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Psychological Impact of COVID-19 on Community Pharmacists: A Cross-Sectional Study in Lusaka District, Zambia

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Abstract

Introduction

The coronavirus disease 2019 (COVID-19) pandemic has caused serious health problems globally. This has included increased psychological challenges among frontline healthcare workers (HCWs). Community pharmacists are critical in the fight against COVID-19 and in sensitising the public about vaccinations and other public health interventions. However, little is known about the psychological impact of COVID-19 and the acceptance of vaccinations among community pharmacists in Zambia. Therefore, this study assessed the psychological impact of COVID-19 among community pharmacists in Lusaka, Zambia.

Materials and Methods: This cross-sectional study was conducted among 188 community pharmacists from August to October 2021 using a structured questionnaire. Statistical Package for Social Sciences (SPSS) version 22.0 was used to analyse the data. The statistical significance was conducted at a 95% confidence level.

Results: Of the 188 participants, 108 (57.4%) were male, while 80 (42.6%) were female. Most of the participants were in the age group of 20–30 years (n=109, 58.0%). The study found that 36.7% of the participants experienced anxiety, while 50.5% experienced depression. Anxiety was associated with fear of dying from COVID-19 if one contracted it (p=0.001), fear of infecting loved ones if infected (p=0.003) and experiencing a traumatic event (p=0.036). Depression was associated with a fear of dying if one contracted COVID-19 (p=0.001). Overall, about 70.2% of the participants expressed willingness to receive the COVID-19 vaccine.

Conclusion: Community pharmacists experienced anxiety and depression due to the COVID-19 pandemic. Most of the community pharmacists were willing to receive the COVID-19 vaccine. There is a need for urgent interventions to address the mental health challenges of community pharmacists during pandemics.

Keywords: anxiety; community pharmacists; COVID-19 vaccine; depression; healthcare workers; vaccine hesitancy; mental health; psychological impact

Introduction

The coronavirus disease 2019 (COVID-19) is a disease caused by a Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) that emerged in the seafood and poultry markets in the Chinese city of Wuhan

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in 2019 [1-4]. Since the report of the first case, the virus quickly spread and was declared a pandemic by the World Health Organization (WHO) on March 11th, 2020 [5-7]. The main clinical presentations of COVID-19 include sore throat, diarrhoea, vomiting, fever, shortness of breath, dry cough, persistent chest pain or pressure in the chest, sputum production, headache, respiratory failure, septic shock, confusion, and organ failure [8-10]. If COVID-19 is not managed appropriately, it may easily lead to death due to acute respiratory distress syndrome, ventilator- associated pneumonia, acute renal failure, acute respiratory injury, and septic shock [11].

The pandemic not only affects the physical health but also the mental well-being of individuals [12-15]. The mental health challenges of the COVID-19 pandemic are particularly of serious concern for healthcare workers (HCWs) due to their high risk of exposure during their work and also for being on the frontline of healthcare provision [16- 20]. The challenging conditions imposed HCWs, such as longer working hours, leads to increased anxiety, stress, depressive symptoms, and the exacerbation of pre-existing mental illness [19, 21-23]. Additionally, changes in routine activities and lifestyle have contributed to mental health problems among HCWs during the pandemic [24]. Therefore, it is important to provide support systems and mechanisms that promote the mental well-being of HCWs at workplaces during and after health emergencies [25, 26]. Alongside this, it is imperative to understand the psychological needs of HCWs to provide them with the appropriate tools and support to mitigate the negative effects of COVID-19 [27-29]. High levels of stress and anxiety decrease staff morale, lower work satisfaction levels, increase absenteeism and lower the quality of healthcare services given to patients [25, 30, 31]. The mental health of HCWs must be protected by learning from experiences from previous epidemics and the strategies used by affected countries [32]. This is also critical particularly in low-and-middle-income countries [5, 33]. This is because stigma and discrimination associated with mental health and gaps in mental health services prevent timely help-seeking behaviour and favourable outcomes in affected populations [34].

