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Research Article

Practice and Opinion of Doctors in Primary Health Care Centers Toward Referral System: Samples from Nine Governorates in Iraq

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ABSTRACT

Background: Most primary Health Care Centers (PHCCs) in Iraq have a referral system records; however, this mechanism does not function well because of the lack of other requirements for an efficient referral system.
Objective: To assess the practice & opinion of doctors in PHCs toward the referral system, and to determine the doctors in PHC's commitment to referral system instructions and guidelines.
Subjects and methods: A cross-sectional study with analytic elements was conducted in nine health directorates in Iraq, from the 1st October 2018 – 30th June 2019.One PHC was selected randomly form each sector in every governorate, A questionnaire was used to collect the required information. SPSS version 24 analysis was used for the statistical analysis.
Results: sixty-three doctors were working in PHCs had participated in the current study, the mean age (40.03 ±10.24), 58.7%were female, 46% were general practitioner, 30.2% of the participated doctors had 300 and less patient/month; 31.7% of doctors had ≤10 Patients referred/month, emergencies was the main cause for referral (46.03%), and 37(58.37%) of doctors announced that the referred-form not retrained to the PHC, and ever retrained-forms had no feedback 29(46%), 28(44%)of the participated doctors agreed that the current referral-system was effective and seven of them strongly agreed, 59(93.7%) believe in the importance of hospital-feedback, with a significant relationship between their attitude about the effective-current-referral system & Refer cases Percentage, while no significant-relation with their Patients examined/month. Loaded crowded and hospital doctors shortage as possible causes and suggest to referral-system activation especially the hospital -part".
Conclusions: there was inadequate knowledge of referral-policies and lack of coordination or/and clear feedback-expectations and PHCs-hospitals collaboration and lack of referral-system integrated within an electronic-health-record.

Introduction

The primary health care center physicians have lesser facilities to manage complicated clinical conditions, so they need a system which facilitates a process of seeking the assistance of specialists working in the hospitals, with resources to guide in managing clinical episodes without transferring responsibility, but it's sharing responsibility in a patient's care. (1)

The development of effective &actual patient referral systems between different levels of health care delivery is considered one of the important public health issues &represents a cornerstone in addressing patients' health needs (2, 3).

The referral is a two-way communication process between primary care physicians and specialists in hospitals, it is vital for the smooth functioning of a health care system to improve the quality of patient care (4), It is important that primary care physician is able to clarify clear message about the reason(s) for referring, and the specialist in a hospital to give clear feedback on the patient's condition. A referral process that is practiced efficiently, can contribute to high standards of care, improving patient's outcomes and assists in making cost-effective use of hospitals and primary health care services through optimal use of medical services. (5-7). It can also support health centers and outreach services by experienced staff from the hospital and helps build capacity and enhance access to better quality care (7- 9).

A referral process is a complex activity, which involves referral decision and referral communication. A referral decision is a clinical decision made by physicians about referral indication (whether referral is needed or not), service identification, and provider selection (5).

Referral communication deals with subsequent interactions that exist between referring and referred to providers once a referral decision is made. These two key aspects of a referral process require the transfer and coordination of complex and diverse forms of information distributed between providers. This complexity often causes inefficient referral decisions & referral communication, which in turn affects the quality and cost of care. Hence, it is important to improve both the decision-making as well as the communication aspects of the process to enhance the overall outcome of the referral system (7, 10).

The referral does not mean only forward referrals. Equal importance should be given to the feedback as well. If the patients are treated at the first level referral center, they may be referred back to the original primary health care center with the necessary follow-up advice. This will enhance the trust of the primary care centers by the patients from the catchment areas. (11, 12)

To provide a comprehensive and integrated health service for the people of Iraq, the Ministry of Health (MOH) has introduced a referral system in late 2008 as one of its strate¬gies to make better cost-effective utilization of health services. (3, 12) In this system, all the patients should first be seen by primary health-care physicians who decide whether a referral to secondary care is necessary. This means that access to hospital care is through PHCs, except for emergency cases where patients can access the hospital directly (11-13).

