

## SMP Family Medicine and Primary Care

**Expectations of Sample of Physicians Working in Erbil City about the Role of Family Medicine Practice**

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**Abstract**

**Background:** Family medicine plays a vital role in providing comprehensive and continuous primary health care, yet its scope and acceptance remain evolving in Erbil city, Iraq.

**Objective:** To assess physicians' expectations regarding the role of family medicine practice in Erbil city.

**Methods:** A cross-sectional study was conducted among 256 physicians working in hospitals, primary health care centers, and specialized medical facilities. Data were collected using a structured questionnaire covering key aspects of family medicine practice.

**Results:** Overall agreement toward the role of family medicine was high (75.7%). Strong support was observed for continuity of care, prevention, referral systems, and family medicine training, while lower agreement was noted for mental health care, procedural skills, and obstetric services.

**Conclusion:** Physicians generally hold positive expectations toward family medicine practice, though targeted training and system strengthening are needed to address gaps in specific clinical roles.

**Keywords:** Family medicine; Primary health care; Physicians' expectations; Family physician role; Erbil city; Iraq

## Introduction

The trend toward family medicine specialization started around World War II with the advent of new medical technologies. There were no residencies in general practice at that time. The American Academy of General Practice (AAGP) was established in 1947 to give voice to the decreasing number of generalists. A series of events after that paved the way for family medicine to become an accredited, board-certified, professional specialty [1].

Family medicine means to be a professional, a physician, and a generalist [2]. The specialty of family medicine is increasingly embraced by governments and health care advocates as one potential solution to health care systems that have failed to provide relevant, quality and cost-effective care to the entire population. Family Medicine programs that emphasize unique care directed to the person in the context of family and community promise to deliver the type of care that people want and need [3].

Goals of World Health Organization (WHO) and World Organization of National Colleges Academies (WONCA) and Academic Associations of General Practitioners/Family Physicians include increasing the numbers of family physicians worldwide with the bigger goal of the attainment of health for all people worldwide [3].

Countries with a large percentage of family doctors in their physician workforce, approaching 40-50% of all physicians are able to expand the delivery of quality, primary care services to their entire population [3].

Family physicians are the generalist physicians trained to care for patients of all ages. Because of their ability to provide comprehensive care to all patients, cost effectiveness, and integration of preventive and curative care, they are well suited to address comprehensive primary health care needs for people in developed and developing nations [4].

Family physicians acquire and maintain a broad array of competencies that depend on the needs of the patients and communities they serve. The scope of their practice is not defined by diagnoses or procedures but by human needs. Their knowledge, skills, and attitudes target community practice, current science, and continuous quality improvement [2].

In U.S.A., Family medicine and family physicians play a very

important role in the healthcare system, nearly one in four of all office visits are made to family physicians. Family physicians provide more care for America's underserved and rural populations than any other medical specialty [5].

The nature of family practice varies from country to country, and in some areas, such as the United States and Canada, family physicians have an active role in hospital care. In other settings, such as in the United Kingdom and Latin America, family practice is chiefly office-based, often supplemented by home care. The international group uniting family practice is the World Organization of National Colleges, Academies and Academic Associations of General Practitioners/Family Physicians (WONCA) [6].

In Iraq, Primary care is provided primarily by general practitioners (GPs), mostly do not have qualifications higher than primary medical school. Family medicine is established in 1995 as Iraqi board. The first group of family doctors, graduated after 1999, most of them are now working in PHCCs [7].

In Kurdistan Region in Iraq, including Erbil city, the health services are provided through a network of primary health care (PHC) centers and hospitals where services are provided at very low charges to all people with equal chance for access. This has led to overuse of health services and overcrowding of health facilities with their adverse effects [8]. Three family medicine centers were established in Erbil city since 2008 [9].

The aim of this study was to explore the expectations of sample of physicians working in Erbil city about the role of family medicine practice.

### Further objectives:

1. To determine the agreement rate toward the different aspects of roles of family physician.
2. To detect the differences in the agreement rate between specialists and practitioners.
3. To explore the differences in the response of the physicians towards the role of family medicine practice in relation to different variables.

### Review of Literature

Family medicine is the medical specialty that provides continuing, and comprehensive health care for the individual and

the family. It is a specialty in breadth that integrates the biological, clinical, and behavioral sciences. The scope of family medicine encompasses all ages, both sexes, review each organ system, and every disease entity [10].

### **Scope and Philosophical Statement of Family Medicine**

Family medicine is the natural evolution of historical medical practice. The first physicians were generalists. For thousands of years, generalists provided all of the medical care available. They diagnosed and treated illnesses, performed surgery, and delivered babies [11].

As medical knowledge expanded and technology advanced, many physicians chose to limit their practices to specific and defined areas of medicine. With World War II, the age of specialization began to flourish. In the two decades following the war, the number of specialists and subspecialists increased at a phenomenal rate, while the number of generalists declined dramatically [11].

The public became increasingly vocal about the fragmentation of their care and the shortage of personal physicians who could provide initial, continuing, and comprehensive care. Thus began the reorientation of medicine back to personal, primary care. The concept of the generalist was reborn with the establishment of family medicine as medicine's twentieth specialty [11].

Family medicine is a three-dimensional specialty, incorporating knowledge, skill, and process. Although knowledge and skill may be shared with other specialties, the family medicine process is unique. At the center of this process is the patient-physician relationship with the patient viewed in the context of the family. It is the extent to which this relationship is valued, developed, nurtured, and maintained that distinguishes family medicine from all other specialties [11].

As the physician of first contact in most situations, the family physician is in a unique position to form a bond with the patient. The family physician's care is both personal and comprehensive, based on knowledge of the patient in the context of the family and the community, and emphasizing disease prevention and health promotion. When referral is indicated, the family physician refers the patient to other specialists or caregivers but remains the coordinator of the patient's health care. This prevents fragmentation of that care in both the out-

patient and inpatient settings [11].

Although all family physicians share a core of information, the dimensions of knowledge and skill vary with the individual family physician. Patient needs differ in various geographic areas, and family physicians' practices vary accordingly. Furthermore, the scope of an individual family physician's practice changes over time, evolving as competency in current skills is maintained and new knowledge and skill are obtained through continuing medical education [11].

This growth in medical information also confers on the family physician a responsibility for the assessment of new medical technology and for participation in resolving ethical dilemmas brought about by these technological advances [11].

Today's family physician is rooted in the historical generalist tradition. Above all, the scope of family medicine is dynamic, expanding, and evolutionary [11].

### **The Characteristics of the Discipline of General Practice / Family Medicine**

It is normally the point of first medical contact within the health care system, providing open and unlimited access to its users, dealing with all health problems regardless of the age, sex, or any other characteristic of the person concerned [12].

It makes efficient use of health care resources through coordinating care, working with other professionals in the primary care setting, and by managing the interface with other specialties taking an advocacy role for the patient when needed [12].

This coordinating role is a key feature of the cost effectiveness of good quality primary care ensuring that patients see the most appropriate health care professional for their particular problem. The synthesis of the different care providers, the appropriate distribution of information, and the arrangements for ordering treatments rely on the existence of a coordinating unit. The discipline recognizes the responsibility to monitor and systematically assess the quality and safety, in a range of aspects of the care delivered by GPs and practices, followed by action aimed also at improving quality [12].

It develops a person-centered approach, orientated to the individual, his/her family, and their community.

Family medicine deals with people and their problems in the

context of their life circumstances, not with impersonal pathology or “cases”. The starting point of the process is the patient. It is as important to understand how the patient copes with and views their illness as dealing with the disease process itself. The common denominator is the person with their beliefs, fears, expectations and needs [12].

It promotes patient empowerment, family medicine is in a strategic position to promote the goals of patient empowerment and self management.

Longitudinal care, a multidisciplinary approach, a strong relationship based on a unique consultation process and on trust, a person-centered approach, are the starting points for a continuous educational process aimed to empower the patient [12].

It has a unique consultation process, which establishes a relationship over time, through effective communication between doctor and patient.

Each contact between patient and their family doctor contributes to an evolving story, and each individual consultation can draw on this prior shared experience. The value of this personal relationship is determined by the communication skills of the family doctor and is in itself therapeutic [12].

It is responsible for the provision of longitudinal continuity of care as determined by the needs of the patient.

The approach of general practice must be constant from birth (and sometimes before) until death (and sometimes afterwards). It ensures the continuity of care by following patients through the whole of their life. The medical file is the explicit proof of this constancy. It is the objective memory of the consultations, but only part of the common doctor-patient history [12].

Family doctors will provide care over substantial periods of their patients' lives, through many episodes of illness. They are also responsible for ensuring that healthcare is provided throughout the 24 hours, commissioning and coordinating such care when they are unable to provide it personally [12].

It has a specific decision making process determined by the prevalence and incidence of illness in the community.

Problems are presented to family doctors in the community

in a very different way from the presentations in secondary care. The prevalence and incidence of illnesses is different from that which appears in a hospital setting and serious disease presents less frequently in general practice than in hospital because there is no prior selection. This requires a specific probability based decision-making process which is informed by a knowledge of patients and the community [12].

The predictive value, positive or negative of a clinical sign or of a diagnostic test has a different weight in family medicine compared to the hospital setting. Frequently family doctors have to reassure those with anxieties about illness having first determined that such illness is not present [12].

It manages simultaneously both acute and chronic health problems of individual patients.

Family medicine must deal with all of the health care problems of the individual patient. It cannot limit itself to the management of the presenting illness alone, and often the doctor will have to manage multiple problems. The patient often consults for several complaints, the number increasing with age. The simultaneous response to several demands renders necessary a hierarchical management of the problems which takes account of both the patient's and the doctor's priorities [12].

It manages illness which presents in an undifferentiated way at an early stage in its development, which may require urgent intervention.

The patient often comes at the onset of symptoms, and it is difficult to make a diagnosis at this early stage. This manner of presentation means that important decisions for patients have to be taken on the basis of limited information and the predictive value of clinical examination and tests is less certain. Even if the signs of a particular disease are generally well known, this does not apply for the early signs, which are often non-specific and common to a lot of diseases. Risk management under these circumstances is a key feature of the discipline [12].

