Knowledge and attitude among Syrian pharmacists towards COVID-19

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Abstract

Objective: To assess the knowledge and attitude toward coronavirus disease-2019 (COVID-19) among Syrian community pharmacists. Methods: A cross-sectional study was performed between March 17th and April 10th, 2020 among practicing community pharmacists in Syria. Systematic random sampling strategy was used, and data was collected through an online questionnaire covering pharmacists' knowledge and attitude towards COVID-19. Descriptive analysis was used to describe participants' demographics, knowledge and attitude mean score. For inferential statistics, t-test, ANOVA and Spearman's correlation were used to evaluate the relationship between study variables. Results: Of the 1236 randomly selected practicing community pharmacists, 427 completed the questionnaire (35%). Our participants primary sources of knowledge were social media and foreign health authorities' websites. They achieved a mean good score of knowledge and attitude, of 7.17 ± 1.3 and 1.84 ± 0.5, respectively. Around two-thirds of the participants were able to identify all symptoms associated with COVID-19, while over 90% knew the different ways of disease transmission. Our participants had mixed answers about the times that COVID-19 can stay on different surfaces and the distance required to achieve physical distancing. Over 80% of our participants expressed positive attitude towards the emerging pandemic. A negative correlation between knowledge and attitude scores ($r=-0.21$, $p<0.001$) was noted. Conclusions: Syrian pharmacists expressed good knowledge and positive attitude towards COVID-19. This can provide a good support to the challenged Syrian healthcare system. The study showed a need to provide reliable and updated resource for knowledge for pharmacists that is administered by Syrian health authorities.

What is known?

The followings are already known about the topic:

- Syrian healthcare system, once was one of the best in the region is ravaged with ten-year war

- Pharmacists in Syria are knowledgeable and capable of providing the public with valuable health information about COVID-19.

- Pharmacists are underutilized as providers in the Syrian Healthcare System.

What is new ?

- The article is first to assess the knowledge and attitude of Syrian community pharmacists towards the emerging virus. This is important taking into consideration the role of pharmacists can play in Syria, country already facing multiple challenges, in the help to combat the COVID-19 virus

- It sheds the light on the multiple knowledge resources available with lack of official Syrian source for pharmacists that is updated regularly.

- It provided an evidence that pharmacists have the needed knowledge and the positive attitude to anticipate in a national program to combat the virus.

Introduction:

On March 22, 2020. Syria has announced its first case of the Coronavirus disease (COVID-19) putting it on the growing list of countries fighting with the deadly pandemic (1). But Syria isn't just another country.

Syria has been ravaged by war for over a decade, which has decimated its infrastructure and left a large percentage of the population at high risk of infection. Once considered among the best in the region, Syria's public health care system is in state of disorder. Millions displaced from conflicts now live in Syria's overcrowded capital of Damascus, Tartous, and Latakia (2).

COVID-19 has created an epidemiological and clinical crisis across the world. It is a viral respiratory illness, initially discovered in Wuhan city, the capital of Hubei province in China at the end of December 2019 (3). As of April, 17th, 2020, The Syrian Ministry of Health (MoH) has reported 38 cases (including two fatalities, five recovered), around 1,200 tests have been conducted by the Central Public Health Laboratory (CPHL) in Damascus, including 19 from the city of Deir-Ez-Zor and 17 from the city of Al-Hasakeh governorates. It remains a priority to enhance laboratory and case investigation capacity across Syria, including training of laboratory technicians and rapid response teams (1).

Currently, there is no specific antiviral treatment and preventive vaccine. The spread of the virus mainly occurs from person-to person by close contact with infected people via coughs or sneezes or transmitted by touching a surface or object that the virus on it (4).

More than 80% COVID-19 patients were asymptomatic or showed mild symptoms and recovered without any medical intervention, approximately 20% of infected cases had a severe illness such as shortness of breath, septic shock and multi-organ failure, and it has been reported that an estimated 2% of cases can be fatal (5). Currently the best prevention strategy is to avoid being exposed to COVID-19. This is done by hands washing, using face masks, isolating confirmed and suspected cases, and practice principles of physical distancing (3).

