

ORIGINAL PAPER

Pharmacists' experience, competence and perception of telepharmacy technology in response to COVID-19

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Abstract

Background: In the telepharmacy model, the pharmacist can play a pivotal role in delivering pharmaceutical services for patients. However, evidence of pharmacists' impact on improving patient outcomes through disease outbreak through telepharmacy is sparse.

Objectives: This study aims to examine pharmacists' attitudes towards clinical benefits and identify challenges regarding the use of telepharmacy during the COVID-19 pandemic in Jordan.

Method: A cross-sectional survey design was used to recruit eligible participants from both hospital and community pharmacies.

Results: A total of 364 pharmacists agreed to participate in the study. The majority of the participants (70.6%) expressed favourable attitudes towards telepharmacy to accurately capture and report signs and symptoms of COVID-19. Almost 91% agreed that patients can receive immediate medical feedback while using telepharmacy services. Pharmacists (87%) emphasised their role in the monitoring of physiological parameters when entered by patients using telepharmacy technology. However, more than half of the participants reported that lack of reimbursement and evidence-based studies might hinder the use of telemedicine technology to deliver remote clinical services.

Conclusion: The need for implementing telepharmacy technology has been further boosted because of its noticeable benefits in promoting convenient healthcare services remotely in emergency situations.

What's known

1. The practice of telepharmacy is not new; it has been used to combat infectious outbreaks in many countries.
2. During the COVID-19 pandemic, telepharmacy received a lot of attention as healthcare professionals raced to increase knowledge and awareness of care systems that fulfill patients' demands remotely.
3. Telepharmacy serves patients who lack access to healthcare resources. Many telepharmacy services, however, have remained largely unnoticed.

What's new

1. The majority of participants in this study had positive views of telepharmacy services, as well as the competence to identify signs and symptoms reported by COVID-19 patients.
2. The cutting-edge telepharmacy offers numerous advantages and great promise, and should be implemented by clinical pharmacists.

1 | INTRODUCTION

The rapid evolution of new various communication technologies is making a tremendous impact on healthcare. Telehealth harnesses these technologies by using real-time synchronous technology to enable live interaction by using videoconference link to asynchronous interaction and transmission of data via mobile devices between healthcare providers and patients to overcome geographical disparities, distance barriers, provide equitable access, and delivery of healthcare services for both rural and urban communities.^{1,2} Furthermore, telehealth is taking a centre stage in the health sector, by paving the way for better achieving wider health coverage.¹ Originally, telehealth was designed as a technology to serve patients in remote areas with healthcare shortages. A more recent concept falls under the wider umbrella of telehealth: telepharmacy. The National Association of Boards of Pharmacy defined telepharmacy as "the provision of pharmaceutical care to patients at a distance, through the use of telecommunication and information technologies".^{3,4} This way, telepharmacy provides patients with their medications and other pharmaceutical care services where the pharmacists are not physically presented.^{3,4} Essentially, telepharmacy harnesses technology to provide services such as prescription review, medication dispensing and compounding, drug therapy monitoring and counselling.⁴⁻⁶ Growing evidence suggests potential clinical benefits provided by telepharmacy and the implementation of such technology,⁷ which may reduce shortage and inequalities in healthcare services provision and delivery for patients living in the rural communities or in areas where it is difficult to access healthcare or pharmaceutical services for any reason.⁸⁻¹⁰ Telepharmacy provides an economically beneficial technology for both pharmacists and patients.¹¹ Moreover, telepharmacy was found to reduce travelling expenses and it saved time, which is considered a major barrier for patients in the rural and remote areas for accessing healthcare services; especially, those who are disabled and elderly people.^{4,11,12} Furthermore, telepharmacy improves patients' adherence by increasing their satisfaction and trust with the received services.^{13,14} In addition, it has enhanced the effective clinical role of pharmacists by providing sufficient medication counselling time with better privacy.^{15,16}

Generally, telehealth provides an ideal platform to address various challenges that healthcare systems around the world may face in response to global emergency situations or outbreaks.¹⁷⁻¹⁹ For example, in 2014, the telemonitoring concept was adopted by many countries, such as Western Australia²⁰ and Guinea,^{21,22} after

the Ebola Virus outbreak in Africa, which improved the disease management.²³ In addition, teleconsultation was used in Taiwan during the Severe Acute Respiratory Syndrome (SARS) epidemic for hospital quarantined infected patients, which helped to limit healthcare-associated infections and improved disease control.²⁴