Having excluded an immediately serious outcome, the decision may well be to await further developments and review later. The result of a single consultation often stays on the level of one or several symptoms, sometimes an idea of a disease, rarely a full diagnosis [12].

It promotes health and well being both by appropriate and effective intervention.

Interventions must be appropriate, effective and based on sound evidence whenever possible. Intervention when none is required may cause harm, and wastes valuable health care resources [12].

It has a specific responsibility for the health of the community.

The discipline recognizes that it has a responsibility both to the individual patient and to the wider community in dealing with health care issues. On occasions this will produce a tension and can lead to conflicts of interest, which must be appropriately managed [12].

It deals with health problems in their physical, psychological, social, cultural and existential dimensions

The discipline has to recognize all these dimensions simultaneously, and to give appropriate weight to each. Illness behavior and patterns of disease are varied by many of these issues and much unhappiness is caused by interventions which do not address the root cause of the problem for the patient [12].

### **The Core Competencies of the General Practitioner / Family Doctor**

Core means essential to the discipline, irrespective of the health care system in which they are applied, they can be clustered into six core competencies:

1. Primary care management
2. Person-centered care
3. Specific problem solving skills
4. Comprehensive approach
5. Community orientation
6. Holistic modeling

Three additional features should be considered as essential in the application of the core competences:

**Contextual:** Understanding the context of doctors themselves and the environment in which they work, including their working conditions, community, culture, financial and regulatory frameworks.

**Attitudinal:** Based on the doctor's professional capabilities, values and ethics.

**Scientific:** Adopting a critical and research based approach to practice and maintaining this through continuing learning and quality improvement [13].

### **Practice Options and Settings Where Family Practitioners Work**

The clinical settings in which Family physicians work are as varied as the scope of their practice. Most often, Family physicians work as solo, especially if they can establish themselves in underserved rural areas or group practitioners who find advantage in working with colleagues, with both office and hospital care of their patients [14, 15].

They also work in emergency departments, often provide the majority of emergency care in rural areas that do not have a designated emergency care doctor and in hospitals as "hospitalists", their primary focus is general medical care of hospitalized patients, and they may serve as the referring or receiving physician in that setting [14, 15].

Family physicians work in nursing homes and in the family home including house calls, home visits, home care services and family practice. They also manage and co-ordinate palliation and rehabilitation services [16, 12].

They work in sports fields because of their ability to treat orthopedic as well as general medical problems, and in occupational health sites and industry [15].

Family physicians who develop a special interest in certain fields also work in substance abuse programs, assist surgical procedures in operation rooms, do outpatient or office procedures such as colonoscopies, endoscopies, IUD placement, skin biopsies, suturing lacerations, vasectomies and more, and also work in labor and delivery suites. The provision of maternity care may be essential encompassing pre-and post-natal care. Some physicians choose career paths in administration, public health or teaching [14, 15].

## Family Practice in the United States

Before World War II, American health care was provided primarily by general practitioner; After this war, the rapid growth of medical specialties was accompanied by the decline of general practice, resulting in fragmented health care. By the 1960s, the dominance of medical specialization so highlighted the loss of the generalist function in medicine that society called for the return and prominence of the generalist in medicine [17].

Concurrently, the Millis Report, the Folsom Report, and the Willard Report were published independently by the American Medical Association in response to the increasing public disapproval of the fragmented delivery of care, the inaccessibility to service, and the “depersonalization” of care. These reports suggested the need for each citizen to possess a personal physician who is sensitive to life context, the impact of illness and the importance of therapeutic options. It is the opinion of some that family medicine was a natural reaction to the counterculture of the 1960s [18].

Much of the impetus for the Millis and Willard reports came from American Academy of General Practice (1947), which was renamed American Academy of Family Physicians (AAFP) in 1971. The name change reflected a desire to increase emphasis on family-oriented health care and to gain academic acceptance for the new specialty of family practice [19].

In 1969, the American Board of Family Practice (ABFP) became the 20<sup>th</sup> medical specialty board, the name of the specialty board was changed in 2004 to the American Board of Family Medicine (ABFM). (18) Physicians who specialize in family medicine must successfully complete an accredited three-year family medicine residency in addition to their medical degree [20].

The ABFM has distinguished itself by being the 1<sup>st</sup> specialty board to require recertification, now called maintenance of certification, every 7 to 10 years, to ensure the competence of its members [17].

Family physicians in the United States may also hold either an M.D or a diploma degree [20].

Family physicians deliver a range of acute, chronic and preventive medical care services. In addition to diagnosing and treating illness, they also provide preventive care, including

routine checkups, health-risk assessments, immunization and screening tests, and personalized counseling on maintaining a healthy lifestyle. Family physicians also manage chronic illness, often coordinating care provided by other subspecialists. Many American family physicians deliver babies and provide prenatal care [5].

Most family physicians in the U.S practice in small-group private practices or as hospital employees in practices of similar sizes owned by hospitals. However, the specialty is broad and allows for a variety of career options including education, emergency medicine or urgent care, inpatient medicine, international or wilderness medicine, public health, sports medicine, and research. Others choose to practice as consultants to various medical institutions, including insurance companies [15].

Today, there are 471 U.S family practice residency training programs in community hospitals and academic medical centers. In early years a few medical schools created departments of family medicine, often prompted by legislative mandate or the prospect of federal grants; today almost all U.S medical schools have departments of family medicine or other academic family medicine units [6].

## Family Practice Development around the World

In Canada, since 1954, the College of Family Physicians of Canada was founded. Doctors certified in family medicine are certified through this college after two years of additional education. Continuing education is also a requirement for continued certification [6, 20].

Family practice residency programs exist in a number of Latin American countries, and an International Center for Family medicine is located in Buenos Aires, Argentina [6].

In Cuba, the family physician is the chief provider in a comprehensive health plan for Cuban citizens, they provide rehabilitative services, preventive health care services, vaccination, and encourage healthy life style. Approximately there are 1000 patients to 6 doctors. They work both in health centers and offices. Every family doctor is assisted by a nurse, and on other side, specialist physicians visit the offices of family doctors on a regular basis where they meet the demand of consultation requests and provide continual training for them. Besides attending their patients in their offices, they often make home visits and follow-up pregnant women and children.

Each health area hosts a polyclinic in which family physicians work amongst local people. Although patients have the right to consult a hospital, most patients consult family doctors. In Cuba, to start clinic specialty training, physicians must have received 2 years of family medicine training, after graduating from the faculty of medicine [21].

Family practice has played a role in the health care in Mexico since the 1970s [6].

In countries outside American continents, family and general practice has evolved in various ways, in England (the Royal College of General Practitioner was founded in 1952), the General Practitioner is the provider of National Health Service (Ministry of Health) and the first point of consultation for a patient. The average person consult their family doctors 5 times per year. 12% of consultations are home visits, others being office visits and phone calls. General practitioners work either individually or in groups. Everyone has the right to choose his/her family physician. In the same manner, a general practitioner is free to accept or refuse to register an applicant. Regarding registration with a general practitioner, the patients of a general practitioner are not only those determined by the health authority; foreigners with a temporary residence permit can also register with them. They are provided with certain services free of charge such as family planning, mother and child health services, minor out-patient services, and trauma and emergency services [6, 21].

In the Netherlands, a patient must consult a general practitioner before seeing a specialist except specific situations like that of emergency. Therefore, general practitioner stands in the entrance of the health care system and manages the referral system and the access to other service providers times a year. The patients are free to choose any family doctor who will provide the services listed in the health insurance plan. The conception of basic health care includes outpatient treatments, mental health and home care services, which are performed at different facilities. Besides general medical services, those facilities also provide curative services, maternity nursing, care nursing and pharmaceutical treatments [21].

In Denmark, every family doctor is responsible for the continuing health care and follow-up of an average of 1600 patients, there are currently 3300 family doctors. Persons are free in choosing or changing their family doctors without restriction. They can directly consult any family doctor or spe-

cialist. Services such as follow-up of mothers and children, routine examinations, vaccination of children and prescription filling when needed are performed in both office and home visits. A family doctor is also responsible for providing emergency health care services out of the office hours. To maintain this, there is an out-of-hours duty system in which family doctors in the same area equally shares that responsibility [21].

In Spain, the family physician shall constitute the fundamental figure of the health system [6].

Postgraduate training programs for family physicians are well established in the Ireland, Scandinavia, and Portugal. Training is less developed in the Southern European countries. Many Eastern European countries are now developing pilot programs. In the Ukraine, by government decree, pediatricians and internists are being able to be retrained as family doctors to serve as the chief physicians in their new health care system. There is a European Academy of Teachers of General Practice and a European Center for Research and Development in Primary Health Care [4, 6].

Family medicine training is established in South Africa, Nigeria and at the Suez Canal University in Egypt. Other African countries have no training or training programs in early stages [4].

In 14 Asian Pacific countries there is a core curriculum in family practice. Family practice is well established in South Korea, Malaysia, Singapore, Hong Kong, Taiwan, and the Philippines, as well as in Australia and New Zealand, Japan, Russia, India and China now have family practice training programs [6]. In 2001, the government of Vietnam declared a commitment to deploy trained family physicians in 10,000 health centers serving the country's population of 67 million of people. [6] In Japan, family medicine is established in 1981, approximately half of Japan's 80 medical schools now have Family medicine departments. The duration of postgraduate training ranges from 4 to 6 years. Japanese family physicians work in a clinic or small community hospital in their community. The majority of them are in solo practice. Family physicians usually treat common diseases, they see adults, geriatric patients, and children but not patients with obstetrical or gynecological problems, they practice emergency medicine especially in rural areas. They also treat psychiatric problems, such as depression, panic disorder, and somatization. In addi-

tion, they provide home care or nursing home care. They do annual physical examinations and vaccinations, and sometimes give lectures on health promotion to persons in the community, topics might include smoking cessation, weight reduction, exercise, and stress reduction. They often use diagnostic tests, such as abdominal ultrasound and esophagogastro-duodenoscopy. Family physicians sometimes work with public health departments, which are involved in prevention and health promotion. Many family physicians in Japan are school physicians or occupational physicians who treat students or employees. Furthermore, they coordinate care through consultations and referrals to and from specialists or other medical coworkers. Finally, the fees for specific services are the same for all physicians in Japan, regardless of specialty [22].

