



Research Article

Introduction of an Appointment System in Primary Health Care Setting in Baghdad: Views of Patients and Health Care Providers

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ABSTRACT

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Background: The appointment system is a common practice in primary health care clinics in developed countries. The patients and health care providers in the primary health care setting perceived the appointment system as an indicator of good quality service.

Objective: The aim of this study was to survey patients' and health care providers' attitudes towards the introduction of an appointment system and their satisfaction with the existing 'walk-in' system in the primary health care setting.

Subjects and Methods: A questionnaire survey was conducted included a convenient sample of 234 patients as well as 76 health care providers from two primary health care centers in Al-Karkh district, Baghdad governorate. The study used two separate questionnaires, for patients and staff.

Results: Approximately half of the patients (51.7%) and the majority of the health care providers (85.5%) agreed on the introduction of the appointment system. The employee's patients, highly educated patients, and patients with chronic illness showed a significant agreement to this idea. Most participants, patients, and providers agreed that reduction of workload, provision of quality care to the patient, and improvement of patient-provider relationship are the most important advantages of the application of an appointment system. While the lack of flexibility of this system was the main perceived disadvantage.

Conclusion: Respondents showed great acceptance to the idea of introduction of the appointment system to be run concurrently with the existing walk-in system (mixed system) in the primary care setting in Iraq, and they preferred this system to be flexible and responsive to the needs and preferences of the patients as well as health care providers.

Introduction

In Iraq, patients have open access to primary health care (PHC) centers; they are served on a walk-in basis. Patients can drop in any PHC center of their preference without having previous registration or made an appointment. The low cost of services provided by these centers leads to a severe shortage of most essential drugs and overuse of services due to patients' unnecessary repeated visits and workload.[1]

There is a prevailing belief among PHC physicians that poor organization of health services delivery in Iraqi PHC centers and the related overuse of services and unnecessary workload on the primary care providers and primary care facilities can have negative effects

on the quality of the provided services, particularly on the provider-patient interaction and communication in addition to consultation length. Hence, they recognized a set of priorities for improving the PHC system, adoption of an appointment system in the PHC practice was on the top of these priorities. [2-6]

The appointment system is used to manage appointment calendars and scheduling appointments for physicians, dentists, and other health care providers. It allocates appointments to time slots during the consultation hours.[7] Effective appointment systems have the goal of matching demand with capacity so that resources are better utilized and patient waiting times are minimized. Well-designed appointment systems have the potential to increase the utilization of

expensive personnel and equipment-based medical resources as well as reducing waiting times for patients.[8]

The aim of this study was to survey patients' and health care providers' attitudes towards the introduction of an appointment system in the primary health care setting.

Subjects and Methods

Settings and study design

A cross sectional study was conducted from 1st July to 31st October 2019. The study subjects were selected from two PHC centers (Alsalam and Alotaifea health centers) in Al-Karkh district, Baghdad governorate.

Ethical consideration

The study was conducted according to the ethical approval obtained from the above health centers. All participants in this study have been asked to provide their verbal consents to participate after explaining the aims and the nature of the study.

Sampling

A convenient sample of 234 patients above the age of 18 years of both sexes who were attending those health centers at the time of the study, as well as 76 health care providers (physicians, dentists, pharmacists, medical assistants, nurses, laboratory technicians, and administrators) who were willing to participate in the study.

Questionnaire form

The study used two separate questionnaires: The first was a self-administered questionnaire completed by health care providers to explore their satisfaction with the existing 'walk-in' system and their views on the idea of introducing an appointment system. The questionnaire also addressed, through open questions, the providers' views on which group of patients they thought would benefit most from an appointment system and the advantages of walk-in and appointment systems.

The second was an interview questionnaire whereby a sample of patients were interviewed by investigators. The questionnaire included: demographic information, the patients' satisfaction with the present walk-in system, whether they would support the idea of a mixed system (walk-in and appointments) and their comments on the anticipated advantages and disadvantages of an appointment system. The questionnaire also included questions about some administrative and organizational issues. Open questions were used to allow participants to better express their views.

Statistics

Data were analyzed using the statistical package for social sciences (SPSS, version 15). Satisfaction of the patients was cross-tabulated with different variables to look for any possible significant association. Association was tested by the Chi-Square test and P-value less than 0.05 was considered significant.

Results

The study sample consisted of two groups. The first group included 234 patients. Of them, 99(42.3%) were male and 135(57.7%) were female. Their mean age was 38.7±9.6 years, with a range of 18-74 year. The second group included 76 health care providers, as follows; 36(47.4%) doctors (including physicians, dentists, and pharmacists), 27(35.5%) nurses and medical assistants,

and 13(17.1%) administrators. Of them, 27(35.5%) were male and 49(64.5%) were female. Their mean age was 33.9 ± 7.9 years, with a range of 21-63 year.

The study surveyed firstly, patients' and staff members' satisfaction with the existing walk-in system, and secondly, their attitudes towards the appointment system. For patients, 45.7% reported being satisfied with the existing walk-in system, and 51.7% of them indicated their agreement with the introduction of a system of appointment to run concurrently with the existing walk-in system (mixed system). On the other hand, most of the health care providers (75.0%) were not satisfied with the existing walk-in system. Furthermore, the majority of them (85.5%) have approved the appointment system, as illustrated in Table 1.

