







## Original Research

# How is mental health care provided through community pharmacies? A quest for improvement

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### Abstract

**Background:** Mental disease burden is increasing globally, and a substantial shortage of mental health professionals remains. Community pharmacists can improve population mental health outcomes to bridge the mental health care gap. However, there is a paucity of data on community pharmacists' provision of mental health care. **Objective:** To assess community pharmacist-delivered care to people with mental illness in the United Arab Emirates (UAE), focusing on dispensing and counseling practices, pharmacists' confidence and comfort in providing care, and attitudes and beliefs towards mental illness.

**Methods:** This was a mixed-methods study with an exploratory, sequential design. Semi-structured interviews explored community pharmacists' practices, challenges and strategies to improve care. Data were analyzed thematically, and the results guided questionnaire development. The questionnaire was also informed by the Framework of Core Mental Health Competencies for All Pharmacy Professionals and other relevant literature and administered to community pharmacists in four out of seven emirates. Logistic regression was used to identify the predictors of pharmacist practices. Results: In the interviews, community pharmacists described adopting a precautionary attitude and perceived their role as a dispensing one. They reported challenges such as emotional discomfort and lack of training but highlighted the need for a different approach to patients with mental illness. In total, 252 pharmacists completed the questionnaire, and 74% reported performing at least five counseling practices. Logistic regression showed that pharmacists who performed a higher number of practices ( $\geq 5$ ) were younger, received continuing education on mental health care in the last two years, and had higher confidence levels. **Conclusion:** UAE community pharmacists performed basic dispensing practices and reported discomfort during encounters with patients with mental illness. Training on patient-centered communication skills and psychiatric therapeutics is needed to improve pharmacist-delivered services, alongside increased collaboration with other providers and services.

**Keywords:** Mental health; Community pharmacy services; Pharmacists; Attitude; Professional practice

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## INTRODUCTION

Mental disorders are a major cause of disease burden globally, affecting 970 million people in 2019 (12.6% of the global population).<sup>1</sup> However, they are often under detected and their burden underestimated, with a recent review estimating the actual burden at 13% of total disability-adjusted life-years (DALYs), nearly double the reported estimate of 7.1%, and ranking mental disorders first in terms of the share of years lived with disability (at 32.4%), far ahead of cardiovascular and circulatory diseases.<sup>2</sup> Alarming but perhaps unsurprisingly, the ongoing COVID-19 pandemic has been associated with a global increase in the prevalence of mental disorders, including depression and anxiety disorders.<sup>3,4</sup> The economic burden of mental disorders is staggering, with depression and anxiety disorders alone costing the global economy USD 1 trillion annually.<sup>5</sup>

In the United Arab Emirates (UAE), an estimated 12.3% of the



population had a mental or substance use disorder in 2017, and the most common disease states were anxiety disorders (4.3% of the population), drug use disorders (2.9%), and depression (2.9%).<sup>6</sup> Mental health disease burden was higher than the global average, at 8.1% of total DALYs.<sup>6</sup> Despite this, there is a substantial shortage of mental health professionals in the UAE leading to unmet population needs. For example, World Health Organization (WHO) data showed that there were 1.6 psychiatrists, 0.8 psychologists, 4.4 mental health nurses and 0.4 mental health social workers per 100,000 people in 2016, much lower than other high-income countries.<sup>7</sup> The capacity of the primary health care system in the UAE for detecting mental disorders also seems suboptimal, where a study conducted in 2005 among patients attending three primary care centers in Al Ain city found that 37.8% of participants met the criteria for a mental disorder while primary care center physicians only recognized 0.7%.<sup>8</sup>

Culturally-bound beliefs about mental disorders create a unique picture in Arabic-speaking countries, including the UAE, and contribute to under- or late diagnoses, poor health care seeking behavior and workforce issues. Nonscientific methods of understanding and treating mental disorders such as the role of the evil eye and beliefs that mental disorders indicate a weakness in faith are common.<sup>9</sup> Consequently, people with mental disorders often face substantial stigma that prevents them and their family members from recognizing signs of mental illness and seeking medical care.<sup>9-11</sup> Furthermore, stigma and the belief that mental disorders are contagious, contribute to low interest in pursuing careers in mental health care.<sup>9</sup>

People with mental disorders often have poor health outcomes, including an increased risk for premature death from untreated physical health problems and suicide and an increased risk for cardiovascular diseases and diabetes, among others.<sup>12</sup> Additionally, poor medication adherence and preventable psychotropic medication adverse effects are documented problems among people with mental disorders, which contribute to poor outcomes.<sup>13,14</sup> To help address these challenges, the WHO has called for strengthening the provision of comprehensive, integrated mental health care services in community-based settings.<sup>12</sup>