In the Middle East, Family medicine departments are already involved in the undergraduate education in Turkey, the specialty training is hospital based with 3 years residency, there are 1300 trained family physicians [23].

### **Overview of Family Medicine Practice and Training in Arab Countries**

Family medicine in Lebanon is also a hospital based, where the American University of Beirut initiated the first family medicine training program in the Arab world in 1979 (followed within months by Bahrain in the Arabian Gulf), the Family Medicine Practice Center is adjacent to the American University of Beirut Medical Center, where family medicine residents provide in-hospital care for their patients. Fourth-year medical students at the American University rotate for a 1-month clerkship in the Department of Family Medicine [23].

In Bahrain, the American University of Beirut and its family medicine program participated actively in the design, establishment, and maintenance of the Bahraini family practice residency in 1979. In 1996, the program was modified to 4 years training and started a new affiliation with the Irish College of General Practitioners and The Royal College of Surgeons in Ireland. It is now a community-based program in which training occurs mainly in the hospital in the first 3 years then at the final fourth year is devoted exclusively to ambulatory primary care medicine; most of it is practiced in the health centers under the supervision of the family medicine residency program [23].

Postgraduate training programs are functioning in Saudi Arabia, Kuwait, Oman, United Arab of Emirate and in Jordan. An Arab Board of Family Practice set standards for training programs throughout the Arab world [4, 6].

### **Primary Care and Family Medicine Practice in Iraq**

Primary care is provided primarily by general practitioners (GPs), mostly do not have qualifications higher than primary medical colleges. Some of the GPs working in primary health care are those who are not motivated, and are interested but not given the chance to upgrade their knowledge [7].

All primary health care centers in Iraq are providing maternal and child healthcare, school healthcare, adult healthcare, preventive programs including immunization, prevention and control of infectious disease, management of common health problems, screening for specific disease and health problems, and some interventions, but innovation is absent and concern with records is more likely a routine [7].

Family medicine as a separate specialty had been started in 1995 when Iraqi Board specialization of family medicine had been initiated, this followed by Arabic Board specialization of family medicine being established at 2008. Till now there is no family medicine department in the structure of undergraduate medical colleges, although some of them had developed postgraduate study. Some related topics to the practice of family medicine had been involved in the curriculum and training of undergraduates in certain Iraqi colleges [7].

Most of family medicine specialists being graduated since 1999 are working now in PHCCs, some of them had been involved in administrative responsibilities. The scope of family medicine practice till now is out of reach in most primary care facilities in Iraq, including continuity, comprehensiveness, person centered, high quality and cost effective health care [7].

Certain aspects recommended in the structure of the health care system such as computerized filing system, referral system, which could not approach till now the minimum requirements of efficient and effective family medicine practice. Beside the payment system being restricted to salary only with the absence of any other additional incentives to encourage innovation and adherence of physicians and other health workers to the work place [7].

All these factors may interfere with the real role and outcome of family medicine practice in Iraq, which may lead to undermined appreciation of the validity of the application of this approach, among physicians of other specialties and the consumers. The plan of MOH in Iraq is to increase the number of family medicine centers all over the country. There is a real demand for re-evaluation for family medicine practice in Iraq including Kurdistan region and a specific effort to be directed toward modernization of the health system as the whole, otherwise malpractice will be continued for a long period [7].

### Family Medicine Practice in Erbil City

Primary care in Erbil city is provided in the same manner of that of all governorates in Iraq by general practitioners with same work qualification. Family medicine specialization was established in Erbil city as Diploma (2009) and in Kurdistan as Kurdistan board (2010), delivered on their promise to reverse the decline of general practice through emanating a generation of family physicians have well differentiated role & a defined set of skills to ensure high quality care for people with diverse problems in all areas of Kurdistan Region including Erbil city [9].

There are three family medicine centers in Erbil city, Brayati (established in 2008), Azadi and Nazdar Bamarni (established in 2011) [9].

## Subjects and Methods

This study had been conducted at 10 teaching and general hospitals, 19 PHCCs and 9 specialized medical center and two health institutes including ministry of health and directorate of health (DOH) of Erbil city.

Erbil city is the capital of Kurdistan Region of Iraq and the central district of Erbil Governorate which is located in the northern part of Iraq. Erbil Governorate, covers an area of 15,074 square kilometers (5,820.1 sq mi) and has a population of 1,673,450 while Erbil city has a population of 691,948 according to the Department of Statistics in Directorate of Health – Erbil 2011 [24, 25] Erbil city is served by 10 hospitals, five of them are teaching hospitals and the other five are general hospitals, 15 health & specialized medical centers and 27 PHCCs (Appendix I).

### Study Design and Duration

A cross sectional study was conducted from 7<sup>th</sup> of March to 24<sup>th</sup> of May 2012, covering the period of data collection being achieved for two days per week.

### Study Sample

A convenience sample of 321 physicians, working in the general sector in Erbil city including the general and teaching hospitals, PHC centers, specialized medical centers, Ministry of health (MOH) and Directorate of health (DOH) had been included in the study (Appendix I). Those physicians were available during the study period and were willing to participate had been selected. They were distributed according to their work place as shown in Table 1.

The study sample was categorized initially into three categories: general practitioners (GPs), specialists, and practitioners of specific branches, subsequently both specialist and practitioners of specific branch had been further categorized according to their specified discipline.

### Specialists were categorized into the following

- Medical specialties; including Internal medicine, Neurology, Cardiology, Rheumatology, Respiratory, Hematology, Oncology, Psychiatry and Dermatology.
- Surgical specialties; including General surgery, Plastic surgery, Orthopedics, Ophthalmology, ENT, Neurosurgery, Cardiothoracic surgery and Urology.
- Gynecology & Obstetrics.
- Pediatrics.
- Family Medicine
- Community Medicine.
- Other branches: Radiology, Laboratory, Histopathology, Anesthesia and Forensic medicine.
- Practitioners of specific branch were further categorized into:
  - Medical: Internal medicine & Cardiology, oncology, Rheumatology, Hematology and Dermatology.
  - Surgical: Orthopedics, Urology and Ophthalmology.

- Gynecology & Obstetrics.
- Pediatrics.
- Other branches: Radiology and Laboratory.

### Inclusion Criteria

Physicians who had been employed in the general sector for at least one year duration.

### The Questionnaire

A structured self-administered questionnaire was formulated by the researchers after an extensive review of literature.

The questionnaire included demographic information ; age and gender , specialty, qualification, place of work , total years of employment in Iraq; (1-10, >10-20, >20 years), total years of working ( $\leq 10$ , >10 years) at PHCCs ,hospitals and specialized medical centers, employer (affiliation) whether ministry of health or ministry of higher education, beside if they were studied , lived or worked outside Iraq for at least three months .(Appendix II)

Also it includes 33 Statements demonstrating issues related to different aspects of the role of family medicine practice including (Appendix II):

1. Concept of family medicine and continuity of care (S1,S2,S3,S4).
2. Administrative role (S5,S6,S7).
3. Prevention role (S8, S9, S10, S11,S12).
4. Curative Role, Diagnosis and Management (S13).
5. Mental Health care Role(S14).
6. Maternal health care Role (S15).
7. Child health care Role (S16,S17,S18).
8. Adolescent health care Role (S19).
9. Elderly health Care (S20).
10. Home visits (S21).
- 11.Palliation &Rehabilitation Role (S22,S23).

12. Interventions conducted by family physician (S24, S25& S26).

13.Filing System(S27).

14.Referral and Follow up role (S28 & S29).

15. Research , Statistics and Commitments to learning (S30, S31).

16. Recommendation (S32, S33).

Responses of the studied sample to these statements were reported as (Agree, Disagree & Equivocal) ,and percentages of an overall response (agreement, disagreement and equivocal ) of all the studied sample for all the statements and each statement was initially calculated . Response then was rated as positive, neutral, and negative for every participant using Likert scale (26) and accordingly a score of 0, 1, 2 was given for disagree , equivocal and agree responses respectively , the range of the total scores was within (0 to 66) , subsequently the responses were rated as following:

Negative response: 0-21 score.

Neutral response: 22-43 score.

Positive response: 44-66 score.

The association of rate of response with different variables of the studied sample had been studied.

The questionnaire also included an optional open ended question to reflect any suggestions toward the role of family medicine practice in Erbil city.

### Ethical Consideration

An official agreement document was obtained from the directorate of health in Erbil city (Appendix III). All participants had been informed about the aim of the study and those who were willing to participate in the study were recruited, a verbal consent was also taken from all of them.

### Method of Collecting Data

The questionnaires were written in English language and distributed by the researcher to all the participants after a thorough explanation of the content of all the statements, and then recollected either directly at the same day after two

hours or after two days.

### Statistical Analysis

The data were coded and analyzed using Microsoft Excel 2007, Minitab version 15 was also used for statistical analysis. Descriptive analysis, frequency and percentages were used to present the relevant data, X<sup>2</sup> test of association was used to study the association of rates of response with different vari-

ables of the studied sample. P value of ≤ 0.05 considered the level of significance of association in this study.

### Results

Out of total 321 participants enrolled in this study, only 256 (79.7%) had been responded being distributed according to their work place as shown in Table 1.