The COVID-19 vaccination may protect populations from the severe manifestation of the disease. Thus, acceptance of the vaccine is very critical for HCWs, including community pharmacists [35]. This is because HCWs are messengers of vaccine promotion to the general public and are involved in vaccine administration [36, 37]. Previous studies have reported different acceptance rates of COVID-19 vaccines among HCWs. A global survey of COVID- 19 acceptance by Noushad et al. 2022 found that 69% of the HCWs accepted to be vaccinated, with HCWs from Brazil and Malaysia reporting the highest vaccine acceptance (97% and 98%, respectively) than those from Egypt (40%) (38). In Ethiopia, only 48% of HCWs were willing to be vaccinated [39]. With such variations in acceptance of COVID-19 vaccines, community pharmacists can help share information on the benefits of vaccinations and thus promote vaccine uptake [40-42]. Community pharmacists are very important in the fight against pandemics because they are readily available and accessible to the public [43, 44]. This puts them at a high risk of contracting COVID- 19 [11, 45, 46]. Additionally, these pharmaceutical frontline workers have also experienced psychological distress associated with COVID-19 [47, 48]. In Zambia, there is little information on the psychological impact of COVID-19 and the acceptance of vaccinations among HCWs, including community pharmacists. Therefore, this study assessed the psychological impact of COVID-19 on community pharmacists in Lusaka, Zambia.

Materials and Methods

Study Design, site and Population

This was a descriptive cross-sectional study that was conducted among community pharmacists from August 2021 to October 2021. The study was done in Lusaka district of Lusaka province in Zambia. Lusaka district was chosen for the study as it was disproportionately affected by the COVID-19 pandemic and was registering the highest number of confirmed cases [49]. Lusaka district was also the first COVID-19 epicentre in Zambia and has the largest number of community pharmacists in the country. We included registered community pharmacies that are under the responsibility of registered pharmacists. The community pharmacists provided consent to be part of the study.

Sample size determination and sampling technique

Lusaka district had a total of 373 registered community pharmacies at the time of conducting the study [50]. A list of community pharmacies was generated and the sample size was determined using the Raosoft formula [51]. With no previous similar study done in Zambia, the sample size was estimated using a proportion of 50% at a 95% confidence level and a 5% margin of error. A 10% incomplete or non-response was taken into consideration. A sample size of 186 was determined. After sample size determination, a complete listing of the community pharmacies was done followed by simple random sampling.

Data Collection Tool

Data collection was conducted using adopted validated tools from previous studies. Anxiety was measured using the Generalized Anxiety Disorder (GAD) questionnaire [52]. This tool has been used to assess anxiety among HCWs during the COVID-19 pandemic [53, 54]. Depression was measured using the Patient Health Questionnaire (depression

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module) 9 (PHQ-9). This tool has also been used in other studies to assess depression levels among HCWs during the COVID-19 pandemic [53]. The data collection was conducted by the principal investigator and one data collector assistant. Responding to the questionnaire took an average of 15 to 30 minutes depending on the other activities that the community pharmacists were doing.

Data Analysis

The collected data were entered in Microsoft Excel 2013 and exported to Statistical Package for Social Sciences (SPSS) version 22 for analysis. All responses from the participants were described using frequencies and percentages. The chi-square test (or Fisher's exact test when appropriate) was used to compare categorical variables. All statistical significance tests were conducted at a 95% confidence level (p=0.05). Based on the validated tool, a score of 1–4 indicates minimal depression, 5–9 indicates mild depression, 10–14 indicates moderate depression, 15– 19 indicates moderately severe depression and 20–27 indicates severe depression [55].

Ethical approval

This study was approved by the University of Zambia Health Sciences Research Ethics Committee (UNZAHSREC), protocol ID: 202112030046. Informed consent from the participants was obtained, and they were made aware of the purpose, risks and benefits of participating in the study. During the data collection period, the recommended precautions to prevent contracting COVID-19 were adhered to.

Results

Sociodemographic characteristics of study partici pants

Overall, 188 participants completed the survey, of which 108 (57.4%) were male and 80 (42.6%) were female. Most of the participants, 58% (n = 109) were aged between 20 and 30 years. Among them, 73.4% (n = 138) were unmarried and the majority, 73.9% (n = 139) had worked for less than five (5) years, as shown in Table 1.

Work-related variables of study participants

The majority 106 (53.4%) of study participants reported that they lacked access to adequate protective equipment and that 133 (70.7%) lacked adequate staff testing equipment. Approximately 102 (54.3%) community pharmacists had attended to more than 20 COVID-19 patients. The majority (70.2%) of the participants would accept being vaccinated against COVID-19.

Prevalence of anxiety and depression among Study Participants

Overall, 36.7% of the participants experienced symptoms of anxiety, of which 25% had mild, 10.1% moderate, and 1.6% severe anxiety. Slightly more than half of the participants (50.5%) had some symptoms of depression, of which 37.8% showed mild, 10.6% moderate, 1.6% moderately severe, and 0.5% severe levels of depression.

