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Self-prescription with psychotropic medications by healthcare professionals working at mental health institutions in Saudi Arabia

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Abstract:

BACKGROUND: Healthcare professionals who work in mental health institutions are more exposed to psychotropic medications than those in other healthcare institutions and are, therefore, more likely to self-prescribe. Self-prescription is a concerning phenomenon because of the potential for medication misuse, drug interaction, addiction, and other social, physical, and psychological consequences. This study investigated the prevalence of self-prescription of psychotropic medications and the most common self-prescribed psychotropic medications by healthcare professionals in mental health institutions in Saudi Arabia. It also aimed to determine the possible side effects and factors associated with self-prescription of psychotropic medications.

MATERIALS AND METHODS: This was a cross-sectional study using an electronic survey consisting of a researcher-designed checklist, targeting healthcare professionals in mental health institutions in Saudi Arabia. The independent variables were sex, nationality, occupation, place of residence, place of work, previous diagnosis of mental illness, marital, and living status. Data were analyzed, using SPSS, and frequency distribution and percentages were calculated. Chi-square test was employed to determine association between self-prescription and various independent variables.

RESULTS: The final sample size was 588; 9.5% healthcare professionals working at mental health institutions in Saudi Arabia admitted to self-prescription with psychotropic medications. Almost half of those who admitted to self-prescription (48.2%) and about 1/4 (23.2%) self-prescribed selective serotonin reuptake inhibitors and benzodiazepines, respectively. The most commonly reported side effects of self-prescription were gastrointestinal symptoms and drowsiness. The study also suggested that males were significantly more prone to self-prescribing than females ($P < 0.001$).

CONCLUSION: To our knowledge, this is the first study in Saudi Arabia to assess the self-prescription of psychotropic medications by healthcare professionals at mental health institutions. This study is important for decision-makers in their planning and updating of prescription policies. It is also equally important to spread awareness among healthcare professionals about the consequences of self-prescription.

Keywords:

Antidepressants, antipsychotics, anxiolytics, mental health, mood stabilizers, psychotropic medications, self-prescription, stimulants

Introduction

Psychotropic medications are defined as a group of drugs that have the capability

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to affect psychological function by altering the level of brain chemicals or neurotransmitters, such as serotonin, dopamine, norepinephrine, and gamma-aminobutyric acid.^[1] These medications have been classified into five main categories: antidepressants, antipsychotics, anxiolytics, mood stabilizers, and stimulants.^[2] These medications are used for a wide range of mental disorders, including mood disorders, schizophrenia, anxiety disorders, attention deficit hyperactivity disorder, eating disorders, personality, and sleeping disorders.^[3] The introduction of these medications reduced long-term hospitalization and ultimately lowered the cost of mental healthcare.^[4] Psychotropic medications are prescription medications, i.e., a physician's prescription is required for these medications to be dispensed.^[5]

Self-prescription by healthcare professionals has been a global health problem for several decades.^[6] Self-prescription can be defined as the use of medication that legally requires a medical prescription without a physician's prescription.^[7] Healthcare professionals or health professionals are defined by the World Health Organization as follows: "health professionals maintain health in humans through the application of the principles and procedures of evidence-based medicine and care. Health professionals study, diagnose, treat, and prevent human illness, injury, and other physical and mental impairment in accordance with the needs of the populations they serve."^[8] Self-prescription with psychotropic medications is considered an unprofessional behavior that carries a risk to the user without official physician monitoring. Serious consequences of self-prescription with psychotropic medications include incorrect self-diagnosis, the risk of disease relapse, drug overdose, addiction, dependence, cognitive impairment, and road traffic accidents.^[9] The prevalence of self-prescription with psychotropic medications varies in different regions and specialties of healthcare professionals. Globally, the prevalence of self-prescription by medical students is approximately twice the prevalence in nonmedical students.^[10] Previous studies from different regions in Saudi Arabia also showed a high proportion of self-prescription by medical students.^[11-13] However, none of these studies discussed self-prescription with psychotropic medications specifically.