**Table 1:** Distribution of Participants & Respondents According To Work Place

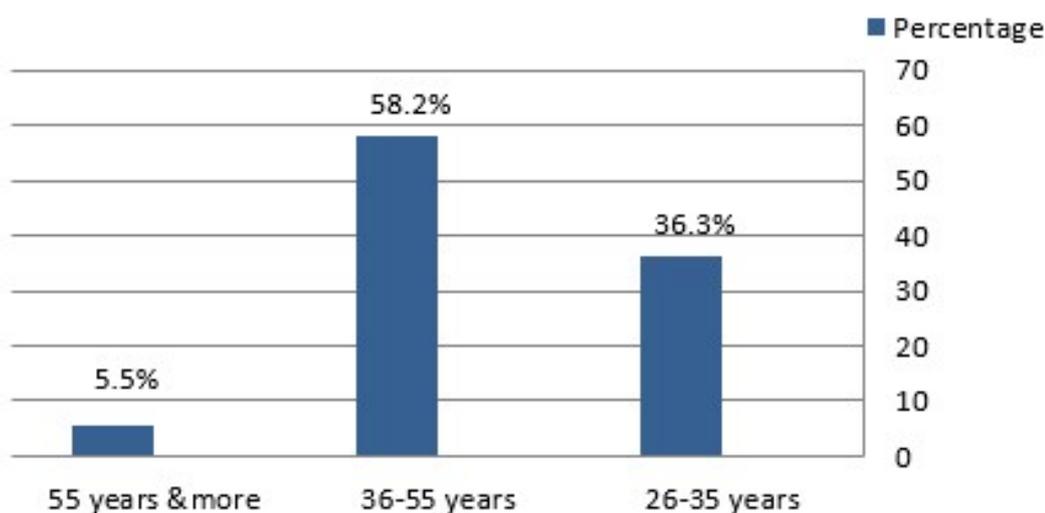
Health facility	Participants No	Respondents No	% of Respondents
Teaching hospitals	109	81	0.7431
General hospitals	54	42	0.7777
PHCCs	117	103	0.8803
Health & specialized medical centers	41	30	0.7317
Total	321	256	0.7975

### Study Population, Descriptive View

#### Demographic and Professional Characteristic

The Mean age ±SD of the whole study population found to be

40.49±8.74. The predominant age group was (36-55 years) represented 58.2% of physicians (n=149), while those of age group (≥55 years) were 14 (5.5%) only and those of age group (26-35) years were 93 (36.3% of the studied sample). Figure (1).



**Figure 1:** Distribution of Study Sample By Age Group

The male physicians in the studied sample were 143 while fe-

males were 113 accounting for 56% and 44% respectively. Figure (2).

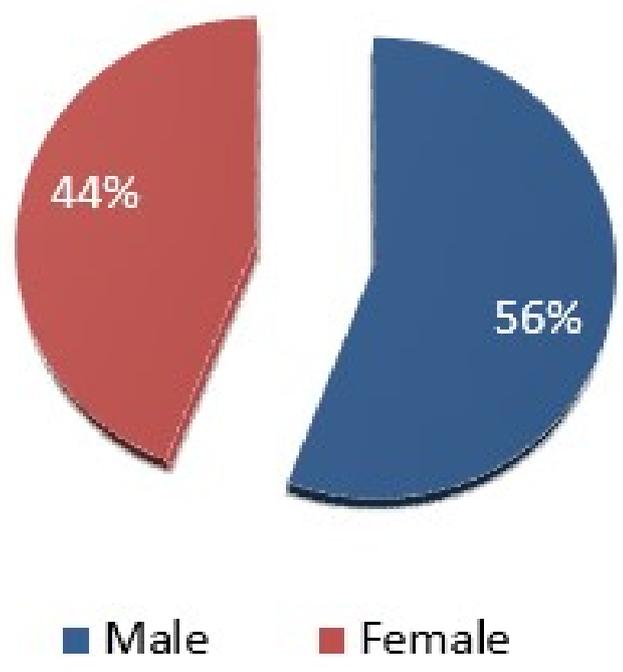


Figure 2: Distribution of Study Sample by Gender

Diploma and master were the most evident qualification of the respondent physicians. They were 104 (40.6%) followed

by 95 physicians with bachelor of medicine and general surgery (M.B.Ch.B) (37.1%). Physicians who had PhD and board were 57 constituting 22.3% only. Figure (3).

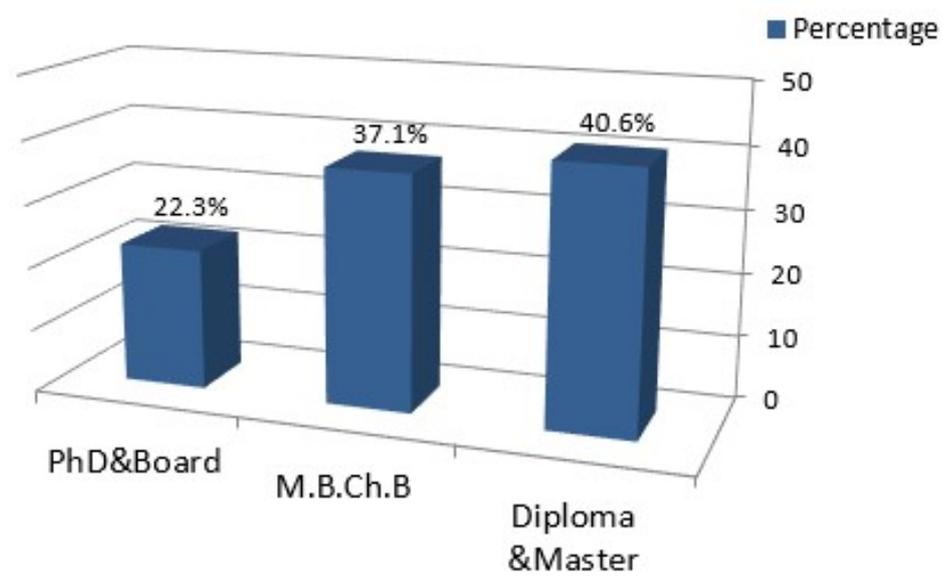


Figure 3: Distribution of Study Sample by Qualification (Degree)

**Place of Work**

Physicians worked in Hospitals were 123 accounted for

(48.1%) of the studied sample, while those working in PHCCs were 103, accounted for 40.2%. Physicians who worked in other health and specialized medical centers were 30 (11.7%).

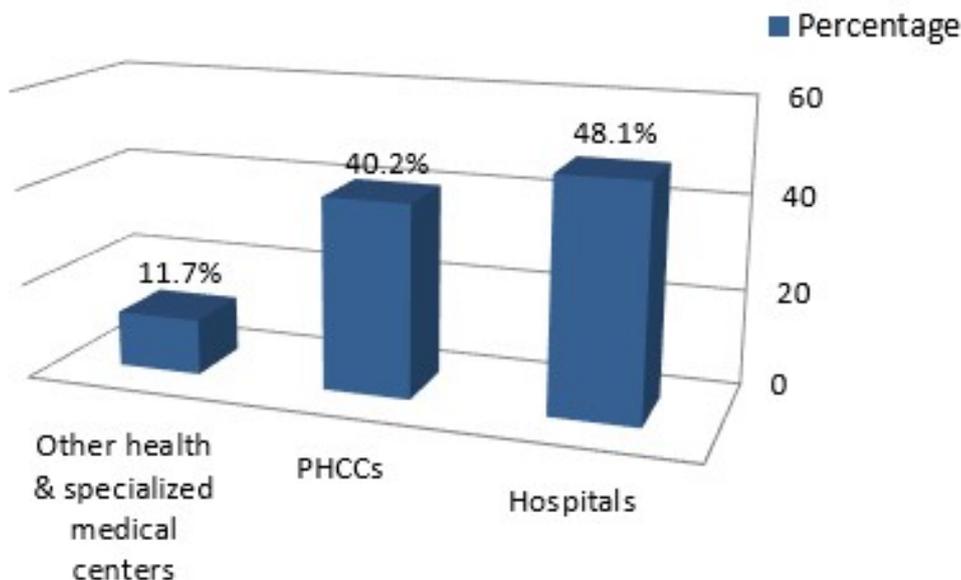


Figure 4: Distribution of Study Sample by Place of Work

**Specialists, Practitioners in Specific Branches and General Practitioners**

Specialists (161) were the predominant category among the re-

spondent participants constituting 62.9%. Practitioners in specific branches were 53 (20.7%), while general Practitioners (GPs) were 42 constituting 16.4% only. Figure 5

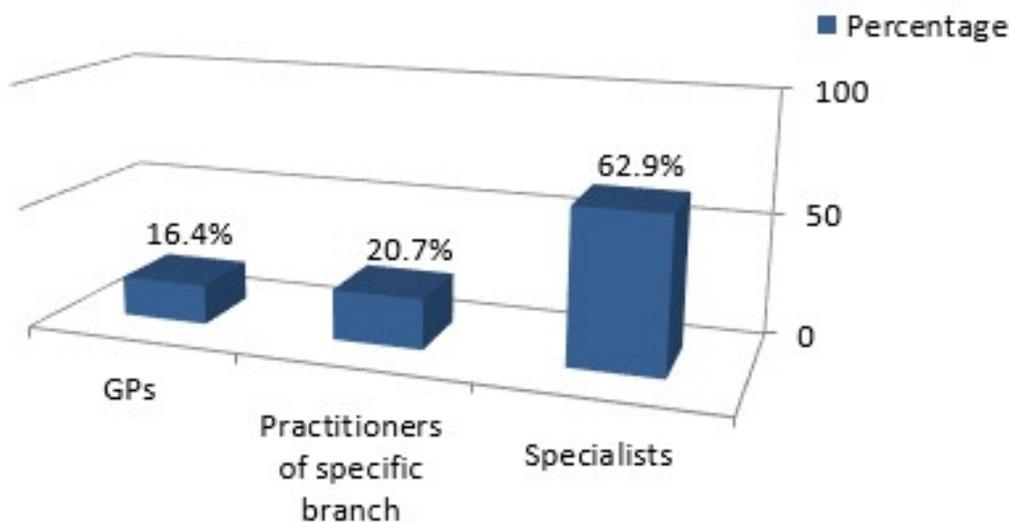


Figure 5: Distribution of Study Sample by Specialists, Practitioners of Specific Branches and General Practitioners

Among 161 specialists included in the study sample, surgeons found to constitute the highest percentage 30.4% followed by physicians working in the discipline of medicine 21.1% , physicians of other branches 13.7%, pediatrics 11,2% , gynecology and obstetrics 9.9%, family medicine 7.2% and commu-

nity medicine 6.2%.Of the overall 53 practitioners in specific branches enrolled in this study, 39.6% of them were of medical branches, while 39.6% of gynecology and obstetrics branches, on the other hand 5.7% were of surgical discipline, 5.7% of pediatrics branches and 9.4% of other branches. Table 2.

