

Covid-19 Control Measures by some community Pharmacies in Sulaimani City/Iraq

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Abstract

The ramifications of Coronavirus disease 2019 (COVID-19) effects on Iraqi community pharmacies and the measures they have taken to tackle the spread of COVID-19 is yet to be explored. Objectives: In this cross-sectional survey, infection control measures by community pharmacies in Sulaimani city/Iraq has been investigated.

This cross-sectional study was conducted in April 2021, in the Sulaimani city/Iraq. fifty community pharmacies were randomly allocated to participate in the study via in person visit to their working place and filling up the questionnaire form.

Results showed that large numbers of community pharmacies (50%) have started to implement infection control measures in May 2020. The data showed that wearing face masks and washing hands frequently were among the most common personal measures to curb the spread of the virus with 33% each. Results revealed that 70% of the pharmacies sanitized customer's space on a daily base and more than a half of the participants installed one meter distance measures between the customers. additionally, 50% of the community pharmacies reduced the number of front-line staff to only one staff in any given time to minimise the risk of contact with infectious cases.

Community pharmacies in Sulaimani/Iraq were facing unprecedented challenges when coronavirus hit the country. Taking control measures by community pharmacies were of paramount significance to curb the spread of the virus in their working place and the community as well. However, lack of a clear plan hurdled a unified approach in this regard.

Keywords: COVID-19, Community pharmacy, Control measures, Iraq

Introduction

The first case of the COVID-19 was first reported in Wuhan, in the Hubei Province of China in December 2019. Despite taking measures by health authorities and imposing a regional lockdown in January 2020, the virus has spread globally ⁽¹⁾. As a result, a public health emergency of international concern by the World Health Organization (WHO) has been declared ⁽¹⁾. As data and facts start to surface gradually, it has been realised that this new coronavirus is very contagious causing life-threatening respiratory and multi-organ failure ⁽²⁾.

This worldwide challenge created new norms in various aspects of our lives ranging from community and individual interactions to healthcare delivery. The various outbreaks and increased healthcare demands take most of the public service providers by surprise ⁽³⁾. Amid of this unprecedented increase in healthcare demands, community pharmacy services were considered as an important healthcare service which remained as a direct and first point of contact with the general public ⁽²⁾. In many countries, the value of community pharmacies and their pivotal role in the healthcare system is well recognised. However, their role during pandemics like COVID-19 is not well elucidated⁽²⁾.

Globally, infection control measures have been promptly implemented across various front-line

sectors in response to Covid-19 pandemic. These measures played a pivotal role in curbing the spread of this highly infectious microorganisms (SARS-CoV-2). However, the number of the cases start to rise globally, the virus has raged into many countries including Iraq. On Feb 24nd 2020, Iraq has reported the first case of coronavirus in the city of Najaf ⁽⁴⁾ and then the cases emerge in other Iraqi cities. Initially, in a drastic effort, the regional government and the health care system directed by Ministry of Health tried to contain the virus via taking measures such as quarantine and imposing curfew ⁽⁵⁾. however, the nature of the virus was not fully understood and once the measures eased, outbreaks have happened again. Community pharmacies were among those few places that kept open during curfew and quarantine time. It was, however, very unclear, what other extra preventive measures they should take in their working place to contain the spread of the virus.

Globally, community pharmacies play a key role in providing knowledge and management of mild to moderate symptoms arising from COVID-19 infection ⁽³⁾.

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In response to above mentioned crisis, it is expected that community pharmacies are going to extend their services and working hours and to support general public especially the most vulnerable members of the community. Data have revealed that community pharmacies in China played a key role amid the COVID-19 pandemic via educating people about infection control measures and hygiene steps that should be followed to curb the spread of the virus⁽⁶⁾. Despite of the lack of wide range data and knowledge, studies also showed that in the UK, community pharmacies, as the most accessible trained healthcare provider, are the first point of contact for many suspected cases of COVID-19⁽⁷⁾. Therefore, taking safety measure and methods to control the spread of the COVID-19 in the community pharmacies are very crucial⁽⁷⁾. It is vital for the community pharmacies to determine their level of risk exposures and providing those working in the community pharmacies with the necessary personal protective equipment (PPE) such as masks, goggles, gowns and gloves^(7,8). Additionally, many vulnerable group of patients have regular visits to the pharmacies to collect or discuss their concerns about their medications. Therefore, infection control measure should be taken to protect them as well^(9,10). Published data revealed that the virus can spread via variety of ways including airborne droplets, face to face contact with infected person and touching contaminated objects, therefore, it is highly crucial to provide disease education which in turn halt the spread of the various⁽¹¹⁾.

Aim of the study

The aim of the current study was to elucidate the mitigation measures taken by community pharmacies in Sulaimani to contain the spread of COVID-19 virus.