The 2019 novel Coronavirus Disease (COVID-19) has evolved into a global emergency health situation and declared as a pandemic by the World Health Organization (WHO).²⁵ As of July 2, 2020, over 10 million cases were confirmed globally, with about 229,780 new reported cases on that day, and the number is still increasing continuously around the world.²⁶ With this rapid increase in COVID-19 cases, telepharmacy can be harnessed for remote medication orders and approval, which results in reducing the time that ill patients require to get their needed medications.⁸

Controlling the infection and limiting its transmission are essential strategies in the fight against this pandemic. Thus, telehealth has started to be recognised as a first-line defence strategy against COVID-19 as a solution to reduce people's exposure, and to control its spreading among both patients and healthcare workers.²⁷⁻²⁹ Despite the widespread use of telehealth, particularly telepharmacy technology by patients and pharmacists globally, there is a lack of research that examines the attitudes and challenges regarding the use of telepharmacy during the COVID-19 pandemic. The goal of this study was to examine pharmacists' attitudes towards clinical benefits and challenges regarding the use of telepharmacy during the COVID-19 pandemic in Jordan.

2 | MATERIALS AND METHODS

2.1 | Design of the study

A cross-sectional survey using online social media platforms was used to recruit eligible participants who were minimally holding diploma in pharmacy and currently working as full-time pharmacists either in a community or a hospital pharmacy. A Google Form was used as a web-based survey to collect data from eligible participants from March 10 through May 15, 2020. Four methods were utilised to recruit participants, including various official Facebook pages for Schools of Pharmacy in Jordan, the Jordan Pharmacists Association (JPA) page, personal messages and postings in Jordanian pharmacy-focused online forums. Eligible participants were part-time and full-time registered pharmacists, working in the community or hospital settings, who were willing to voluntarily participate in the study.

Participants should sign the online consent form attached to the first page of the online survey to confirm their agreement to participate in the study (Appendix A1: Participation Invitation Letter). While using the Google Form, the validation options "Required" and "Limit to one response" were applied to minimise missing data and prevent duplicate responses.

2.2 | Instrument

The survey has been developed based on an extensive review of the available literature on telepharmacy and telemedicine. The authors of this research reviewed relevant topics published in the last decade.^{2,3,5,7,9,18,29,30} Based on the broad outcome of the literature review, several ideas were identified to clearly formulate the survey questions used in the current study. Some items were newly developed to meet the research needs. The online survey contained 23 questions to avoid survey fatigue in respondents. Ten items were used to assess sociodemographic characteristics. Nine items were used to assess pharmacists' attitudes towards telepharmacy in response to the COVID-19 pandemic and four items were used to measure pharmacists' perceived competence. The 5-point Likert scale was used to measure pharmacists' attitudes towards telepharmacy and their perceived competence in response to COVID-19, by giving participants five responses (Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4 and Strongly Agree = 5). The survey items were reviewed by five experts in the field of pharmacotherapy and epidemiology to provide necessary changes and establish both face and content validity. Afterward, the reliability of the questionnaire was established during the pilot testing stage by collecting data from 12 participants who were not included in the study sample. A Cronbach's alpha value of 0.83 was calculated for the pharmacists' attitudes towards telepharmacy, which indicated acceptable internal consistency. The final survey was developed and administered in the English language, which is the official language of instruction in pharmacy schools in Jordan, besides, textbooks and teaching materials for pharmacy students are only available in English.

2.3 | Ethical considerations

Ethical approval was obtained from the Institutional Review Board (IRB, Reference# 21/132/2020) at Jordan University of Science and Technology. Potential research participants were informed about the anonymous and voluntary nature of the study, confidentiality of information obtained in this study, as well as risks and benefits associated with consenting to participate.

2.4 | Statistical analysis

Data collected on Google Forms were exported to a Microsoft Excel file, which were directly imported into IBM SPSS® version

24.0 for statistical analysis. Assuming a number of population larger than 20,000, confidence level of 90% and 5% margin of error, the minimum recommended sample size would be 267 participants. Data were described using IBM SPSS® version 24.0. Descriptive statistics (eg mean (M) with standard deviation (SD)) were used to illustrate participants' characteristics and responses. Pearson correlation analysis was performed between pharmacists' attitudes towards telepharmacy and their self-expected role competence in response to the COVID-19 pandemic. Furthermore, t-tests and analysis of variance (ANOVA) were performed to determine the effect that several independent variables have on the main dependent variable (ie pharmacists' attitudes towards telepharmacy).

