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Original article

The impact of COVID-19 on mental health: Public perceptions of community pharmacist's role in mental health support

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Abstract. *Background and aim:* The global impact of COVID-19 on mental health has been enormous. Community pharmacists are frontline healthcare providers and serve as direct access points for patients. This research sought to assess how the public in Saudi Arabia perceived and accepted the role of community pharmacists in providing mental health support during the COVID-19 pandemic. *Methods:* An online cross-sectional study was conducted among the Saudi public aged 18 years or above using the QuestionPro platform. The validated bilingual (English and Arabic) questionnaire was simple and detailed. One key item assessed participants' agreement with the statement, "Pharmacists can counsel people on psychological issues," using a five-point Likert scale. The survey link was distributed via social media platforms. *Results:* A total of 773 participants completed the survey. Majority were female (65.2%), age between 18 to 24 years (48.1%). Nearly half of the participants disagreed with the statement that pharmacists could provide support on psychological issues, while 19% agreed. Age, employment status, and the way psychological issues were managed during the pandemic showed a significant association with the public's acceptance of community pharmacists' role in delivering mental health services ($p<0.001$). *Conclusions:* Despite accessibility to community pharmacists during the pandemic, participants showed a clear preference to consult physicians regarding mental health issues. This suggests lack of acceptance to community pharmacist's role in providing mental health support. Future research should explore barriers to public acceptance of community pharmacists in mental health support. Furthermore, policymakers are encouraged to develop and implement initiatives aimed at enhancing public awareness of the pharmacists' contribution to mental health promotion. (www.actabiomedica.it)

Key words: community pharmacist, COVID-19, mental health disorders, public health

Introduction

Until Feb 2025, more than 777 million coronavirus disease 2019 (COVID-19) cases were reported, with more than 7.1 million deaths globally (1). The first case of (COVID-19) was reported in December 2019 in Wuhan, China and it was declared as a pandemic and global emergency on March 11, 2020 (2,3). Consequently, the pandemic has impacted diverse aspects of patients' lives, with mental health

being one of the most prominently affected. There was a remarkable increase in cases of major depressive disorder (MDD) and anxiety disorder (AD), due to several factors such as social isolation and financial insecurities (4,5). In Saudi Arabia the prevalence of depression reached 26% among adults in the Jazan Region during COVID 19 (6). Furthermore, another study found that 34.0% of participants experienced a moderate to severe psychological impact, while 28.3% and 23.6% reported moderate to severe anxiety and stress, respectively (7). The community pharmacists as health care providers serve as frontliners who are easily approachable and accessible to people living in the communities (8,9). During the COVID-19 pandemic, the community pharmacists served the public on multidimensional manner i.e., leadership, medication management, information provision, patient education, and public health safeguard (10,11). Community pharmacists are perceived as a crucial trustful information resource particularly during the pandemic where diverse information was posted through multimedia platforms (11,12). The chronic disease management including mental health disorders has remained a major contribution of the community pharmacists through the COVID-19 pandemic, where they assessed the medication-related problems, assure the continuous supply of medications, provision of patient education, and contacting the primary healthcare providers for further assessment and therapeutic plan change if needed (13,14). In the mental health context, pharmacists can recognize mental illness symptoms, ensure the quality of medicine use and adherence, serve as an educational resource for the community, detect barriers, and facilitate mental health pharmacy services (15). One study was conducted among pharmacists through which 86% of participants reported that they met at least one patient whom they perceived to have a mental health issue or crises during the last year (16). Moreover, Witry MJ, 2020 has surveyed approximately 100 pharmacists who are trained in mental health first aid (MHFA) behaviours. Around 80% of participants reported asking a patient on distressed mood and listened to patients with mental health non-judgmentally, 60% referred the patients to appropriate setting with concerns of mental health crisis, and 46% identified persons with suicidal thoughts with referral to appropriate resources (17). On the other hand, the public awareness on the role of community pharmacists as a provider of MHFA behaviours is of great importance. This has been evaluated by Dollar KJ and colleagues by which they surveyed around 400 of community pharmacy visitors with the majority of them reported feeling comfortable to speak with pharmacists specially MHFA-trained about their mental health concerns. Moreover, great number strongly agreed that pharmacists are well-positioned and qualified to provide mental health first aid (18). Similarly, this has been supported by the Motulsky A. and colleagues in their study where nearly hundred reported the patient-initiated consultations that helped them avoid visiting the emergency departments (19). The high need for accessible mental health resources places pharmacists in a key role to provide support for patients with mental health issues through community pharmacies (20). Several studies highlight the roles of pharmacists in promoting mental health in various healthcare settings and the perception of public about this role (18,21-26). Nevertheless, there are limited studies on the role of pharmacists as key mental health providers in Saudi Arabia. Therefore, this present study, which was part of a broader project investigating the impact of COVID-19 on mental health (27), aimed to assess public perceptions regarding the role of community pharmacists in delivering mental health support in Saudi Arabia during the COVID-19 pandemic.