Factors associated with anxiety and depression among community pharmacists

The factors associated with anxiety and depression among community pharmacists during the COVID-19 pandemic in Zambia are shown in Table 4. Anxiety was associated with fear of contracting and dying from COVID-19, fear of infecting loved ones if infected, experiencing traumatic events and being aware of government incentives for HCWs in the COVID-19 frontline. Besides, depression was associated with a fear of dying from COVID-19 if one contracted it.

Discussion

This study assessed the impact of COVID-19 on the mental health of community pharmacists in Lusaka district of Zambia. The results of this study demonstrated that the prevalence of anxiety was 36.7% while that of depression was 50.5%. Particularly, 25% of the community pharmacists experienced mild anxiety while 37.8% showed mild depression due to the COVID-19 pandemic. Depression was associated with fear of dying from COVID-19 if it was contracted, while anxiety was associated with fear of dying from COVID-19 if it was contracted, fear of infecting loved ones if infected, experiencing a traumatic event and being aware of government incentives for HCWs in the COVID-19 frontline. The prevalence of anxiety in our study was lower than the 70.9%, 53.2%, and 41.9% reported in Spain [56], Qatar [57] and China [58], respectively. The anxiety experienced by community pharmacists during the COVID-19 pandemic was due to the fear of contracting the disease [47]. Community pharmacists have been overwhelmed with the influx of patients with different conditions, among them those suffering from COVID-19. Hence, their fear of contracting COVID-19 from these patients and later worrying about transmitting it to their family members contributed to the anxiety experienced by community pharmacies. The high levels of anxiety in other countries were due to the higher numbers of COVID-19 cases and deaths that were reported there compared to Zambia. In the USA, lower anxiety was reported compared to what was found in our study [59]. This was because the frontline workers received more support from the healthcare institutional leadership [59].

Anxiety was also due to the fear of infecting loved ones if infected. Pharmacists exhibited greater anxiety if they lived with those who were elderly, as they were more susceptible to contracting COVID-19, experiencing severe complications, and being at a higher risk of dying. Pharmacists in other settings also experienced anxiety for the same reason [16]. As

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Table 1: Sociodemographic characteristics of study participants

Variable	Characteristics	Frequencies (n=188)	Percentage (%)
Sex	Female	80	42.6
	Male	108	57.4
Age	20-30years	109	58
	31-40years	71	37.8
	>40years	8	4.3
Education	Bachelors	175	93.1
	Masters/PhD	13	6.9
Marital status	Single	138	73.4
	Married	50	26.6
Family type	Nuclear	136	72.3
	Extended	52	27.7
Work experience	Up to 5years	139	73.9
	More than 5 years	49	26.1
Living with a child less than 15 years	Yes	82	43.6
	No	106	56.4
Living with the elderly (above 60 years)	Yes	20	10.6
	No	168	89.4
History of medication for mental health	Yes	5	2.7
	No	183	97.3
Experienced traumatic event	Yes	44	23.4
	No	144	76.6

Table 2: Work-related variables of study participants and acceptance of the COVID-19 vaccine

Variable	Category	Frequency (n=188)	Percentage (100%)
Adequate Personal Protective Equipment (PPE)	Yes	82	43.6
	No	106	53.4
Adequate testing for staff members	Yes	55	29.3
	No	133	70.7
Number of COVID-19 patients treated	< 10	45	23.9
	20-Oct	41	21.8
	>20	102	54.3
Level of team spirit	Low	10	5.3
	Medium	104	55.3
	High	74	39.4
Felt torn between your desire to help patients and your desire to loved ones	None of the time	24	12.8
	Sometimes	136	72.3
	All the time	28	14.9
Aware of government incentives for HCWs	Yes	89	47.3
	No	99	52.7
Working in an affected residential area	Yes	138	73.4
	No	50	26.6
Change in regular job duty	Yes	153	81.4
	No	35	18.6
Accept the risk of getting COVID-19 as part of the job	Yes	115	61.2
	No	73	38.8
Would you accept to receive a COVID-19 vaccine?	Yes	132	70.2
	No	56	29.8

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Table 3: Prevalence of anxiety and depression among participants (n=188)