Community pharmacists are widely recognized as the most accessible health care professionals who often serve as patients' first and last points of contact with the health care system. An expanding evidence base from a variety of countries strongly supports a range of pharmacist-delivered interventions that improve outcomes of people with mental illnesses, particularly in collaboration with existing providers to bridge the 'mental health care gap' between the growing need for mental health care and shortages in specialized workforce.<sup>15</sup> In community and primary care settings, pharmacist interventions around medication management, support and education improved various patient-reported outcomes such as adherence to psychotropic medications, knowledge, medication satisfaction, quality of life, illness perceptions and reduced concerns about medications.<sup>16-21</sup> For example, a study conducted in Australia showed that community pharmacists were trained to deliver

a flexible, goal-oriented medication support service improved outcomes among this vulnerable group of patients.<sup>17</sup> Within this context, another study showed that Dutch community pharmacists were able to improve drug attitude of patients with depression.<sup>19</sup> A recent systematic review also found that community pharmacists can feasibly screen, identify, and refer patients with depression symptoms.<sup>22</sup> In addition, they can serve as links between patients and specialty care to support continuity of care.<sup>23</sup> Randomized controlled trials of pharmacist interventions implemented in outpatient and clinical settings, which involved medication review and management, showed improvement in remission rates for depression and post-traumatic stress disorder.<sup>15</sup>

The legislation that governs the pharmacy profession in the UAE focuses on improving health outcomes.<sup>24</sup> Recent changes do not limit community pharmacists to basic product-oriented roles that focus on the supply of medications and the sale of para pharmaceutical products. Engagement in comprehensive counseling, patient education, and follow-up are not prohibited.<sup>24</sup> However, community pharmacists in the country continue to have largely product-oriented tasks.<sup>25</sup> However, recently, community pharmacists have expressed willingness and enthusiasm to expand their services to include screening, medication review and disease state management, and have demonstrated their ability to screen for diabetes and cardiovascular disease, as well as educate and refer at-risk individuals for further assessment.<sup>26,27</sup>

Positive attitudes towards mental disorders are essential if community pharmacists in the UAE are to successfully venture into mental health roles, since they can impact pharmacists' uptake of new roles, communication with patients, and clinical judgement, affecting their ability to provide optimal care.<sup>28,29</sup> A pharmacist with inadequate training in mental health, who believes that people with mental disorders are unpredictable, or who has negative attitudes about treatments or outcomes may feel unconfident or uncomfortable around these patients, thereby decreasing their engagement and adversely affecting patient outcomes.<sup>30</sup> Previous studies internationally have explored community pharmacists' practices and attitudes towards mental disorders, but no similar studies have been done in the UAE.<sup>23,28-31</sup> Such evidence is crucial to inform the development of tailored and targeted educational interventions that upskill the pharmacy workforce as a first step to improving patient access to high-quality and time-sensitive mental health care in the UAE. The aim of this study was to explore the provision of mental health care by community pharmacists to people with mental illness in the UAE, namely their dispensing and counseling practices and their predictors, their confidence and comfort in providing mental health care and attitudes and beliefs towards mental illness.

## MATERIALS AND METHODS

### Study design

This is a mixed-methods study with a sequential exploratory design, in which qualitative data informed the development of the quantitative questionnaire.<sup>32</sup> An exploration of the



dimensions relating to mental health care in community pharmacies was required due to the lack of an instrument to measure it and the need to develop a survey that was sensitive to the UAE context and culture. Semi-structured qualitative interviews were conducted with community pharmacists who were enrolled in the provision of mental health care. Subsequently, a cross-sectional survey was conducted to analyse the relevant factors associated with this provision of care in a large sample of community pharmacists.

## The qualitative study

### Participants and data collection

Licensed community pharmacists who had dispensed controlled medications in the past 12 months were invited to participate in semi-structured qualitative interviews. Pharmacists read an information sheet about the study, which described the project's objectives, methods and confidentiality issues, and signed an informed consent. In total, 5 interviews (2 females and 3 males) were conducted online through MS Teams between 26<sup>th</sup> September and 4<sup>th</sup> October 2021 by two researchers. On average, each interview lasted 36 minutes. All interviews were recorded and transcribed verbatim. Four interviews were done in English and one in Arabic, which was translated into English before analysis. The English version of the transcript was carefully checked by bilingual researchers for accuracy.

The interview guide was developed by the research team based on the study objectives and a literature review that examined the practices of community pharmacists regarding mental health care provision: receiving and dispensing prescriptions for psychotropic medications, challenges faced while dispensing to these patients, as well as strategies to improve the delivery of health care to people with mental illness in the UAE.

### Content analysis

Data were analyzed by thematic content analysis<sup>33</sup> using the software NVivo 12, release 1.5 (QSR International, USA, 2021). Two researchers coded, sentence by sentence, the most relevant topics to pharmacists in the provision of mental health care through community pharmacies in the UAE, and then compared it to guarantee triangulation. Quotations with similar meanings were inductively synthesised into categories and grouped into the following analytical themes: dispensing and counseling practices of community pharmacies in the UAE regarding mental health care; challenges for patients and pharmacists associated with the provision of care in this field, and strategies to improve the provision of care. The most illustrative verbatim quotes of the interviewees were selected.

### The cross-sectional survey

#### Setting and data collection

The cross-sectional survey was conducted in community pharmacies in four cities in the UAE (Ajman, Dubai, Fujairah and Sharjah). Between 24<sup>th</sup> October and 15<sup>th</sup> December 2021, pharmacies were visited by convenience until achieving the minimum number of pharmacists considered representative by

sample size calculation. To check eligibility, pharmacists were asked if they had dispensed controlled medications for mental illnesses in the past 12 months, and those who answered 'yes' were invited to participate. Pharmacists were provided with an information sheet about the study and those who agreed to participate signed an informed consent form before completing the questionnaire. The survey was available both in paper format and in an online version on Survey Monkey.

