Using Phone Calls to Promote Community Pharmacist Counselling during COVID-19 Pandemic in Baghdad, Iraq

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Abstract

Drug consultation is an important part of pharmaceutical care. a mobile phone call or text message can serve as an easy, effective, and implementable alternative to improving medication adherence and clinical outcomes by providing the information needed significantly for people with chronic illnesses like diabetes and hypertension particularly during pandemics like the COVID-19 pandemic. This study aimed to estimate the use of phone calls to promote pharmaceutical counseling and explore the commonest question asked by patients and do the socio-demographic or disease characteristics play any role regarding such questions. A prospective, interventional, clinical study was conducted during the period (from 5th of November 2020 to 21st of February 2021). A total of 246 patients were enrolled in the study. The mean age was 40.93 years (±15.84). The majority were female (62.6%) and age group (35-54) years (44.3%). A total of 507 questions were asked by patients, The researcher provided pharmaceutical consultations in response to 47 % of the question. There were significant associations between socio-demographic characteristics and some of the domains. In conclusion, socio-demographic characteristics influence the type of question asked by patients. Most of the patients got educational advice and some of them were referred to physicians.

Key words: Phone counselling, Community Pharmacist.

استخدام المكالمات الهاتفية لإيصال الإرشاد الصيدلانية في المجتمع خلال جائحة كوفيد-١٩ في بغداد ، العراق

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الخلاصة

الاستشارة بخصوص الدواء هي جزء مهم من الرعاية الصيدلانية. يمكن أن تكون المكالمة الهاتفية أو الرسائل النصية بمثابة بديل سهل وفعال وقابل للتنفيذ لتحسين الالتزام بالأدوية والنتائج السريرية من خلال توفير المعلومات اللازمة بشكل كبير للأشخاص الذين يعانون من أمراض مزمنة مثل مرض السكري وارتفاع ضغط الدم خاصة أثناء الأوبئة مثل وباء كوفيد-١٩. هدفت هذه الدراسة إلى تقييم استخدام المكالمات الهاتفية لتعزيز الاستشارة الصيدلانية واستكشاف الأسئلة الأكثر شيوعًا التي يطرحها المرضى وهل تلعب الخصائص الاجتماعية والديموغرافية أو المرضية أي دور فيما يتعلق بهذه الأسئلة. دراسة سريرية مستقبلية تداخلية أجريت خلال الفترة (من ٥ تشرين الثاني ٢٠٢٠ إلى ٢١ شباط ٢٠٢١). تم تسجيل ما مجموعه ٢٤٦ مريضا في الدراسة. كان متوسط العمر ٤٠,٩٣ سنة (± ١٥,٨٤ سنة). وكانت الغالبية من الإناث (٦٢,٦٪) والفئة العمرية (٣٥-٥٤) سنة (٤٤,٣٪). تم طرح ما مجموعه ٥٠٧ أسئلة من قبل المرضى، وقدمت الباحثة استشارات دوائية ١ .

الكلمات المفتاحية : الاستشارة الهاتفية ،صيدلي المجتمع

Introduction

Hypertension (HT) can be defined as a condition in which blood pressure (BP) is elevated to a level likely to lead to adverse consequences. There is no clear-cut blood pressure threshold separating normal blood pressure from high blood pressure[1]. Diabetes mellitus (DM) is a group of metabolic disorders characterized by hyperglycemia and abnormalities in carbohydrate, fat, and protein metabolism[2].

Drug consultation is an important part of pharmaceutical care offered by the pharmacist. This service not only promotes optimal medication use, which helps enhance health outcomes, but it also exemplifies an opportunity for pharmacists to hone their professional skills. It is particularly convenient for patients and pharmacists to provide these consultation services via telephone[3].

Today, with the technological advances of the past ten years and the broadening of pharmacy services to include direct patient care, mobile phone usage has drastically increased, irrespective of region or country, urban area or rural area, and literacy or illiteracy, evidence suggests that a mobile phone call or text message can serve as an easy, effective, and implementable alternative to improving medication adherence and clinical outcomes by providing the information needed. Counseling by telephone might improve patient counseling[4].

