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Health Workers' Perspectives on Family Medicine and Family Physicians in Karbala City, Iraq

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ORIGINAL STUDY

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Health Workers' Perspectives on Family Medicine and Family Physicians in Karbala City, Iraq

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Abstract

Background: The opinions and experiences of health workers can provide valuable insights into the current state of family medicine and its potential to improve healthcare services in any country, including Iraq.

Objectives: To identify health workers' perceptions in Karbala Governorate regarding the role of family medicine and family physicians, and to explore their opinions on the performance of primary health care centers.

Materials and Methods: A cross-sectional survey was carried out from March through May 2024, involving health professionals from various health service settings in Karbala Governorate, Iraq. Data were collected through a structured, self-administered validated questionnaire covering demographic data, knowledge and attitudes toward family medicine and family physicians, as well as their perceptions of the performance of primary health care centers (PHCC).

Results: Out of 402 respondents, nearly two-thirds identified significant shortcomings in PHCC performance. Only 37.5% felt they had adequate knowledge about the roles of family physicians, while 44.5% believed that these roles were not well-defined.

Conclusion: The findings highlight notable concerns among health workers regarding both the effectiveness of PHCCs and their understanding of family physicians' roles. No significant associations were observed between these views and the participants' demographic profiles.

Keywords: Health worker's perceptions, Family medicine, Family physicians, PHCCs performance, Karbala governorate

1. Introduction

Family medicine emerged in the 1960s to deliver inclusive and continuous health care to all communities, regardless of background [1, 2]. It is a comprehensive, patient-centered discipline where family physicians serve as the initial contact in the health system and play a key role in coordinating care and promoting health [3]. Their contribution to Primary Health Care (PHC) is essential and foundational [4, 5]. The WHO has emphasized that achieving Universal Health Coverage (UHC) and health-related Sustainable Development Goals (SDGs) depends on the strength of PHC systems [6, 7]. Family medicine supports population health by offering both preventive and curative services, enhancing care quality, accessibility, and cost-effectiveness [8–11]. Although widely adopted in many countries [12, 13], it remains underutilized in several Arab nations, where awareness and integration of its full scope are still limited [14–16].

Family physicians in the Eastern Mediterranean region (EMR) encounter numerous obstacles that hinder the integration of family medicine, despite policy-level discussions [15–17]. In many Arab countries, the number of family physicians remains low,

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and their roles differ widely due to varying socioeconomic and health system factors. Iraq, classified as an upper middle-income country, has 2,864 Primary Health Care Centers (PHCCs), with only 197 implementing the family medicine model. The national average is 0.7 PHCCs per 10,000 people, which is below regional and global benchmarks. [18, 19]. Karbala, a central city in Iraq and a major pilgrimage destination for Shia Muslims, receives over 20 million visitors annually during key religious events such as Ashura and Arbaeen [19]

The most pressing issues facing Iraq's health system are the massive financial allocations and a fragile infrastructure which caused by many factors [20]) and this in return affect PHC system in Iraq The PHC strategy in Iraq has faced challenges such as low enrollment rates, inadequate facilities, Lack of health insurance programs and shortage of modern equipment, shortage in funding and in the number of trained family physicians, and physician migration these formidable obstacles are major barriers to high-quality primary health care [21–23], dissatisfaction among community and had a substantial impact on patient's confidence in the health system .Poor governance and leadership in Iraq had made the Iraqi health system described by many studies as hospital-based system that focusing its orientation towards providing secondary and tertiary care services [24]).

Despite the cooperation of the Iraqi Ministry of Health with WHO to adopt a new health system towards universal health coverage UHC aiming to provide quality essential primary health care services to all Iraqis, with emphasis on the role of family doctors as the principal care providers but UHC may be far off unless this is addressed, this made many patients and health workers are unaware of the roles and services of family physicians, despite their presence in health care institutes [25–28].

Few studies had expressed public awareness about the role of FPs despite its crucial effect on proper healthcare as they play an important role in health-seeking behavior [29].