3 | RESULTS

In total, 364 pharmacists agreed to participate in the study and completed the questionnaire. Among them, 181 pharmacists were working in the community pharmacies and 183 were working in the hospital pharmacies. About three quarters of the respondents (73.6%) were women, and 26.4% of respondents were men. The findings showed that the "26-30" age group had the highest frequency (31.3%). Almost half of the participants attained a Bachelor degree of Pharmacy and had less than 5 years of work experience. The results are presented in Table 1.

3.1 | Using telepharmacy technology by pharmacists

The majority of pharmacists (70.6%) expressed favourable attitudes towards the online telehealth models such as telepharmacy that could be conducted frequently to accurately capture any signs and symptoms presented by COVID-19 patients. The majority of pharmacists (90.7%) agreed on the timely feedback that patients could receive using telemedicine. Almost 87% of pharmacists agreed about their role to monitor the parameters entered by patients several times a day. However, more than half of the participants reported that the lack of reimbursement might hinder the use of telepharmacy technology to deliver remote clinical services. Unexpectedly, half of the participants felt discouraged to use telepharmacy as a result of a lack of studies about its effectiveness and societal implications. Furthermore, few participants (8.8%) indicated that telepharmacy could be a time-consuming practice (see Table 2).

3.2 | Correlation between pharmacists' competence and their attitudes towards telepharmacy

The results showed that there is a correlation pharmacists' competence and attitudes towards telepharmacy. Four competence items

TABLE 1 Frequency distribution of sociodemographic characteristics of the participants (N = 364)

Variable	Frequency (%)
Gender	
Male	96 (26.4)
Female	268 (73.6)
Age group	
18 to 25	108 (29.7)
26-30	114 (31.3)
31-35	53 (14.6)
Above 35	89 (24.5)
Experience (y)	
≤5	177 (48.6)
6-10	72 (19.8)
>10	115 (31.6)
Levels of education	
Diplomate in Pharmacy	37 (10.2)
Bachelor of Pharmacy	201 (55.2)
PharmD	65 (17.9)
Master's Degree in Pharmacy	61 (16.8)
Current work situation	
Full-time Community Pharmacy	181 (49.7)
Full-time Hospital Pharmacy	183 (50.3)
Monthly income (USD\$)	
Less than 700	175 (48.1)
700-1400	140 (38.5)
More than 1400	49 (13.5)
Marital status	
Married	176 (48.4)
Single	188 (51.6)
Area of work	
Urban	306 (84.1)
Rural	58 (15.9)
Prior Experience with telepharmacy	
Yes	95 (26.1)
No	269 (73.9)
Source of information	
Local channels and international channels	97 (26.6)
Social media	203 (55.8)
WHO website and social pages	22 (6.0)
Scientific journals	19 (5.2)
Others (eg workplace and colleagues, and ministry of health (MOH) website)	23 (6.3)

were significantly correlated with pharmacists' attitudes towards telepharmacy. These competences include pharmacists' ability to apply infection prevention and control measures (eg hand hygiene, social distancing), ability to expedite seeking care for patients with acute illnesses, ability to provide necessary information to patients

about the level of care they should seek and how urgent it is and ability to identify epidemiological risk factors that would constitute COVID-19 (see Table 3).

3.3 | Predictors of attitudes towards telepharmacy in response to COVID-19

There are many factors that are found to be predictors of attitude towards telepharmacy among pharmacists. These factors are gender ($P = .006$), age ($P = .028$), level of education ($P = .005$) and source of information ($P = .017$). All other factors did not significantly relate to attitude towards telepharmacy ($P > .05$). Male participants had more positive attitudes towards telepharmacy than females. Moreover, pharmacists in the age group >35 expressed more positive attitudes towards telepharmacy than their counterparts in the younger age groups. As the level of education increased, pharmacists exhibited more positive attitudes towards telepharmacy, and they depended more on scientific journals as sources of information (see Table 4).