The advantages of using phone calls in pharmaceutical services include enhancement of the clinical role for pharmacists significantly for people with chronic illnesses particularly during pandemics (like the COVID-19 pandemic), where many people have various medicines-related concerns[5]. Secondly, it increases patients' awareness about their conditions[6], improved Patient Adherence[7], supporting rational medicines use[8], enhance access to healthcare services in remote and rural communities[9], and lastly, the counseling via telephone ensures greater satisfaction of patients with regard to the pharmacist counseling and time required to obtain medication[10]. The main role of community pharmacists during COVID-19 include supporting rational use of medicine, promotion medication adherence, medication review and follow-up, information and communication about COVID-19, and triaging at the community level for suspected COVID-19 cases[11].

At the health system level, the implementation of telepharmacy services in hospitals and primary health care centes expanded hours of service, improved the speed of processing of physician medication orders, increased clinical pharmacy services, and cost avoidance[12].

Aim of the study
1. To evaluate the use of phone calls to promote pharmaceutical counseling
2. To explore the frequently asked questions by patients about their medications and their relation to their sociodemographic or disease status.

Subjects and Method
Study type and design
This is a prospective, interventional, clinical study, which includes interviewing and enrolling the subjects during the predetermined period of four months (5th of November 2020 to 21st of February 2021).

Inclusion criteria
Patients with any age who were diagnosed as hypertensive and/or diabetic by their physicians and continue to refill their medications.

Exclusion criteria
1. Abnormal cognitive behaviors or unable to understand the questions.
2. Patients asking questions not related to HT or DM.
Sampling
All patients who received the identification cards through randomly selected sixty pharmacies, social media, or by snowball sampling and met the inclusion criteria were enrolled in the study.

Data collection
To gather the information from the participants, the researcher used one thousand cards distributed by sixty community pharmacies in Baghdad and through social media groups on (Instagram, Facebook, Whatsup, Telegram, and Viber) with the assistant of the admins of these groups to enroll a larger number of participants. The cards included the phone number of the researcher and types of counseling like laboratory investigation follow-up, treatment follow-up, side effects.

A special sheet was prepared in advance to be used to gather the information from the patients via phone call. Its purpose was to acquire detailed information, including socio-demographic data, contact information, disease history, disease characteristics, co-morbidities, treatments being received for the HT, DM, or any other medications which are being taken concurrently.

During the phone calls, the researcher introduced herself, took verbal consent from patients, and asked a number of questions regarding the patient's disease and management and answered the questions of the patients regarding the disease or previously prescribed treatments. The patient's questions were distributed into twelve domains that were prepared by the researchers and accepted by the scientific committee of the clinical pharmacy department.

Domain 1. Related to side effects
Domain 2. Related to disease
Domain 3. Related to complications of the disease.
Domain 4. Related to drug-drug interaction.
Domain 5. Taking a drug in relation to food.
Domain 6. Drug-food interaction.
Domain 7. How to decrease a side effect.
Domain 8. How to increase the drug's action.
Domain 9. Warning about dangerous actions while using the drug (smoking, drinking alcohol, driving a car)
Domain 10. Storage of drugs (ex. insulin)
Domain 11. Use of a substance (herbs, supplements... etc.)
Domain 12. Give other consultations like which test is more accurate, home or lab test for DM, which lab data should be done continuously for diabetic patients, mechanism of drug action.

The researcher answered the patient's questions depending on trusted references (Clinical Pharmacy and Therapeutics, 6th Edition and Pharmacotherapy Principles and Practice, 4th edition). If the question was related to pharmaceutical practice, the researcher gave a decision. Still, if the question was related to the physician, the researcher will give advice (suggested recommendations) to the treating physician. The physician's response was studied if it is accepted and adopted, accepted without adapted, rejected.

Ethical approval

The study has been proposed and subsequently approved by the scientific committee of the College of Pharmacy/ Baghdad University. Fully informed consent was obtained from the patients verbally after explaining the aim of the study thoroughly and clearly. All the information and questions were communicated to the patients with honesty and transparency in an objective manner to avoid bias as much as possible.

Statistical analysis

The collected data were analyzed using Microsoft Excel software, version 2016, and Statistical Package for the Social Sciences (SPSS), version 22. The descriptive analysis focused on frequencies and percentages, while the chi-square test, Fisher's Exact test were utilized to determine the mean differences between groups. A P-value of less than 0.05 was considered statistically significant.

