

Short Communication

Coronavirus disease patients' views and experiences of pharmaceutical care services in Lebanon

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Abstract

Objectives This study aimed to explore the experiences and views of domiciliary coronavirus disease (COVID-19) patients towards pharmaceutical care services provided during their infection.

Methods This was a single-centred observational study conducted among home-treated COVID-19 patients ($n = 500$), who were tested positive for COVID-19 in a medical centre in Lebanon.

Key findings Out of the 500 home-treated COVID-19 patients invited to participate in the study, 279 patients completed the questionnaire. Although the participants had a good view of pharmacists caring for COVID-19 patients (mean view score: 17.79/25), their treatment experiences were unsatisfactory (mean experience score: 1.51/4).

Conclusions COVID-19 patients reported minimal involvement of pharmacists in their treatment. Therefore, in response to the COVID-19 pandemic, healthcare authorities should intervene in restructuring, guiding and reviewing unrealized new pharmaceutical services to COVID-19 outpatients.

Keywords: COVID-19; pharmaceutical care; perception; community pharmacists

Introduction

In the wake of the rapid escalation of COVID-19 patients, the global healthcare system became saturated, with the inability of hospitals to serve all patients who require medical care.^[1] Moreover, in developing countries, many symptomatic patients sought help from community pharmacists on non-prescription drugs.^[2] Similarly, in Lebanon, due to the absence of a robust and efficient healthcare system, the presence of a high rate of uninsured citizens and the lack

of national health authorities' supervision, the Lebanese population primarily accesses community pharmacists for free consultations for diagnosis and treatment.^[3,4] Patients exhibiting mild symptoms may be treated at home and may elect to consider using over-the-counter (OTC) medications and supplements.^[5] Community pharmacists are in a unique position to promote and ensure the safe use of OTC products.^[6] However, few studies have investigated if community

pharmacists exerted their role adequately in the provision of pharmaceutical care for COVID-19 patients treated at home.^[2, 7] Thus, the study aimed to explore the views and experiences of domiciliary COVID-19 patients regarding the pharmaceutical care services received during their illness.

Methods

This was a single-centred, cross-sectional observational study of domiciliary COVID-19 patients. A list of COVID-19 patients' phone numbers was retrieved from a medical centre, in Beirut city, that is authorized by the Lebanese Ministry of Public Health for SARS-CoV-2 testing.^[8] Those patients diagnosed, during October 2020, by a positive COVID-19 reverse transcription-polymerase chain reaction (RT-PCR) test were contacted via phone by the study author to explain the study purpose, asked if they were home-treated, assured the anonymity of the retrieved data and invited to participate. Those who were treated in an inpatient setting were excluded from the study. A link to the online questionnaire was texted to the patients who were willing to participate.

The questionnaire was adapted from a study, carried out in Jordan, which investigated COVID-19 patients' satisfaction with pharmaceutical care.^[2] The original questionnaire was modified to suit the Lebanese population and then tested for face and content validity by one Jordanian and two Lebanese experts in pharmacy practice. Then, the final questionnaire was pilot tested on a sample of home-treated COVID-19 patients ($n = 20$), who were selected by convenience sampling from the COVID-19 patients' list, to validate its comprehensiveness and clarity. The data obtained from the pilot test were not included in the final data analysis.

The questionnaire (see [Supplementary Material](#)) was divided into three sections. Section one obtained the patient's demographic and relevant medical information. Participants were asked about the severity of their COVID-19 symptoms during their infection [asymptomatic (had no symptoms consistent with COVID-19); mild-to-moderate symptoms (had any typical symptom(s) of COVID-19 but no shortness of breath or confusion); and severe symptoms (experienced shortness of breath, altered mental status, low oxygen saturation or clinical deterioration)].^[9]

Section two sought participants' experiences of the care they received from community pharmacists during their infection. It comprised four statements, one point was granted for each question with a 'Yes' response, and zero was granted for a 'No' response, with results ranging from 0 to 4.

