



KNOWLEDGE, PERCEPTION AND ATTITUDE OF PHARMACIST ABOUT COVID-19 IN SAUDI ARABIA

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ABSTRACT

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Midst to current Coronavirus infectious disease 2019 (COVID-19) pandemic, the international pharmaceutical federation stated that pharmacists being a part of the healthcare system had a crucial role in the management cycle of COVID-19 outbreak. The purpose of this study was to assess the knowledge, attitude and practice of pharmacists working in various sector like hospital and community area, to snapshot their current preparedness and awareness regarding COVID-19. A cross-section online survey was conducted between Oct to Dec 2020, during the lockdown stage. The data was collected through a self-administered questionnaire. The study instrument was designed by a team of authors after a rigorous literature review. The questionnaire was divided into 4 parts. The first part comprised of demographic information of the respondents. The second part identified the source of respondents' COVID-19 knowledge. The third part assessed the knowledge of pharmacist regarding COVID-19 in which Yes or No option was given against each set of question. The last part determined the perception and attitude of respondents towards COVID-19. Among 92 participants, 65.2% male and 34.8% female. 54.3% pharmacist worked in hospital with 53.3% of bachelor degree. 76.1% pharmacist received the information from ministry of health, Saudi Arabia. Most of the pharmacist had great knowledge with average percentage with 75%, the perception also observed as good with 90% of responses and the attitude also good with above 90% of responses. The hospital pharmacists had good knowledge, attitude and practice towards the COVID-19. The majority of the pharmacists perceived that they can play an important role in this pandemic. It is important for all the pharmacists to have standard authentic information about the COVID-19 and to further convey this knowledge and belief to the community. Future studies are required to evaluate the knowledge, attitudes, and practices of other health workers and other segments of society.

INTRODUCTION

It dates back to Nov 17, 2019, when a 55-year-old individual from Hubei province in China have contracted by COVID-19. COVID-19 is a disease caused by a new coronavirus spreading across the globe, according to the South Morning China Post. In December 2019, a cluster of pneumonia cases, caused by a newly identified β -coronavirus occurred in Wuhan,

China. Investigators found that the patients had previously worked in the Huanan Seafood Wholesale Market, a selling hub of animals. The samples drawn from these individuals were sent for laboratory analyses. Initially named as the 2019-novel coronavirus (2019-nCoV) on 12 January 2020 by the World Health Organization (WHO). Coronavirus Study Group (CSG) of the International Committee proposed to

name the new coronavirus as SARS-CoV-2, issued on 11 February 2020. It was on 30 January 2020, when WHO officially declared the COVID-19 epidemic as a public health emergency of international concern. Infections with SARS-CoV-2 are now widespread, so far as of 10-04-2020, a total of 177 countries and territories around the world have reported a total of 1,699,565 recorded coronavirus cases, the deaths were 1,02,734, and recovered 3,76,323. The number of cases confirmed, recovered, and died in India is 7600,774,249, respectively^{1,2}. SARS-CoV-2 is the seventh coronavirus known to infect humans. SARS-CoV, MERS-CoV, and SARS-CoV-2 can cause severe disease, whereas HKU1, NL63, OC43, and 229E are associated with mild symptoms. Coronavirus belongs to the family of coronavirinae order nidovirales. They are large positive-strand RNA viruses comprising about 4 genera like alpha, beta, delta, and gamma. The availability of coronavirus until 2019, is only 6 coronaviruses (HCoVs) were known that could be held responsible for respiratory diseases^{3,4}. The other two, severe acute respiratory syndrome coronavirus (SARS-CoV) and middle east respiratory syndrome coronavirus (MERS-CoV) are known to infect the lower respiratory tract. In 2002, a pandemic of SARS occurred endangering the lives of 8098 individuals with a mortality of 774 patients⁴. The epicenter of the disease was Guangdong, China from where it spread internationally to more than 12 countries. In 2012, a rapidly spreading infection called MERS, caused by MERS-CoV, emerged in Saudi Arabia⁵⁻⁸. Bats were considered to be the natural hosts of these viruses and the intermediate hosts were dromedary camels. Under the international health regulation 2005, an emergency committee on 2019 nCoV has put public emergency of international concern (PHEIC) into effect. In the states with weak health systems, an US\$675 million preparedness and response plan have been launched from Feb to April 2020

respectively. A disease, commodity package has been prepared for patients with necessary biomedical equipment. The impact of the outbreak on a global scale remains to be seen⁵. The Sporadic emergence and outbreaks of new types of CoVs remind us that CoVs is a severe global health threat. It is highly likely that new CoVs g to breaks are unavoidable in the future due to changes in the climate and ecology, and also due to increased interactions of humans with animals. Thus, there is an urgent need to develop effective therapies and vaccines against CoVs to fight against to the pandemic infectious diseases⁹⁻¹¹. To promote COVID-19 outbreak management in KSA, it is very important to find out the awareness of pharmacists about COVID-19 in current serious situation. In the present research, we determined the knowledge, attitude and practice (KAP) of pharmacists towards COVID-19 during the fast rise period of the pandemic outbreak.