Patients and Methods

Study design and participant recruitment

An online cross-sectional study design was adopted to gain initial insights from a diverse group of individuals at a single point in time, ensuring coverage of the eastern, central, western, northern, and southern regions of Saudi Arabia. Data were collected from August 2020 to January 2021 using the online platform QuestionPro. The survey link was shared via social media platforms such as WhatsApp, X (formerly Twitter), and Telegram, with requests for connections to share the link within their networks or groups to increase reach among a wider population. A reminder was sent after

three weeks to encourage completion, with a note discouraging multiple entries if the survey had already been completed. Interested participants were asked to provide informed consent through a simple dichotomous (yes/no) response without requiring personal identifiers. Those consented were directed to the survey, with the first page outlining the inclusion criteria. Eligibility criteria included individuals aged 18 years or older who were residents of Saudi Arabia during the COVID-19 pandemic, which began in March 2020. Individuals under 18 years of age, those not residents in Saudi Arabia during the pandemic, or those unable or unwilling to consent were excluded from the study. Participants who did not meet these criteria were thanked and excluded from the study. Data protection was ensured through Global Password Protect rules for online data collection.

Instrument development, validation, and translation

We designed a clear, comprehensive, and contextually relevant questionnaire in English, drawing on information from academic literature. Any discrepancies during its development were resolved through discussion among the authors. Content validity was assessed by the experts, taking into account their experience and understanding of the study topic. The expert panel included two academic faculty members and one clinical pharmacist and one biostatistician. The questionnaire underwent a pilot phase to assess clarity and comprehensibility. A small group of participants (20 cases) tested the questionnaire and provided feedback on any confusing or ambiguous items. This feedback was used to refine the wording, improve the question structure, and enhance overall clarity. The piloting process helped identify potential issues and informed necessary adjustments prior to wider distribution. Subsequently, the questionnaire was translated into Arabic by a native Arabic-speaking author. A separate native Arabic-speaking author independently performed a back-translation to ensure accuracy and consistency.

Questionnaire

The questionnaire has three sections. The first part consists of items related to the socio-demographic and clinical characteristics of participants, including gender, age, educational level, employment status, and the presence of chronic conditions. The second part consists of a section related to participant-adopted strategies to overcome psychological issues during the COVID-19 pandemic; Participants who reported seeking medical consultation for psychological concerns were asked to provide specific information regarding the nature of the consultation. The third sections related to pharmacist role in mental health support during COVID 19. The questionnaire included an item assessing participants' level of agreement with the statement, "Pharmacists can counsel individuals on psychological issues," utilizing a five-point likert scale ranging from "strongly disagree" to "strongly agree." The bilingual survey was distributed via several social media channels to obtain more responses.

Sample size

Using this prevalence estimate of the prior study (27) which investigated the immediate psychological response of the general population in Saudi Arabia during COVID-19 pandemic, the current study determined that a minimum sample size of 246 participants was needed to achieve a 95% confidence level with a 5% margin of error.