On March 24th, the Syrian authorities declared a 6pm-6am curfew to endorse social distancing and control the spread of the disease and provided regular television awareness messages to provide the public with tips about the prevention of capturing the infection (6).

Pharmacists are in the frontline in the fight against COVID-19. They can play an important role in providing reliable source of information to the community (7). This study aimed to assess the knowledge and attitude toward COVID-19 among practicing Syrian community pharmacists. Knowledgeable community pharmacists with positive attitude can back the currently challenged Syrian healthcare systems by utilizing the ultimate potential of pharmacists as frontline healthcare providers.

Methods:

Participants:

Systemic random sampling was applied to select our participants using he Syrian Pharmacists Association database of community pharmacists. All selected pharmacists (n=1236) were contacted and invited electronically to respond to the online questionnaire. Responses were collected between March 17th, 2020 and April 10th, 2020.

Data collection:

Our data was collected using an online questionnaire was designed according to the COVID-19 Question-and-Answer webpage of WHO-East Mediterranean Region (8) and adjusted according to the study objectives. The questionnaire was reviewed for face and content by a panel of five professionals consisting of three pharmacists, infectious disease specialist physician, and public health administrator. This was followed by a pilot study carried out by seven community pharmacists who provided feedback about the clarity of the questionnaire. Accordingly, the final questionnaire was determined by the author.

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Our structured questionnaire consisted of three sections. The first covered participants' demographic data including the source they use to obtain information of COVID-19 knowledge. The second section covered COVID-19 knowledge and consisted of 10 questions. The last section reflected pharmacist's attitude towards COVID-19. It included 5 questions in which answers were assessed using 5-point Likert scale of agreement. Participants were invited to participate online and assured that all information collected would remain anonymous.

Data Analysis

Each question answered correctly was worth one point. Knowledge score ranged from (0), all questions were answered incorrectly, to (10), all questions were answered correctly. Score of [?] 7 was evaluated as good knowledge. For attitude questions, A mean score of [?]2 (answering for strongly agree or agree) was carried out as a positive attitude and a score of 3 to 5 indicated a negative attitude (answering strongly disagree or disagree or undecided). Therefore, the lower the attitude scores were, the higher the probability of positive attitudes and vice versa.

Statistical Analysis:

All data were analyzed using the Statistical Package for Social Sciences (SPSS®) Version 24 (IBM Corp, Armonk, NY). Descriptive analyses were used to assess participants' characteristics. These were reported as frequency, percentage, and mean scores. t-test and ANOVA were conducted to examine the relationship between the independent variables (participants' demographic characteristics) and the outcomes of interest (Knowledge or Attitude). To assess the relationship between mean knowledge and attitude scores, we used Spearman's correlation test. All differences of estimated variables were considered statistically significant if p- value is <0.05.

Results:

Over a period ranging from March 17th to April 10th, 2020, 542 questionnaires were collected. One hundred and fifteen were incomplete and were therefore excluded. Accordingly, 427 questionnaires were included in the final study achieving 35% response rate.

Table 1 shows the sociodemographic and practice characteristics of the community pharmacists. The mean age of the respondents was 28.4±6.3 years. The majority were female (62.3%), with most (68.9%) have less than five years of experience. The main sources of COVID-19 information were listed as social media, and official foreign health authorities' websites (91.1% and 82.7%, respectively).

All participants identified COVID19 as a virus. 78.7% (336/427) identified it as the newest to be discovered among others of the coronaviruses family, and 83.1% (355/427) knew that the virus can affect humans and animals alike.

Only 67.9% (290/427) of participants could identify all symptoms related to the COVID-19, and 93.4% (399/427) knew that the virus transmits from person-to-person through small droplets from the nose or mouth, which are expelled when a person with COVID-19 coughs, sneezes, or speaks. All pharmacists knew that asymptomatic patients can still transmit the infection to others, however there were mixed answers about the safe distance that needs to be kept to ensure physical distancing, (50.1% (214/427) believed it is 1 meter, 36.3% (155/427) believed it is 1 meter, and 13.6% (58/427) believed it is 3 meters or more). About 53.4% (228/427) of participants knew the difference between quarantine and isolation, and 96.5% (412/427) of patients said that children can get infected with COVID-19. Pharmacists had mixed answers about the times that COVID-19 can stay on different surfaces with only 32.3% (138/427) knowing the exact durations.