2. Materials and methods

2.1. Study design and settings

An analytic cross-sectional study was conducted in holy Karbala City, Iraq, including six health institutes. The data collection was performed from 1st of March 2024 till 1st of May 2024**.** The estimated sample size of health workers calculated using the following population proportion equation [30]:

- Z^2 P (1-P) (1, 96) $^2\times$ (3.84) $\times$ (1-0.5) 0.96 was
- n=. . .. .=. . .. .=. . .. . = 384
- D^2 $(0.05)^2$ 0.0025

So the suggested sample will be 384 participants and increased to overcome any non-response or incomplete data so the determined final sample was 402 participants.

Six institutes were randomly selected using a simple random technique (two teaching hospitals and four PHCCs in Karbala City, participants were collected through a purposive non-probability convenience approach.

2.2. Data collection

Data were collected after obtaining verbal consent from participants using a specially designed questionnaire which was developed and modified from other questionnaires from different relevant studies [15, 17, 31]. The questionnaire included sociodemographic characteristics such as age sex, educational level, job title, workplace, marital status, years of service, place of residency, and their erceptions, knowledge and attitudes about PHCCs, family medicine, and family physicians

2.3. Data analysis and scoring system

Data were analyzed using SPSS version 24.0. Descriptive statistics, including frequencies, percentages, and mean ± SD, were presented in tables and graphs. Associations between categorical variables were tested statistically using the Chi-square test, with statistical significance set at $p < 0.05$.

The internal consistency of the questionnaire was confirmed with a Cronbach's alpha of 0.7, indicating acceptable reliability. The second section of the survey included 12 items measured on a 5-point Likert scale (ranging from strongly agree to strongly disagree). Perception scores were categorized as "good" if the total score exceeded 54, and "poor" if below 54, with 54 representing the sum of neutral responses.

3. Results

The present study included 402 health workers of both sexeses (about two thirds were females). More than half of the study participants had college or higher levels of education. Dentists and pharmacists accounted for 7.7% of the total participants, whereas remaining staff were health staff and administrative, the majority of them had 10 years or more, while the vast majority were urban dwellers as described in Table 1.

Table 1. Socio-demographic characteristics of the study participants.

Characteristics	Categories	Frequency	%
Age (years)	< 25	34	8.5
	25-34	189	47
	35-44	82	20.4
	45-60	97	24.1
	Mean ± SD	35.67±10.23	
Sex	Female	257	63.9
	Male	145	36.1
Education	Secondary school	66	16.4
	Institute	105	26.1
	College or higher	231	57.5
Job title	Dentist/ Pharmacist	31	7.7
	Health staff	274	68.2
	Administrative	97	24.1
Work place	Hospital	239	59.5
	PHC	78	19.4
	Health directorate	85	21.1
Years of experience	Less than 4	120	29.9
	9-Apr	118	29.4
	10 and above	164	40.8
Marital status	Married	290	72.1
	Single	93	23.1
	Divorced/ widow	19	4.7
Residence	Urban	379	94.3
	Rural	23	5.7

3.1. Perception, knowledge, and attitude about primary health care centers

The results showed that 78.1% of the study participants strongly agreed and agreed with the statement referred to the need to increase the number of PHCCs in Karbala (Table 2).

About two third 64.2% of the health workers agreed that there is a significant weakness in the performance of PHCCs. They reported that *the lack* of availability of medicines/ equipment/ medical devices, the increasing number of patients and the scarcity of commitment to implementing health and regulatory policies were the main three reasons for this weakness in the performance of PHCCs (Table 2) and (Fig. 1).

Regarding the preference to visit a hospital or PHC, two-thirds of the study participants preferred to go to a hospital rather than to PHC, whereas the other third preferred to go to PHC as shown in Fig. 2.

3.2. Perception, knowledge, and attitude about family physician

Regarding the answers to these questions, the results revealed that about one-third (37.5 %) of the study participants reported that they strongly agreed or agreed with the statement that "they have sufficient knowledge of the nature of the work and duties of a family doctor" About three quarters 71.2% of the health workers reported that "There is a need to increase the number of family doctors in Karbala city and in the country in general" as shown in (Table 3).