A cross-sectional study was conducted in Riyadh, Saudi Arabia, to identify the possible reasons for self-prescription of psychotropic medications by the general population. It demonstrated that the most common cause of self-prescription with psychotropic medications was that their symptoms were not serious, and the most frequent self-prescribed drugs were antidepressants.^[9] Furthermore, two French studies investigated the prevalence of self-prescription of

psychotropic medications. The first one reported a prevalence of 42.4% by pharmacy students.^[14] The second, which was published in 2021, reported a prevalence of 17.8% by residents, without mentioning a specific prevalence by specialty. The most common self-prescribed medications in this study were anxiolytics, followed by sedatives and antidepressants.^[15] From the previous studies, it is clear that not much is known about self-prescription of psychotropic medications worldwide, and there is no single study that elucidated the prevalence of self-prescription with psychotropic medications by healthcare providers in mental health services in the literature; thus, more studies are required. The aim of this study was to estimate the prevalence of self-prescription with psychotropic medications by healthcare professionals in mental institutions in Saudi Arabia. It was also to determine the possible associated factors and discover the most common self-prescribed psychotropic medications.

Materials and Methods

A cross-sectional study was conducted in Saudi Arabia using a 21-item electronic survey of a researcher-designed checklist created after reviewing similar studies. The survey was distributed through data collectors from December 2022 to May 2023 targeting healthcare professionals in mental health institutions in Saudi Arabia. Ethical approval was obtained from the Institutional Review Board (IRB) Letter No. IRB-UGS-2022-01-428 dated 06/11/2022, and written informed consent was taken from all participants in the study.

Any healthcare professionals in a mental health institution, Arabic and/or English speakers who are residents of Saudi Arabia, were permitted to be part of the study sample. Based on a population size of 1170 (as per the Saudi Ministry of Health's latest statistics regarding the number of healthcare professionals in local mental institutions) and using a confidence interval of 95% with a $\pm 3\%$ margin of error, our goal was to collect at least 559 responses.

An electronic self-administrated survey was distributed in English by the data collectors to the targeted population. The survey was collected using an online survey tool (QuestionPro®) which was then converted into a data spreadsheet that only the authors had access to. The survey consisted of a researcher-designed checklist made after similar studies were reviewed. It included demographical data, general questions about past mental illnesses, general questions about self-prescription of psychotropic medications with name, source, duration, complaints, and reasons for self-prescribing, and any adverse effects experienced with self-prescription. All participants signed an informed consent before

answering the survey. The consent form also indicated that participation was voluntary and anonymous. Participants could decide to quit at any time by exiting the survey page. A pilot study was conducted on 10% of the sample to evaluate the clarity of the questionnaire and establish its validity. It was also to find out the time required for participants to complete the survey.

The independent variables in this study were sex, nationality, occupation, place of residence, place of work, marital, and living status. The Statistical Package for the Social Sciences software version 20.0 (IBM SPSS Statistics for Windows, Version 20.0. Armonk, NY, USA: IBM Corp) was used to analyze the data. Frequency distribution and percentages were calculated. The Chi-square test was used to analyze quantitative, parametric data. $P < 0.05$ was considered significant. We considered self-prescription with psychotropic medication as a dependent variable, and sex, nationality, occupation, place of residence, place of work, previous diagnosis of mental illness, and marital and living status as independent variables.

Results

Of the participants who answered the survey ($n = 634$), those who were not healthcare professionals in psychiatry were excluded. 588 participants met the criteria and were included in this study. Most of the participants were Saudis (82%), married (59.2%), and living with family members (73.1%). Many of the participants were from the Eastern region of Saudi Arabia (30.6%) and 29.4% from the southern region. Regarding occupation, the participants were mostly nurses (31.1%), followed by residents (20.1%) and those who worked in a governmental sector (87.8%) [Table 1].

The prevalence of self-prescription of psychotropic medications by healthcare professionals in mental health institutions in Saudi Arabia was 9.5% (56/588). Out of the 56 healthcare professionals, 8 (14.3%) were consultants, 10 (17.9%) were specialists, 14 (25%) residents, 10 (17.9%) nurses, 7 (12.5%) pharmacists, and 7 (12.5%) were psychologists.

More than half of those who self-prescribed complained of insomnia (55.4%), low mood or loss of interest (51.8%), poor concentration or lack of attention (33.9%), appetite problems (26.8%), decreased energy (33.9%), and excessive worry and/or difficulty in controlling anxiety (33.9%). Regarding the explanation behind self-prescription, the participants were asked to state one or more reasons behind their behavior. Half of the participants explained that self-prescription saved them time, while a third claimed that they did not want other people to know about their psychiatric condition.