Pharmacists proposed different ways to protect themselves and their patients in the pharmacy. The most mentioned [144/427 (33.7%)] was wearing personal protective equipment (PPE) and applying rules of physical distancing [118/427 (27.6%)].

The overall knowledge score mean was good 7.17±1.3. Participants possessing excellent knowledge ([?]8.5 points) were recorded as 31.4% of participants. Knowledge results are presented in table 2.

Table 3 summarizes the results of the questionnaire relating to attitude. Around 92.5% of the participants showed positive attitude about the pandemic. However, there were some negative attitudes, around 82.2% of the participants thought that they would probably get the illness, or one of their family members may get infected (74.7%) but only 77.5% said they will accept the isolation if suspected infection. The mean score for attitude questions was 1.84+-0.5.

Spearman's analysis found that a significant negative correlation between the mean knowledge and attitude scores of pharmacists about COVID-19 (r=-0.21, p <0.001). The lower the attitude scores were, the higher the probability of positive attitudes; while the higher the knowledge scores were, the higher the probability of good attitude. Therefore, a good knowledge COVID-19 was directly associated with a positive attitude.

Discussion:

Until the time we finished writing this paper, the COVID-19 outbreak is considered an emergency and pharmacists are seen to be one of the high-risk groups to get infected.

Our findings showed that Syrian pharmacists generally had good knowledge and positive attitude towards the COVID-19 pandemic. Most of the participants obtained their information from the social media and health authorities' websites. A study in Jordan showed that majority of healthcare providers in that country have used social media as their main source of information while others obtained their knowledge through other media channels (9). An important issue is that Syrian pharmacists utilized social media and foreign health authorities' websites to obtain their knowledge about COVID-19 than the official website of the Syrian Ministry of Health at the present time. This is an important point for the Syrian authorities to consider regularly updated venues of knowledge and learning materials about COVID-19 for pharmacists and other healthcare providers and to encourage them to use it.

Syrian pharmacists have relatively good knowledge about COVID-19 symptoms and means of prevention. These results are aligned with studies that have conducted on healthcare professionals elsewhere (9,10). This is important as up to this date, there is no known treatment of vaccine to the virus.

There were mixed answers about the distance needs to be kept in order to achieve physical distancing and the time duration that the virus can stay on different surfaces. This can be attributed to the different resources that pharmacists use to obtain their knowledge.

Pharmacists provided valid suggestions to protect themselves and their patients from the transmission of the disease, these findings may be attributed to the emerging role of pharmacists in Syria as they are actively getting involved in different activities in order to portrait themselves as reliable healthcare providers (11).

Our findings showed positive attitude among Syrian pharmacists towards following protective recommendation in their workplace. It seems that pharmacists' high level of knowledge about protecting themselves and their patients have resulted in a positive attitude towards these practices, yet, pharmacists did not hide their concerns of contracting the virus and passing it to their families. Most pharmacists (91.8%) were willing to take the vaccine once it is available.

Since COVID-19 is still new and very limited studies have been available about pharmacists' knowledge and attitude towards the emerging virus, it is hard to predict if these findings would change as we know more about the virus, and as more Syrian pharmacists have more experience with patients who may get infected in the future.

Conclusion:

Syrian pharmacists expressed good knowledge and positive attitude towards COVID-19. This can provide a good support to the challenged Syrian healthcare system. The study showed a need to provide reliable and updated resource for knowledge for pharmacists which is administered by Syrian health authorities.

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Table 1 Pharmacist Knowldge COVID 19 demographics.docx available at https://authorea.com/users/318186/articles/448113-knowledge-and-attitude-among-syrian-pharmacists-towards-covid-19

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Table 2 Pharmacist Knowldge COVID 19 demographics.docx available at https://authorea.com/users/318186/articles/448113-knowledge-and-attitude-among-syrian-pharmacists-towards-covid-19

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Table 3 Pharmacist Attitude COVID 19 demographics.docx available at https://authorea.com/users/318186/articles/448113-knowledge-and-attitude-among-syrian-pharmacists-towards-covid-19