4 | DISCUSSION

To best of the authors' knowledge, this is the first study in Jordan and the Arab world that examines the attitudes of pharmacists towards telepharmacy during the time of COVID-19. A cross-sectional survey using online social media platforms was used to recruit eligible participants. The data for this study were collected from hospital and community pharmacists. As demonstrated by the findings of this study, a large proportion of participants (70.6%) expressed a favourable attitude towards telepharmacy activities that were frequently conducted to accurately capture any signs and symptoms presented by COVID-19 patients. This model may reflect pharmacists' competence to communicate with patients anytime and anywhere, which might alleviate the barriers to accessing care and the challenges that are associated with the waiting time and finding the best care provider. This finding was concordant with the China-Shanghai experiences regarding the role of pharmacists during COVID-19,³¹ which showed that the implication of telehealth technology (telehealth facilities) in response to COVID-19 pandemic has proven that pharmacists were well positioned and prepared to develop and operate such smart technologies in different health facilities particularly, in their pharmacies. And that they worked synchronously and in an innovative ways with other healthcare professionals.³¹ Despite Liu et al³² promoted the implication of telepharmacy or remote pharmacy services during COVID-19 pandemic to prevent disease transmission and facilitate the provision of pharmaceutical care services, the result of this study showed that less than half of the pharmacists agreed that telehealth models increase the number of non-face-to-face encounters, which might indicate concerns regarding the quality of pharmaceutical care provided and that not all pharmacists are ready to embrace telehealth at the present time. Furthermore, many pharmacists could be doubtful about their

	Statements	Agree or strongly agree (%)	Mean	Stand. Deviation
1	It allows more frequent and accurate communication of sign (eg fever) and symptoms (eg febrile) to healthcare providers	257 (70.6)	3.85	0.89
2	It increases number of non-face-to-face encounters	157 (43.1)	3.21	1.11
3	Patients can receive timely feedback from a provider	330 (90.7)	4.21	0.65
4	Pharmacists can monitor the parameters entered by patients several times a day and able to recommend medication changes (intervene) in a timely manner	316 (86.8)	4.14	0.72
5	Lack of reimbursement and high costs are continuing obstacles	248 (68.1)	3.82	0.89
6	Lack of studies about effectiveness, and societal implications of telepharmacy should discourage its use by pharmacists	200 (54.9)	3.54	0.96
7	Its time consuming	32 (8.8)	2.48	0.83
8	Our work place is well equipped and prepared to launch telepharmacy	95 (26.1)	2.83	1.01
9	The lack of current information surrounding COVID-19 makes it difficult to prepare for telepharmacy	202 (55.5)	3.49	0.94

TABLE 2 Participants' level of agreement with statements regarding the use of telepharmacy during the COVID-19 pandemic

	Competence statement	Attitude towards telepharmacy	
		Pearson correlation	P-value
1	Ability to follow and promote infection prevention and control measures (eg hand hygiene, social distancing)	0.165**	.002
2	Ability to expedite seeking care for patients with acute illness who should be admitted to an emergency department.	0.171**	.001
3	Ability to provide necessary information to patients about what level of care they should seek and how urgently.	0.145**	.006
4	Ability to identify epidemiological risk factors that would increase the risk for getting COVID-19.	0.371**	.000

TABLE 3 Correlation between pharmacists' competence and their attitudes towards telepharmacy

willingness to accept non-face-to-face encounters unless the extent to which telepharmacy could promote health outcomes become evident. In Netherland, a cross-sectional study described the impact of COVID-19 on pharmaceutical care provision in community pharmacies³³ has found a very limited use of telepharmacy by means of video communication to educate patients, and less than half (44.2%) of the participating pharmacists reported the use of telephone for medications review and a large proportion (76.7%) of the participants expressed concerns regarding the quality of provided pharmaceutical care particularly for vulnerable patients such as the elderly people.³³ Thus, implication of telepharmacy may be infeasible and difficult for such groups. In this study, the majority of pharmacists

(90.7%) agreed on the timely feedback that patients could receive using telepharmacy.