Results

A total of 246 patients were enrolled in the study. The mean age was 40.93 years (±15.84). The majority were female (62.6%) and age group (35-54) years (44.3%). More than half (65.5%) had either an intermediate or secondary school degree, as shown in Table 1. All participants had chronic disease (s), Diabetes (75.2%), hypertension (9.8%), or both (15%), as shown in Table 2.

Table 1. Sociodemographic characteristics of participants

Characteristics		N	%
Gender	Female	154	62.6
	Male	92	37.4
Age group	<15*	13	5.3
	15*-24	29	11.8
	25-34	38	15.4
	35-44	59	24.0
	45-54	50	20.3
	55-64	45	18.3
	≥65	12	4.9
Education	Primary school or less	43	17.4
	Intermediate school	70	28.4
	Secondary school	٦٨	27.6
	College or higher	٦٥	26.4
Occupation	Employed (Government employee, self-employee)	100	40.7
	unemployed (housewife, out of a job, retired)	146	59.3
Resident	Urban	193	78.5
	Rural	53	21.5

*The interviewees were conducted with a child parent or an adult guardian/relative. Total N=246.

Table 2.Medical characteristics of the patients

| Characteristics		N	%
Number of medications	<4	194	78.9
	≥4	52	21.1
Chronic disease	Diabetes	185	75.2
	Hypertension	24	9.8
	Diabetes and hypertension	37	15.0
Duration of disease	<One year	38	15.4
	One-five years	124	50.4
	>Five years	84	34.1

Regarding to the 507 questions asked by the participants, 92 (37.3%) were related to the diseases, 72 (29.3%) were related to complications, and 113 (45.9%) were related to the need for other consultations as shown in Table 3.

Table 3.The domains of the participant questions

Questions	N	%
1. Related to drug side effects	40	16.3
2. Related to diseases	92	37.4
3. Related to complications of the diseases	72	29.3
4. Related to drug-drug interaction	6	2.4
5. Taking a drug in relation to food	28	11.4
6. Drug-food interactions	9	3.7
7. How to decrease drug side effects	41	16.7
8. How to increase the drug's action	20	8.1
9. Warning about dangerous actions while using the drugs (smoking, drinking alcohol, driving a car)	6	2.4
10. Storage of drugs (ex. insulin)	50	20.3
11. Use of substances (herbs, supplements... etc.)	30	12.2
12. Give other consultations	113	45.9
Total	507	100.0

The pharmacist (researcher) received 507 questions from 246 patients. She provided pharmaceutical consultations in response to 47 % of the questions, consultations and refer in response to 44 % of the questions, while referred patients to physicians in response to 9 % of them as shown in Figure 1.
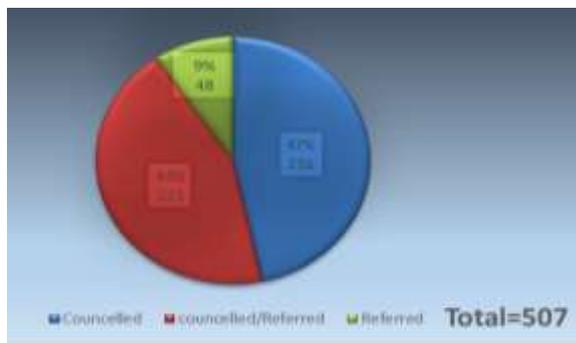
Figure 1. The pharmacist response to patient questions

A total of 271 questions were referred to physicians, of those, 92 (34%) accepted the pharmacist recommendations and consulted their physicians as shown in Figure 2.
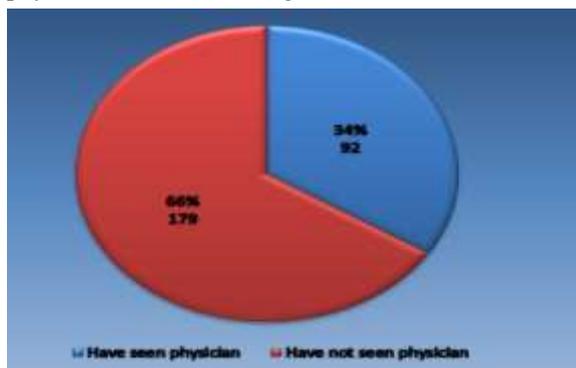
Figure 2. Physician access to pharmacist referral recommendations