In Iraq, the referral system in PHCCs is based on clear guidelines detailing the referral process which includes the use of a pre-designed standardized referral form that includes part related to PHCC important relevant social and clinical information represent referral summary and the other part is the feedback form related to hospital feedback.

The feedback referral information reports of clients referred out should be made on the same line of referral form as information regarding the original referral out, this facilitates follow-up. In the hospital, all the results are documented and recorded, and then the PHCC answered by sending the first paper of the referral form via official mail. (3,12).

Most PHCCs in Iraq had a referral system record; however, this mechanism does not function well because of the lack of other requirements for an efficient referral system. The referral system is facing difficulties worldwide, (4, 8, 9) and Iraq like other countries do so (3, 14,15).

The aim of this study is to assess the practice and opinion of doctors in PHCs toward the referral system, and to determine the doctors in PHC's commitment to referral system instructions and guidelines.

Subjects and Methods:

Setting and study design

A cross-sectional study with analytic elements conducted in nine health directorates in Iraq, single PHCC from each sector in these directorates was chosen, a total of 63 doctors participated in this study as shown in the Table (1).

Sampling method:

One PHC was selected randomly form each sector in every governorate, and one doctor was enrolled from each chosen PHC randomly. The data collection was carried out over a four-month reference period (The first of November 2018 to last of February - 2019), and the whole study was done over the period from the 1st October 2018 to the 30th June 2019.

Study Tool

A questionnaire was developed by the researchers and the opinion of 4 experts (2 community physicians, 2 family physicians) was taken into consideration. The questionnaire consisted from the first part: Governorate, sector, PHC name, date of interview, the second part: Socio-demographic (name (optional), age, gender, and specialty of doctor), the third part about doctor practice (patient/month, asking each patient about previous referring, the patient referred/month, Main referral conditions, presence of the special referral form, referral reasons, referred cases% total PHC clients, referral system policy, emergency referral transportation aid, referral form filling time, partial or not adequate referral form filling time causes, important hospital feedback to PHCs, doctor opinion about current referral system, and his/her suggestions.

Table 1: distribution of the studied PHCCs sample

Governorate	sectors	PHC	%
Baghdad/Resafa	Al Baladiat, Al Nahrawan 2, Al Nahrwan1, Al Rasheed, Al-Gaiara, Athameia, Baghdad 2, Basmiaia, Bob Al Sham, Karada, Om Al Kabed, Salman Al Mohamidi	12	12	19.05
Baghdad/Alkarkh	Al Baladiat, Al Nahrawan 2, Al Nahrwan1, Al Rasheed, Al-Gaiara, Athameia, Baghdad 2, Basmiaia, Bob Al Sham, Karada, Om Al Kabed, Salman Al Mohamidi	10	10	15.87
Ninawa	Al-Adel, Al-Zahra'a, Alrahmania, Altahady, Alzayton, Baya'a, Mahmodia First, Salam, Tarmia	9	9	14.29
Basrah	Al Hendia, Al Hoar, Al Khariat, Al Moalhaq	8	8	12.7
Najaf	Al Abasia, Al Manathera, Kufa, Meshkhab, North Sector, West Sector	6	6	9.52
Muthana	Romatha2, Al Warka'a, Al-Samaum, Romatha, Smawa'a	5	5	7.94
Karbala	Abe Alkhaseeb, Al Aqsa, Al Dair, Al Fayha'a, Al-Haritha, The First, Kur Al Zubair, Second Sector	5	5	7.94
Kirkuk	Al Ta'khi, Daquq, Dibis, Tusa'an	6	4*	6.345
Maysan	Al Hamdiania, Aymen, Ayser, Makmoor, Qayara, Shekoan, Singar, Telafer, Telkaf	4	4	6.345
Total		65	63	100.0

* Two of sectors in Kirkuk are out of reach because of security causes at the time of data collection.