The findings of this study showed pharmacists' competence and preparedness to timely provide healthcare services such as medications review and patients' counselling for their patients who lack an easy access to healthcare services during the COVID-19 pandemic. These findings supported by a review study on the pharmacists' role during the COVID-19 pandemic, which showed the important role of pharmacists during this pandemic, that was reflected mainly in providing drug information and patients' counselling achieved by various successful communication methods such as telephone, video conferences and web-based written interactions.³⁴ These methods seem to be

TABLE 4 The association between pharmacists' attitudes towards telepharmacy in response to covid-19 and sociodemographic characteristics

	n = 364	Mean (SD)	P-value
Gender			
Male	96	3.64 (0.45)	.006
Female	268	3.49 (0.45)	
Age			
18 to 25	108	3.48 (0.39)	.028
26-30	114	3.46 (0.53)	
31-35	53	3.51 (0.41)	
Above 35	89	3.64 (0.40)	
Monthly income (USD\$)			
Less than 700	175	3.48 (0.44)	.082
700-1400	140	3.53 (0.39)	
More than 1400	49	3.64 (0.50)	
Area of work			
City	306	3.52 (0.45)	.465
Rural	58	3.49 (0.42)	
Current work situation			
Full-time Hospital Pharmacy	181	3.51 (0.47)	.653
Full-time Community Pharmacy	183	3.53 (0.43)	
Level of education			
Diplomate in Pharmacy	37	3.45 (0.35)	.005
Bachelor of Pharmacy	201	3.49 (0.42)	
PharmD	65	3.47 (0.49)	
Master's Degree in Pharmacy	61	3.71 (0.49)	
Sources of information			
Local and International Channels	97	3.55 (0.43)	.017
Social Media	203	3.46 (0.45)	
WHO Website	22	3.65 (0.37)	
Scientific Journals	19	3.75 (0.44)	
Others (eg Workplace and Colleagues, and Ministry of Health (MOH) Website)	23	3.58 (0.45)	

related to telepharmacy interventions and, thus, proven the preparedness and competency of pharmacists during COVID-19 pandemic.

This study revealed a significant correlation between pharmacists' competence and their attitudes towards telepharmacy. This might reflect the level of pharmacists' competence that demonstrated their knowledge, skills and attitudes towards the use of telepharmacy technology. Although half of the pharmacists expressed apprehensions regarding the use of telepharmacy, this study highlights the need for further telepharmacy training to address the challenges of improving clinical competence.³⁵⁻³⁷ This study emphasises

the need for more training on telepharmacy in order to meet the challenges of developing professional competence. Thus, the pharmacists should be well-prepared and equipped with the necessary skills³¹ and encouraged to use this technology³³ to address the evolving challenges in healthcare and optimally providing patients with the needed care during this pandemic^{31,33} as they may be sceptical or unaware towards using it.¹¹

The results of this study showed that many factors were predictors of the attitudes towards telepharmacy among pharmacists. These factors were gender ($P = .006$), age ($P = .028$), level of education ($P = .005$) and source of information ($P = .017$). All of the other factors did not relate to the pharmacists' attitudes towards telepharmacy ($P > .05$). A study conducted to determine community pharmacists' attitudes and perceptions towards e-prescriptions found that age and gender were significantly related to the pharmacists' attitudes and adoption of e-prescribing, and similar to this study's findings, male pharmacists had positive attitudes and higher adoption of e-prescribing compared with female pharmacists.³⁷ However, younger pharmacists had positive attitudes and a higher adoption of this technology.³⁷ Conversely, another study indicated that among the characteristics of participating pharmacists, only younger participants had greater interest and positive attitudes towards using telemedicine resources.³⁰ In addition, a review article regarding attitudes of healthcare staff towards information technology reported that age and gender were not significant factors in explaining that attitude.³⁸

Supporting the findings of previous studies,^{24,39,40} the implication of this study can be useful to optimise clinical services delivery at the time of epidemic diseases. Telepharmacy has the potential to make pharmaceutical care reachable to patients who experience difficulty in timely access to healthcare services, especially those with elevated risk factors for infectious diseases. Besides, telepharmacy can support outbreak management and control by providing remote clinical services and fostering physical distancing. Accordingly, the adoption of telepharmacy in clinical practice could help in the early detection, remote monitoring and response to an outbreak; therefore, reducing the transmission of infectious diseases from patients to patients and from patients to healthcare providers.