Section three explored participants' views of pharmacist's ability to provide care for domiciliary COVID-19 patients. It consisted of five items graded on a 5-point Likert scale (1 = Strongly disagree to 5 = strongly agree) ([Table 2](#)). The scale results ranged from 5 to 25, in which gaining a higher score indicated a more positive view of the pharmacist's ability. The internal consistency of this score was assessed by calculating the Cronbach alpha, yielding a score of 0.86, which is considered reliable.

The World Medical Association Declaration of Helsinki guidance was followed in designing and conducting this study.^[10] The study protocol was approved by the Institutional Review Board (IRB) at King Abdulla University Hospital, Jordan University of Science and Technology (REF: 20200883), and certified by the IRB committee at the medical centre. Participants provided their electronic consent by typing their initials at the end of the information page.

The statistical package for social science (SPSS) version 22 was used for data management and analysis. Means with standard

deviation were reported for continuous variables, while frequencies with percentages were reported for the categorical variables. Chi-square and Mann–Whitney U tests were used to analyse the associations between different variables. Spearman's rank correlation was utilized to test the correlation between scores.

Results

Of the total 500 home-treated COVID-19 patients contacted to participate in the study, 279 agreed to take part and completed the questionnaire, yielding a response rate of 55.8%. Participants' mean age was 30.6 ± 11.6 years, and only 13.6% ($n = 38$) reported having chronic medical condition. When questioned about their COVID-19 symptoms, most of the participants reported experiencing mild-to-moderate symptoms during their infection 67.7% ($n = 189$) ([Table 1](#)).

Only 20.8% ($n = 58$) of participants had a pharmacist involved in prescribing medications and supplements during their infection. Pharmacists were more likely to be involved in managing home-treated COVID-19 patients experiencing mild-to-moderate COVID-19 symptoms ($P = 0.04$) and those having no comorbid medical conditions ($P < 0.01$).

Almost half of the respondents ($n = 136$, 48.8%) reported that pharmacists counselled them about their prescribed medications, 29.7% ($n = 82$) indicated that pharmacists supplied them with a treatment management plan and 30.1% ($n = 84$) indicated being followed up by pharmacists. However, 58.1% ($n = 162$) of the patients did not feel that pharmacists were motivated to assist them during their illness. Thus, the mean experience score was 1.51 (± 1.56), and the maximum possible score was 4.

[Table 2](#) represents the participants' responses to items about their views of the pharmaceutical care services that could be provided to COVID-19 patients during their home treatment. The mean view score was 17.79 (± 3.99), and the maximum possible score was 25. Over half (59.5%; $n = 166$) agreed/strongly agreed that pharmacists have enough scientific information to provide the necessary medical assistance to COVID-19 patients, and around 65.6% ($n = 183$) believed that pharmacists can communicate information clearly to COVID-19 patients.

Spearman's rank test indicated a significant correlation between patients' experiences and their views towards the pharmaceutical care services that might be provided to COVID-19 patients during their home treatment ($r = 0.58$, $P < 0.01$); those who reported a better actual experience were more likely to have an increased view score.

Discussion

This study showed that participants had a satisfactory view about the provision of pharmaceutical care services provided for COVID-19 patients, although, in fact, their actual treatment experiences were unsatisfactory. Hence, this study might reflect the pharmaceutical care practice during the COVID-19 pandemic in Lebanon, a developing country that is currently facing an economic collapse and healthcare system meltdown.