### Survey development

An original survey instrument was developed by the researchers based on: 1) results from the semi-structured interviews with pharmacists (qualitative phase); 2) literature review; and 3) experts' review. The results from the semi-structured interviews with community pharmacists defined the main themes relevant to include in the questionnaire. A literature search through Medline, PubMed and Google Scholar, identified the most studied dimensions and instruments used in this field.<sup>15,23,28,30,34,35</sup> The Framework of Core Mental Health Competencies for All Pharmacy Professionals, developed by Health Education England, helped inform the dimensions and items.<sup>36</sup> This framework was considered relevant to the UAE setting because the competencies broadly matched the issues raised and explored in the interviews with pharmacists and due to the lack of local professional competency frameworks for pharmacists. Previous scales were adapted and edited to build our questionnaire. The list of the dispensing and counseling practices in mental illness was created based on a list of tasks for comprehensive pharmacist care available on "The Patient Care Process for Delivering Comprehensive Medication Management (CMM)".<sup>37</sup> The confidence in knowledge and comfort in counseling patients with mental illness was adapted from a scale previously used in studies about the attitudes and service provision of pharmacists toward people with mental illness.<sup>28,30</sup>

The scale on the attitudes and beliefs of pharmacists towards mental illness was derived from one study assessing general beliefs for mental illness among community pharmacists<sup>30</sup> and another specifically for attitudes towards depression.<sup>31</sup> The items on the challenges for patients and pharmacists regarding mental health care provision were derived from the results of the qualitative interviews. Lastly, a version of the survey was reviewed by two board-certified psychiatric pharmacists. The items were discussed and edited in order to be culturally appropriate and to better fit the objectives of our study.

The final survey was comprised of six sections. In the first section, data on the sociodemographic data of the pharmacists (e.g. age, gender, nationality) and characteristics of the pharmacies (e.g. type of pharmacy, number of prescriptions on a typical week) were collected. The second section assessed the main outcome in this study: pharmacists' dispensing and counseling practices (frequency of performing 10 different actions related to dispensing and counseling, such as taking the patients' medication history, assessing patients' knowledge about the use of their medications, and asking if the patients have any questions or concerns about their medication). Pharmacists indicated the frequency of performing each



practice on a 5-point scale from 'never' (1) to 'always' (5). The number of dispensing and counselling practices performed by the pharmacists was calculated by the sum of the practices that they perform "most of the time" and "always", with higher values representing more dispensing and counselling mental health care practices (range: 0-10). In the third section, pharmacists' level of confidence in their knowledge and comfort in dispensing psychotropic medications and counseling patients was assessed using a scale adapted from Gianetti et al.<sup>30</sup> Pharmacists indicated their confidence in their knowledge and comfort for the same set of 5 items on a 4-point scale that ranged from 'not confident' (1) to 'very confident' (4) and from not comfortable' (1) to 'very comfortable' (4). The items included, for example, whether the pharmacist was confident/comfortable with talking to the patient about their mental illness medication, asking the patient what they know about their mental illness medication and with talking to the physician about any concerns regarding a patient's mental illness medication. The arithmetic means of confidence and comfort were calculated, separately, ranging from 1 to 4. Higher values represent higher levels of confidence and comfort. Section four assessed pharmacists' attitudes and beliefs towards mental illness. Pharmacists were asked to indicate their agreement with 8 items on a 5-point Likert scale, from 'strongly disagree' (1) to 'strongly agree' (5). Items included whether pharmacists perceived mental illness as a sign of personal weakness, how much they believed patients with mental illness were hard to talk to, and whether antidepressants can cause addiction. Some items were reversed and the arithmetic mean was calculated so that higher values represented more positive attitudes towards mental illness (range: 1-5). In section five, the challenges of patients and pharmacists regarding mental health care through community pharmacies in the UAE were assessed by 7 items emergent from the interviews, such as the difficulty for patients with mental illness in getting their medication because of the short prescription expiration period. Finally, section six explored their agreement with 5 proposed strategies to improve mental health care provision in this setting, in a 5-point Likert scale, from 'strongly disagree' (1) to 'strongly agree' (5). Strategies such as raising awareness about mental illness, recommending psychiatrists/psychologists to help patients with mental illness and providing more counseling to these patients about their medication were included. The survey was pilot tested in a sample of community pharmacists (n=6) to assess face validity and understandability of the items. Slight modifications to the language were made. On average, the questionnaire took 10 minutes to complete.