5 | LIMITATION OF THE STUDY

The small sample size could be a major limitation of the current study which was conducted among several community and hospital pharmacists in Jordan. Thus, it might not be representative of the whole pharmacists' population. It would be more generalisable if it was conducted in the whole country to assess pharmacists' attitudes towards telepharmacy. Furthermore, the underrepresentation of some sociodemographic variables might have affected the results. Finally, this study was conducted using an online or web-based survey, which might have led to a selection bias. However, the global COVID-19 outbreak and the mandatory public quarantine in Jordan made this research methodology feasible.

6 | CONCLUSIONS

The majority of pharmacists supported the concept of telepharmacy and the utilisation of telepharmacy services by patients. The actual implementation of telepharmacy technology can remotely provide several healthcare services, such as patient counselling, patient monitoring system, medication review, and referral to specialists for patients unable to access healthcare services, especially in emergency situations. As telepharmacy holds significant promises, pharmacist should be encouraged to implement such technologies and well trained to gain the necessary skills to operate telepharmacy, as well as a well-designed system is required to facilitate the adoption and implementation of this novel technology. As COVID-19 pandemic seems to require a long time to resolve generally, innovative telemedicine technology is highly needed.

ETHICS APPROVAL

Ethical approval was obtained from the Institutional Review Board (IRB, Reference#21/132/2020) at Jordan University of Science and Technology.

CONSENT TO PARTICIPATE

Potential research participants were informed about the anonymous and voluntary nature of the study, confidentiality of information obtained in this study as well as risks and benefits associated with consenting to participate. Participants were assured that risks associated with consenting to participate in this study are no more than minimal risk ordinary encountered in daily life or during the performance of routine physical or psychological tests. As informed consent was embedded in the online survey, questions would not be viewed by potential participants unless they clicked the "I agree" button, which indicating their voluntary participation.

CONSENT FOR PUBLICATION

This work is not under publication or consideration for publication elsewhere and all authors give the consent for *the International Journal of Clinical Practice* to publish their work.

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DISCLOSURES

The authors of this original work declare that they have all participated in the design, execution, reviewing and analysis of the study, and that they have approved the final version. Also, there are no conflicts of interest associated with this publication and no financial

support that could have influences its reported results. This work is not under publication or consideration for publication elsewhere.

AUTHORS' CONTRIBUTIONS

Suhaib M. Muflih, Dr Muflih served as the principal investigator (PI) and was responsible for the successful administrating and execution of the entire research project. The PI participated in creating the survey questionnaire, data collection, performing statistical analysis, summering the results, drafting and final approval of the manuscript. Sayer Al-Azzam, Dr Al-Azzam participated in the data analysis and interpretation, as well as in drafting, critically revising and final approval of the manuscript. Reema Karasneh, Dr Karasneh participated in study design, interpretation of data, in drafting, critically revising and final approval of the manuscript. Sara K. Jaradat, Dr Jaradat participated in creating the survey questionnaire, data collection, also in drafting, critically revising and final approval of the manuscript. Sawsan Abuhammad, Dr Abuhammad participated in study design, performing statistical analysis and in the final approval of the manuscript. Mohammad S. Shawaqfeh, Dr Shawaqfeh participated in study design, creating the survey questionnaire, interpretation of data and in the final approval of the manuscript.

DATA AVAILABILITY STATEMENT

Data are readily available upon your request.

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APPENDIX A1

PARTICIPATION INVITATION LETTER

Dear Pharmacist Colleagues, we would like to invite you to participate in research conducted by research team at Jordan University of Science & Technology (JUST), consisting of community and hospital pharmacists. It is important for us as Frontline healthcare workers to be proactive in making a difference in the overall morbidity and mortality rates associated with 2019 Novel Coronavirus (COVID-19).

The purpose of the study is to measure the Pharmacists' Experience, Competence, and Perception of Telepharmacy Technology in Response to COVID-19. Your participation in this study is completely voluntary and anonymous, which does not require you to provide your name or any other identifying information. Your participation will contribute to a better understanding of the role that pharmacists are playing during the COVID-19 pandemic. All responses will be kept confidential.

You can take this survey conveniently using your cell phone or personal computer. The survey will close on May 15, 2020.

If you agree to be in this study, you will be asked to complete a brief demographic questions that will take ~1 minute to complete. Then, you will be asked to express your attitudes towards telepharmacy and your perceived competence in response to COVID-19 on

a scale of 1 to 5 (Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, and Strongly Agree = 5), which will take ~5 minutes to complete.

For general questions or technical issues please email the author smmuflih@just.edu.jo