44.5% of the participants expressed "The role and work of the family physician are not clearly understood" as shown in Fig. 3.

Only 9% of the study participants responded that the expected percentage of patients that a family physician can treat is 75% as shown in Fig. 4.

There were no significant associations the socio-demographic characteristics of the clients and the role of Family Doctor as shown in Table 5.

4. Discussion

Regarding the perspectives, knowledge, and attitudes about the performance PHCCs, the study revealed that 78.1% of participants believe that there is a pressing need to increase the number of Primary Health Care Centers (PHCCs) in Karbala City, due to population growth and increasing morbidities (21,22). Nearly half (49.5%) agreed that many hospital cases could be managed at PHCCs, which aligns with the observation that most hospital visits involve minor conditions. This issue is attributed to the hospital-oriented structure of Iraq's health system and the underdevelopment of PHCC services [19].

Additionally, 81.1% of participants stated that PHCCs are currently limited to preventive services such as pregnancy care and vaccinations. This was compatible with what was reported by Mahmood and Saleh [32] who found that the main reason for utilizing PHC centers was preventive purposes. This reflects systemic issues like weak governance, unequal resource distribution, and the marginalization of primary care. Strengthening PHCCs could reduce hospital burden and improve service [33–36].

A significant majority (80.6%) supported the activation of a proper referral system to ensure continuity of care. This finding is similar to a local study conducted by AlJanabi [17] which expressed that most of the participants (88.9%) consider the hospital referral feedback is important. However, the current referral system is perceived as ineffective, due to poor regulatory compliance and self-referrals [27].

Lastly, 64% of participants highlighted weaknesses in PHCC performance, citing lack of medicines and equipment, high patient loads, and poor implementation of health policies. These findings goes in line with the finding of Mahmoud [32] and with a regional study in Iran [37] which emphasizing inadequate services related to weak performance in primary care delivery [34, 38].

.A study in Nairobi [39] found that patients did not view family physicians as providers of comprehensive primary care, contrasting higher satisfaction rates

Table 2. Perception, knowledge, and attitude about primary health care centers.

Question no.	Questions	Strongly agree	Agree	In between	Disagree	Strongly disagree
1	There is a great need to increase the number of PHCCs in Karbala	168	146	54	28	6
		41.8	36.3	13.4	7	1.5
2. 2	Most hospital visitors can be treated in PHCC	72	127	112	72	19
		17.9	31.6	27.9	17.9	4.7
3. 3	Most health visits in PHCCs currently are limited to providing services such as (pregnancy care, vaccinations, school health, etc.)	154	172	47	22	7
		38.3	42.8	11.7	5.5	1.7
4. 4	Activating the referral system (from PHCC to hospital) in its correct form can contribute to organizing and coordinating work to ensure continuity of good health care and reduce momentum in health centers.	167	157	43	25	10
		41.5	39.1	10.7	6.2	2.5
5. 5	There is a significant weakness in the performance of PHC	137	121	117	21	6
		34.1	30.1	29.1	5.2	1.5