Table 1: Study subjects' satisfaction with the existing walk-in system, and their opinion in introducing of an appointment system

	Patients response N (%)	Staff response N (%)
Walk-in system		
satisfied	107 (45.7)	8 (10.5)
somewhat satisfied	54 (23.1)	4 (5.3)
not satisfied	29 (12.4)	57 (75.0)
neutral	44 (18.8)	7 (9.2)
appointment system		
Agree	121 (51.7)	65 (85.5)
Disagree	48 (20.5)	5 (6.6)
Undecided	65 (27.8)	6 (7.9)

The study demonstrated that the employee's patients, highly educated patients, and patients with chronic illness showed a significant agreement to the idea of introducing an appointment system in PHC setting (P=0.025, 0.038, and 0.005, respectively), as illustrated in Table 2.

Study subjects were asked to identify the advantages and disadvantages of the existing walk-in system using open-ended questions. The easy access and availability were the main advantages perceived by the study participants, while workload, poor organization of health programs, and lack of quality care to patients was on the top of the list of the disadvantages. The participants' replies are categorized as shown in Table 3.

Thereafter, study subjects were asked to express their views on the potential advantages and disadvantages of the application of an appointment system, using an open-ended question. Most participants agreed that reduction of workload, provision of quality care to the patient, and improvement of patient-provider relationship are the most important advantages. While the lack of flexibility of the appointment system was the main perceived disadvantage. The participants' views are listed in Table 4.

The majority of patients (83.8%) and 76.3% of health care providers preferred to make the appointments by telephone.

The study participants considered patients with chronic illness, pregnant women, and employees as the main beneficiary groups. Whereas, patients with urgent problems and young children were the heavily affected groups by the introduction of the appointment system, as seen in Table 5.

Table.2: Sociodemographic characteristics of study patients, and their opinion in introducing of an appointment system.

characteristic	N (%)	Agreement with appointment system			p-value
		Agree	Disagree	Undecided	
Gender	Male	99 (42.3)	52 (52.5)	30 (30.3)	0.961
	Female	135 (57.7)	69 (51.1)	41 (30.4)	
Age	18-29	56 (23.9)	29 (51.8)	17 (30.4)	0.999
	30-39	67 (28.6)	35 (52.2)	21 (31.3)	
	40-49	63 (26.9)	33 (52.4)	18 (28.6)	
	50+	48 (20.6)	24 (50.0)	15 (31.3)	
Occupation	Employee	52 (22.2)	36 (69.2)	7 (13.5)	0.025
	Free work	41 (17.5)	15 (36.6)	18 (43.9)	
	Retired	36 (15.4)	14 (38.9)	15 (41.7)	
	Student	38 (16.3)	17 (44.7)	12 (31.6)	
	Unemployed	67 (28.6)	39 (58.2)	19 (28.4)	
Education level	Nil	32 (13.7)	14 (43.8)	10 (31.2)	0.038
	Primary	41 (17.5)	18 (43.9)	15 (36.6)	
	Secondary	127 (54.3)	62 (48.8)	42 (33.1)	
	Higher education	34 (14.5)	27 (79.4)	4 (11.8)	
Marital status	Married	189 (80.8)	95 (50.3)	61 (32.3)	0.419
	Not married	45 (19.2)	26 (57.8)	10 (22.2)	
Chronic Disease	Yes	62 (26.5)	43 (69.4)	12 (19.3)	0.005
	No	172 (73.5)	78 (45.3)	59 (34.4)	
Total	234	121	71	42	

Table 3: Study subjects' views on the advantages and disadvantages of the walk-in system.

	Patients response N (%)	staff response N (%)
Advantages		
Easy accessibility	157 (67.1)	60 (78.9)
Availability	147 (62.8)	56 (73.7)
Disadvantages		
Workload	143 (61.1)	66 (86.8)
Poor organization of health programs		60 (78.9)

Lack of quality care to patients	110 (47.0)	54 (71.0)
Poor patient-provider relationship	49 (20.9)	43 (56.6)
Poor organization of health services	30 (12.8)	42 (55.3)
Little emphasis on prevention services	16 (6.8)	31 (40.8)
Little time spent with doctor	129 (55.1)	26 (34.2)
Repeated unnecessary patients' visits	26 (11.1)	64 (84.2)
More waiting time for patients	94 (40.2)	23 (30.3)
Irrational use of health services	79 (33.8)	62 (81.6)

Table 4: Study subjects' views on the advantages and disadvantages of the appointment system

	Patients response N (%)	Staff response N (%)
Advantages		
Reduce workload	134 (57.3)	68 (89.5)
Control unnecessary patients visits	54 (23.1)	54 (71.0)
Good patient-provider relationship	124 (53.0)	56 (73.7)
Provision quality care to patient	126 (53.8)	66 (86.8)
More economic use of doctors' time	15 (6.4)	51 (67.1)
Improve the working environment	-	40 (52.6)
Follow up with one doctor	96 (41.0)	26 (34.2)
Emphasis patient education	19 (8.1)	53 (69.7)
Well organized health programs	-	58 (76.3)
Fewer patients' waiting time	105 (44.9)	44 (57.9)
Disadvantages		
Less flexible to patients	131 (56.0)	62 (81.6)
Patient poor awareness of system	80 (34.2)	46 (60.5)
difficult to apply in our society	16 (6.8)	45 (59.2)