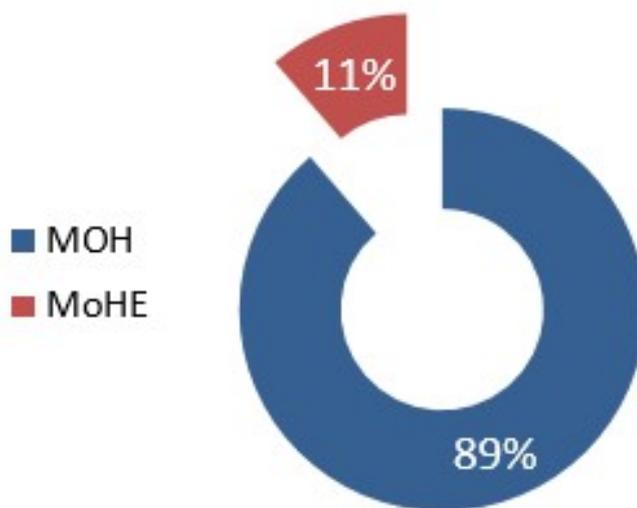
**Table 2:** Distribution of Study Sample by Specialty

Specialty	Number	Percentage %
Specialists		
Surgery	49	30.4
Medicine	34	21.1
Other branches	22	13.7
Pediatrics	18	11.2
Gynecology & Obstetrics	16	9.9
Family medicine	12	7.5
Community medicine	10	6.2
Total	161	100
Practitioners in specific branches		
Medicine	21	39.6
Gynecology & Obstetrics	21	39.6
Other branches	5	9.4
Pediatrics	3	5.7
Surgery	3	5.7
Total	53	100

**Employment & Affiliation**

Most of the respondents of the study sample 227 (88.7%)

were affiliated (employed) to the Ministry of health, while only 29 (11.3%) were of Ministry of Higher Education. Figure 6



**Figure 6:** Study Sample Distribution by Employment

### Years of Employment in Different Health Facilities inside Iraq

The mean  $\pm$ SD of total years of employment of the physicians in the studied sample was  $14.6 \pm 8.35$  years. Those working for 1-10 years and >10-20 years representing 38.7% and 38.3% respectively while those of more than 20 years representing 23%.

The mean  $\pm$ SD of the total years of working at PHCCs of 196

physicians during their entire years of employment was  $4.50 \pm 5.02$  years. Most of them 88.3% had worked for  $\leq 10$  years while those with >10 years were 11.7%. Only 5 physicians among the whole study sample had never worked in hospitals during their employment, while the other 251 physicians, 65.4% of them had worked for  $\leq 10$  years and the remainder 43.6% had worked for > 10 years. There were 53 physicians who worked in other health and specialized medical centers during their entire employment, 85% of them with  $\leq 10$  years while 15% with > 10 years. Tables 3 and 4.

**Table 3:** Distribution of Study Sample by Total Years of Employment inside Iraq

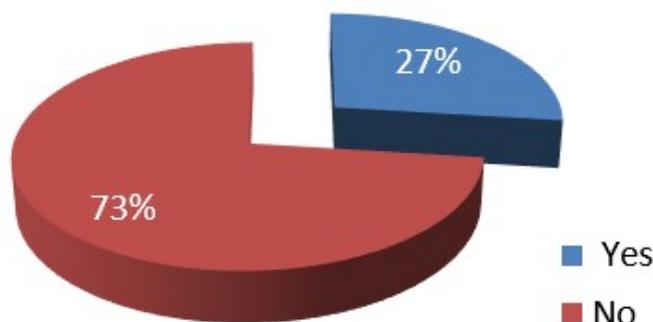
Variables	Number	Percentage %
1-10 years	99	38.7
>10- 20 years	98	38.3
>20 years	59	23
Total	256	100

**Table 4:** Distribution of study sample by years of working in different health facilities inside Iraq

Variables	Total N %	$\leq 10$ years N %	> 10 years N %
Working in PHCCS	196 100	173 88.3	23 11.7
Working in Hospitals	251 100	164 65.4	87 34.6
Working in Others*	53 100	45 85	8 5

### Physicians who Lived, Studied and Worked Outside Iraq

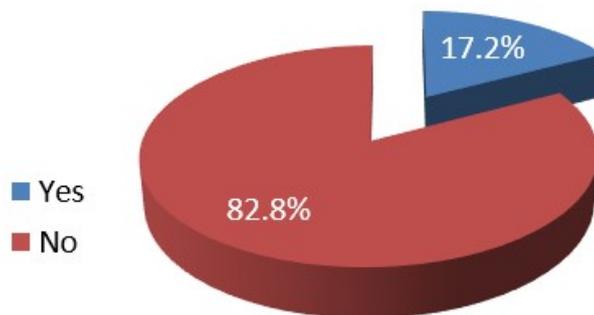
There were 69 physicians (27%) who lived or studied outside Iraq for at least 3 months. Figure 7



**Figure 7:** Percentage of Physicians Lived or Studied Outside Iraq

Only 44 physicians ; (17.2%) among the respondents physi-

cians had been worked out side Iraq at least for 3 months (Fig.8).



**Figure 8:** Percentage of Physicians Worked Outside Iraq

Responses of all physicians toward different aspects of roles of family medicine practice

An overall agreement rate among the respondent physicians toward the 33 statement which represent the different aspects of the role of family medicine was 75.7%, while the rate of disagreement and equivocal response was 11.1 %, 13.2 % respectively. (Table 5) , on the other hand the percentages of the overall agreement toward most of the statements found to be ranging from 70.3% to 91.8% , yet lower agreement percentages for some of these aspects reflected in the family physi-

cian role in school health program (S18) 69.5%, 66.1% for skills in obstetrics such as normal vaginal deliveries (S25), 59.8% for Births, deaths, &diseases reports to governmental authorities (S7), 57.8% for management of medical and physical problems of infants (S16) and 50% for mental health care role (S14). The lowest agreement percentages 41.4% found to be related to the response for the statement (S24) reflecting the role of family physician in performing certain procedures such as suturing , skin biopsies & abscess drainage ; maternal procedures such as IUD placement, cervical smear and colonoscopy and endoscopy.

**Table 5:** Responses of Respondent Physicians toward Different Aspects of Roles of Family Medicine Practice

No.	Statement	Responses in Percentages		
		Agree%	Disagree%	Equivocal%
1	Definition of family physician.	91.8	3.5	4.7
2	Person-orientation approach &his/her living environment.	81.3	5	13.7
3	Primary contact and comprehensive continuity care to a defined geographical population of patients.	89.9	3.5	6.6
4	Consulting program & doctor-patient communication.	85.2	5.8	9
5	Family physician & administrative role.	77.7	9.4	12.9
6	Health care costs and health care quality.	80.5	8.2	11.3
7	Births, deaths, &diseases reports to governmental authorities.	59.8	23.8	16.4
8	Family physician's role in education.	90.2	4.3	5.5
9	Role in immunization.	82.1	7	10.9
10	Identifying, early controlling & prevention of outbreaks .	84.8	5.8	9.4
11	Prevention and management of occupational &environmental health problems	72.7	12.5	14.8
12	Role in acute & chronic diseases.	73.9	10.5	15.6
13	Their curative roles in common symptoms and common medical, surgical and psychological problems.	71.1	10.5	18.4

14	Mental health role.	50	28.5	21.5
15	Maternity and gynecological care roles.	71.9	11.3	16.8
16	Management of medical and physical problems of infants.	57.8	19.5	22.7
17	Developmental & behavioral assessment, screening test ,counseling ,immunization , evaluation for early disease process for children..	80.1	10.1	9.8
18	Role in school health program.	69.5	13.7	16.8
19	Adolescent role in family medicine practice.	74.6	9	16.4
20	Elderly care role.	74.2	10.2	15.6
21	Home visits role.	75	12.9	12.1
22	Management and co-ordination rehabilitation health services.	75.4	9.8	14.8
23	Care for the terminally ill patients (palliative care).	70.3	17.2	12.5
24	Procedures performed by family physicians.	41.4	37.1	21.5
25	Skills in Obstetrics such as normal vaginal delivery	66.1	19.5	14.4
26	First aid measures in emergency care.	77.8	11.3	10.9
27	Recording patient information (file system).	86.3	7.4	6.3
28	Referral system.	91.8	4	4.2
29	Patient's hospital admission and follow up care from the office after discharge role.	76.2	10.1	13.7
30	Concepts of scientific research and the fundamentals of statistics.	79.7	5.9	14.4
31	Family physicians' commitment to continuous learning.	71.1	4.7	24.2
32	Need for the medical education of physicians and other health care personnel about the family medicine practice.	84	4.7	11.3
33	Recommendation for family medicine practice training in undergraduate & postgraduate to be as an integral part in Erbil's city.	89.5	4.7	5.8
	Total	75.7	11.1	13.2

**Agreement Responses of Specialists, Practitioners of Specific Branches, and General Practitioners**

Table 6 show the percentages of agreement response of specialists , practitioners of specific branches and general practitioners for different aspects of the role of family medicine. The percentages of agreement for most of the statements were nearly the same among the three categories of physicians, yet it found to be lower among the GPs for mental health care role (S14,38.1%), adolescent health care (S19,62%) , elderly health care (S20,64.3%), home visits (S21,59.5%), rehabilitation health services (S22,64.3%), first aid measures (S26,64.3%). The differences was also evident in regard to the role of family physician toward terminally ill patients (palliative care) (S23), GPs reported agreement percentages of 47.6% only while it was 78.3% and 64.2 % for specialist and practitioners of specific branches respectively. Practitioners of

specific branches also showed lower agreement response regarding to family physicians' role in acute and chronic illnesses (S12) and commitment to continuous learning (S31) as 64.2% and 54.7% respectively. Regarding to family physicians' roles in occupational and health problems and maternity care and gynecological roles, both of the practitioners of specific branches and GPs showed lower agreement responses being 66% and 66.7% for (S11) and 66% and 69.1% for (S15) respectively. All the three categories of physicians in the studied sample reported low agreement percentages for the role of family physician in performing certain procedures (S24) being 40.4%, 39.6% and 47.6% for specialist, practitioners, and GPs respectively. Also they showed low agreement response for family physician role towards infants group being 56% for specialists, 64.2% for practitioners of specific branches and 57.1% for GPs for S16 and in practicing normal vaginal delivery being 64.6% for specialists, 68% for practitioners of specif-

ic branches and 69.1% for general practitioners for S25.