The physicians accepted and adopted 43.5% of the pharmacist referral recommendations as shown in Figure 3.
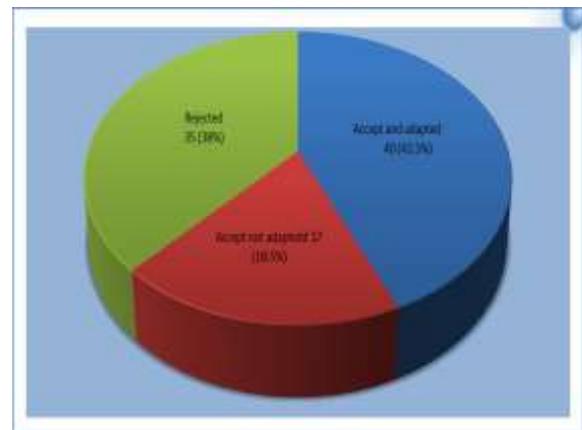
Figure 3. Physician responses regarding pharmacist- referral recommendations

There were no significant associations between the gender and the type of asked questions to the pharmacist (Table 4).

Table 4.The relationships between the patient gender and the study domains

Domains		Gender		P-value
		Male	Female	
Domain 1	No	79 (38.3%)	127 (61.7%)	0.484
	Yes	13 (32.5%)	27 (67.5%)	
Domain 2	No	58 (37.7%)	96 (62.3%)	0.912
	Yes	34 (37.0%)	58 (63.0%)	
Domain 3	No	67 (38.5%)	107 (61.5%)	0.577
	Yes	25 (34.7%)	47 (65.3%)	
Domain 4§	No	92(38.3%)	148 (61.7%)	0.060
	Yes	0 (0.0%)	6 (100.0%)	
Domain 5	No	84 (38.5%)	134 (61.5%)	0.305
	Yes	8 (28.6%)	20 (71.4%)	
Domain 6§	No	90 (38.0%)	147 (62.0%)	0.338
	Yes	2 (22.2%)	7 (77.8%)	
Domain 7	No	82 (40.0%)	123 (60.0%)	0.059
	Yes	10 (24.4%)	31 (75.6%)	
Domain 8	No	87 (38.5%)	139 (61.5%)	0.232
	Yes	5 (25.0%)	15 (75.0%)	
Domain 9§	No	89 (37.1%)	151 (62.9%)	0.674
	Yes	3 (50.0%)	3 (50.0%)	
Domain 10	No	69 (35.2%)	127 (64.8%)	0.159
	Yes	23 (46.0%)	27 (54.0%)	
Domain 11	No	77 (35.6%)	139 (64.4%)	0.128
	Yes	15 (50.0%)	15 (50.0%)	
Domain 12	No	53 (39.8%)	80 (60.2%)	0.389
	Yes	39 (34.5%)	74 (65.5%)	

*Significant (P-value <0.05) according to Pearson Chi-Square. § Fisher's Exact Test. Yes (the patient's questions fell within this domain). NO (the patient's questions did not fall within this domain).

The level of patient education significantly influenced the patients asking of two domains of the questions (domains 1 and 12) (Table 5). In other words, people with high education (high school/college degree or higher) asked significantly more questions related to domain 1 (about drug side effects) than patients with lower education (Table 5).The employment of the patients had no significant influence on the type of asked questions except in domain 12 (Table 6).

Table 5.The relationships between the patient education level and the study domains

Domains		Education level				P-value
		College or higher	High school	Middle school	Primary or less	
Domain 1	No	49 (23.8%)	54 (26.2%)	64 (31.1%)	39 (8.9%)	**0.032** *
	Yes	16 (40.0%)	14(35.0%)	6(15.0%)	4 (10.0%)	
Domain 2	No	40 (26.0%)	44 (28.6%)	43 (27.9%)	27 (17.5%)	0.977
	Yes	25 (27.2%)	24 (26.1%)	27 (29.3%)	16 (17.4%)	
Domain 3	No	43 (24.7%)	34 (19.5%)	45 (25.9%)	34 (19.5%)	0.205
	Yes	22 (30.6%)	9 (12.5%)	25 (34.7%)	9 (12.5%)	
Domain 4§	No	64 (26.7%)	67 (27.9%)	69 (28.8%)	40 (16.7%)	0.211
	Yes	1 (16.7)	1 (16.7%)	1 (16.7%)	3 (50.0%)	
Domain 5§	No	52 (23.9)	64 (29.4%)	63 (28.9%)	39 (17.9%)	0.085
	Yes	13 (46.4%)	4 (14.3%)	7 (25.0%)	4 (14.3%)	
Domain 6§	No	60 (25.3%)	67 (28.3%)	69 (29.1%)	41 (17.3%)	0.169
	Yes	5 (55.6%)	1 (11.1%)	1 (11.1%)	2 (22.2%)	
Domain 7	No	49 (23.9%)	58 (28.3%)	62 (30.2%)	36 (17.6%)	0.209
	Yes	16 (39.0%)	10 (24.4%)	8 (19.5%)	7 (17.1)	