Statistical analysis

Descriptive statistics were employed in this study to describe the data; categorical variables were presented as frequency (N) and percentage (%). The socio-demographic characteristics such as gender, age, education, chronic condition, and mental illness management were measured as categorical variables. To evaluate the association between socio-demographic and clinical characteristics and the public's acceptance of pharmacists, Chi-square test was employed. A p-value of less than 0.05 was considered statistically significant. All statistical analyses were conducted using IBM SPSS Statistics for Windows, Version 24.0 (IBM Corp., Armonk, NY, USA).

Ethics

The study protocol and questionnaire (containing informed consent) were approved by the Institutional Review Board of Imam Abdulrahman bin Faisal

University, Dammam, Saudi Arabia (Approval number: IRB-2020-05-173) 10/05/2020. Before commencing the questionnaire, participants were requested to provide consent online.

Results

Participants' characteristics

Among the 1077 subjects who viewed the online survey link, 956 were screened for eligibility, and 773 (80.1%) were completed the survey. Most of the participant (48.1%) were from young age group ranging from 18 to 24 years, female (65.2%), having bachelor's degree (76.8%). In terms of employment status more than two third (66.1%) had no job, among them 41.5% were student and 24.6% were not working. Only 12.9% participants reported having chronic illnesses (Table 1).

Table 1. Sociodemographic Characteristics of Survey Participants (n=773)

Characteristics	n	%
Gender		
Male	269	34.8
Female	504	65.2
Age (years)		
18-24	372	48.1
25-34	105	13.6
35-44	89	11.5
45-54	105	13.6
55 or older	102	13.2
Education		
Secondary school or lower	137	17.7
Bachelor's degree	594	76.8
Master's or higher	42	5.4
Employment Status		
Student	321	41.5
Healthcare professionals	70	9.1
Other government sector	91	11.8
Other private sector	101	13.1
Not working	190	24.6
Existing chronic condition		
Yes	100	12.9
No	673	87.1

Acceptance of pharmacists

While nearly half of the participants (49%, n=379) disagreed with the statement that pharmacists could provide support on psychological issues, only 19% (n=142) agreed, while the remaining 32% of respondents were unsure (Figure 1). Only 8% (n=61) of participants sought medical consultation for psychological issues during the COVID-19 pandemic, among those 15%, (n=9) consulted a pharmacist, 51% (n=31) consulted a physician, 41% (n=25) used online mental health consultation services, a quarter (25%, n=15) received medication, and 16% (n=10) took sleeping pills to obtain relief (Figure 2). Around one-fifth of the participants (21%) solved their depression issues by self-management techniques, 12% discussed their peer (Figure 2).

Association between acceptance and sociodemographic characteristics

Table 2 presents the distribution of the participants' acceptance of pharmacists in dealing with psychological issues. It was found that age, employment status, and the management of psychological issues during the pandemic ($p<0.001$) were significantly associated with the participants' acceptance of community pharmacists to provide mental health services. Descriptive statistics revealed that the highest level of agreement (24.3%; n=90) was observed from the youngest age group (18-24y) in terms of the acceptance of pharmacists in dealing with psychological issues, while the lowest level of agreement (9.1%; n=9) was from the oldest age group. Surprisingly, healthcare care professionals reported the highest level of agreement (27.1%; n=19) in comparison to other professionals, namely students (24.1%), private job holders (15.8%), government job holders (11.5%), and those without a