#### Sample size

We aimed to recruit a sample that represented the pharmacists dispensing controlled medication for mental illnesses in the UAE Emirates of Ajman, Dubai, Fujairah and Sharjah. Since the information on the population size is currently not publicly available, we used the number of pharmacies by Emirate as a proxy for sample size calculation, retrieved from the official UAE data portal maintained by the Federal Competitiveness and Statistics Authority (last update from 2015: [https://admin.bayanat.ae/Home/DatasetInfo?dID=ZJm\\_BZNIh\\_](https://admin.bayanat.ae/Home/DatasetInfo?dID=ZJm_BZNIh_)

A4n9Kj08ttf8gwiiAyJzkVSAAnvG0nj5o). According to the latest information in this website, the total number of pharmacies in the four Emirates is 1633. Based on an exploration of the researchers with key informants in the field in the UAE, we estimated that the proportion of pharmacies dispensing controlled medications for mental illnesses is 30% (N=490). Using Cochran's sample size formula, a 95% confidence level with a maximum precision error of 5%, and expecting to recruit one pharmacist per pharmacy, our required sample size would be 216 pharmacists. To account for refusals, the number of pharmacists who should be invited was increased by 20%, resulting in a total of 259.

#### Statistical analysis

The association between the number of practices and the predictive variables was quantified through the Chi-square test or the Fisher's Exact Test; mean differences were compared using t-test for independent samples or one-way ANOVA. Logistic regression was used to identify the predictors of the number of practices performed by the pharmacists and adjusted odds ratios (AdjOR) and 95% confidence intervals (95% CI) are presented. The main criteria for entering the variables in the regression model was a p-value  $\leq 0.05$  in the bivariate analysis, and the Enter method was used. The level of significance was defined at 0.05. The IBM Statistical Package for the Social Sciences (SPSS) Statistics for Windows, version 28.0, Armonk, NY, USA, was used for all analyses.

#### Ethical approval

Ethical approval was granted by the Research Ethics Committee of the University of Sharjah (reference number REC-21-09-26-S).

## RESULTS

### Qualitative results

The qualitative results from the interviews will be presented according to the two main themes previously defined: dispensing and counseling practices and challenges associated with the provision of mental health care by community pharmacists.

### Dispensing and counseling practices of community pharmacists in the UAE regarding mental health care

Pharmacists reported most commonly dispensing medications are anxiety, depression, schizophrenia, and sleep disorders. All medications for these conditions are classified as controlled substances in the UAE, which means they must be collected within three days of their prescription. Additionally, the pharmacist must confirm the identity of the patient, keep a record on a logbook, and dispense the exact amount of medication. Regulatory bodies frequently inspect the precise completion of these procedures.

In analyzing the data, three main categories emerged regarding the dispensing and counseling practices of community pharmacists in the UAE regarding mental health care: the adoption of a "precautionary attitude" by pharmacists, the





perception of the pharmacist role mainly as a “dispenser”, and the need for a different approach to patients with mental illness.

#### Precautionary attitude

Community pharmacists reported adopting a precautionary attitude during dispensing and counseling people with mental illness, characterized by minimal engagement with the patient and prescriptions for psychotropic medications such as by avoiding evaluating prescriptions when they are received, not attempting to interpret the intent of the prescriber, and not providing counseling beyond what has been provided by the prescriber. Pharmacists attributed this precautionary attitude partially to the fact that these medication regimens are often titrated during each visit to the psychiatrist until the target effect is achieved and that they cannot know the prescriber’s intent based on the limited information and directions provided on the prescription:

When it comes to psychiatric medications, we don’t give a lot of advice, especially to unstable cases because doctor keeps changing medications every visit. (I2, female)

Moreover, another reason commonly cited by pharmacists for the precautionary attitude is that all psychotropic medications are classified as controlled substances, and that regulatory authorities strictly audit pharmacies, which causes pharmacists to focus their effort mainly on dispensing the correct number of pills prescribed:

The challenge is to deliver the correct dosage (...) what the doctor is ordering us to give (...) accuracy is a challenge here in the dispensing. (I3, male)

#### Dispenser role

The pharmacists considered that their role was mostly limited to counting pills and dispensing prescriptions when it comes to mental illness patients. In many situations, they did not express willingness to have a more active role when receiving the prescriptions and counseling patients with mental illnesses. This was due to being closely monitored and audited by the authorities and the fear of any legal consequences:

We are basically a dispenser for these kinds of medications (...) we cannot change anything (...) we count the pills and put them in bags. I concentrate more on counting the tablets and dispensing the correct amount (...) we are under lots of scrutiny. (I2, female)

Additionally, pharmacists reported that psychiatrists provide extensive counseling on the medication regimens to patients, who often report adequate knowledge, and so their need to intervene would be reduced. One pharmacist described how patients sometimes receive detailed handwritten instructions on taking their medications beyond what is provided in the prescription, that instructions in the prescription can differ from the regimen explained by the psychiatrist and that patients report that the psychiatrist had already clarified all issues. However, pharmacists perceived their role in providing advice on common adverse effects to be important:

When we are giving any medication which causes a lot of sedation, we have to just tell them: this medication causes sedation, you have to be cautious about that thing, so you cannot drive and you cannot do in any activity which requests attention. (I3, male)

#### Need for a different approach to patients with mental illness

Pharmacists described patients with mental illnesses as usually more difficult to deal with, more sensitive, and requiring a ‘special’ treatment compared to other patients: that pharmacists need to be more patient with them and more elaborative when explaining the side effects of their medication:

More patience (...) It’s very important to listen to the customer with controlled medication. (I4, male)

Some pharmacists reported the need to have more time to provide adequate care to these patients:

This kind of patients they talk more, because they are telling exactly what happens to them. So, as pharmacists we have to talk to them. (I5, male)

At the same time, pharmacists also reported an urge to dispense the medications quickly to avoid frustrating or ‘provoking’ patients:

So for us if we received a severe case we try to avoid it by dispensing the medication to the patient and that’s it, and we don’t do anything provoking to the patient. (I2, female)

#### Challenges for pharmacists in the provision of mental health care

Two main challenges were reported by pharmacists in the provision of care to patients with mental illnesses: emotional discomfort felt by the pharmacists, and lack of awareness and training.