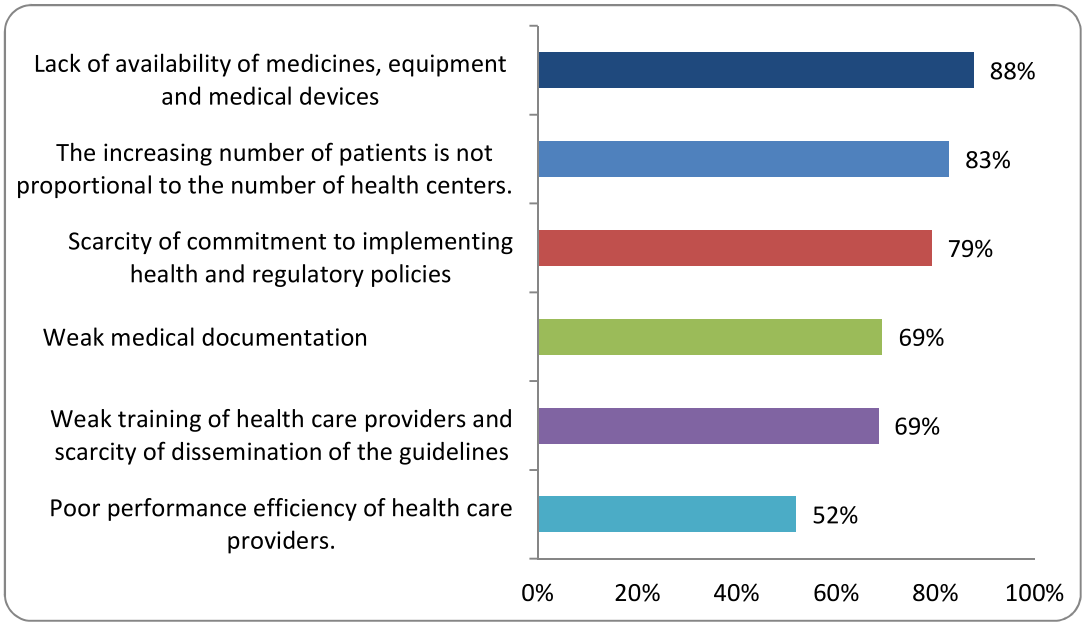

Fig. 1. Reasons for poor performance of primary health care centers among study participants.

(60–90%) reported in Saudi Arabia, Qatar, and Kuwait [31]

. In this study, only 9% of participants believed that family doctors could treat 75% of patients. This underestimation reflects broader systemic issues, including poor governance, limited awareness among health workers, and challenges affecting family physicians' efficiency—such as inadequate training, lack of support from other specialties, and insufficient supervision in teaching hospitals.

Regarding perspectives, knowledge, and attitudes from dealing with family physicians, Only 37.5% of participants reported sufficient knowledge about the role and duties of family doctors, while 44.5% stated that the role is unclear—findings consistent with a Saudi study [33] where 56.6% agreed the family physician's role is not well understood.

Despite this, 89.6% of participants showed a positive attitude toward strengthening the role of family physicians, believing it would improve the country's health situation. This aligns with studies from Iran [40] and Pakistan [41], which highlighted that implementing family medicine enhances PHC, supports Universal Health Coverage (UHC), and improves healthcare access and outcomes [42].

Most participants (71.2%) emphasized the need to increase the number of family doctors in Karbala and across Iraq. According to Iraq's Ministry of Health, there are 3.4 family physicians per 10,000 people, meaning each physician serves around 2,941

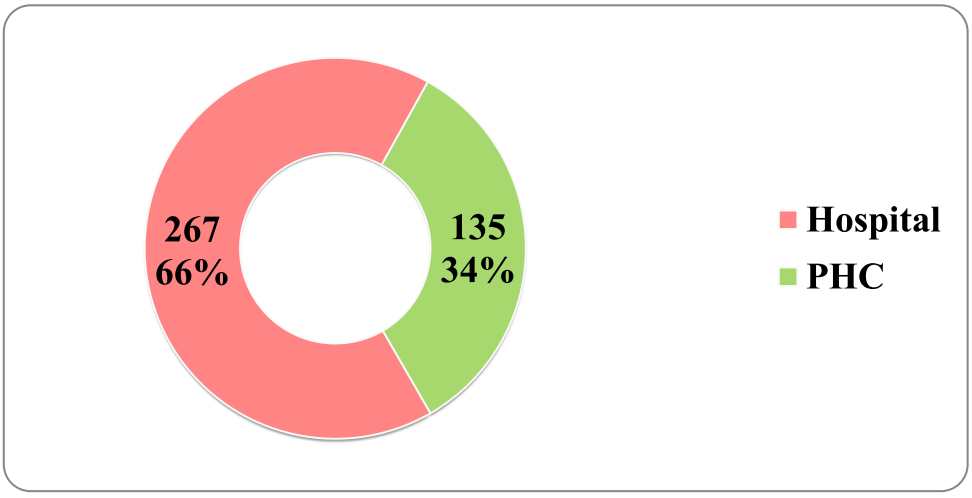

Fig. 2. Distribution of the study group according to the preferences to visit hospitals or PHCC.