Table 1: Characteristics of the healthcare professionals working at mental health institutions in Saudi Arabia ($n=588$)

Characteristics	N (%)
Sex	
Male	338 (57.5)
Female	250 (42.5)
Nationality	
Saudi	482 (82.0)
Non-Saudi	106 (18.0)
Occupation	
Consultant	74 (12.6)
Specialist	81 (13.8)
Resident	118 (20.1)
Nurse	183 (31.1)
Pharmacist	80 (13.6)
Psychologist	52 (8.8)
Place of residence	
Central region	93 (15.8)
Eastern region	180 (30.6)
Northern region	35 (6.0)
Western region	107 (18.2)
Southern region	173 (29.4)
Place of work	
Government sector	516 (87.8)
Private sector	72 (12.2)
Marital status	
Single or never married	193 (32.8)
Married	348 (59.2)
Separated	17 (2.9)
Divorced	27 (4.6)
Widowed	3 (5)
Living status	
Alone	158 (26.9)
With family members	430 (73.1)

Furthermore, 11 (19.6%) participants stated that they reused previous prescriptions. Others were advised by pharmacists (8.9%), and a few (7.1%) self-prescribers believed that doctors were busy seeing patients [Table 2].

The most frequently self-prescribed psychotropic medications were selective serotonin reuptake inhibitors (SSRIs) (48.2%) and benzodiazepines (23.2%), followed by mirtazapine (14.3%) [Table 3]. The frequency of prescriptions varied from only once/year to more than once/year. Most of the participants had used self-prescribed psychotropic medications only once. Regarding the duration of self-prescription, 14 participants self-prescribed the medication for 4–6 months, another 14 for 1–3 months, and only 12 participants self-prescribed for < 1 month [Table 3].

The sources of psychotropic medications varied; some were the participants themselves (self-prescription) (37.5%), some by medical representatives (37.5%), from nearby pharmacies (23.2%), from primary healthcare

Table 2: Complaints and reasons for self-prescription of psychotropic medication among healthcare professionals working at mental health institutions in Saudi Arabia

Complaints and reasons	N (%)
Complaint	
Low mood or loss of interest	29 (51.8)
Poor concentration or attention deficit	19 (33.9)
Decreased appetite or weight	7 (12.5)
Increased appetite or weight	8 (14.3)
Decreased energy	19 (33.9)
Insomnia	31 (55.4)
Increased amount of sleep	6 (10.7)
Excessive worry or difficulty in controlling anxiety	19 (33.9)
Performance anxiety (fear of speaking in front of people)	8 (14.3)
Panic attacks	2 (3.6)
Auditory hallucinations	1 (1.8)
Mother's death	1 (1.8)
Reason	
Saving time	28 (50)
Lacking trust in doctors	2 (3.6)
Assume doctors are busy with other patients	4 (7.1)
High fees of doctors	1 (1.8)
Consulting through phone	1 (1.8)
Having previous prescriptions	11 (19.6)
Believing it is self-manageable	2 (3.6)
Being a healthcare professional	1 (1.8)
Listening to a pharmacist's advice	5 (8.9)
Wanting privacy	17 (30.4)

Table 3: Frequency of self-prescribed psychotropic medications and duration of medication use among healthcare professionals working at mental health institutions in Saudi Arabia

Psychotropic medications and duration of medication	N (%)
Class of self-prescribed psychotropic medication	
Benzodiazepines	13 (23.2)
Benzodiazepines like Z-drugs	3 (5.4)
Selective serotonin reuptake inhibitor	27 (48.2)
Serotonin–norepinephrine reuptake inhibitor	4 (7.1)
Tricyclic antidepressants	5 (8.9)
Mirtazapine	8 (14.3)
Bupropion	5 (8.9)
Vortioxetine	1 (1.8)
Stimulants	2 (3.6)
Quetiapine	6 (10.7)
Olanzapine	1 (1.8)
Risperidone	1 (1.8)
Propranolol	1 (1.8)
Duration of medication use	
Continuously	23 (41.1)
Intermittently	33 (58.9)
Once	19 (33.9)
<1 month	12 (21.4)
1–3 months	14 (25.0)
4–6 months	14 (25.0)
>6 months	10 (17.8)
>1 year	7 (12.5)

centers (7.1%), online purchases (3.6%), and another doctor's prescription (1.8%).

Table 4 shows the factors associated with self-prescription of psychotropic medications by healthcare professionals in mental health institutions. The study reported that males were significantly more prone to self-prescribing ($P = 0.026$) than females. Furthermore, it showed that there was a significant difference between those who had a previous history of psychiatric illness and self-prescribed compared to those who did not have any previous psychiatric illnesses ($P = 0.000$). In addition, occupational status as a nurse was statistically significant ($P = 0.018$). On the other hand, marital status and living situation were statistically insignificant, $P = 0.882$ and $P = 0.740$, respectively. Furthermore, the relationship between reading the prescription before using the medication and the participants' sex and occupation was also insignificant, $P = 0.882$ and $P = 0.740$, respectively.