Pilot study:

done by conducting a pretest by using the study questionnaire on ten doctors who have not been involved in the study in order to evaluate the feasibility, time, cost, effect size (statistical variability).

Statistical analysis:

was done by using SPSS version 23. Frequencies, percentages, Chi-Square-test were used to obtain the p. value which is less than 0.05 statistically significant.

Results

The study was conducted in nine health directorates in Iraq, 63 doctors working in PHCs participated in the current study with mean age (40.03 ±10.24), and the age distributed semi-equal in the 4 categories, 37(58.7%) of participants were females, and 29(46%) were general practitioner (post-rotation without academic degree) followed by 15(23.8%) were family physicians. (Table 2)

Thirty percent of doctors see on average between 300 and less patient/month, and thirty-one percent referred up to 10 percent of their patients. About forty-four percent of the PHCCs have referred 5% and below. (Table 3)

Figure (1) shows the main cases referred to hospital 29(46.03%) were emergencies followed by an equal percent 7(11%) obstetrics/gynecological cases and rheumatological and orthopedic cases.

While the main indication was for getting treatment 33(52.38%), followed by for both treatment after diagnosis 12(19.04%). (Figure 2)

This study revealed that most of the participant-doctors 47(74.6%) did not know the presence of referral system policy, 28(44.4%) of the PHC never have emergency referrals transportation aid, near half of the participant had partial time or non adequate time to fill the referral form (33.3%, 12.7% respectively), and the main cause of that was overcrowded PHCC & limited time (72.41%). (Table 4)

In concern about returned referral form and the hospital doctor's feedback, most of the referred form 37(58.37%) not retrained to the PHCC, and the returned forms had zero feedback 29(46%) and non adequate feedback 13(21%). (Figures 3 & 4)

When PHC doctors were asked about possible causes of inadequate hospital feedback; 26(41.26%) had "no comments or answer", while 14(22.22%) of them mentioned" overloaded crowded + shortage in the number of the doctors in the hospital" as possible causes, followed by 11(17.46%) thought that "hospital doctors don't care or know the principle of referral system". "Lack of coordination between PHCCs and hospitals" was mentioned by 7 doctors, and "Hospital doctors not believed in referral system" was mentioned by only 3 doctors. Forty-four percent (28) of participant doctors agreed that the current referral system was effective and seven of them strongly agreed (7), and the majority of them believed about the importance of hospital feedback 59(93.7%). (Table 5, figure 5)

The majority of participant-doctors suggested "referral system activation especially the hospital part", and at the same level "availability of the ambulance + PHC doctors training courses", followed by "coordination between PHC & hospitals". (Table 6).

Table (7) revealed that there was a statistically significant relationship between participant doctor's attitude about the effective current referral system and percentage of referred cases, while no significant relation with the number of patients seen per month.

Table 2: Distribution of PHC doctors according to age, gender, & specialty.

		Frequency (N=63)	%
Age	24 -29 yrs	17	27.0
Mean=	30-39 yrs	15	23.8
40.03	40-49 yrs	17	27.0
SD=10.242	50-60 yrs	14	22.2
Gender	Male	26	41.3
	Female	37	58.7
Specialty	General practitioner	29	46.0
	Family physician	15	23.8
	Resident	9	14.3
	Pediatrician	3	4.76
	Others*	5	7.96
	Community physician	2	3.2

*= Dermatologist (2), Gynecologist /Obstetrics (2) and Medicine (1).