Table 3. Perceptions and attitudes from dealing with family physician.

Question no.	Questions	Strongly agree	Agree	In between	Disagree	Strongly disagree
1	You have sufficient knowledge of the nature of the work and duties of a family doctor	**42 (10.4)**	**109 (27.1)**	**195 (48.5)**	**48 (11.9)**	**8 (2)**
2	There is a need to increase the number of family doctors in your city and country	**98 (24.4)**	**188 (46.8)**	**81 (20.1)**	**29 (7.2)**	**6 (1.5)**
3	Activating and revitalizing the role of the family doctor in the correct manner is important for improving the health situation in your country.	**162 (40.3)**	**198 (49.3)**	**34 (8.5)**	**7 (1.7)**	**1 (0.2)**
4	There is no difference in competence between a family doctor and a practitioner.	**42 10.4**	**103 25.6**	**140 34.8**	**100 24.9**	**17 4.2**

patients. In contrast, studies from the US, Europe, and Canada report lower patient loads per physician, typically between 1,200 and 2,000, suggesting a significant imbalance in Iraq's primary care capacity. [43]

Around 36% of participants saw no distinction between family physicians and general practitioners, while another third were uncertain, indicating limited awareness or lack of exposure to family medicine. This aligns with findings from India [44], where family physicians reported low recognition and identity challenges. In contrast, a study from Saudi Arabia [33] showed that most respondents (about 75%) could differentiate between the two roles.

Only 37.5% of participants reported sufficient knowledge about the role and duties of family doctors, while 44.5% stated that the role is unclear—findings consistent with a Saudi study [33] where 56.6% agreed the family physician's role is not well understood.

Despite this, 89.6% of participants showed a positive attitude toward strengthening the role of family physicians, believing it would improve the country's health situation. This aligns with studies from Iran and Pakistan, which highlighted that implementing family medicine enhances PHC, supports Universal Health Coverage (UHC), and improves healthcare access and outcomes.

A majority (71.2%) believed that the number of family doctors should be increased. According to Iraqi Ministry of Health statistics, the current ratio is 3.4 family physicians per 10,000 people—each serving around 2,941 patients. In contrast, international studies suggest ideal panel sizes range from 1,200 to 2,000 patients per physician, indicating a shortage in Iraq.

Finally, about one third of participants (36%) saw no difference between family physicians and general practitioners, and another third were unsure. This reflects low awareness among healthcare workers, possibly due to limited exposure to family medicine.

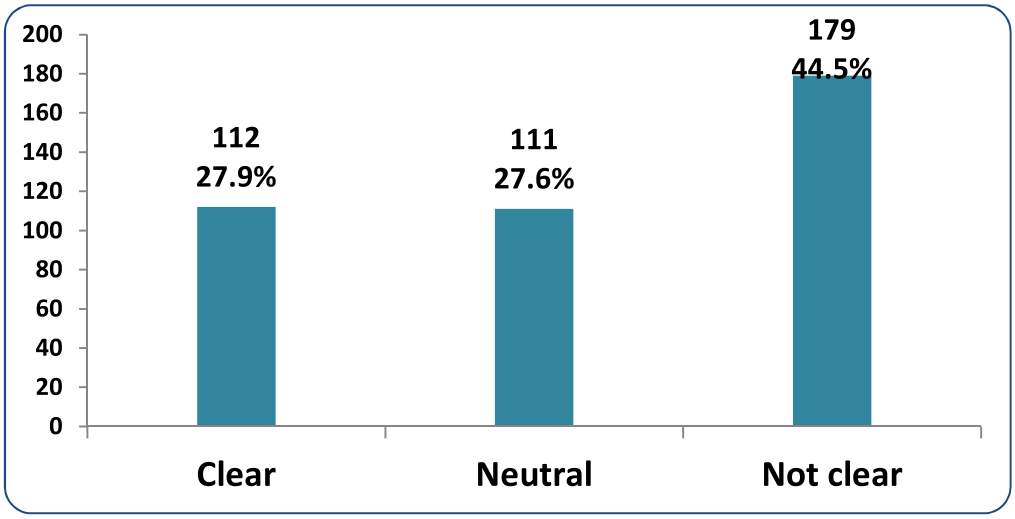

Fig. 3. Responses to the question regarding the role and work of the family doctor.