##### Emotional discomfort

Pharmacists described feelings of emotional discomfort, characterized by anxiety and fear, when dealing with patients with mental illness. They were afraid of ‘provoking’ them in any way, which leads the pharmacists to quickly dispense the medications to minimize communication and interaction with the patients:

I personally feel nervous (...) frankly, we will quickly dispense the prescription and let them leave fast. (I2, female)

You need to be strong while dealing with them, no need to be emotional (I1, female)

##### Lack of awareness

Community pharmacists mentioned that awareness on mental health illnesses needs to be raised in society, considering that these conditions are still poorly understood in the UAE, which leads to hesitancy in seeking help, particularly cognitive behavioral therapy:

Counseling is not very popular in the Arab countries (...) the other day I saw an advertisement for a psychologist, and



that caught my attention (...) These types of disorders are more accepted in Western countries because they have more awareness. (I2, female)

#### Lack of training

Furthermore, pharmacists highlighted that training on effective communication with patients with mental illnesses is often not provided in pharmacy programs, necessitating that pharmacists acquire these skills on the job and that this was not a reliable mechanism to develop these skills. They raised the need for specific training to be able to more effectively interact with patients with mental health illnesses and attend to their specific needs:

To be honest, as pharmacists, we're not qualified or prepared enough to handle such patients. This is my personal point of view based on what I have been observing around me. I gained the ability to be attentive to specific issues with experience.

Characteristics	n (%)
<b>Gender</b>	
Female	115 (45.6)
Male	137 (54.4)
<b>Age (years), mean (SD)</b>	31.2 (6.1)
<b>Nationality</b>	
Egypt	26 (10.3)
India	139 (55.2)
Pakistan	17 (6.7)
Syria	21 (8.3)
Other*	49 (19.4)
<b>Position in the pharmacy</b>	
Full-time staff pharmacist	170 (67.5)
Part-time staff pharmacist	7 (2.8)
Pharmacist-in-charge	73 (29.0)
Pharmacy owner	2 (0.8)
<b>Years working in community pharmacy</b>	
≤ 2	72 (28.6)
3-4	73 (29.0)
≥ 5	107 (42.5)
<b>Continuing education on mental health care</b>	106 (42.1)
<b>Type of pharmacy practice</b>	
Independent	34 (13.5)
Chain	218 (86.5)
<b>Pharmacists per shift (number), mean (SD)</b>	2.4 (1.4)
<b>Daily prescription volume, mean (SD)</b>	23.1 (25.9)
<b>Private area for counseling</b>	90 (35.7)

\* Iraq (n=8); Jordan (n=8); Nepal (n=1); Palestine (n=6); Philippines (n=13); Sudan (n=10); Tanzania (n=1); United Arab Emirates (n=1); Yemen (n=1)

Without such experience, I don't think so. (I2, female)

#### Quantitative results

In total, 252 pharmacists completed the questionnaire. From the 266 pharmacists invited, 14 refused due to lack of manager approval (n=11) and lack of time (n=3) (response rate=94.7%). Most respondents were male (54.4%), full-time staff pharmacists (67.5%), and had worked for at least 5 years in a community pharmacy (Table 1). Their mean age was 31.2 years (SD=6.1) and 42.1% had received continuing education on mental health in the last two years. Most of the pharmacies where the participants were recruited were chain pharmacies (86.5%), had on average 2.4 (SD=1.4) pharmacists working per shift, a daily prescription volume of 23.1 prescriptions (SD=25.9) and did not have a private area for counseling (64.3%).

#### Pharmacists' dispensing and counseling practices in mental health care

Table 2 displays the dispensing and counseling practices performed by the community pharmacists regarding mental health care. Seventy-four percent of the pharmacists reported performing at least five dispensing and counseling practices. The four practices most commonly reported were: counseling the patient about how to take each medication (88.5%), asking if the patient knew how to use the medication (87.7%), counseling the patient about what each medication is for (77.4%), and asking if the patient has any questions/concerns about their medications (70.2%). The least common practice was asking if the patient had experienced side-effects (43.7%).

#### Confidence in knowledge and comfort of pharmacists in the provision of mental health care

On average, pharmacists reported a level of confidence in their knowledge in the provision of mental health care of 2.85

Practices	n (%)
Asking if the patient knows what the medication is for	149 (59.1)
Asking if the patient knows how to use the medication	221 (87.7)
Asking how the patient feels the medication has been working	123 (48.8)
Asking if the patient has experienced side-effects	110 (43.7)
Checking the patient's adherence	140 (55.6)
Determining all the medications that the patient takes (prescribed, OTC, complementary and alternative)	158 (62.7)
Asking if the patient has any questions/concerns about their medications	177 (70.2)
Counseling the patient about what each medication is for	195 (77.4)
Counseling the patient about how to take each medication	223 (88.5)
Counseling the patient about the side-effects of each medication	137 (54.4)
<b>Number of practices performed*</b>	
< 5	65 (25.8)
≥ 5	187 (74.2)

\*Number of practices range: 0 to 10.