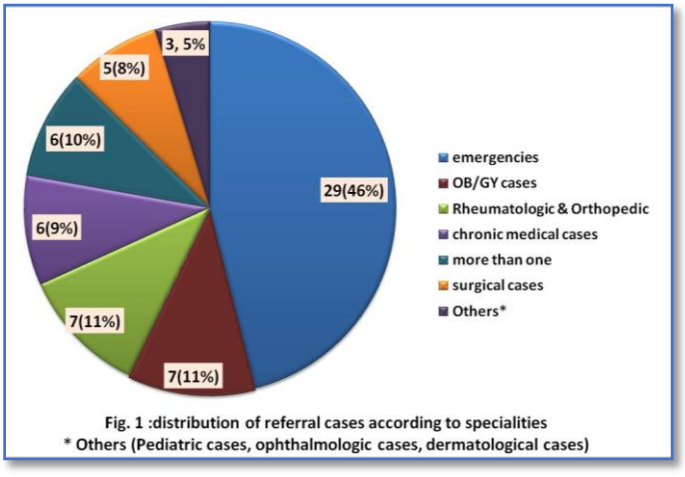

Fig. 1 :distribution of referral cases according to specialities
* Others (Pediatric cases, ophthalmologic cases, dermatological cases)

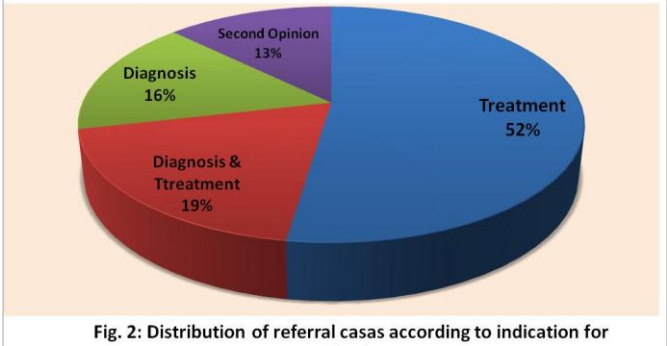

Fig. 2: Distribution of referral casas according to indication for referring

Table 3: Distribution of PHC doctors according to patient /month, and patient referred/month.

		No.	Percent
Patient / month	300 p/m and less	19	30.2
	301-600 p/m	13	20.6
	601-900 p/m	5	7.9
	901-1200p/m	12	19.0
	1201 p/m above	14	22.23
Patient referred/month	≤10	20	31.7
	11-30	11	17.5
	31-60	11	17.5
	61-90	4	6.3
	91-120	9	14.3
	≥120	8	12.7
Referral cases Percentage from total PHC clients	5% and below	28	44.4
	6-10 %	16	25.4
	11-15%	7	11.1
	16 % & above	12	19

Table 4.
Distribution of PHC doctors according to the presence of Referral system policy and Emergency referrals Transportation aid.

		No.	%
Referral system policy N=63	Present	16	25.4
	Not present	47	74.6
Emergency referrals transportation aid in your PHC N=63	every time	9	14.3
	most time	4	6.3
	some time	9	14.3
	never	28	44.4
	not applicable	13	20.6
Referral form adequate filling time N=63	adequate	34	54.0
	partial adequate	21	33.3
	not adequate	8	12.7
Causes of partial or not adequate filling time, N=29	overcrowded PHC & limited time & doctors	21	72.41
	no answer	8	27.58

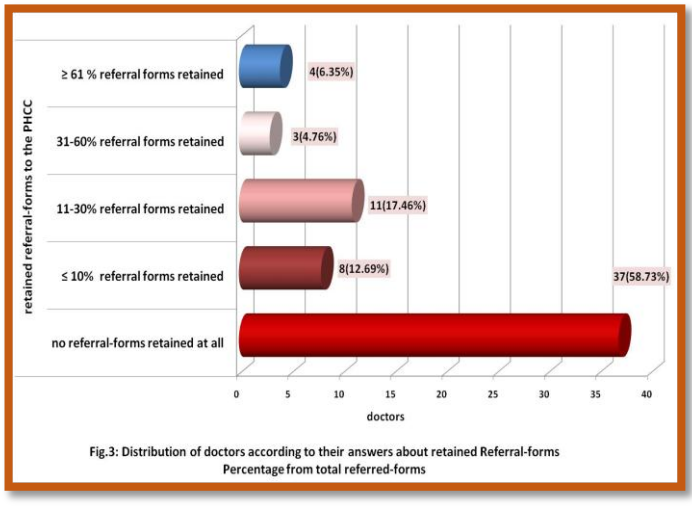

Fig.3: Distribution of doctors according to their answers about retained Referral-forms
Percentage from total referred-forms

Table 5: Distribution of participant doctors according to their perception about the effectiveness of current referral system & the important of hospital feedback.