Continued table 5.

Domains		Education level				P-value
College or higher	High school	Middle school	Primary or less	65 (28.8%)	39 (17.3%)	0.954
	Yes	6 (30%)	5 (25%)	5 (25%)	4 (20%)	
Domain 9§	No	65 27.1%	66 27.5%	66 (27.5%)	43 (17.9%)	0.134
	Yes	0 (0.0%)	2 (33.3%)	4 (66.7%)	0 (0.0%)	
Domain 10	No	54 (27.6%)	56 (28.6%)	55 (28.1%)	31 (15.8%)	0.504
	Yes	11 (22.0%)	12 (24.0%)	15 (30.0%)	12 (24.0%)	
Domain 11	No	55 (25.5%)	62 (28.7%)	60 (27.8%)	39 (18.1%)	0.581
	Yes	10 (33.3%)	6 (20.0%)	10 (33.3%)	4 (13.3%)	
Domain 12	No	47 (35.3%)	31 (23.3%)	30 (22.6%)	25 (18.8%)	.002*
	Yes	18 (15.9%)	37 (32.7%)	40 (35.4%)	18 (15.9%)	

*Significant P-value <0.05 according to Pearson Chi-Square. § Fisher's Exact Test. Yes (the patient's questions fell within this domain). NO (the patient's questions did not fall within this domain)

Table 6. The relationships between the patient employment status and the study domains

Domains		Employed		P-value
		Yes Count (%)	No Count (%)	
Domain 1	No	80 (38.8%)	126 (61.2%)	0.188
	Yes	20 (50.0%)	20 (50.0%)	
Domain 2	No	66 (42.9%)	88 (57.1%)	0.362
	Yes	34 (37.0%)	58 (63.0%)	
Domain 3	No	74 (42.5%)	100 (57.5%)	0.351
	Yes	26 (36.1%)	46 (63.9%)	
Domain 4§	No	98 (40.8%)	142 (59.2%)	0.712
	Yes	2 (33.3%)	4 (66.7%)	
Domain 5	No	88 (40.4%)	130 (59.6%)	0.801
	Yes	12 (42.9%)	16 (57.1%)	
Domain 6§	No	94 (39.7%)	143 (60.3%)	0.105
	Yes	6 (66.7%)	3 (33.3%)	
Domain 7	No	84 (41.0%)	121 (59.0%)	0.816
	Yes	16 (39.0%)	25 (61.0%)	
Domain 8	No	93 (41.2%)	133 (58.8%)	0.591
	Yes	7 (35.0%)	13 (65.0%)	
Domain 9§	No	99 (41.3%)	141 (58.8%)	0.226
	Yes	1 (16.7%)	5 (83.3%)	
Domain 10	No	84 (42.9%)	112 (57.1%)	0.163
	Yes	16 (32.0%)	34 (68.0%)	
Domain 11	No	85 (39.4%)	131 (60.6%)	0.266
	Yes	15 (50.0%)	15 (50.0%)	
Domain 12	No	67 (50.4%)	66 (49.6%)	0.001*
	Yes	33 (29.2%)	80 (70.8%)	

*Significant (P-value <0.05) according to Pearson Chi-Square. § Fisher's Exact Test. Yes (the patient's questions fell within this domain). NO (the patient's questions did not fall within this domain).

The number of scheduled medications significantly influences two types of question domains (no. 3 & 9). Patients with polypharmacy ($\geq$ 4 medications) had a significantly higher number of questions related to "the warning about dangerous actions while using the drugs" compared to patients taking a smaller number of medications (< 4) (Table 7).