Table 5: Study subjects' views on the beneficiary and affected groups from the introduction of an appointment system

	Patients response (%)	N	staff response N (%)
Beneficiary group			
Chronic illnesses	91 (38.9)		65 (85.5)
Pregnant women	154 (65.8)		66 (86.8)
Employees	73 (31.2)		28 (36.8)
Affected group			
Acute cases	162 (69.2)		58 (76.3)
Young children	134 (57.3)		12 (15.8)

Discussion:

To our knowledge, this study is the first to survey patients' and health care providers' attitudes to the appointment system in Iraq. The study gave patients an opportunity to voice their criticism and thereby transfer to them a sense of interest and responsibility in their health care. At the same time, the study explores the staff members' perspectives about appointment systems, given their important role and the power they have in the health care system.

The appointment system in PHC is well established in developed countries and has proved beneficial for both patients and health care providers. [9-12] In Iraq, although there is a feeling that an appointment system in PHC may not be acceptable for patients, there is no scientific evidence to support or refuse this.

This study showed that patients support the idea of introducing an appointment system in a PHC setting, and demonstrated that the majority of health care providers indicated their agreement with the introduction of an appointment system to run concurrently with the existing walk-in system (mixed system). These findings are compatible with other studies done in United Kingdom, United States, and Nigeria which advocate a mixed system, allowing both walk-in and appointment systems, noting that different patient groups have different requirements. [13-18]

In the present study, the employee's patients, highly educated patients, and patients with chronic illness showed a significant agreement to the idea of introducing an appointment system. This result might be explained as follows; For the employees, given their limited time so they could not wait too long to consult a doctor, as in the walk-in system. Hence, they tend to specify a particular time for consultation as is the case in the appointments system. For the educated patients, they are more aware and conscious of the importance of the appointment system in the organization of work and reduction of the workload in health centers and eventually leads to improving the quality of care provided to them. Finally, for patients with chronic diseases, they prefer to do regular medical check-ups by a specific doctor, and this could be ensured by the appointments system.

The majority of the study participants agreed that the workload was the most important disadvantage affecting the existing walk-in system. These findings are well consistent with the data of some studies which reported that applying the walk-in system in primary care has led to an increase in workload and can be a source of tension for patients and physicians.[14],[19] At the same time, this study revealed that the majority of study subjects (patients and providers) have identified the reduction of workload as the main advantage of the application of the appointment system in primary care practice. This corresponds to a study conducted in Baghdad to assess job satisfaction among PHC physicians, it identified workload as a major influence on physicians' job satisfaction, and suggested the adoption of an appointment system in PHC setting to reduce workload, control patients' unnecessary repeated visits and lower the irrational use of health services.³ In the same context, other studies have shown that the introduction of appointment system is one of the most important factors in bringing about a reduction in workload and allows the workload to be spread more evenly over the working hours. Moreover, these studies demonstrated that appointment systems smooth workflow, reduce crowding in waiting rooms and allow health systems to honor patient and provider preferences while matching supply and demand. Respondents pointed to other advantages for the appointment system in PHC, such as; Provision of quality care to patient, improve patient-provider relationship,

control of unnecessary patients visits, more economic use of doctors' time, well-organized health programs, little waiting time for patients, offer adequate time for consultation, more organized working environment, and emphasis on patient education. These results are similar to that reported in other studies. [16-18,20]

The majority of both patients and health care providers of PHC in this survey support the idea of introducing an appointment system in PHC. However, both of them acknowledge the possible disadvantages of a rigid appointment system in PHC such as less accessibility and less availability for acute cases. Thus, to avoid these perceived disadvantages an appointment system should initially be flexible and mixed (walk-in and appointment). This conforms to the data obtained in other studies which demonstrated that both systems (walk-in and appointment), have advantages and disadvantages. For example, walk-in systems can be seen as making it too easy for patients to consult with minor complaints, while appointment systems can make it difficult for patients with urgent problems to be seen. Hence, it is best to organize an appointment system that meets the needs of the patients. [13-18].

Conclusion:

The respondents showed great acceptance to the idea of introduction of the appointment system to be run concurrently with the existing walk-in system (mixed system) in the primary care setting in Iraq, and they preferred this system to be flexible and responsive to the needs and preferences of the patients as well as health care providers.

Recommendation

The findings of the present study need to be considered seriously. However, the authors acknowledge the following; Data presented here may not be representative of the entire population since this study involved only two PHC centers from Baghdad governorate, therefore, further studies are needed. Secondly, there should be flexibility in the introduction of an appointment system in PHC. Thirdly, a successful appointment system in PHC must be financed and supported properly with information technology and a good communication system.

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Conflict of Interest

No conflict of interest.

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