		Frequency	%
Effective current referral system	strongly agreed	7	11.1
	agreed	28	44.4
	disagreed	20	31.7
	strongly disagreed	7	11.1
	no answer	1	1.6
Hospital feedback important	Yes	59	93.6
	Didn't know	2	3.2
	No	2	3.2
Total		63	100.0

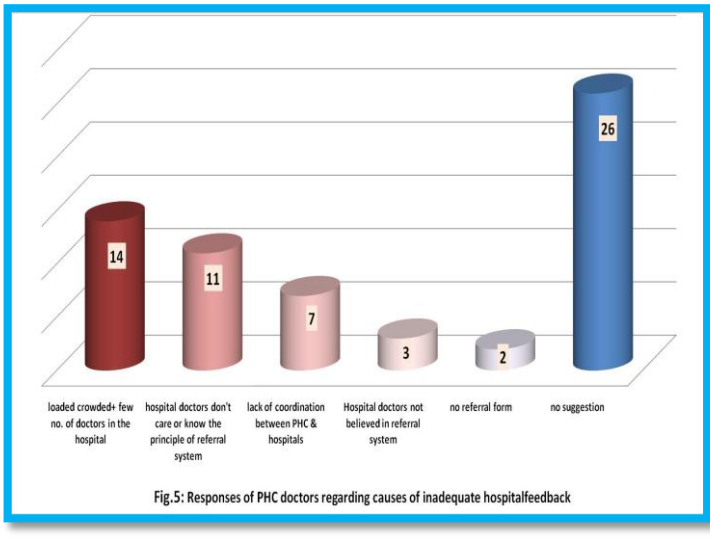

Fig.5: Responses of PHC doctors regarding causes of inadequate hospitalfeedback

Table 6: participant doctor's suggestion to strengthen the current referral system.

What is your suggestion about?	F	%
Activate the referral system especially hospital part	12	19
Availability of the ambulance + PHC doctors training courses	11	17.5
Coordination between PHC & hospitals	9	14.3
Electronic referral system	5	7.9
Increase the PHC doctors no.	2	3.2
Cancel the referral system	2	3.2
Continuity and correction of the referral system	2	3.2
Availability of referral policies and the forma	2	3.2
No suggestion	18	29.5

Table 7: Relation between participant doctor's perceptions about Effective current referral system and their Patient / month & Refer cases Percentage.

		participant doctor's attitude about Effective current referral system					
		strongly agreed	agreed	Dis-agreed	strongly disagreed	Total	P value
Patient month	300 p/m and less	4	9	4	2	19	**0.181**
	301-600 p/m	1	5	6	1	13	
	601-900 p/m	0	1	4	0	5	
	901-1200p/m	1	4	3	4	12	
	1201and above	1	9	3	1	14	
Refer cases %	5% and below	2	16	8	2	28	**0.015**
	6-10 %	4	6	3	3	16	
	11-15%	0	2	3	2	7	
	16-20 %	0	0	6	0	6	
	21% and above	1	4	0	1	6	
Total		7	28	20	8	63	

Discussion

Currently, the referral system situation in Iraq could be described as ineffective or shallow. It has an almost one-way direction from PHCCs to hospitals, as there is very limited feedback. Its main cause is to reduce the overload on hospitals. Nevertheless, many hospital consultation clinics are still overloaded with patients who could reach there without a referral (16).

This could explain why only one-quarter of doctors were aware of the presence of a referral policy. More than two-third indicate overcrowding as the main reason for incomplete filling of referral forms. However, a surprising issue is that more than half of the participants consider the referral system status as adequate. So providing referral information and guidelines booklet for PHC doctors could be helpful. (4, 12) workshops could integrate referral

policies with communication skills training and other important programs for PHC doctors, and will be very helpful in establishing clear expectations for communication, patient satisfaction, and improvement of services (17-20).