**Table 6:** Agreement Responses of Specialists, Practitioners of Specific Branches & General Practitioners in Percentages

No.	Statement	Agree %		
		S*	P*	GPs*
1	Definition of family physician.	90.1	98.2	90.6
2	Person-orientation approach &his/her living environment.	86.4	73.6	71.4
3	Primary contact and comprehensive continuity care to a defined geographical population of patients.	91.3	90.6	83.4
4	Consulting program & doctor-patient communication.	88.9	75.5	83.4
5	Family physician & administrative role.	76.4	75.5	85.8
6	Health care costs & health care quality	80.1	73.6	90.5
7	Births, deaths, &diseases reports to governmental authorities.	59.1	58.6	64.3
8	Family physician's role in education.	88.8	92.6	92.9
9	Role in immunization.	85.7	77.4	73.8
10	Identifying ,early controlling & prevention of outbreaks .	84.5	86.8	83.3
11	Prevention and management of occupational &environmental health problems	76.4	66	66.7
12	Role in acute & chronic diseases.	76.4	64.2	76.2
13	Their curative roles in common symptoms and common medical, surgical and psychological problems.	70.2	71.7	73.8
14	Mental health role.	53.5	49	38.1
15	Maternity and gynecological care roles.	74.5	66	69.1
16	Management of medical and physical problems of infants.	56	64.2	57.1
17	Developmental &behavioral assessment, screening test ,counseling ,immunization , evaluation for early disease process for children..	82.7	75.5	76.2
18	Role in school health program.	73.3	62.2	64.3
19	Adolescent role in family medicine practice.	79.5	69.8	62
20	Elderly care role.	75.8	77.3	64.3
21	Home visits & home based care.	78.8	75.5	59.5
22	Management and co-ordination rehabilitation health services.	79.6	71.7	64.3
23	Care for the terminally ill patients (palliative care).	78.3	64.2	47.6
24	Procedures performed by family physicians.	40.4	39.6	47.6
25	Skills in obstetrics such as normal vaginal deliveries.	64.6	68	69.1
26	First aid measures in emergency care.	82	75.5	64.3
27	Recording patient information (file system).	90.1	75.5	85.8
28	Referral system.	94.5	90.6	83.3
29	Patient's hospital admission and follow up care from the office after discharge role.	75.2	77.4	78.6
30	Concepts of scientific research and the fundamentals of statistics.	79.6	77.4	83.3
31	Family physicians' commitment to continuous learning.	75.8	54.7	73.8

32	Need for the medical education of physicians and other health care personnel about the family medicine practice.	84.5	85	80.9
33	Recommendation for family medicine practice training in undergraduate & postgraduate to be as an integral part in Erbil's city.	88.2	92.4	90.4

\*S: Specialists P: Practitioners of specific branches GPs: General Practitioners

### Response of the Studied Sample in Relation to their Characteristics and Different Variables

The responses of the respondents were rated as neutral and positive only since no negative response was reported in this study.

Out of the total respondent physicians, 84.4% rated to have positive response. Physicians of other branches of medicine were reported the highest positive response (96.3%) among the respondents followed by physicians working in MoHE (93.1%), surgeons (92.3%), pediatricians (90.5%) and physicians with diploma & master degree (90.4%), while 35.7% of physicians aged more than 55 years, 26% of those working at PHC more than 10 years and 25% of physicians working in other health and specialized medical centers for more than 10 years rated to have neutral response.

No statistically significant association had been found between the rate of response among the physicians in the studied sample (Table 6), in relation to their age (p value=0.102), gender (p value=0.641), qualification (p value=0.077), place of work (p value= 0.088), specialists and practitioners (p value=0.069), employment (p value=0.169), years of employment (p value=0.950), years of working in PHCCs (p value=0.239), years of working in hospitals (p value=0.123), years of working in other health and specialized medical centers (p value=0.863), physicians who lived or studied outside Iraq (p value=0.281), physicians who worked outside Iraq (p value=0.955). The only significant association found to be related to the discipline (p value=0.034) with 96.3% of physicians with other branches, 92.3% of surgeons, 90.5% of pediatricians, 83.8% of gynecology and obstetrics physicians and 83.3% of family medicine specialists and 76.4% of specialists of medicine branch reporting positive response compared to 60% of community medicine specialists.

**Table 7:** Response of the Physicians According to Their Characteristics and Different Variables

Variables	Total		Response				P- value
			Neutral		Positive		
Age	N	%	N	%	N	%	
26-35 years	93	36.3	14	15.1	79	84.9	
36-55 years	149	58.2	21	14.1	128	85.9	0.102
> 55 years	14	5.5	5	35.7	9	64.3	
Total	256	100	40	15.6	216	84.4	
Gender							
Male	143	56	21	14.7	122	85.3	0.641
Female	113	44	19	16.8	94	83.2	
Total	256	100	40	15.6	216	84.4	
Qualification							
PhD & Board	57	22.3	10	17.5	47	82.5	
Diploma & Master	104	40.6	10	9.6	94	90.4	0.077
M.B.Ch.B	95	37.1	20	21.1	75	78.9	
Total	256	100	40	15.6	216	84.4	

Place of work								
Hospitals	123	48.1	13	10.6	110	89.4		
PHCCs	103	40.2	20	19.4	83	80.6	0.088	
Other health & specialized medical centers	30	11.7	7	23.3	23	76.7		
Total	256		100	40	15.6	216	84.4	
Specialists & practitioners								
Specialists	161	62.9	19	11.8	142	88.2	0.069	
Practitioners of specific branch	53	20.7	13	24.5	40	75.5		
General practitioners	42	16.4	8	19	34	81`		
Total	256	100	40	15.6	216	84.4		
Discipline*								
Medicine	55	25.7	13	23.6	42	76.4		
Surgery	52	24.3	4	7.7	48	92.3		
Gynecology & Obstetrics	37	17.3	6	16.2	31	83.8	0.034	
Other branches	27	12.6	1	3.7	26	96.3		
Family medicine**	12	5.6	2	16.7	10	83.3		
Community medicine**	10	4.7	4	40	6	60		
Pediatrics	21	9.8	2	9.5	19	90.5		
Total	214	100	32	15	182	85		
MOH	227	88.7	38	16.7	189	83.3	0.169	
MoHE	29	11.3	2	6.9	27	93.1		
Total	256	100	40	15.6	216	84.4		
Years of employment								
1-10 years	99	38.7	15	15.2	84	84.8		
>10 -20 years	98	38.3	15	15.3	83	84.7	0.95	
> 20 years	59	23	10	17	49	83		
Total	256	100	40	15.6	216	84.4		
Years of working in PHCCs								
≤ 10 years	173	88.3	27	15.6	146	84.4	0.239	
> 10 years	23	11.7	6	26.1	17	73.9		
Total	196	100	33		16.8	163	83.2	
Years of working in Hospitals								
≤ 10 years	164	65.4	29		17.7	135	82.3	0.123
> 10 years	87	34.6	9		10.3	78	89.7	
Total	251	100	38		15.1	213	84.9	

Years of working in others***								
≤ 10 years	45	85	10		22.2	35	77.8	0.863
>10 years	8	15	2		25	6	75	
Total	53	100	12		22.6	41	77.4	
Lived or studied outside Iraq								
Yes	69	27	8		11.6	61	88.4	0.281
No	187	73	32		17.1	155	82.9	
Total	256	100	40		15.6	216	84.4	
Worked outside Iraq								
Yes	44	17.2	7		16	37	84	0.955
No	212	82.8	33		15.6	179	84.4	
Total	256	100	40		15.6	216	84.4	

\*Specialist & Practitioners of specific branches

\*\* Specialists only

\*\*\*Health & specialized medical centers

**Suggestions of Some of the Respondents**

The total number of respondent physicians who had reported suggestions was 40, some of them had given more than one suggestion resulting in a total of 43 suggestions being illustrated in table 8. The most remarkable suggestion was the need for family medicine practice to be applied in Erbil city (41.8%) , followed by the suggestion of the need for increas-

ing the number of well trained family physicians and general practitioners (20.9%), beside the suggestion of provision of sufficient health care facilities, quantitative and qualitative in each PHCC (7%), public education regarding family medicine practice and the role of family physicians (7%) and the suggestion of co-ordination and communication between family physicians and other specialists (4.7%).

**Table 8:** Suggestions of Some of the Respondents

No.	Suggestion	Number	Percentages
1	There's a need for family medicine practice to be applied in whole Erbil city.	18	41.8
2	There's a need for increasing the number of well trained family physicians / general practitioners.	9	20.9
3	There should be a precise and proper description for the job of family doctor.	1	2.3
4	Provide sufficient health care facilities, quantitative and qualitative in each PHCC	3	7
5	Public education regarding family medicine practice and family physicians roles are of a major concern.	3	7
7	Family physician should report child abuse case to authority.	2	4.7
8	Procedures such as endoscopic gastroduodenoscopy and colonoscopy are out of family physician role which need specific specialist.	2	4.7
9	Separation private health sector from governmental health system and being under quality domination & observation.	1	2.3
10	Relicensing programs for all physicians should be applied.	1	2.3

11	Concentration on medical ethics as a curriculum in medical schools.	1	2.3
12	Co-ordination and communication between family physicians and other specialists	2	4.7
Total suggestions		43	100

## Discussion

Family medicine is an academic and scientific discipline, with its own educational content, research, evidence base and clinical activity, and a clinical specialty orientated to primary care [12].