(SD=0.60; range: 1-4) and a level of comfort of 2.72 (SD=0.62; range: 1-4) (Table 3). They felt more frequently confident and comfortable in talking to the patient about their mental illness medication (54.4% and 50.4%, respectively) and in asking the patient about side effects of their mental illness medication (53.2% and 53.6%, respectively). Pharmacists felt somewhat confident in asking the patient what they knew about the mental illness medication (29.4%) and somewhat comfortable in asking the patient how they felt their mental

illness medication has been working (30.6%).

### Pharmacists' attitudes and beliefs towards mental illness

Some pharmacists showed positive attitudes and beliefs towards mental illness, agreeing that anyone can suffer from mental illness (46.8%) and disagreeing about feeling anxious when a person with mental illness comes to the pharmacy (41.7%), disagreeing about having a preference for working

Table 3. Confidence in knowledge and comfort of pharmacists in the provision of mental health care

Confidence	Mean score	Not confident	Somewhat confident	Confident	Very confident
	Mean (SD)	n (%)			
Talking to the patient about their mental illness medication	2.92 (0.72)	6 (2.4)	58 (23.0)	137 (54.4)	51 (20.2)
Asking the patient about side effects of their mental illness medication	2.85 (0.70)	4 (1.6)	72 (28.6)	134 (53.2)	42 (16.7)
Asking the patient what they know about the mental illness medication	2.72 (0.77)	15 (6.0)	74 (29.4)	130 (51.6)	33 (13.1)
Asking the patient how they feel their mental illness medication has been working	2.83 (0.78)	13 (5.2)	61 (24.2)	133 (52.8)	45 (17.9)
Talking to the physician about any concerns regarding a patient's mental illness medication	2.92 (0.88)	16 (6.3)	61 (24.2)	103 (40.9)	72 (28.6)
Total	2.85 (0.60)				
Comfort	Mean score	Not comfortable	Somewhat comfortable	Comfortable	Very comfortable
	Mean (SD)	n (%)			
Talking to the patient about their mental illness medication	2.65 (0.81)	24 (9.5)	71 (28.2)	127 (50.4)	30 (11.9)
Asking the patient about side effects of their mental illness medication	2.76 (0.73)	10 (4.0)	74 (29.4)	135 (53.6)	33 (13.1)
Asking the patient what they know about the mental illness medication	2.66 (0.82)	22 (8.7)	75 (29.8)	122 (48.4)	33 (13.1)
Asking the patient how they feel their mental illness medication has been working	2.76 (0.79)	13 (5.2)	77 (30.6)	119 (47.2)	43 (17.1)
Talking to the physician about any concerns regarding a patient's mental illness medication	2.79 (0.84)	15 (6.0)	75 (29.8)	109 (43.3)	53 (21.0)
Total	2.72 (0.62)				

SD – Standard Deviation; confidence and comfort score range: 1 to 4, with higher values representing more confidence/comfort.

Table 4. Pharmacists' attitudes and beliefs towards mental illness

Items	Total	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	Mean (SD)	n (%)				
Mental illness is a sign of personal weakness	3.55 (1.26)	67 (26.6)	89 (35.3)	30 (11.9)	48 (19.0)	18 (7.1)
Anyone can suffer from mental illness	4.13 (0.93)	5 (2.0)	15 (6.0)	18 (7.1)	118 (46.8)	96 (38.1)
Most patients with mental illness are hard to talk to	2.88 (0.96)	11 (4.4)	61 (24.2)	84 (33.3)	79 (31.3)	17 (6.7)
Antidepressants and mood stabilizers can cause addiction	2.08 (0.92)	5 (2.0)	15 (6.0)	42 (16.7)	122 (48.4)	68 (27.0)
I would rather work in a pharmacy that does not stock psychotropic medications	3.54 (1.08)	49 (19.4)	91 (36.1)	71 (28.2)	28 (11.1)	13 (5.2)
I feel anxious when a person with mental illness comes to the pharmacy	3.85 (0.98)	69 (27.4)	105 (41.7)	54 (21.4)	18 (7.1)	6 (2.4)
Patients with mental illness put unnecessary strain/pressure on community pharmacists	3.45 (1.08)	45 (17.9)	84 (33.3)	72 (28.6)	42 (16.7)	9 (3.6)
In general, there is not much more that community pharmacists can do to help patients with mental illness	3.22 (1.22)	36 (14.3)	86 (34.1)	52 (20.6)	53 (21.0)	25 (9.9)
Total	3.34 (0.52)					

SD – Standard Deviation; attitudes and beliefs towards mental illness score range: 1-5, with higher values describing more positive attitudes towards mental illness.



in a pharmacy that did not stock psychotropic medications (36.1%) or that mental illness was a sign of personal weakness (35.3%) (Table 4). Negative attitudes were also found among those agreeing that most patients with mental illness were hard to talk to (31.3%) or that in general, there was not much more that community pharmacists can do to help patients with mental illness (21.0%).