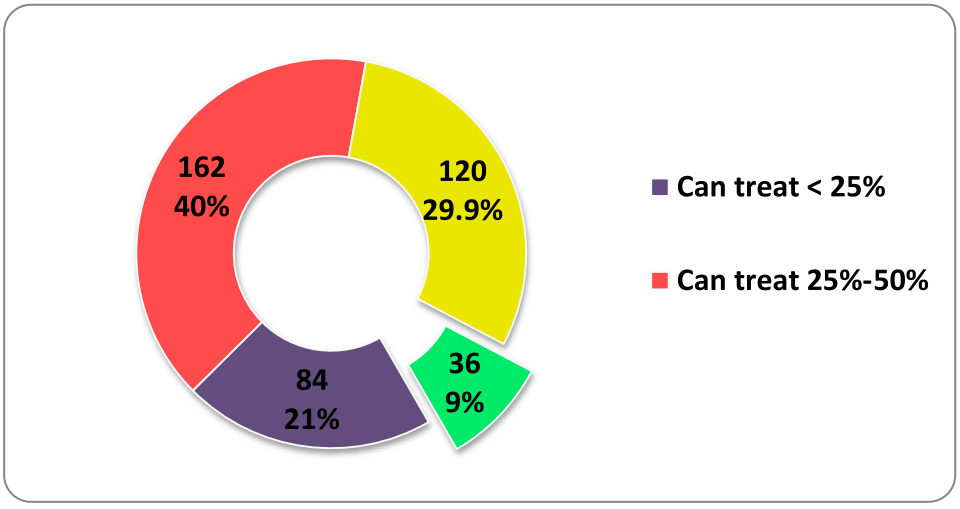

Fig. 4. Responses to the question regarding the expected percentage of patients that a family doctor can treat.

Similar findings were noted in India and Saudi Arabia, where confusion between roles and identity challenges for family medicine professionals were reported.

Regarding perspectives, knowledge, and attitudes about family medicine and family physicians, Most of the participants expressed high knowledge about the questions related to (Table 4) and this conflicted with their previous answers and with Saudi Arabia [33] study. This related to leading questions which had been asked in this survey; the intent of these questions was to increase participants knowledge about the concepts and the role of family medicine and physicians rather than to obtain their knowledge about family physicians concept and this explain the cause of the disparity in the results.

We had studied correlation between certain variables and question which reflected awareness and knowledge, according to analysis there is no significant p-value between sociodemographic characteristics and the knowledge, this illustrates a general state of ignorance about the role of family medicine and the family physician among health workers. While in Saudi Arabia study, the awareness and knowledge scores of the participants significantly affected by being a healthcare worker, job, marital status, and gender.

Most participants showed high knowledge of the questions in Table 4, which contradicts their earlier responses and findings from a similar study in Saudi Arabia. This discrepancy is likely due to the nature of the survey questions, which were designed to educate

Table 4. Perception, knowledge, and attitude about family medicine and the family physician.