More than half of the participants (60.7%) reported that they always checked the prescription information before using the medications, while 18 participants reportedly only checked the prescription information sometimes and four never did. Furthermore, 43 (76.8%) of them reported they fully understood the instructions. Regarding the experience of side effects, 19 (33.9%) participants who self-prescribed reported that they experienced different side effects as shown in Figure 1. Of those, 14 continued with the medications despite the side effects, but five stopped.

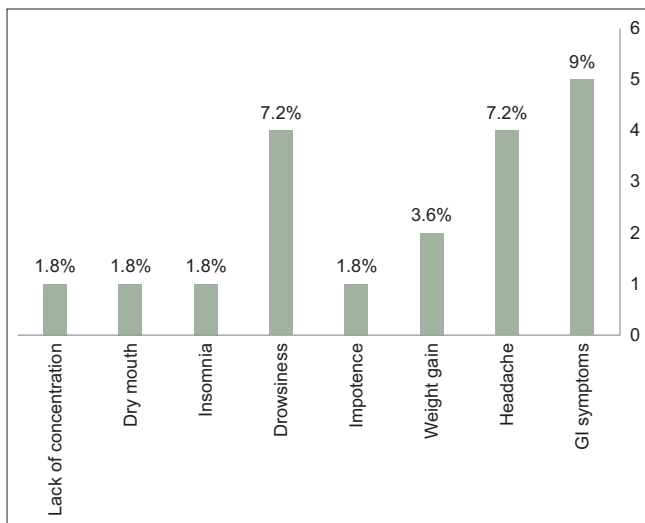
Discussion

Although self-prescription of psychotropic medications has been explored in various studies, none of those studies discussed the issue as regards healthcare professionals in mental health institutions, particularly since the medications are considered a mainstay intervention for patients in need of mental health services. This study showed that the percentage of reported self-prescription of psychotropic medications by healthcare professionals in mental health institutions in Saudi Arabia was 9.5% ($n = 56/588$). Proportions of female and male participants who self-prescribed were 28.6% and 71.4%, respectively. In addition, 82.1% of the participants were Saudis, living mostly in the Eastern Province of Saudi Arabia. Most of these healthcare professionals who self-prescribed were residents (25%, $n = 14$), followed by specialists and nurses with an equal ratio (17.9%, $n = 10$).

Two studies from France in 2018 and 2022 investigated the prevalence of psychotropic medication use by pharmacy students and residents, respectively.^[14,15] The first study showed that the percentage of 2575 pharmacy students who consumed psychotropic medications was similar

Table 4: Association between sociodemographic variables and self-prescription of psychotropic medications among healthcare professionals working at mental health institutions in Saudi Arabia (n=588)

Variable	Self-prescribed?		P-value
	Yes	No	
Sex			
Male	40	298	0.026
Female	16	234	
Marital status			
Single	21	172	0.882
Married	32	316	
Separated	1	16	
Divorced	2	25	
Widowed	0	3	
Living situation			
Alone	14	144	0.740
With family	42	388	
Psychiatric disorder diagnosis			
Diagnosed	26	50	<0.001
Not diagnosed	30	482	
Occupation			
Consultant	8	66	0.687
Specialist	10	71	
Resident	14	104	0.345
Nurse	10	173	
Pharmacist	7	73	0.798
Psychologist	7	45	

**Figure 1:** Reported side effects of self-prescribed psychotropic medications among health professionals working at mental health institutions in Saudi Arabia (n=56)

to that in the current study (9.4%).^[14] The second French study reported that self-treatment with psychotropic drugs involved 2 out of 10 residents and the proportion significantly increased with seniority. Furthermore, the study showed that out of the 2314 participants, 21.7% used psychotropic drugs for self-medication.^[15] In addition, Vergès *et al.*, reported that self-treatment was higher as regards psychiatric residents than residents from other specialties (26.4%); however, the difference was statistically insignificant.^[14]

Insomnia and low mood or interest were the two most reported complaints in the current study, with 55.4% ($n = 31$), and 51.8% ($n = 29$), respectively. These findings are in agreement with the study by Vergès *et al.*, in which around 27% of residents who reported self-treatment with psychotropic medications also mainly reported sleep problems (50%) and anxiety disorders (48%).^[14] Self-prescription of psychotropic medications by pharmacy students was mainly due to anxiety and insomnia.^[14]

The current study showed that self-prescription with psychotropic medications is associated with certain factors, including being male, having nursing as an occupation and a history of psychiatric illness. Out of 56 respondents, 26 reported a history of psychiatric disorders, mainly depression followed by anxiety. There was no discrepancy between those who diagnosed themselves – mainly depression and anxiety – and those who were diagnosed by a healthcare professional. This is in agreement with the above study on residents in France where it was shown that 70% of the participants had previous psychiatric disorders such as sleep, anxiety, and depression. However, the majority did not seek professional help.^[15]

In the current study, one of the main reasons behind self-prescription was to save time. In addition, almost one-third declared that they wanted to keep their psychiatric condition a secret from other people.