Materials and Methods

Study design

In this cross sectional survey, 50 community pharmacies in Sulaimani city/Iraq were evaluated for their infection control measures and preparedness via in-person interview. The survey items were adopted from previous studies of Community pharmacies response to infection control during COVID-19 and, prevention and protection measures to be adopted at the workplace^(12,13).

Study period

This research was conducted between April 1st to April 15th 2021 in the community pharmacies in Sulaimani city/Iraq. The pharmacies were chosen based on simple random sampling and the paper based survey was distributed in person. Ethical approval was obtained from the College of Pharmacy At the University of Sulaimani with registration number of PH43-R1.

Questionnaire administration

The questionnaire explored different aspects of infection control measure and the way community pharmacies responded to the COVID-19 pandemic such as measures to reduce direct physical contact between staff members and with the customers as well via installing various distance measures including physical barriers, physical distances and reducing staff numbers. Additionally, other mitigating measures taken to avoid direct contact with secretions such as coughing, infected objects via using PPE and washing hands frequently were investigated as well. Eventually, other community pharmacy measures were evaluated in terms of self-isolation and screening for both confirmed and suspicious cases, respectively.

Data analysis

The data were analysed using Graphpad Prism version 7 and Microsoft excel 16.54. Descriptive statistics including frequencies (*N*), percentage (%), mean, standard deviation (SD) were calculated. Most of the data are nominal data, therefore, only *N* (%) in tables or pie charts have been used to present the data. However, for those questions that have ordinal items, the mean and standard deviation were calculated using Likert Scale statistical approach.

Results

Demographic data

A total of 50 community pharmacies participated in this survey. Responses were collected from only one staff in the pharmacy. The percentage of the male and female participants were 36% and 64%, respectively. Majority of those took part in this study have their age ranged from 25-34 years old. Most of the participants (74%) hold BSc degree in Pharmacy with less than five year of practice in the community pharmacy and most of them working 5-8 hours per day. The data also shows that in comparison to the chain pharmacies, Private pharmacies are ubiquitous (80%).

Table1 .The characteristics of the participating pharmacists.

Demographic	Type	N	(%)
sex	Male	18	(36)
	Female	32	(64)
Age	18-24	18	(36)
	25-34	29	(58)
	35-44	3	(6)
	45-54	0	(0)
	55-64	0	(0)
	65+	0	(0)
Qualifications	Diploma	11	(22)
	BSc	37	(74)
	MSc	2	(4)
	PhD	0	(0)
Years of Practice	<5	35	(70)
	5-10	15	(30)
	11-20	0	(0)
	>20	0	(0)
Type of Pharmacy	Private Pharmacy	40	(80)
	Chain Pharmacy	10	(20)
Working daily Hours	4-5	7	(14)
	5-8	35	(70)
	>8	8	(16)

Safety measures

Various personal safety measures were taken during the pandemic such as wearing masks, washing hands, using hand sanitizer, wearing gowns and wearing gloves. Table 2 reveals that using face masks and washing hands frequently were the dominant safety measures in the community pharmacies with 56% each.

Starting date of the safety measures

During the first year of the pandemic in Iraq, 2020, community pharmacies reacted to the pandemic with different ways. Table 2 shows that some of them started quite early (Jan 2020, 14%), while the overwhelming majority (50%) installed the measures in May 2020.

Frequency of washing hands

Washing hands was among the most common personal safety measure by the staff of community pharmacies. As it is shown in Table 2, the frequency of washing hands was different among participants. The least number of participants (10 %) were washing their hands only after removing gloves while around half of them were washing hands frequently during working hours.

Types of PPE used

Various PPE has been used by participants ranging from gloves to face shield and air doctor. As it is shown in Table 2, 56% of them used gloves, 52% have used surgical masks while minimum number of participants (2%) have used gowns.

Table 2.First measure, starting date, Type of PPEs and frequency of washing hands.