Table 7. The relationships between the number of scheduled medications and the study domains

Domains		Number of medications		P-value
		< 4 Count (%)	$\geq$ 4 Count (%)	
Domain 1	No	164 (79.6%)	42 (20.4%)	0.513
	Yes	30 (75.0%)	10 (25.0%)	
Domain 2	No	120 (77.9%)	34 (22.1%)	0.640
	Yes	74 (80.4%)	18 (19.6%)	
Domain 3	No	144 (82.8%)	30 (17.2%)	**0.020***
	Yes	50 (69.4%)	22 (30.6%)	
Domain 4§	No	191 (79.6%)	49 (20.4%)	0.080
	Yes	3 (50.0%)	3 (50.0%)	
Domain 5	No	175 (80.3%)	43 (19.7%)	0.130
	Yes	19 (67.9%)	9 (32.1%)	
Domain 6§	No	187 (78.9%)	50 (21.1%)	0.935
	Yes	7 (77.8%)	2 (22.2%)	
Domain 7	No	165 (80.5%)	40 (19.5%)	0.162
	Yes	29 (70.7%)	12 (29.3%)	
Domain 8§	No	180 (79.6%)	46 (20.4%)	0.389
	Yes	14 (70.0%)	6 (30.0%)	
Domain 9§	No	193 (80.4%)	47 (19.6%)	**0.002***
	Yes	1 (16.7%)	5 (83.3%)	
Domain 10	No	153 (78.1%)	43 (21.9%)	0.543
	Yes	41 (82.0%)	9 (18.0%)	
Domain 11	No	170 (78.7%)	46 (21.3%)	0.871
	Yes	24 (80.0%)	76 (20.0%)	
Domain 12	No	109 (82.0%)	24 (18.0%)	0.197
	Yes	85 (75.2%)	28 (24.8%)	

§ Fisher's Exact Test. Yes (the patient's questions fell within this domain). NO (the patient's questions did not fall within this domain).

Patients with DM had a significantly higher number of questions of six domains (3,4,5,6, 10 & 12) compared to patients with hypertension or hypertension and DM. These six domains included questions related to complications of the diseases, drug-drug interaction, taking a drug in relation to food, drug-food interactions, drug storage, and other consultations (Table 8).

Table 8. The relationships between the patient chronic disease type and the study domains

Domains		Chronic Disease Type			P-value
		DM Count (%)	HT Count (%)	DM & HT Count (%)	
Domain 1	No	160 (77.7%)	18 (8.7%)	28 (13.6%)	0.126
	Yes	25 (62.5%)	6 (15.0%)	9 (22.5%)	
Domain 2	No	115 (74.7%)	17 (11.0%)	22 (14.3%)	0.649
	Yes	70 (76.1%)	7 (7.6%)	15 (16.3%)	
Domain 3§	No	130 (74.7%)	22 (12.6%)	22 (12.6%)	**0.025***
	Yes	55 (76.4%)	2 (2.8%)	15 (20.8%)	
Domain 4§	No	185 (77.1%)	21 (8.8%)	34 (14.2%)	**0.000***
	Yes	**0** (0.0%)	3 (50.0%)	3 (50.0%)	
Domain 5§	No	168 (77.1%)	22 (10.1%)	28 (12.8%)	**0.041***
	Yes	17 (60.7%)	2 (7.1%)	9 (32.1%0	

*Significant (P-value <0.05) according to Pearson Chi-Square. § Fisher's Exact Test. DM=d=Diabetes Mellitus; HT=Hypertension. Yes (the patient's questions fell within this domain). NO (the patient's questions did not fall within this domain).

Continued table 8.