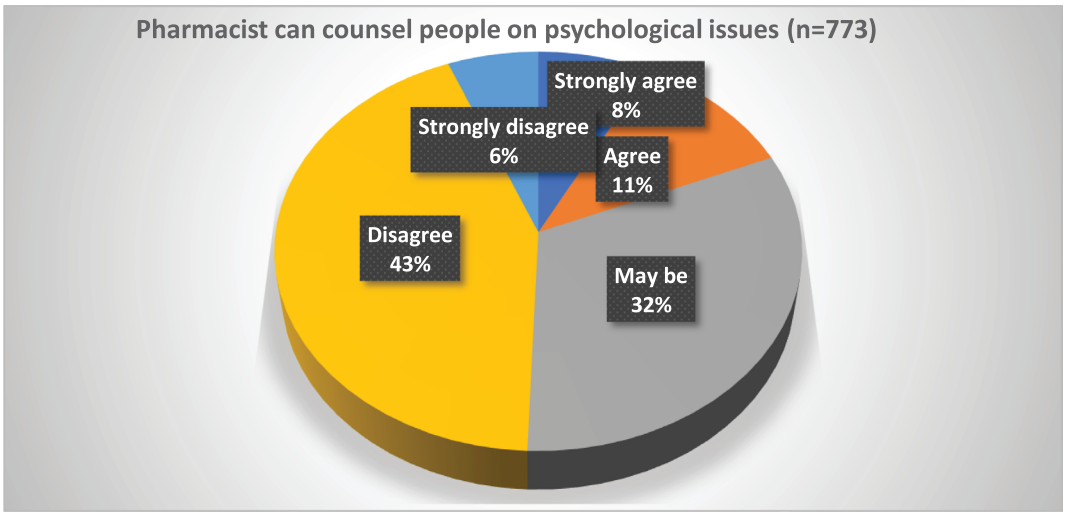

Figure 1. Acceptance of Community Pharmacists in Providing Mental Health Support During the COVID-19 pandemic.

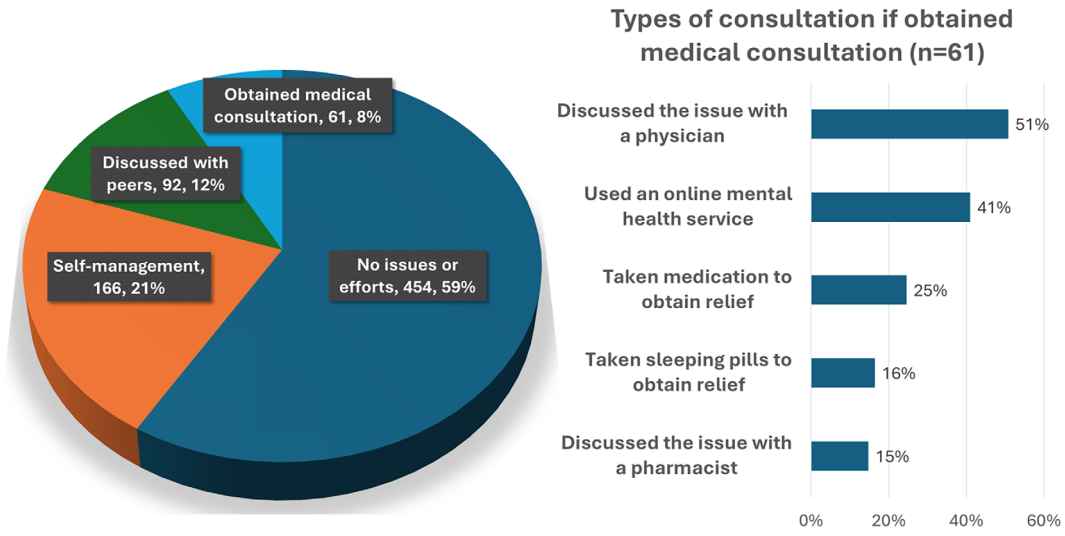

Figure 2. Strategies to Overcome Psychological Issues during the COVID-19 pandemic.

job (10.6%). Regarding psychological issue management, highest 30% participant agreed to consult with pharmacists, followed by discussed with peers 22%, and self-management 18.2%

Discussion

This study is considered the first effort in Saudi Arabia to assess public acceptance of community pharmacists' involvement in mental health support during COVID19. It specifically aimed to define their role as healthcare providers during the COVID-19 pandemic and to determine whether individuals consulted them for mental health issues during that time. The findings of the present study suggested that half of the participants believed pharmacists could not provide mental health support, indicating low expectations that do not align with the potential role of community pharmacists. The factor that might explain

Table 2. Association between Acceptance and Sociodemographic Characteristics of Participants