Question no.	Questions	Strongly agree	Agree	In between	Disagree	Strongly disagree
1	Providing comprehensive health care includes all the body organs and systems for individuals and families	**136 (33.8)**	**217 (54)**	**44 (10.9)**	**5 (1.2)**	**0**
2	Providing health care for all ages (adults and children) and both sexes (male and female).	**135 (33.6)**	**227 (56.5)**	**30 (7.5)**	**7 (1.7)**	**3 (0.7)**
3	Providing continuous health care from childhood to old age	**137 (34.1)**	**226 (56.2)**	**34 (8.5)**	**5 (1.2)**	**0**
4	It contributes to providing care, promoting health, and providing health awareness to prevent and reduce the incidence of diseases.	**126 (31.3)**	**214 (53.2)**	**52 (12.9)**	**9 (2.2)**	**1 (0.2)**
5	Providing health advice regarding nutrition and health practices.	**150 (37.3)**	**210 (52.2)**	**39 (9.7)**	**3 (0.7)**	**0**
6	The family doctor represents the first line of contact with the patient/client	**139 (34.6)**	**202 (50.2)**	**52 (12.9)**	**8 (2)**	**1 (0.2)**
7	It contributes to the early detection of chronic diseases and cancerous diseases.	**135 (33.6)**	**166 (41.3)**	**72 (17.9)**	**23 (5.7)**	**6 (1.5)**

Table 5. Association of the socio-demographic characteristics of the health workers and Role of Family Doctor.

		Role of Family Doctor			
Characteristics	Categories	Clear	Neutral	Not clear	P value
Age (years)	Below 25	9 (26.5)	15 (44.1)	10 (29.4)	0.062
	25–34	62 (32.8)	51 (27)	76 (40.2)	
	35–44	18 (22)	22 (26.8)	42 (51.2)	
	45–60	23 (23.7)	23 (23.7)	51 (52.6)	
Sex	Female	74 (28.8)	75 (29.2)	108 (42)	0.394
	Male	38 (26.2)	36 (24.8)	71 (49)	
Education	Secondary school	22 (33.3)	13 (19.7)	31 (47)	0.472
	Institute	26 (24.8)	29 (27.6)	50 (47.6)	
	College or higher	64 (27.7)	69 (29.9)	98 (42.4)	
Job title	Dentist/ Pharmacist	7 (22.6)	9 (29)	15 (48.4)	0.894
	Health staff	80 (29.2)	76 (27.7)	118 (43.1)	
	Administrative	25 (25.8)	26 (26.8)	46 (47.4)	
Work place	Hospital	68 (28.5)	59 (24.7)	112 (46.9)	0.597
	PHC	22 (28.2)	24 (30.8)	32 (41)	
	Health directorate	22 (25.9)	28 (32.9)	35 (41.2)	
Years of services	Less than 4	30 (25)	35 (29.2)	55 (45.8)	0.711
	9-Apr	37 (31.4)	34 (28.8)	47 (39.8)	
	10 and above	45 (27.4)	42 (25.6)	77 (47)	
Marital status	Married	77 (26.6)	79 (27.2)	134 (46.2)	0.789
	Single	28 (30.1)	27 (29)	38 (40.9)	
	Divorced/ widow	7 (36.8)	5 (26.3)	7 (36.8)	
Residence	Urban	104 (27.4)	106 (28)	169 (44.6)	0.694
	Rural	8 (34.8)	5 (21.7)	10 (43.5)	

*Chi-square test was used with a significant P value of less than 0.05.

participants about family medicine concepts rather than assess their existing knowledge.

The study also analyzed the correlation between sociodemographic variables and knowledge-related questions. Results showed no significant associations, indicating a general lack of awareness about the role of family medicine among healthcare workers. In contrast, the Saudi study found that factors such as being a healthcare worker, job role, marital status, and gender significantly influenced awareness and knowledge levels.

Some limitations appeared in this study related to the convenience sample which was used to choose participants. Some of the questions in the questionnaire were leading questions, which makes it susceptible to response bias, in a cross-sectional study design

cannot be established between variables. Moreover, generalization cannot be achieved since the findings of this study are limited to Karbala governorate health care workers. To our best knowledge, this study is the first study conducted in Iraq that tackles this important health service related issue.

5. Conclusion

Most of the participants expressed that there is a significant weakness in the performance of PHCCs.The majority of the participants expressed that the role and work of the family physician is not clearly understood by them. There was no significant relationship between health workers perspectives and their demographic characteristics including their age, and sex.

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Conflict of interest

The authors declare no conflict of interest

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