Most clinicians in the sample reported a referral rate of "up to 10%", and there was an association between the perception of the doctor towards the referral system and the referred cases percentage. However, referral rates per se are neither an indicator of the efficiency of the system nor a proper improvement target. Instead, for quality improvement, the focus should be on the appropriateness of referrals, regardless of the referral rate. Research worldwide shows a large variety of referral rates, depending on gender, specialty, training, employment status, and others. (4, 21, & 22)

Besides, referrals to secondary care could increase when clinical guidelines are too complex for PHC doctors. They could also increase when there is a higher potential for malpractice claims. Malpractice claims lead to defensive medicine practices, amongst which are high referrals (22-25).

The majority of the PHC doctors highlighted that feedback from the hospital is important. The recommendations, including those of Iraq, do require feedback from the referred-to facility, even if no follow-up is required. Surprisingly, a small percentage had suggested the use of an electronic record. The majority might not be against it but they probably believe that it is very difficult to apply with limited resources and manpower. Electronic healthcare information systems worldwide offers many benefits to all healthcare providers concerned with patient management, including real-time queries for medical and personal information, and therefore easier feedback and follow-up. They also reduce the meantime for referral decision and reception of feedback (12, 20, 26-28).

Currently, medical records are deficient in many PHCCs or hospital outpatient departments. They are poorly maintained in in-patient departments and PHCCs. Further, data are often inaccurate, incomplete, and poorly transmitted. As information moves from the hospital to the Directorate of Health, there is a substantial deterioration in the quality of data in the copying and transmission process. Implementing a web system would automate this transmission process. With all that in favor, there are more substantial issues with the quality of clinical data itself and many technical challenges related to infrastructure (27, 28).

Another potential shortcoming with the referral system to be highlighted is the poor quality of filling of referral forms, and this agrees with a previous study conducted in Baghdad that showed deficient information at many aspects in referral forms (4). In this study, over half of the doctors reported that they do have adequate filling time, but we are cautious about interpreting that in light of the poor outcomes in referral form quality reported in Baghdad because the sample and therefore the attributes could be different. However, it has been reported that the majority of referral cases is made at the request of the patient because they are not satisfied or/and convinced with the quality of care in PHC centers. In some of these cases, assumed that the doctor themselves does not know the referral reason (4, 12,29).

Iraq's guidelines dictate that Medical Record Units should record all data before releasing a form, for patient safety, but that does not happen. (12,30) Doctors who noted the lack of adequate time mostly attributed it to the high patient-to-doctor ratio in PHC centers, consistent with statistics. But there is also some shortage of hospital doctors, which was a top suggested reason by our sample as to why there is inadequate feedback; a similar percentage suggested that hospital doctors do not care or believe in the referral system. To address this doctor shortage, the global effort focuses on shifting some tasks to nurses and medical assistants, especially in primary healthcare and in underserved areas. There are many recommendations that nurses and assistants practice the maximum extent of their training. (3, 29).

Conclusion and Recommendation

Several areas were identified for the improvement of the referral system, considering PHC doctor opinions. Those include inadequate knowledge of policies for referral and lack of coordination or/and clear expectations for feedback and collaboration between PHCs and hospitals. Both issues could be alleviated by common workshops and resource provisions. There is also a perceived shortage of doctors and high time-pressure on PHC doctors that does not allow enough referral form filing time. Assigning tasks to other health workers could be recommended. Finally, most doctors do not want to push for following the global trend to a referral system integrated within an electronic health record, which, at least at this stage, presents challenges beyond clinician perception s and healthcare system structure.

Offering workshops or training courses that present realistic scenarios for doctors working in PHCs and hospitals and even medical students; is another useful strategy.

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Conflict of Interest

No conflict of interest

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