However, other studies indicated that the main reason for self-prescription was that their mild psychiatric symptoms did not require a visit to a psychiatric clinic. Other possible reasons for self-prescription were the long waiting times and the exorbitant fees of psychiatric services.^[9,16]

Regarding the frequency of the usage of self-prescribed psychotropic medications, most of the participants used them only once, 14 participants used them for 1–3 months, and another 14 participants continued using the medications for 4–6 months. The current study showed that the most commonly self-prescribed medications used by psychiatric healthcare professionals were SSRI (48.2%) and benzodiazepines (23.2%). Other studies reported that antidepressants and benzodiazepines were the most frequent psychotropic medications used. A study that investigated self-prescription by pharmacy students showed that benzodiazepines and benzodiazepines (known as Z-drugs) were the main self-medicated psychotropic medications (74.5%, 181/243).^[14] Balayssac *et al.*, reported that the majority of pharmacy students self-medicated to feel better (i.e., benzodiazepines and Z-drugs for anxiety and insomnia; opioids for pain), but some students self-medicated without complying with authorized indication.^[13] This may be explained by a study that demonstrated that a relationship between self-perceived academic load and stress, and the use of sedatives and sleeping pills for self-medication is a common phenomenon among college students.^[17]

Compared to physicians with no apparent mental health issues, physicians with mental health issues that require treatment were more likely to self-prescribe hypnotics.^[18] Furthermore, it was reported that antidepressants were the most psychotropic medication used by residents (14.8%, $n = 2314$).^[14]

Contrary to our study, a few studies have reported low rates of self-prescribed psychotropic medications by healthcare professionals. For example, a study conducted in Serbia on 1296 medical students concluded that the self-prescription of antidepressants and sedatives was estimated to be at a lower rate compared to other types of medications (2.0% and 13%), respectively.^[16] A Norwegian study emphasized that physicians began self-prescribing early in their careers at a level that was quite high, and this level remained steady over the initial postgraduate years. The estimated self-prescription percentages of hypnotics, sedatives, and other psychotropic drugs were as follows: 12.4%, 3.1%, and 0.8%, respectively.^[18] Although our study did not include data about illicit drug use, other studies have linked self-medication with a substantially increased risk of developing incident drug dependence.^[18]

A limitation of this study is the sample size; therefore, future studies should cover a larger and more diverse sample to increase the generalizability of the findings. Furthermore, the study relied on self-administered data, which may be susceptible to biases of recall, social desirability, and nonresponse, all of which affect the calculated prevalence rate of self-prescription. In addition, regarding the factors associated with self-prescription, it would be beneficial to study the association with other factors such as smoking, alcohol consumption, and the illicit use of drugs. Finally, the study did not highlight the severity of the participants' psychiatric conditions. Future research could consider that as a potential factor, as it may affect healthcare professionals' decisions to self-prescribe medications. This study sheds light on the importance of raising awareness about the risks and profound consequences of this occupational hazard.

Conclusion

To our knowledge, this is the first study in Saudi Arabia to assess the prevalence of self-prescription of psychotropic medications by healthcare professionals in mental health institutions. The study showed that 9.5% of healthcare workers in mental health institutes in Saudi Arabia self-prescribed. It also revealed that insomnia and low mood or loss of interest were the two most common reasons behind self-prescription (31% and 29%, respectively). In addition, the most frequently self-prescribed psychotropic medications were SSRIs (48.2%) and benzodiazepines (23.2%), followed by mirtazapine (14.3%). Half of the participants explained that self-prescription saved them time, while a third of them claimed that they did not want other people to know about their psychiatric condition. Belonging to the male biological sex ($P = 0.026$), the nursing occupation ($P = 0.018$) and a history of psychiatric illnesses ($P = 0.000$) significantly contributed to the major factors behind self-prescription.

This study is important for decision-makers in their planning and updating of prescription policies. It is equally important to raise awareness among healthcare professionals regarding the consequences of these actions. In addition, further research is needed to explore other factors leading to self-prescription by healthcare professionals in Saudi Arabia.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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