### Challenges and strategies to improve mental health care provision

Pharmacists reported that the main medication-related challenges patients with mental illness have are difficulty in getting their medication, either because only few pharmacies stock psychotropic medications (74.2%) or due to the short expiration period of the prescriptions (67.1%); and the fact that patients do not know enough about their medication (62.7%).

The most reported strategies to address the medication-related challenges of patients with mental illness in the UAE were for pharmacists to provide more medication counseling (86.5%), to raise the public and pharmacists' awareness about mental illness (83.8%), and for pharmacists to work more closely with physicians (75.0%) (data not shown).

### Logistic regression model for the pharmacists' dispensing and counseling practices in mental health care

The bivariate analysis showed that pharmacists who performed a higher number of practices ( $\geq 5$ ), were younger ( $p < 0.001$ ), have received continuing education on mental health care in the last two years ( $p = 0.003$ ), and had higher levels of confidence ( $p < 0.001$ ) and comfort ( $p = 0.047$ ) compared to those who performed less practices ( $< 5$ ) (data not shown).

The logistic regression model revealed that younger pharmacists (AdjOR=0.933; 95% CI 0.888-0.981), those who received continuing education on mental health care in the last two years (AdjOR=2.150; 95% CI 1.097-4.214) and those who felt more confident in their knowledge in counseling patients with mental illness (AdjOR=1.207; 95% CI 0.608-2.396) performed more dispensing and counseling practices in mental health care (Table 5).

	AdjOR*	95% CI	p-value
Age	0.933	0.888-0.981	0.007
Continuing education on mental health care			
No	(ref)		
Yes	2.150	1.097-4.214	0.026
Confidence	3.287	1.599-6.757	0.001
Comfort	1.207	0.608-2.396	0.591
		<b>Model summary</b> Chi-square: 41.761 p-value: <0.001 Cox & Snell R Square: 0.153 Nagelkerke R <sup>2</sup> : 0.224	

Notes: AdjOR – Adjusted Odds Ratio; CI – Confidence Interval.

\*All variables are adjusted for each other.

## DISCUSSION

This mixed-methods study explored the provision of mental health care by community pharmacists to people with mental illness in the UAE, namely their dispensing and counseling practices and their predictors. The majority of the pharmacists reported performing at least half of the dispensing and counseling practices inquired. However, their confidence and comfort were slightly higher than average. In line with these results, pharmacists recognized the different care needs of these patients, but often experienced emotional discomfort while dispensing, resulting in the adoption of a precautionary attitude and a product-oriented role. Dispensing and counseling practices in mental health care were more performed by younger pharmacists, those who received continuing education on mental health care, and those who felt more confident in their knowledge in counseling patients with mental illness. Pharmacists' needs for training in this field were highlighted. Using this data, strategies can be designed to improve the quality of mental health services provided by community pharmacies in the UAE.

Community pharmacists provided the patient with basic information on the purpose of the medication and on how to take it. However, patient-centered practices were performed less, such as checking patients' adherence to medication, asking about how the medication has worked and assessing the medication history of the person. This data is in line with previous studies in the UAE about the services provided by community pharmacies, where enhanced professional services were not provided to a large extent in most pharmacies.<sup>38</sup> According to the qualitative results, the adoption of this "dispenser role" is associated with a precautionary attitude that compels pharmacists to check dispensed quantities accurately, due to the close monitoring and auditing by the authorities and the caution not to interfere with medical doctors' prescriptions. These findings show that although pharmacists are in a privileged position to support people with a mental illness, they are not providing important care services as medication review, involvement in early detection of mental health conditions or development of care plans and follow-up of these patients, as previously reported.<sup>35</sup>

This study showed that pharmacists' practices varied by age, with younger pharmacists dispensing and counseling more frequently. This pattern was previously reported, with younger pharmacists providing more professional services than older ones, such as giving patient information leaflets, providing risk information, monitoring patient adherence to medications, assessing patient understanding or reporting adverse drug reactions.<sup>38,39</sup> This effect may be due to exposure to new roles of intervention for pharmacists<sup>39</sup> or much comprehensive curricula during formal training.<sup>40</sup>

In our sample, only 42% of the pharmacists reported having received continuous education on mental health in the last two years. However, those who received it were significantly more involved in dispensing and counseling practices, which is consistent with previous research showing that lack of training on mental health is one of the main barriers against the





provision of care in this field.<sup>31</sup> This highlights the importance of investing in specific training skills' courses among these professionals to improve patients' outcomes.<sup>41</sup> This is even more important in a country such as the UAE, with a high level of multiculturalism among pharmacists, which encompasses different background trainings and, thus, different practices. It would be useful to homogenize the types of training that these professionals receive as well as generalized access to more specific courses in mental health care.<sup>41,42</sup>

The precautionary attitude and adoption of a dispenser role, along with lack of confidence in their knowledge, prevents community pharmacists to fully accomplish their potential as key agents in the prevention and management of mental health illness. Other studies have also shown that due to lack of confidence and comfort in their skills, pharmacists do not provide essential services such as assessing medical-related therapeutic outcomes or discussing with physicians the medication plan for a patient,<sup>30,43</sup> which may decrease patients' quality use of medicines, medication adherence and have an impact on their health.<sup>35</sup>