MATERIALS AND METHODS:

Study design:

A cross-section online survey was conducted between Oct to Dec 2020, during the lockdown stage. Since during this special time it was impossible to conduct a community-based sampling survey, we decided to collect the data online. In this study, the pharmacists working in Saudi Arabia were selected.

Ethical Approval

The research was approved by the Institutional Review Board, Riyadh ELM University with the approval number **FUGRP/2020/211/404/396**.

Study instrument:

The data was collected through a self-administered questionnaire. The study instrument was designed by a team of authors after a rigorous literature review. The questionnaire was divided into 4 parts.

Part 1: Demographic information and source of information

Gender:

92 responses

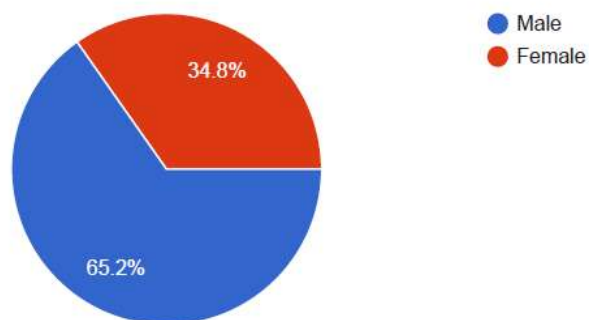


Figure 1. Demographic information and source of information

Work setting:

92 responses

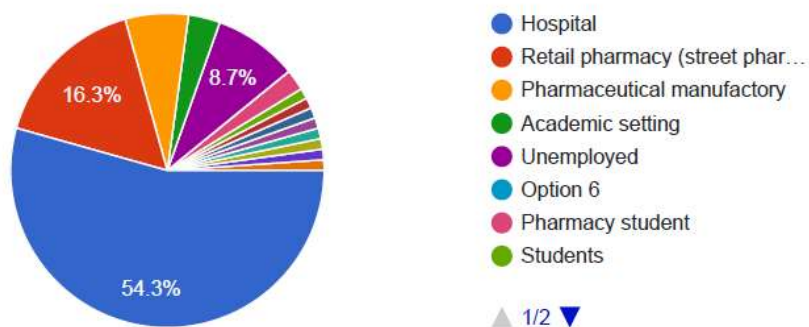


Figure 2. Work setting

Educational level:

92 responses

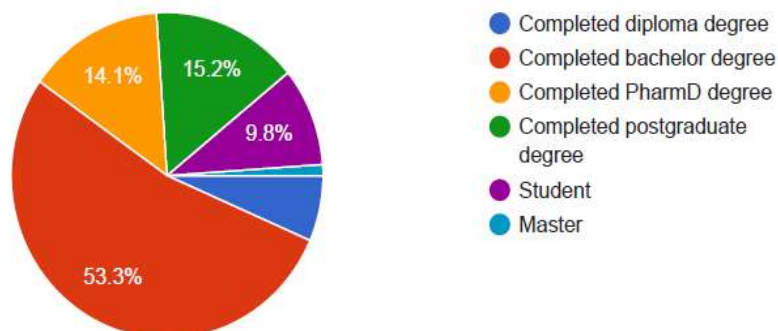


Figure 3. Educational level

Years of Experience if employed:

92 responses

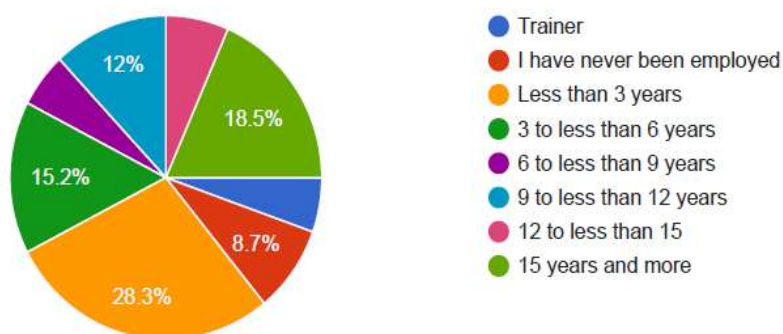


Figure 4. Years of experience

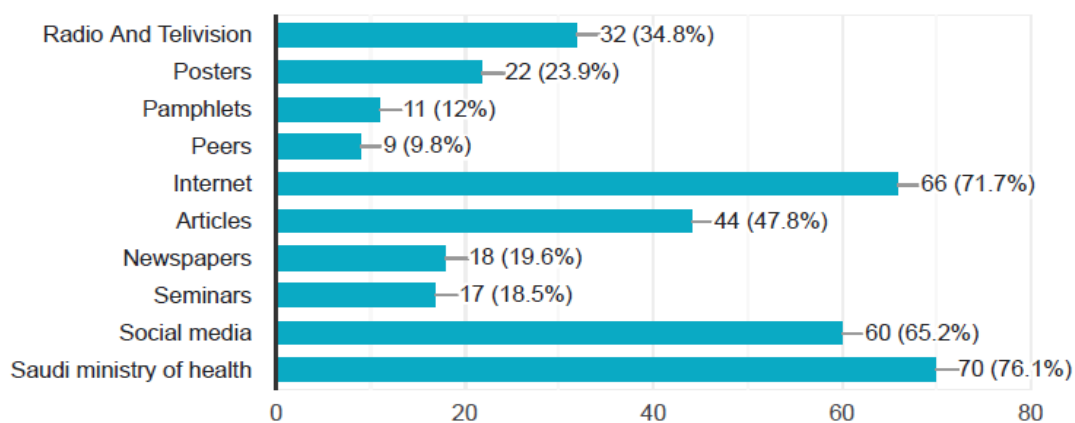


Figure 5. Source of information

Table 1. Knowledge of Pharmacist

Knowledge of COVID-19	Yes	No	IDK
COVID-19 is thought to originate from bats	73.9%	12%	14.1%
COVID-19 is transmitted through air, contact, fecal-oral routes	77.2%	19.6%	3.2%
COVID-19 is transmitted through bought items from the market such as food, medications, devices.	46.7%	42.4%	10.9%
Headache, fever, cough, sore throat and flu are symptoms of COVID-19	93.5%	2.5%	4%
The incubation period of COVID-19 is 2-14 days	91.3%	3.7%	5%
COVID-19 leads to pneumonia, respiratory failure and death	84.8%	7.6%	7.6%
Supportive care is the current treatment for COVID-19	82.6%	8.7%	8.7%
Hand hygiene, covering nose and mouth while coughing, and avoiding sick contacts can help in the prevention of COVID-19 transmission	96.7%	0%	3.3%
Polymerase Chain Reaction (PCR) can used to diagnose COVID-19	80.4%	3.3%	16.3%
Vaccination of COVID-19 virus infection is available in market	9.8%	85.9%	4.3%
COVID-19 can be fatal	91.3%	0%	8.7%
Elderly and people with chronic illnesses such as diabetes mellitus and obesity, chronic heart disease, lung diseases are at higher risk for severity of COVID-19.	95.7%	0%	4.3%
As a pharmacist, I can recommend public to buy chloroquine or hydroxychloroquine from the market as prophylactic drugs.	10.9%	87%	2.1%
As a pharmacist, I can recommend public to buy COVID-19 IgG/IgM Rapid Test Cassette from the market to check COVID-19 at home.	10.9%	82.6%	6.5%
COVID- 19 can last Viable on aerosols and different surfaces for maximum 48 hours	57.6%	18.5%	23.9%

Table 2: Perception of Pharmacist

Perception of COVID-19	Yes	No	IDK
COVID-19 symptoms appear in 2-14 days	91.3%	0%	8.7%
Patients diagnosed with COVID-19 should inform people who were direct contact with them before	94.6%	0%	5.4%
Flu vaccination is sufficient for preventing COVID-19	10.9%	79.3%	9.8%
During the outbreak, eating well-cooked and safely handled meat is safe	78.3%	15.2%	6.5%
Sick patients should share their recent travel history with health care providers	93.5%	0%	6.5%
Equipment and working area in wet markets should be disinfected at least once a day	82.6%	4.4%	13%
Washing hands with soap and water can help in the prevention of COVID-19 transmission	93.5%	0%	6.5%
COVID-19 Patients remain contagious after recovery	41.3%	35.9%	22.8%