Domains		Chronic Disease Type				P-value
		DM Count (%)	HT Count (%)	DM & HT Count (%)	DM Count (%)	
Domain 6§	No	185 (78.1%)	20 (8.4%)	32 (13.5%)		**0.000***
	Yes	**0** (0.0%)	4 (44.4%)	5 (55.6%)		
Domain 7§	No	156 (76.1%)	18 (8.8%)	31 (15.1%)		0.513
	Yes	29 (70.7%)	6 (14.6%)	6 (14.6%)		
Domain 8§	No	171 (75.7%)	22 (9.7%)	33 (14.6%)		0.804
	Yes	14 (70.0%)	2 (10.0%)	4 (20.0%)		
Domain 9§	No	182 (75.8%)	24 (10.0%)	34 (14.2%)		0.070
	Yes	3 (50.0%)	**0** (0.0%)	3 (50.0%0		
Domain 10§	No	142 (72.4%)	24 (12.2%)	30 (15.3%)		**0.028***
	Yes	43 (86.0%)	0 (0.0%)	7 (14.0%)		
Domain 11§	No	162 (75.0%)	21 (9.7%)	33 (15.3%)		0.962
	Yes	23 (76.7%)	3 (10.0%)	4 (13.3%)		
Domain 12§	No	100 (75.2%)	19 (14.3%)	14 (10.5%)		**0.007***
	Yes	85 (75.2%)	5 (4.4%)	23 (20.4%)		

*Significant (P-value <0.05) according to Pearson Chi-Square. § Fisher's Exact Test. DM=d=Diabetes Mellitus; HT=Hypertension. Yes (the patient's questions fell within this domain). NO (the patient's questions did not fall within this domain).

Discussion

The use of information and telecommunication technologies has expanded rapidly, which strongly influences healthcare delivery in many countries[13]. To our best knowledge, this is the first study to assess the use of phone calls in pharmaceutical counseling during COVID-19 in Iraq. Most of the participants were female, identical results were obtained in other studies in the united states 2018[14] and Iran 2012[15]. In contrast, males were predominant in Al-blooshi et al. study in the United Arab Emirate(UAE) 2020[16]. Many explanations related to these results as females are more worry about their diseases and complications, Mark et al found that diabetic women were substantially more concerned about weight increase, which was linked to the majority of the negative outcomes including lower self-rated health, poorer psychological well-being, poorer reported regimen adherence, and more diabetes-related distress[17] Another study postulated that men appeared to underestimate problems related to diabetes more than women. They were less concerned about long-term consequences and hypoglycemia [18], in agreement with this postulation, Elke found that 24% of the participant men and 23% of the participant females reported non-adherence to anti-diabetic medication[19]. This might explain the predominant female participation in this study and most other similar studies as women have a higher desire to know more about their disease, treatment, and complications.

The largest age group was (35-44), in comparing to another study, (15-25) years were the largest age group in a similar study in the Kingdom of Saudi Arabia 2015[20]. Unemployed, those with intermediate school graduation and patients with monthly income less than one million IQD constituted the largest part of the sample. In contrast, most participants in another study in UAE 2020 were employed with college graduates [16]. In terms of the estimated family monthly income, over two-fifths of the sample (41.7%) reported the lowest monthly income, of which less than 5000 Saudi Riyal (1,333 US$) was observed in another study in the Kingdom of Saudi Arabia, 2015[20], this agreement with the current study results. The low cost of phone counseling and its availability at home may be the reason behind these results.

About one-fifth of the participants lived in the urban areas, this is related to the area where the study was done, and the urban people are more aware about the use of phone calls in medical and specifically pharmaceutical consultations.

The most frequently asked questions were related to domain12 (related to other consultations like which test is more accurate, home or lab test for DM), which lab data should be done continuously for diabetic patients, mechanism of drug action). As postulated by other studies, most Iraqi diabetic and hypertensive patients have good knowledge about their conditions, that the major parts of the current study participant asked about more advanced issues of their disease. Esraa et al revealed that the majority of the patients had strong beliefs in the necessity of anti-diabetic treatment for controlling their illness[21], In Erbil, A study was done there revealed most diabetic participants had acceptable to good knowledge[22]. Another study was done in Baghdad revealed that hypertensive patients in our

community have relatively good knowledge and attitude[23].

Conclusion

In conclusion, socio-demographic characteristics influence the type of question asked by patients, most questions related to consultation regarding the mechanism of drug action or laboratory diagnosis and questions about the disease. Most patients got educational advice and some of them were referred to physicians. Most patients got education and advice regarding their questions to resolve their conditions, increase the awareness of the patients about their disease, and adhere to treatment without the need to direct pharmaceutical counseling which is an important issue during the pandemic especially for old age with multiple comorbidities.

Recommendations

Activating and expanding the role of the community pharmacist by strengthening the pharmacy consultation service via the phone or the Internet, which will have a positive impact on the health of the community during pandemics, especially for those with chronic diseases.

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