	Acceptance of Pharmacists [n(%)]			P-value
	Disagree	**Maybe**	**Agree**	
Gender				
Male	133 (50.6)	83 (31.6)	47 (17.9)	0.898
Female	246 (48.9)	162 (32.2)	95 (18.9)	
Age (years)				
18-24	144 (38.8%)	137 (36.9%)	90 (24.3)	<0.001
25-34	54 (51.4)	37 (35.2)	14 (13.3)	
35-44	47 (54)	32 (36.8)	8 (9.2)	
45-54	67 (64.4)	16 (15.4)	21 (20.2)	
55 or older	67 (67.7)	23 (23.2)	9 (9.1)	
Education				
Secondary school or lower	68 (50)	42 (30.9)	26 (19.1)	0.336
Bachelor's degree	284 (48.3)	192 (32.7)	112 (19)	
Master's or higher	27 (64.3)	11 (26.2)	4 (9.5)	
Employment Status				
Student	122 (38.1)	121 (37.8%)	77 (24.1)	<0.001
Health Professionals	35 (50)	16 (22.9%)	**19 (27.1)**	
Other government sector	48 (55.2)	29 (33.3%)	10 (11.5)	
Other private sector	61 (60.4)	24 (23.8)	16 (15.8)	
Not working	113 (60.1)	55 (29.3)	20 (10.6)	
Existing chronic condition				
Yes	49 (49)	30 (30)	21 (21)	0.77
No	330 (49.5)	215 (32.3)	121 (18.2)	
Mental illness management				
No issues	257 (57.1)	119 (26.4)	74 (16.4)	<0.001
Self-management	69 (41.8)	66 (40)	30 (18.2)	
Discussed with peers	33 (36.3)	38 (41.8)	20 (22.0)	
Obtained consultation	20 (33.3)	22 (36.7)	18 (30.0)	

this low acceptance is that many people view community pharmacists primarily as medication dispensers, believing that only physicians have the expertise to handle mental health disorders and their treatments. Contrary to our findings, one study found that 90% of the respondents did not recognize the services of community pharmacists in mental health. In contrast, 82% of respondents agreed that pharmacists can understand the needs of the community when it comes to helping people with mental illnesses (28). A recent study from Saudi Arabia revealed that 53% of the general public were satisfied and 17.8% were very satisfied with community pharmacy services (29), which indicates that people with mental illnesses may have a positive attitude towards these services in future-provided awareness campaigns. Several other studies have documented the positive impact of pharmacists in relation to psychiatric patients' outcomes (30). Another study revealed that pharmacists were perceived as valuable sources of unbiased and evidence-based drug information for mental health team staff members and their clients and caregivers (31). Another