Table 3: Attitude of Pharmacist

Perception of COVID-19	SA	A	UD	DA	SDA
Transmission of COVID-19 infection can be prevented by using universal precautions given by CDC, WHO etc	56.5%	39.1%	4.4%	0	0
Prevalence of COVID-19 can be reduced by active participation of Pharmacist in hospital infection control program	48.9%	34.8%	13%	3.3%	0
Any related information about COVID-19 should be disseminated among peers and other healthcare workers	57.6%	33.7%	8.7%	0	0
COVID-19 patients should be kept in isolation	76.1%	19.6%	4.3%	0	0
Intensive and emergency treatment should be given to diagnosed patients	48.9%	26.1%	9.8%	12	0
Healthcare workers must acknowledge themselves with all the information about COVID-19	80.4%	14.1%	0	0	0
Gowns, gloves, mask and googles must be used when dealing with COVID-19 patients	88%	8.7%	0%	0	0
People who develop COVID -19 symptoms must be directed to isolate themselves and contact MOH directly.	84.8%	13%	0%	0	0

The first part comprised of demographic information of the respondents. The second part identified the source of respondents' COVID-19 knowledge. The third part assessed the knowledge of pharmacist regarding COVID-19 in which Yes or No option was given against each set of question. The last part determined the perception and attitude of respondents towards COVID-19. The study instrument was assessed the knowledge of pharmacist by asking questions about the nature, aetiology, symptoms, risk group, consequences, source of transmission, prevention and treatment of COVID-19 infection.

Data Analysis

Descriptive analysis will be conducted and data will be reported as percentage and frequency.

RESULTS & DISCUSSION

Among 92 participants, 65.2% male and 34.8% female (Figure 1). 54.3% pharmacist worked in hospital with 53.3% of bachelor degree (Figure 2, 3). 76.1% pharmacist received the information from ministry of health, Saudi Arabia (Figure 5). Most of the pharmacist had great knowledge with average percentage with 75%, the perception also observed as good with 90% of responses and the attitude also good with above 90% of responses (Table 1-3).

CONCLUSION:

The pharmacists had good knowledge but had a poor attitude and practice towards the COVID-19. The majority of the pharmacists perceived that they can play an important role in this pandemic. It is important for all the pharmacists to have standard authentic information about the COVID-19 and to further convey this knowledge and belief to the community. Future studies are required to evaluate the knowledge, attitudes, and

practices of other health workers and other segments of society.

REFERENCES

1. Arshad Ali S, Baloch M, Ahmed N, Arshad Ali A, Iqbal A. The outbreak of Coronavirus Disease 2019 (COVID-19)—An emerging global health threat. *J Infect Public Health* 2020; 13: 644–646.
2. Chen Y, Liu Q, Guo D. Emerging coronaviruses: Genome structure, replication, and pathogenesis. *J Med Virol* 2020; 92: 418–423.
3. Zhou P. A pneumonia outbreak associated with a new coronavirus of probable bat origin. *Nature* 2020;579: 270–273.
4. Sahin A R. Novel Coronavirus (COVID-19) Outbreak: A Review of the Current Literature. *Eurasian J Med Oncol* 2020; 4:1–7.
5. Li Q. Early Transmission Dynamics in Wuhan, China, of Novel Coronavirus-Infected Pneumonia. *N Engl J Med* 2020; 382:1199–1207.
6. Backer JA, Klinkenberg D, Wallinga J. Incubation period of 2019 novel coronavirus (2019-nCoV) infections among travellers from Wuhan, China, 20–28 January 2020. *Eurosurveillance* 2020; 25:1–6.
7. Meda Venkatasubbaiah, P. Dwarakanadha Reddy, Suggala V. Satyanarayana, Literature-based review of the drugs used for the treatment of COVID- 19, *Current Medicine Research and Practice*, 10 (2020) 100- 109
8. Zhai P. The epidemiology, diagnosis and treatment of COVID-19. *Int. J. Antimicrob. Agents* 2020; 105955: (2020). doi:10.1016/j.ijantimicag.2020.105955
9. Jiang X, Rayner S, Luo MH. Does SARS-CoV-2 has a longer incubation period than SARS and MERS? *J Med Virol* 2020; 92:476–478.
10. Zhao S. Preliminary estimation of the basic reproduction number of novel coronavirus (2019-nCoV) in China, from 2019 to 2020: A data-driven analysis in the early phase of the outbreak. *Int J Infect Dis* 2020; 92:214–217.
11. Tang B.. Estimation of the Transmission Risk of the 2019-nCoV and Its Implication for Public Health Interventions. *J Clin Med* 2020;9:462.
12. Lai CC, Shih TP, Ko WC, Tang HJ, Hsueh PR. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and coronavirus disease-2019 (COVID-19): The epidemic and the challenges. *Int J Antimicrob Agents* 2020; 55:105924.