Variable	Category	Frequencies	Percentage (%)
Anxiety (GAD-7)	0-4 Normal	119	63.3
	5-9 Mild	47	25
	10-14 Moderate	19	10.1
	15-21 severe	3	1.6
Depression (PHQ-8 modified)	0-4 None	93	49.5
	5-9 Mild	71	37.8
	10-14 Moderate	20	10.6
	15-19 moderately severe	3	1.6
	20-27 severe	1	0.5

Table 4: Factors associated with anxiety and depression among community pharmacists

Attribute	Anxiety (p-value)	Depression (p-value)
Fear of contracting and dying from COVID-19	<0.001[a]	<0.001[b]
Fear of infecting loved ones if infected	0.003[a]	-
Experienced traumatic event	0.036[a]	-
I am aware of government incentives for HCWs	0.009[b]	-

a = Chi-square; b = Fisher's exact test

such, most of the pharmacists were troubled with the thought of being the carriers of the disease to their family, and the chances of infecting the family and most worryingly, the elderly. Similar findings were reported in Malaysia in which HCWs experienced mental health challenges due to fear of contracting COVID- 19 and transmitting it to their family members [60]. Furthermore, those who had experienced a traumatic event suffered more from anxiety than those who had not. Studies conducted elsewhere in New York [59] and Ethiopia [34] showed similar findings; those who had previous experience with disasters displayed higher rates of post-event psychiatric disorders compared to those indirectly affected [58].Our study found a 50.5% prevalence of depression which is slightly higher than the 44.8% in Qatar [57], but lower than what was reported in Spain [56]. The current study revealed that depression experienced by the majority of community pharmacists had a fear of contracting COVID-19. This made them feel that they could succumb to COVID-19 if they contracted it. For the current study, these fears could have been attributed to the lack of PPE materials for protecting themselves against COVID-19. Other studies conducted in France [43], Ghana [16] and Ethiopia [61] also found that community pharmacists experienced anxiety due to a lack of PPE. Besides, an increased influx of patients in community pharmacies during the COVID-19 pandemic could have also contributed to the reported fears. This is because community pharmacists were very accessible to the general public during the pandemic, especially due to the increased avoidance by patients from hospitals for fear of contracting the virus [44, 62]. Depression has also been reported among other HCWs other than pharmacists, especially those in direct contact with COVID-19 patients [63-67]. In Thailand, a lack of PPE was cited as one of the causes of anxiety and depression among nurses and doctors during the COVID- 19 pandemic [28].

Depression was associated with the fear of contracting and dying from COVID-19 if one contracted it. These findings are in line with a study that was conducted among community pharmacists in Qatar [57]. A similar observation was reported among HCWs in Bangladesh [68]. Due to their demand and pertinent roles as frontline workers, community pharmacists may be exposed to various infections, including COVID-19 [62]. Therefore, during their operations, they tend to fear contracting the disease and later succumb to it, leading to increased depression and other mental health challenges [62]. Our study found that the majority of pharmacists (70.2%) would accept the COVID-19 vaccine if made available. This finding is encouraging as it shows that pharmacists know the benefits of vaccinations against COVID-19. Our findings are in agreement with studies conducted in Turkey and Ethiopia among HCWs and in China among pharmacists [69-71]. Although a lot of promotional messages have accompanied the rollout of vaccines globally, low rates of acceptance of COVID-19 vaccines by HCWs have been reported. Lower acceptance rates than those reported in our current study have been found in the United States of America, India, Sudan, Saudi Arabia, and South Africa [72-76]. In contrast, some studies have reported higher acceptance rates in other

countries including, the United Arab Emirates, Singapore, Nigeria, and a different locality in Ethiopia [77-80]. These differences could be driven by different population characteristics, cultural influences, population experiences with the COVID-19 pandemic, and local enabling factors such as positive promotional messages. Our study indicates the impact of COVID-19 on the mental health of community pharmacists who are critical in providing healthcare services to most community members. This study was conducted in Lusaka district and this means that the findings of the survey may not be generalised to other community pharmacists across the country.

Conclusion

This study found that community pharmacists experienced anxiety and depression during the third wave of the COVID-19 pandemic in Zambia. Furthermore, a majority of the participants would accept being vaccinated against COVID-19. Community pharmacists are frontline HCWs as they provide necessary services amidst the pandemic. As one of the most accessible HCWs, they face many stressors that need to be specifically targeted to address pharmacists' mental health issues effectively. There is a need to constantly monitor the psychological difficulties that healthcare workers, including community pharmacists, face during the COVID-19 period.

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Conflict of interest

All authors declare no conflict of interest.

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