Pharmacists who completed the questionnaire reported moderately good levels of confidence in their knowledge and comfort while interacting with patients with mental illnesses, with mean confidence and comfort levels trending towards the 'confident' and 'comfortable' response options. Pharmacists also tended to have positive attitudes towards mental illness. These findings are in line with the international literature, including in the neighboring Qatar, which shares many pharmacy workforce characteristics with the UAE.<sup>28,30,31,44,45</sup> Although these findings were modestly positive, they were somewhat unexpected considering that the interviews revealed low levels of comfort around patients with mental illness, a negative attitude, and suboptimal communication skills. This could be partially attributed to the fact that only pharmacists who dispensed psychotropic medications in the past year were sampled in the questionnaire and that the majority of them worked in pharmacies that stocked psychotropic medications. Such pharmacists would be expected to have interacted more frequently with patients with mental illness, which could mitigate some of the discomfort, and their higher experience with psychotropic medications and patients with mental illness could have accounted for the reported levels of confidence in their knowledge. Additionally, it is possible that some pharmacists reported higher levels of comfort and confidence than they actually did due to the perception that such responses were the 'correct' or 'desirable' ones.

Within this context, sizeable proportions of pharmacists agreed that mental illness was a sign of personal weakness, that patients with mental illness were hard to talk to, and that there was not much more that community pharmacists could do to help these patients. Moreover, some prejudiced and stigmatizing attitudes were detected during the interviews, where pharmacists mentioned that they felt that patients with mental illness were dangerous and unpredictable, indicated a preference for social distance, and used language such as 'provoking' and 'unstable'. Additionally, the misconception that

antidepressants and mood stabilizers could cause addiction was disconcertingly espoused by most pharmacists. However, these attitudes and misconceptions are in line with the international literature and the qualitative findings, as well as the commonly held beliefs among Arabic-speaking populations around mental illness, which include negative attitudes and concerns that psychotropic medication can cause addiction.<sup>28-31,46</sup>

#### Strengths and limitations

This mixed-methods study allowed the collection of comprehensive data on an understudied topic in community pharmacies' provision of care in this relevant public health issue in the UAE. By collecting data on a sample of community pharmacists involved in the provision of care to people with mental illness, it contributed to increase the knowledge on the current dispensing and counseling practices in the country, and the factors associated with them, which is a useful asset to plan interventions to increase awareness and improve the care that is being provided by these professionals. Due to the lack of publicly accessible listings of pharmacies stocking psychotropic medications and the absence of data about the number of community pharmacists in the UAE, a sample size calculation was not possible. Thus, we cannot ascertain the representativeness of the sample, and the results cannot be generalized to all community pharmacists in the UAE. However, this sample included pharmacists from four out of the seven Emirates, and from both independent and chain pharmacies, which increase the heterogeneity of the participants and experiences gathered.

#### CONCLUSIONS

In light of these findings, pharmacists have a clear role in improving mental health care services in the UAE and a three-pronged approach is recommended:

To help alleviate the anxiety pharmacists experience when interacting with patients with mental illness and to address negative attitudes and stigma, continuing education and undergraduate programs should include training in patient-centered communication skills that emphasize empathy and sensitivity, highlights prejudices and how they can be identified and avoided, fosters two-way communication, and builds essential skills. Consumer-led mental health education interventions are also excellent tools that improve students' appreciation of the experiences of patients with mental illness, mitigate stigma, dispel preconceptions and negative attitudes, and increase their awareness of pharmacists' role.<sup>47,48</sup>

Training in clinical skills and psychiatric therapeutics is necessary to improve pharmacists' contribution to the care patients with mental illnesses receive and serve as a foundation for the delivery of basic (e.g., evaluating prescriptions and counseling) and advanced services (e.g., comprehensive medication management). Such training should occur at the undergraduate level and in continuing education programs for practicing pharmacists, and should cover, among other topics, patient assessment and screening, pharmacology of psychotropic medications, evidence-based therapy of mental



illnesses, and awareness of available providers and services to enable referrals.

Improved collaboration and integration with other providers and services, such as psychiatrists, psychologists, and patient support groups. Combining this with improved pharmacist training may increase pharmacists' ability to refer those with suspected mental illness to appropriate providers, foster interprofessional communication, and facilitate the implementation of advanced services. Suggested mechanisms are to empower pharmacists to establish collaborative working relationships, to incorporate interprofessional education in pharmacy and other health profession curricula, and to increase pharmacist awareness of local mental health care services and providers.

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The authors declare that they have no conflicts of interest to disclose.

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## AUTHOR ROLES

The study was conceptualized by HA, CS and WS. CS contributed to methodology, investigation, data curation, formal analysis of quantitative and qualitative data, validation, visualization, writing of the original draft, review and editing. WS contributed to methodology, investigation, formal analysis of qualitative data, visualization, writing of the original draft, review and editing. BS, AA, KA and EA contributed to validation, visualization, revision and editing of the manuscript. HA contributed to funding acquisition, methodology, supervision, validation, visualization, review and editing.

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