Although this study is the first in Lebanon to investigate the domiciliary COVID-19 patients' experiences and views towards pharmaceutical care, some limitations should be mentioned. First, it was conducted in only one medical centre and among COVID-19 patients diagnosed during a 1-month interval. Second, it consisted of self-administered questionnaire, which might be prone to recall bias and might not reflect the actual experiences and views. Therefore, there is a need for a multicenter longitudinal study to investigate

Table 1 Demographic and clinical characteristics of participants ($n = 279$)

Parameters	n (%)
Age, years (mean \pm SD)	30.6 \pm 11.6
Gender	
Males	133 (47.7)
Females	146 (52.3)
Educational level	
Not educated	0 (0.0)
School education	58 (20.8)
Diploma	54 (19.4)
BSs	122 (43.7)
Masters/PhD	45 (16.1)
Employment status	
Employed, in medical field	54 (19.4)
Employed, in non-medical field	135 (48.4)
Unemployed	90 (32.3)
Living status	
With family	271 (97.1)
Alone	8 (2.9)
Do you suffer from any chronic disease?	
No	241 (86.4)
Yes	38 (13.6)
How would you describe the severity of COVID-19 symptoms?	
No symptoms	32 (11.5)
Mild-to-moderate	189 (67.7)
Severe	58 (20.8)
Have you been prescribed any medications or nutritional supplements during your COVID-19 illness?	
No	45 (16.1)
Yes	234 (83.9)
Has the pharmacist been involved in prescribing any medications or nutritional supplements during your COVID-19 illness?	
No	221 (79.2)
Yes	58 (20.8)

Table 2 Participants' experiences and views of pharmaceutical care services provided during home treatment ($n = 279$)

	Statements	Yes n (%)
Experiences	Did you or your caregiver obtain medical advice about your medication from the community pharmacist?	136 (48.8)
	Were you followed up by a community pharmacist?	84 (30.1)
	Did you or your caregiver get information to control your medications from the community pharmacist?	82 (29.7)
	Did you feel that the community pharmacist was keen to provide you medical assistance during your infection?	117 (41.9)
	Statements	Strongly agreed/agreed n (%)
Views	Pharmacists have enough scientific information to provide the necessary medical assistance to COVID-19 patients	166 (59.5)
	Pharmacists can communicate information clearly with COVID-19 patients and their families	183 (65.6)
	Pharmacists can provide advice regarding the medications for COVID-19 patients	128 (45.9)
	Pharmacists can follow-up COVID-19 patients during their condition	116 (41.6)
	Pharmacists can organize and control the medications of COVID-19 patients	218 (78.2)

the actual pharmaceutical care provided for domiciliary COVID-19 patients

The study findings suggest that the provision of pharmaceutical care services to domiciliary COVID-19 patients in Lebanon is sub-optimal; similar results were reported in a study conducted in Jordan.^[2] This could be explained by the absence of a definite role for community pharmacists in dealing with the pandemic as well as health

officials not considering pharmacists to be part of the frontline health-care team.^[7, 11] On the contrary, pharmacists always expressed willingness to participate in slowing down the pandemic and reducing the infection rate.^[6, 12, 13] Nonetheless this study revealed that patients had a positive view of the pharmacist's role. This finding is consistent with a previous study where the Lebanese population believes that pharmacists are capable of dealing with common medical complaints.^[3]

Pharmacists could play an important role in caring for COVID-19 patients by providing health information, medication management, follow-up and patient referral. This mandates international and national guidance on providing appropriate pharmaceutical care to domiciliary COVID-19 patients, especially in low-income countries where patients mainly seek medical help from their pharmacists.

Conclusions

Domiciliary COVID-19 patients reported sub-optimal care received from their community pharmacists in managing their illness. The study findings suggest that national guidance should be provided to community pharmacists to review, restructure and guide the pharmaceutical services provided to COVID-19 outpatients.

Supplementary Material

Supplementary data are available at *International Journal of Pharmacy Practice* online.

Author Contributions

T.L.M. generated the idea, designed the questionnaire and drafted the manuscript; A.S.J. helped in designing and validating the questionnaire; W.A. helped in data analysis and writing the discussion; R.K.A.F. helped in data coding, entry, analysis and results reporting; R.I. helped in data collection and manuscript preparation; S.K. helped in data collection and manuscript preparation; and I.L.M. helped in data collection.

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Conflict of Interest

None to declare.

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