (23.7%) have no regard to any law i.e. no legal standards were considered. That means there is a legal crisis enrolling the pharmacy practice.

There are some basic principles for legal controls of the pharmaceutical service provision (more or less) to be considered, the education and experience qualification which pharmacist must meet at the time of examination or registration, and the agency charged with the enforcement and administration of the law (Abood RP, Brushwood DB, 2000).

Ministry of Health (MOH) - Directorate of Pharmacy is the authority involved in regulating the activities of the public pharmacies in the Palestinian territories (MOH, 2004).

The practice of pharmacy and dispensing of drugs whether in private or public institutions is conducted under the government control (Sisalem, Muhanna, Eldahdoh, 1996).

The presidential decree that issued at 20 /5/1994 in Tunisia to regard the laws that had been implemented before 5/6/1967 in both the West Bank and Gaza Strip until adopting a unified Palestinian law (El-Susi, 2003).

Pharmacy practice in GS is regulated according to the pharmacists' ordinance No. 41 of 1921, and amended by law No. 59/1947, 5/1963, and 9/1963 under the short title "Pharmacists Ordinance" which consists of 11 parts, which are outdated and deal only with the private sector regulation. Since 1994, as the Palestinian MOH established, many ministerial decrees issued to meet the modern legal needs for pharmacy practice regulation (MOH, 2002).

5.4.2 Operating Time-Schedule

Working time schedules followed in most of public pharmacies (74.2%), it was mostly self-designed timing by the pharmacists themselves (66.0%). Actually, there is no formal working time schedules for public pharmacies; every pharmacy has its own timing program. Government has no effective control on the community pharmacies working hours. Night duty of the public pharmacies also was not organized, as 51.5% of pharmacies were operating night duty and 48.5% of pharmacies operating the night duty by self-designed timing programs.

Every public pharmacy must have a signboard stating the hours during which the pharmacy is open for dispensing (Sisalem, Muhanna, Eldahdoh, 1996).

5..4.3 Pharmaceutical Inspection

Pharmaceutical inspection department is achieving the inspection procedure by eight pharmacist inspectors, mostly covering all the public pharmacies. Many pharmacies were been inspected more than four times per year, which indicates that the public pharmacies were subjected to continuous follow up by the pharmacist inspectors. As 52.6% of pharmacies subjected to inspection less than four times, and 39.2% more than four times in the last year 2003.

Public pharmacies` practice followed up by the Department of Pharmaceutical Inspection-General Administration of Pharmacy, MOH. Pharmaceutical

inspection conduct is concerned with checking the pharmacies compliance to the law (MOH, 2004).

5.4.4 Inspection Visits Nature

The criteria of inspection include, license validity, files and registers, stock keeping conditions, laboratory facilities, controlled drugs, and informal drugs. All public pharmacies were been inspected for all the inspection criteria. The pharmacist inspectors achieving their inspection rounds for pharmacies without announcement (sudden visits) as 100.0% of pharmacies were been visited for inspection suddenly. While the inspection period takes about (more or less) 30 minutes by more than one inspector, which is sufficient to a complete inspection.

Pharmaceutical Inspection follow the public pharmacies` practice through checking, license (both the pharmacy and owner pharmacist),working staff of the pharmacy, pharmacy performance, the pharmacy fixtures and equipment, registers and records, stock management, and controlled drugs management. Violations of law are described, and reported to the licensure committee for making the suitable actions. The actions made by the committee against violates are in form of recommendations which need ministerial decision, which implemented through the court and the power of police departments (MOH, 2004).

5.4.5 Inspecting Authority

Some of public pharmacies (21.6%) were inspected by official departments other than MOH, especially by other ministries (16.5%).

The discretion vested in pharmacy board, i.e. the board is administrative, not legislative agency (Sidney, Willing, 1975).