Given the limited resources and time available for this study, a cross-sectional study design had been used. Cross-sectional studies are relatively simple to conduct, take only a short time and are relatively cheap. In addition to the limited time frame, not all the eligible physicians could be recruited in this study since some of them were not available at the time of the study beside the difficulty in reaching some health facilities, in addition to time needed for explanation the statements of questionnaire to each participant. However, the study had included to some extent a representative sample of physicians in Erbil City.

### Responses of All Respondent Physicians toward Different Aspects of Roles of Family Medicine Practice

Although Family medicine is a newly applied specialty in Erbil city, an overall agreement rate among the respondent physicians for most of the recommended activities within the discipline of family medicine practice found to be (75.7 %). As family medicine has been established in Iraqi governorates and cities, specifically in Baghdad since 1995, agreement for family medicine application was examined in Baghdad at 2005 [27] which was (85%), this difference in agreement rate may be related to the recently established family medicine centers and specialization in Erbil city at 2008.

Out of the 256 respondent physicians in this study 91.8% of them were aware about the concept of family medicine which was more than a study conducted in Baghdad 2005 by Al-Ward et al [27] which revealed agreement of 77.3%. Regarding family physician's person-centered care, 81.3% of the respondents agreed that family physician takes care of people, shares with patients and families in health and illness, deals with them in the context of their life circumstances, not with impersonal pathology or cases [12]. Again this result was slightly more than that of Al-Ward et al study [27] which was

74.6 %

On the other hand 90.2% of the respondents agreed that family physician have a role in health promotion, life style modification factors to persons in the community, which was also more than that of Baghdad [27] which revealed 79.8% agreement response

Considering family practice in Erbil city being a new discipline there are still disagreement with certain aspects of it's roles among physicians, one of them is the role of family practice in regard to births, deaths, & diseases reports to governmental authorities, only 59.8% of them were agreed, this role had been confirmed in many articles such as that published in Alberta/Canada 2012 which mentioned that general practitioners /family physicians report births, deaths, and contagious and other diseases to government authorities [28] Another one published in Newcastle/UK in 1993 reviewed collaboration of the family health services authority and the district health authority, and the flow of information on patient death registers allow general practitioners to undertake audit of the quality of death certification and of the care of the recently deceased, and to improve the continuing care of the bereaved [29].

In many aspects family physician deals with the psychiatric and physical models of illness. Mental health services are an essential element of the health care services continuum. Again In regard to this role, the agreement rate among the respondents in this study was only 50%. A study in 2001 showed comparison of family practice between different health systems of Netherlands, Japan, Poland and US, regarding psychological problems, these problems were frequently encountered in Dutch and US primary care while limited contribution of Japanese family physicians to psychological and social problems was clear [30]. Another study in 2008 done in Saskatchewan/Canada about mental health in primary care setting, the result of the study showed that more than 80% of physicians saw at least 6 patients per week with mental health problems, around 60% of them co-managed their patients' mental health problems with other mental health professionals [31].

A curriculum Guidelines for Family Medicine Residents by AAFP recommended that Family physicians must develop knowledge and skills appropriate to manage the medical and physical problems in patients of all ages, including infants [32]. In the present study only 57.8% of the physicians agreed with this role which may reflected the insufficient knowledge about the continuity and comprehensiveness of the role of family medicine practice. An American report published at 2003 showed that FP/GPs provide nearly 2 million well-infant visits per year [33].

Regarding family physician role in school health program, the agreement rate in this study was 69.5%. A Canadian article at 1998 mentioned that family physicians became involved in establishing a school health program. Involvement should be collaborative and multidisciplinary and reflect community interests and needs. [35]. An International Conference on Primary Care/ Family Health 2008 about National Health System of South Africa and the role of family medicine had mentioned that one of the services provided is the school health [35].

Family medicine does not have a defined scope of procedures or universal standards for procedural training. This contributes to wide variation in family physician training. The AAFP policy on procedural scope of training states that "Family medicine residencies should strive to teach residents all procedures within the scope of family medicine." In report [36] the Society of Teachers of Family Medicine (STFM) Group on Hospital Medicine and Procedural Training defines the scope of advanced procedures that can be performed by family physicians in the United States, This group proposes a list of advanced procedures within the scope of family medicine and urges family medicine governing bodies to use this list to define and standardize the scope of procedural training and practice in family medicine, there were categories for procedures within family medicine; skin biopsies , abscess incision& drainage, IUD insertion /removal and pap smear are of all residents must be able to perform independently by graduation; colposcopy and colonoscopy are of all residents must be exposed to and have the opportunity to train to independent performance; endoscopic gastroduodenoscopy are required focused training in residency.

The role of family medicine in performing such procedures showed the lowest agreement rate 41.4% in this study. A study was conducted at 2009 explored the position of family

medicine in healthcare systems of Central and Eastern Europe and Russia, minor surgery procedures were rarely performed by family physicians/general practitioners in Eastern and Central European countries while in Russia these procedures were common provided. [37], a study showed that 48.4% of the respondents participants always or usually provide IUD insertion [38]. In Arab countries, a study published at 2011 showed that few proportion of family physicians (15%) provide EGD or colonoscopy service [39].

The Society of Teachers of Family Medicine (STFM) Group on Hospital Medicine and Procedural Training in the United States 2009 mentioned the procedures which all residents must be able to perform independently by graduation by a list of categories including normal vaginal deliveries [36]. In the current study, the agreement among the respondents was 66.1%, this May be due to insufficient obstetrics training required in the residency of family practice and inadequate intrapartum services and facilities in PHCCs of Erbil city. The medical university of Carolina published a study at 2003 showed that 45% of respondents obstetricians thought that family physicians should provide pregnancy care including delivering babies.[40] Generally, studies showed the involvement of general practitioners/family physicians in maternity care, especially in intrapartum care is strongly reduced and almost everywhere the same reasons are found: interference with lifestyle and interruption of office routine, fear of litigation and costs of malpractice insurance, insufficient training and insufficient numbers of cases to retain competency [41]. In Netherlands 1991, more than 60% of GPs held the opinion that intrapartum care was an integral part of their job while in 1999 only a minority agreed to that statement.[41] In Ontario/Canada, the proportion of family physicians providing intrapartum care had declined from 15% in 1997 to 12% in 2001[42]. In a twelve countries of the European Union survey 1993, only 15% of the respondents GPs were involved in intrapartum care although 66% of them indicated that they were involved in antenatal care. [41] In New Zealand 1999, it was found that 21% of GPs still provided intrapartum obstetric care. In the USA 2000, it was estimated that 12-15% of all births were attended by family physicians [41].

Family physicians coordinate care through consultations and referrals to and from specialists or other medical coworkers, and information must be fed back to them from specialists. Patients must also be similarly referred back, regarding referral system, 91.8% of the respondent physicians in this study

were agreed with this role, which was nearly similar to that found in Baghdad study 2005 that showed 90.1% of the respondent physicians were agreed.

A study carried out at 2009 explored the current role and perspectives of family medicine/general practice in healthcare systems of Central Eastern European countries and Russia, family medicine/general practice, of all these countries is recognized as a separate specialty, theoretically on the same basis as other medical disciplines. [37]. The percentages of the respondents in the current study recommending family medicine practice training in undergraduate & postgraduate in Erbil city found to be 89.5%. This agreement rate was higher than that of Baghdad study 2005 that revealed 59.4% only [27].

### **Responses of Specialists, Practitioners of Specific Branches, and General Practitioners**

Generally, the agreement rate related to most of the roles of family practice were nearly the same among the three groups of physicians.

By AAFP, Occupational and environmental health is the area of family medicine dedicated to the prevention and management of occupational and environmental injury, illness and disability, and the promotion of health and productivity of workers, their families and communities. [43] Agreement response among the whole respondent physicians in this study to this role was 72.7%, although it was found to be lower among general practitioners and practitioners of specific branch (66.7% and 66%) comparing to specialists response (76.4%). such response could be explained by the fact that such a role of providing effective prevention and appropriate management for injury and illness related to work may be not well known by them or they may specify it to be a role of community medicine only.

Responses were found to be lower among the practitioners of specific branch (64.2%) than those of specialists and general practitioners (76.4% and 76.2%) regarding family physicians role in prevention, screening, and management of acute and chronic illnesses. Canadian college of family physicians published an article at 2009 mentioned the framework competences in family medicine including disease prevention, diagnosis, acute treatment including the management of life-threatening illness and chronic disease management. [44]

For the role of family medicine in mental health care, all

physicians; general practitioners, practitioners of specific branches and specialists reported low agreement response of 38.1% , 49% and 53.5% respectively, this may reflect the absence or inefficiency of mental health services provided by primary care settings in Erbil city. In Netherlands, depressive and anxiety disorder account together for approximately 30% of GP visits and the somatoform disorders account also for 30% of GP visits. [45] In Hong Kong, a study was carried out at 2012 showed two-thirds of primary care doctors are prepared to look after patients with depression, which is substantially higher than that for schizophrenia [46].

For gynecological and maternity care, practitioners of specific branches and general practitioners showed lower agreement response (66% and 69.1%) than that of specialists (74.5%). Competences of family physicians internationally regarding this role may be not well known by the practitioners. AAFP published at 1994 the recommended curriculum guidelines for family medicine residents to apply knowledge in these services including preconception (counseling for women of all age groups), infertility (family-centered approach, evaluation, testing, counseling and referral resources), family planning, reproductive-tract infections (screening and treatment) and maternity care (including antenatal and postnatal care [47].

One of the important skills of family physicians is understanding of family life cycle and the different stages of change. Therefore rapid developmental changes of adolescents should not be major difficulties for family physicians [48]. In this study, the rate of agreement among GPs regarding adolescent health care was 62%, this may reflect to certain extent the ignorance of the presence of specified programs applied by the MOH for this age group beside the programs for youth and adolescents in Kurdistan region are recently established and may be not well known by most of them. A Bahraini's study published at September 2012 showed positive attitude toward dealing with adolescent health among the primary health care doctors [49]. Accordingly, adolescent health is one of the World Health Organization's (WHO) seven priority areas for action in the European context for improving the health and development of children and adolescents [50]. A demography of adolescent health care delivery and training in Europe study was published at 2008 showed that training in adolescent medicine was offered in pre-graduate education in 14 countries in the pediatric curriculum and in the context of pediatric residency and GP/family physician residency programs in 18 and nine countries respectively. Adolescent

medicine was reported as a recognized subspecialty in 15 countries and as a certified subspecialty of pediatrics in one country [50].