study assessed the perception of community pharmacists (n=96) in giving mental health support using a 40-item survey. While 84% of participants recognized their prominent role in mental health care, 60% were cognizant of their responsibility to provide pharmaceutical care to patients with mental illnesses (32). Understanding the underlying reasons for the limited acceptance of pharmacists' roles in mental health care especially among younger populations is essential for developing effective policies and targeted awareness campaigns. The International Pharmaceutical Federation (FIP) has outlined various structural and systemic challenges that hinder pharmacists' involvement in mental health services, such as insufficient time, lack of reimbursement, limited access to medical records, inadequate training, and concerns about privacy. Most importantlycurrent healthcare models in many countries limit the comprehensive integration of pharmacists into mental health services. At the individual level, persistent stigma and negative perceptions continue to pose significant barriers to patient engagement (33). A recent focus group study conducted in Australia identified the limited recognition and integration of community pharmacies within the primary healthcare system as a major barrier to their involvement in mental health care. Furthermore, patient-related factors such as stigma and insufficient awareness of available pharmacy services were also found to impede pharmacists' contributions in this area (34). (The findings of this study highlighted the strategies used by the participants to overcome psychological issues during the COVID-19 pandemic; the majority of participants (51%) consulted physicians, while 41% utilized online mental health services. This could be a result of the fact that the Ministry of Health (MOH) has introduced several key initiatives/programs on mental well-being through the National Centre for Mental Health Promotion, including the Psychological Consultation Centre, the Comprehensive Health Counselling Initiative (Primary Mental Care Program), the Ajwad Rehabilitation Services for patients with psychiatric illnesses, the Qareboon App, and teleconsulting services (35,36). Consistent with these findings, one study revealed that psychiatrists were ranked as the most used and best resource for obtaining information about psycho-tropic medications; pharmacists were also ranked highly but were in second place to psychiatrists (28). During the pandemic, pharmacist-led telehealth psychiatric services were effectively introduced at Johns Hopkins Aramco Healthcare in Dhahran, located in Saudi Arabia's Eastern Region. As part of this initiative, pharmacists played a comprehensive role that included assessing the appropriateness of medication use, addressing medication-related issues, reviewing regimens for polypharmacy, providing patient counseling, monitoring treatment adherence, evaluating medication tolerance, assessing mental health status, identifying unusual patient behaviors, and coordinating specialized clinics for patients receiving lithium and clozapine therapy (37). These impressions are expected to change by increasing awareness among the Saudi Arabian community regarding the different services that a community pharmacist can provide in relation to mental health. The results of this study indicated that younger age, employment status, and the approach to managing psychological issues during the pandemic were significantly associated with the acceptance of community pharmacists as providers of mental health services ($p<0.001$). Although no prior studies were identified that directly examined these variables in a mental health context, a recent study conducted in Saudi Arabia assessing public attitudes toward community pharmacies found that older individuals were less inclined than younger individuals to seek assistance from a community pharmacist (29). There are several effective methods to improve the public perception of pharmacists. For example, various social media platforms, including X, TikTok, Facebook, WhatsApp, and others, can spread public awareness about pharmacists' role in supporting mental health. Using this approach might have a positive impact as people in Saudi Arabia mostly use social media. Another approach that might help improve the public perception of pharmacists is educational workshops that pharmacists provide to enhance patient's adherence to medications and other related topics. Implementing this approach could demonstrate pharmacists' expertise in healthcare delivery, enhancing their credibility and fostering greater patient trust. Furthermore, there is a critical need in Saudi Arabia to implement public education initiatives to highlight the role of pharmacists in mental health care. These

initiatives should engage diverse segments of the population, particularly given that psychological distress during the pandemic was notably more prevalent among younger individuals and those who were unmarried (38).

Study limitations and recommendations

The current study was designed as a cross-sectional study whose limitations cannot be ignored. It limits the potential of the causal relationship between the determinants and the acceptance of the pharmacists' roles in providing mental support during COVID-19. Besides, the response bias could be one of the limitations of our study. Also, the underrepresentation of males in our study might contribute to poor knowledge of the acceptance of the pharmacist's role in mental health support. The generalization of our findings is another limitation of our study, as the participants might not be considered as a representative sample. The participants' opinions might differ from those of other populations who did not participate. A key limitation of this study is that it did not explore the factors that hinder participants from seeking mental health support from pharmacists, which represents a notable limitation. Nonetheless, the research was carried out during the COVID-19 pandemic using a robust and well-validated questionnaire. Despite these limitations, the current study provides valuable data on the level of acceptance of the pharmacist's role in providing mental health support during COVID-19. Also, the results could provide a clear picture for decision-makers on providing all possible resources to support and educate pharmacists about providing mental health support and, at the same time, increase awareness among the population about the active role of pharmacists. Therefore, it is recommended that a new policy supporting the role of pharmacists in providing mental health support should be implemented in community pharmacies. Future research should focus on finding the reasons and factors contributing to the low acceptance of pharmacist roles. This should bridge the gap between the pharmacist's role and the knowledge and awareness among the general population.

Conclusions

Despite the fact that community pharmacists were readily accessible during the COVID-19 pandemic in Saudi Arabia, most participants of this study preferred to consult physicians for their mental health disorders. This might reflect a limited acceptance of community pharmacists in providing mental health support. Public awareness of the role of community pharmacists in mental health well being needs to be improved, as this might alleviate workforce shortages and reduce burnout within the healthcare system. Future research should investigate the cost benefit analysis of pharmacists' intervention in management mental health disorders.

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Conflict of Interest: Each author declares that he or she has no commercial associations (e.g. consultancies, stock ownership, equity interest, patent/ licensing arrangement etc.) that might pose a conflict of interest in connection with the submitted article.

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