Ministry of Health (MOH) is the authority involved in regulating, and monitoring the activities of the public pharmacies in Palestinian territories, the directorate of pharmacy implementing the legal standards when a new public pharmacy established through the licensure department, while the monitoring procedure is carried on by the pharmaceutical department. In Palestinian territories, MOH is the agency charged with the enforcement and administration of the law (MOH, 2004).

5.4.6 Pharmacy Inspection Department

There is less attention given to the pharmacy inspection, as eight pharmacist inspectors are covering all the public pharmacies in Gaza Strip with minimal preparation and minimal facilities provided, as 33.3% of Inspectors having the manual of law and its amendments, 40.0% were having defined inspection standard, 33.3% were employed through specific examination, 33.3% did have all facilities to achieve inspection duties, 66.7% faced obstacles while inspecting pharmacies, 33.3 % attended training courses

CONCLUSIONS

Public pharmacies service was enrolled by inconvenient surroundings like, the declining economical status, vague of legal reference, neglecting the continuous education and the role of the community pharmacists.

Public pharmacies practice regulating (registration and controlling) procedures are achieved by the ministry of health. Monitoring the public pharmacies service was achieved by the Pharmacy Inspection Department with insufficient facilities, training, and motivation. Some pharmacies, (21.6%) were inspected by other ministries like Ministry of Supplies, with not previously arranged with MOH, or PPS.

There was no official working time schedule for public pharmacies and most of pharmacies` (66.0%) working time was individually managed, there was no official night duty schedule and (48.5%) pharmacies night duty schedule were individually managed.

Lack of community pharmacists continuous education programs, where only (6.2%) of pharmacists attended scientific lectures.

Most of the public pharmacies (91.8%) were dispensing drugs without official prescriptions. Many public pharmacies (52.6%) were operating without adequate fixtures, equipment, and other facilities to manage well performance and relevant stock keeping conditions. Formal prices were completely disregarded by many pharmacies (44.3%). The manner of dealing with offers,

discounts and free samples by the local wholesalers contributed in changing the orientation of some pharmacists towards the commercial concern over the professional concern. Prescribing unavailable pharmaceuticals by some physicians, and the need of some cases to those pharmaceuticals pushed some pharmacies (37.1%) to deal with the informal drugs and to the appearance of the informal drug market.

Pharmacy graduates were facing an accumulated lack of employment opportunities forcing them to accept any employment or to establish public pharmacies (28.9%) which will lead to more competition and lower quality pharmaceutical service.

Community female pharmacists' (13.4%) percentage was not satisfying in comparison with their proportion in education and population sex ratios with the male pharmacists.

RECOMMENDATIONS

1. Adopting an updated Palestinian pharmacy law will regulate the pharmacy practice, especially the public pharmacies.
2. Giving more roles to the Palestinian Pharmacists Syndicate in legislation and monitoring the public pharmacies will improve the pharmacy practice and will prevent the interference of other ministries and agencies.
3. Giving more attention to pharmacists inspectors will increase the effect of inspection.
4. Organizing the working time of public pharmacies by MOH and PPS will regulate their service.
5. Giving attention to the continuous education of community pharmacists will increase their knowledge and improves the quality of service.
6. The effective intervention must be applied to regulate the drug prices, and the systematic supply chain (manufacturer-wholesaler-pharmacy-client).
7. As the self-medication, increased, National standards must be designed to define the nonprescription drugs and to adopt an OTC drug list.
8. The reasons for dealing with informal drugs, and the controlling mechanisms must be objectively analyzed considering the availability of the community need of pharmaceuticals.
9. Organizing the employment of pharmacists in the private sector, to avoid working within unprofessional conditions.

10. Study about the pharmaceutical service consumer's satisfaction.
11. Evaluation of the effect of the pharmaceutical suppliers on the quality of public pharmacies service.
12. Studying the pharmacists' employment opportunities.
13. Study about the female pharmacists' perception about working in the public pharmacies.
14. Studying the pharmaceutical supply mechanisms of the private sector.

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