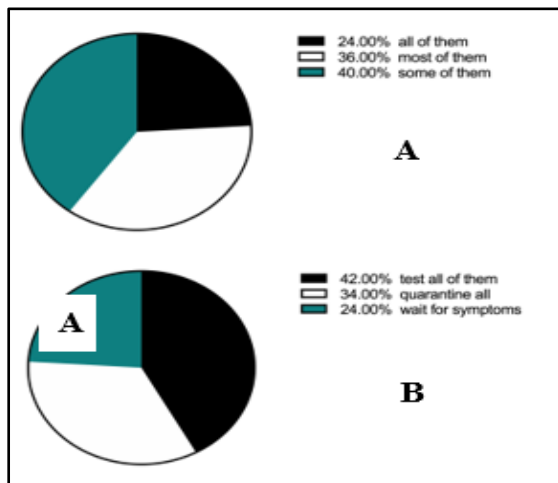
What were the first infections control measures you take?		When did you start to implement the measures (2020)		What types of PPEs are you using now?		How often do you wash your hands?	
Items	N (%)	Items	N (%)	Items	N (%)	Items	N (%)
Wearing masks	28 (56)	Jan.	7 (14)	Gloves	28 (56)	Before starting the work	8 (16)
Washing hands	28 (56)	Feb.	13 (26)	Surgical masks	26 (52)	Frequently	29 (58)
Using hand sanitizers	16 (32)	March	25 (50)	Filter masks	8 (16)	After direct contact with patients	7 (14)
Wearing gowns	2 (4)	April	2 (4)	N95 masks	6 (12)	After touching contaminated objects	12 (24)
Wearing gloves	9 (18)	May	1 (2)	Gowns	1 (2)	After removing my gloves	5 (10)
		Jun	1 (2)	face shield	4 (8)		
		July	1 (2)	Air doctor	7 (14)		

Reaction to COVID-19 positive test

In case of having one staff member testing positive for COVID-19, 42% of the community pharmacies were testing the rest of all other staff members. 34% of them were imposing quarantine on all of them while 24% of the participants were waiting for symptoms to appear in order to take further actions as it is shown in Figure 1.

Using PPE by staff members

Data has shown that 24% of community pharmacies have all their staff members using PPE in their working place, while most of the staff members in 36% of the pharmacies using PPE but some of the staff members used PPE in 40% of the participants as presented in Figure 1.



**Figure1 A. Using of PPEs by the staff members
B. Reaction towards staff members if one of them tests positive for COVID-19.**

Number of staff members at the front desk

Table 3 shows the number of staff members at the front line with the customers. Most of the pharmacies (48%) have only one staff member the front desk. While, 32%, 18% and 2% have 2, 3 and 4 staff members at the front line, respectively.

Distance measures

Regarding imposing distance measures, as it is shown in Table 3, 58% of community pharmacies imposed 1m physical distance while 24% imposed no distance measures. 12% and 6% of the participants imposed 2 and 3 meters distance measures, respectively.

Sanitizing the customer's space

Data in Table 3 shows that around 68% of community pharmacies in Sulaimani sanitizing the customer's space on a daily base, 8% every two days while 10% and 14% have done it every 3 and 4 days, respectively.

Table 3. Distance measure, sanitizing customer area and front desk staff number.

Item	Yes 1m N (%)	Yes 2m N (%)	Yes3m N(%)	No N (%)	Mean (St. dev.)
Have you imposed distance measures between your customers?	29 (58)	6 (12)	3 (6)	12 (24)	3.04 (2.79)
Item	Daily N (%)	Every 2 days N (%)	Every 3days N(%)	Every 4days N (%)	Mean (St. dev.)
How often do you sanitize customer area?	34 (68)	4 (8)	5 (10)	7 (14)	3.3 (2.97)
Item	One N (%)	Two N (%)	Three N(%)	Four N (%)	Mean (St. dev.)
Number of staff at the front desk.	24(48)	16 (32)	9 (18)	1 (2)	3.26 (2.84)

Hand sanitizers for customers

As shown in Table 4, 76% of community pharmacies installed hand sanitizers for the customers, while the rest (24%) provided none.

Lifting the restrictions

A total of 62% planned to release their safety measures once the number of COVID-19

cases were reduced. On the other hand, 38% of planned to keep safety measures in place despite reducing the number of COVID-19 cases as shown in Table 4.

Number of customers at front desk

Table 4 shows the extent of limiting of the number of customers allowed to be at the front desk

with the staff members at any given time. Forty four percent of the pharmacies have limited this number while 56% have their usual numbers allowed.

Entrance barrier

The data shows that 52% of the participants installed glass or plastic barrier at the entrance while 48% installed no barrier.

Table 4. Entrance barrier, hand sanitizer for customer, measures after the peak and the number of customers per time.

Item	Yes N (%)	No N (%)	Mean (St. dev.)
Have you installed any entrance barrier in the Pharmacy?	26 (52)	24 (48)	1.52 (1.02)
Have you offered hand sanitizers to the customers at the entrance?	38 (76)	12 (24)	1.76 (1.23)
Upon reducing the number of COVID-19 cases, are you going to ease your measures?	31 (62)	19 (38)	1.62 (1.11)
Are you still implementing the same sort of measures since the we passed the peak of the COVID-19 cases?	16 (32)	34 (68)	1.32 (0.80)
Have you limited the number of the customers visiting the pharmacy at the same time?	22 (44)	28 (56)	1.44 (0.94)