As the population continues to age, geriatrics training and care are important [51]. The care of elderly people is a large part of a general practitioner's work. Primary Care practitioners have the unique responsibility and potential to address the needs of older persons because they see the persons in their own environment, during a long period of time, with an understanding for the medical and non-medical life history of their patients and with the capacity to discuss the approach to their general and health. Care of the elderly may be delivered in physician office, patient's home, hospitals, day care facilities, nursing homes and in hospice [52].

The percentage of agreement among GPs in this study regarding elderly health care (S20) was 64.3% only, this may be explained by the inadequate services specified for elderly and its integration into family /general practice. Kuwait Medical Journal published at 2005 a study in which doctors rated geriatric care in Kuwait as good, almost 96.8% of the respondents believed that regular healthy checkups are necessary to enhance the quality of general health in the elderly [53].

The relationships a family doctor has with his or her patients are the essence of family medicine, and these relationships are highlighted in home visits, where he/she is essentially a guest in patients' homes. Home visits provide opportunities to see patients in their own environments and assess how the environment is affecting patient's health [54]. Some patients could access medical care much more readily if the physician came to their home. Elderly patients and patients with physical disabilities may have difficulties getting to a physician's office [55]. In many health systems, the general practitioner/-family doctor cooperates with community based services of home care and coordinates all medical and non medical activities in addition to cooperation with patients' relatives [56].

The family medicine residency at Jefferson Medical College/ Philadelphia /USA had a home visit program since 1981, [57] and a department of family medicine/ Creighton University/USA at 2012 stated that each resident must perform at least two home visits with at least one being for an older adult continuity patient within the residency program.[58]. Regarding this role of family doctor, the percentage of agreement of general practitioners in the current study was 59.5%.This re-

sponse may be due to social and cultural considerations related to Erbil city, especially among female respondents. Studies showed that while the primary target group, namely older, multimorbid people, is growing, there's decrease in the number of home visits carried out by GPs in most European countries and North America influenced by non medical factors such as mobility and pressures on time [59]. Also these studies showed male GPs make more visits than female doctors, but the latter take more time per visit; self employed GPs visit more patients at home than salaried GPs [60]. A study was conducted at the beginning of 2009. It was surveyed in 11 Central and Eastern European countries and Russia. In all of the studied countries, family physicians/general practitioners provide home visits. Regular check-up and assessment for social services is done by them in all countries except Russia. Family physicians/general practitioners make also phone consultations, although in Poland and Russia this type of consultation is not formally recognized [37].

The general practitioner/family doctor often becomes the manager/coordinator of chronic care for disabled individuals, they usually accept the responsibility for on-going care of the patient after discharge from the hospital or institution, [61] Also they will proceed with therapy that may be advised by the specialist after the acute care is over and will become involved with many of the arrangements for living at home and attending work. In other words family physicians are involved in the entirety of long-term management [62].The agreement rate in this study among general practitioner respondents was 64.3% regarding rehabilitation responsibility, this may be due to the lack of knowledge about the role of family doctor related to this service around the world in addition to the lack of rehabilitation programs in Erbil city.

Palliative care is an approach that improves the quality of life of patients and their families facing the problems associated with life threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment, and treatment of pain and other problems physical, psychosocial and spiritual. [63] Palliative care is for all terminal illnesses not just cancer [64]. It is integral health care in which, in most countries, family physicians/general practitioners play an important role. It is more than the family physician/general practitioner can do it alone, it is active care and demands a team approach [64]. In the current study, the differences was evident in regard to the role of family physician toward terminally ill patients (palliative care), GPs reported

agreement percentages of 47.6% only while it was 78.3% and 64.2% for specialist and practitioners of specific branches respectively. A study was published at 2006 to assess experience, knowledge, and opinions of Romanian general practitioners (GPs) on palliative health care in Romania. The respondent GPs mostly reported having limited experience in providing palliative care, with 24% reporting to have provided palliative care frequently, and 55% reporting to have it provided sometimes. The majority of Romanian GPs reported that their medical knowledge was inadequate for the provision of care to terminal patients at home. Over 80% of GPs agreed to develop palliative care services and to participate in a training program [65]. Another study was published in London at 2006 showed 65% of GPs were providing palliative care to patients on their lists; 72% agreed or strongly agreed palliative care was a central part of their role; and 27% wanted to hand care over to specialists. Most GPs (66%) disagreed with the statement that 'palliative care is mainly district nursing (DN) work' [66].

All the three categories of physicians in this study report low agreement percentages for the role of family physician in performing certain procedures being 40.4%, 39.6% and 47.6% for specialist, practitioners, and GPs respectively.

Family physicians are an essential part of the emergency medicine safety net, and without this contribution, large areas of the countries, especially rural and remote areas would be without adequate emergency medical care. Historically and internationally, family medicine and emergency medicine have much in common. Both specialties have broad scopes of practice that are unrestricted by age, gender or organ system. Family physicians are trained to provide emergency medical care through residency and post residency education, the American Academy of Family Physicians (AAFP) has supported its members who practice emergency medicine. In 1995, the AAFP developed a policy that stated, "Family physicians, through their training and experience, are qualified to provide emergency care services. [67] The College of Family Physicians of Canada supports cross training in emergency medicine for family physicians [67]. The agreement among GPs respondents of current study was 64.3% in regard to providing initial emergency and first aid measures.

Family physicians demonstrate a lifelong commitment to continuous learning, as well as the creation, dissemination, application and translation of knowledge. Practitioners of specif-

ic branches showed lower agreement response (54.7%) than of general practitioners and specialists (73.8% and 75.8% respectively) which may reflect the absence of defined policy for periodic recertification or reevaluation of physicians including general practitioners and family physicians in Iraq including Kurdistan region. A study was conducted at 2008 to establish consensus on the key principles of family medicine for Sub-Saharan Africa, of the respondent's teachers and students/graduates of family medicine programs, 41% thought that family physicians' commitment to life-long learning should be promoted as relevant in the primary health care system [68].

### **Response in Relation to Characteristics and Different Variables of the Studied Sample**

Family physicians are committed to fostering health and integrating health care for the whole person by humanizing medicine and providing science-based, high-quality care [69]. The positive response of most of the respondent physicians (84%) in this study to this role and no statistical association had been found in relation to their demographic characteristics, their affiliation to MOH or Ministry of higher education , years of employment, studying or working outside Iraq , qualifications, years of working in hospitals or PHCC , which reflect their awareness to the role of family practice with its wide range of competencies and responsibilities to be held among the national health system , and the only statistical differences (p value 0.034) found between physicians working in clinical field rated to have positive response (ranging from 96.3 % to 76.4 % ) and that of community medicine specialists, 60% of them only rated to have positive response, this may reflect that physicians working in this discipline in Erbil city till now could not accept the comprehensive role of family medicine practice to be far away from the traditional role of general practitioners working in PHCC which was always restricted to the implementation of specific programs of PHC (EPI, MCH, School health services ) only beside the management of some simple health problems.

### **Suggestions of Some of the Respondents**

Of the 256 respondents, although only 40 physicians gave their suggestions, yet it could reflect the awareness toward the need for implementation of a competent family medicine practice to be the core of an initiative national health system and the need for increasing the number of efficient, well

trained with competent skills family physicians. The most frequent suggestions were the need for family medicine practice to be applied in Erbil city (41.8%) and increasing the number of well trained family physicians and general practitioners (20.9%). Beside the suggestions of provision of sufficient health care facilities, quantitative and qualitative in each PHCC (7%) , public education regarding family medicine practice and family physicians (7%) and the organization and communication between family physicians and other specialists (4.7%). The percentage of suggestions in Baghdad's study at 2005 regarding encouragement of extension of family medicine specialization and further introduction of family practice to health personnel and to the public as well were 17.8% and 9.7%. [27]. A study in Canada 2011 showed that popular demand resulted in expansion of Family Health Teams serving two millions Ontarians from 170 to 200. Also it showed that in the United States, additional family physicians and general internists would be needed in 2025 simply to maintain current numbers of visits for each adult as the population increases and ages. [70]. A qualitative study was conducted in Netherlands 2006 showed specialists are particularly interested in collaborating with general practitioners because the GP is the gatekeeper for access to secondary health care resources [71].

### Conclusion and Recommendation

Most of the physicians were agreed with the comprehensiveness of care; preventive and curative, that could be provided by family physicians.

About two thirds of physicians were agreed about the role of family medicine practice in providing continuity of care for all individuals during different phases of life till elderly.

Agreement rate among GPs in regard to the role of family medicine towards adolescents and elderly groups was lower than that of the specialists.

Only half of all physicians agreed that mental health care could be applied as part of family medicine practice, and only

one third of the generalist expected this role to be applied.

GPs showed lower agreement rate for palliative services, rehabilitation and home visits as a role of family physicians.

The role of family physicians in conducting certain interventions and procedures as part of primary care still undermined by about two third of the physicians ,both the specialist and the practitioners.

Most of the physicians rated to have positive response to the activities and competencies that reflect the role of family medicine practice in Erbil city.

### Recommendation

Increase the number of family medicine specialists through increasing the capacity of postgraduate studies and by recommending incentives to physicians working in this discipline.

Modernization of the health system toward the implementation of family medicine practice to involve all primary health care centers.

Integration of services provided at primary, secondary and tertiary levels through well organized referral system and emphasizing the role of family physician as a gatekeeper.

Involvement of all specialized physicians of different discipline working in MOH or ministry of higher education in training and continuous medical education assigned for general practitioners and family physicians.

Renewal the curriculum of medical colleges and schools to graduate well oriented physicians and medical staff toward the role of family medicine practice.

Increase the awareness of all medical staff toward the role family medicine through arrangement of conferences, workshops and programmed training courses.

Public education regarding family medicine practice and family physicians through the mass media and the activities of health promotion at primary health care centers.

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