Discussion

The results of our research shows that, at the beginning of the pandemic, community pharmacies were rather reluctant to impose immediate control measures. Table 2 reveals that the 50% of the community pharmacies in Sulaimani started to introduce their safety measure in March 2020 despite the global warnings and the fact that first COVID-19 case was diagnosed on 22 Feb 2020 in Iraq. Our data also shows that upon the imposing of infection control measures, wearing face masks and washing hands were the dominant measures with 56% each. While wearing gowns was the less practice followed (2%). In comparison to a new study performed by Al-Jumaili *et al.*, (2021) in Iraqi hospital settings ⁽⁵⁾, our results indicate that in contrast to those working at hospital settings, communities pharmacies' staff members are using less face mask (80% v 56%). Additionally, our data reveals that wearing gowns was a very rare practice among community pharmacies which is in contrast to scientific evidences that show the effectiveness of wearing medical gowns and aprons in curbing the spread of the virus ⁽¹⁴⁾. Additionally, among those who washed hands as a safety measure, only 58% practiced it frequently which is in line with the published data presented worldwide ⁽¹³⁾. While the rest have done it on special conditions. Regarding the working place, quite a few measures were introduced. For instance, entrance barrier was

installed only by 52% of the pharmacies. Additionally, 76% of the participants offered hand sanitizers to the customer, while 58% and 12% of the participants introduced 1m and 2m distance measures, respectively. This is in accordance with the mountainous data that show the effectiveness of imposing physical distance in reducing the chances of infection with COVID-19 virus ⁽¹⁵⁾. Moreover, as shown in Table 3, around 68% of community pharmacies in Sulaimani have sanitised customer's area on a daily base.

Another aspect of control measures is on the staff side. Our data revealed that community pharmacies in Sulaimani have taken few measures to minimize the risk of staff to staff and staff to customers transmission rate. Example of such measure include the reaction to having one COVID-19 positive case in which 42% of participants decided to test the rest of the staff members for the COVID-19 virus while 34% have their staff member self-isolated immediately as shown in Figure 1. Additionally, 42% of the community pharmacies decided to reduce the number of the customers coming to the front desk. Moreover, 48% of the participants have reduced the number of the staff member at the front desk to one while 32% minimized that number to two as shown in table 3. These measures are in line with the published data in which reducing physical contacts in the working place significantly reduce the infection transmission rate ⁽¹⁶⁾.

Conclusions

Community pharmacies in Sulaimani city implemented infection control measures relatively late despite global warning of the Covid-19 pandemic. Additionally, upon taking these measures, the lack of a standard infectious control guideline hindered a unified approach to tackle the spread of the virus. This exemplifies the need of a robust central plan by the government to reduce the scale of the confusion in case of any pandemic in the future.

Limitations

This study concerns the reaction towards a global pandemic, however, there are few limitations of our study such as the sample size which was relatively small and the lack of internal or face validity of our questionnaire.

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Appendix : The survey items Questionnaire

Age:	18–24 25–34 35–44 45–54 55–64 65+
Sex	Male Female
Highest qualification related to pharmacy	Diploma BSc MSc PhD
Number of years practicing in the pharmacy:	<5 5–10 11–20 >20
Pharmacy type:	Chain pharmacy Independent pharmacy
How many hours are you working in the pharmacy?	4–5 5–8 >8
What was the first safety measures you have taken in the pharmacy?	Wearing masks Frequently washing handing Using hand sanitizers Wearing gown Wearing gloves
When did you implement the first safety measure in the pharmacy?	Jan Feb March April May June July August
How often do you wash your hand?	Before starting the work Frequently during the work shift, especially after contact with other staff or customers; After contact with secretions, excretions, biological liquids; After contact with potentially contaminated objects (gloves, clothing, masks, used tissues, waste); Immediately after removing gloves and other protective equipment.
What type of PPE are you using?	Gloves Surgical Masks Filter masks N95 Gowns Face shield Goggles Air doctor boots
Have you installed any entrance barrier to limit the access to the pharmacy?	Yes No
If yes, when did you installed?	
Do you have hand sanitizers available to the customers at the entrance?	Yes No

How many staffs are going to the front line with the customers?	
How often do you sanitize the customer 's access space?	Daily Every 2 days Every 3 days Every 4 days
Do all your staff use PPE?	All Most of the Some of them
If one of your staffs tests positive with the Covid-19, what are you going to do?	Testing all other Quarantine all those came in contact with him Waiting for symptoms to appear
Once covid cases reduced recently, have you released the restrictions?	Yes No
Are you still implementing the same measures as you have done during the peaking of the cases?	Yes No
Have imposed distance measures between your customers?	Yes- 1m Yes-2m Yes-3m no
Have you limited the number of customers coming to the counter?	Yes No



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