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## ORIGINAL ARTICLE

# Shortage of psychotropic medications in community pharmacies in Saudi Arabia: Causes and solutions

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## KEYWORDS

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**Abstract** *Background:* Patients with mental disorders, such as depression and anxiety, who seek medical care in private psychiatric clinics in Riyadh, Saudi Arabia, have recently expressed concerns to doctors about difficulty in filling psychotropic medications, such as Amitriptyline and Aripiprazole, at retail community pharmacies. *Objectives:* The aim of this study was to investigate whether there is a shortage of some commonly prescribed psychotropic medications in retail community pharmacies in Saudi Arabia, and if so, to explore the possible reasons behind the shortage of these medications. *Methods:* The availability of 28 commonly prescribed psychotropic medications was checked in multiple retail community pharmacies in 4 different regions of Saudi Arabia. Further, potential reasons behind the shortage of some psychotropic medications in retail community pharmacies were also explored. *Results:* Amitriptyline, Amoxapine, Aripiprazole, Bupropion, Buspirone, Duloxetine, Haloperidol, Hydroxyzine, Lithium, Prochlorperazine, Procyclidine, Promethazine, Thioridazine, Trazodone, and Trifluoperazine were unavailable in over half of the 248 community pharmacies surveyed. Four possible reasons behind the shortage of these medications were reported by 31 pharmacists working in different retail community pharmacies' purchasing departments, with a majority (58.06%) reporting the primary reason for a shortage of these

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medications that they are slow-moving items with low profit margins. *Conclusions:* The findings of this study should expedite the reform process in both the Ministry of Health and the Saudi Food and Drug Authority (SFDA) to publish and enforce an essential list of medications for retail community pharmacies, which should include the most commonly prescribed psychotropic medications.

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## 1. Introduction

Until the preliminary results of the Saudi National Mental Survey are available, there are currently no accurate estimates of the prevalence of mental illness, such as depression and schizophrenia, in Saudi Arabia (Koenig et al., 2014). However, based on the most recent data published by the World Health Organization (WHO), the prevalence of mental illness is approximately 25% in both developed and under-developed nations (Mental health atlas, 2015). Moreover, some studies suggest a higher prevalence of mental illness among women, divorcees, widowed, and older adults in the Kingdom of Saudi Arabia (Koenig et al., 2014; Al-Shammari and Al-Subaie, 1999; Abdel-Fattah and Asal, 2006). In the last decade, the divorce rate has tremendously increased in the kingdom reaching up to 20% of all new marriages (AlMunajjed, 2010). Furthermore, the kingdom is surrounded by countries rife with armed conflicts and war, which puts the population at a greater risk of mental illness (Dimitry, 2012).

The financial and emotional burden of mental illness is enormous, on not only those who are ill and their loved ones, but also employers, governments, and society as a whole (Greenberg and Birnbaum, 2005; Insel, 2008; Kessler et al., 2009). Therefore, several treatment approaches have been, and are still used to manage these debilitating illnesses, such as psychotherapy and pharmacotherapy (Pinquart et al., 2006). Although some psychological interventions, such as Cognitive Behavioral Therapy (CBT), have been shown to be effective in the treatment of some mental disorders such as depression (DeRubeis et al., 2008), pharmacotherapy is used in the vast majority of mental illness cases and has also been proven to be effective (Frank et al., 2005; Hieronymus et al., 2016). As a result, the spending on psychotropic medications has increased significantly over the last 3 decades (Frank et al., 2005; Mark et al., 2005). For example, while the average U.S. spending on drugs overall grew 11.5% in 2003, the spending on antipsychotics alone grew 22.1% in same year (Frank et al., 2005). Furthermore, the demand on antidepressants in the U.S. grew by 3.4% in 2015; however, it grew only 1% for drugs overall in the same year (IMS Health, 2015).

In Saudi Arabia, there is a universal healthcare system where citizens can visit any primary care clinic or hospital that belongs to the Ministry of Health without incurring any charges (Almalki et al., 2011). Furthermore, prescribed medications for citizens are fully covered and dispensed within the same health facility in which the patient sought medical care (Almalki et al., 2011). However, many patients, especially in Muslim communities, would rather visit private facilities for their mental illness, due to the associated social stigma (Ciftci et al., 2013; Alamri, 2016). In addition, almost a third of the Saudi population are non-citizens, who do not have access to the free health care that the citizens enjoy, and have to either

buy their own health insurance, or use healthcare coverage provided by employers (Almalki et al., 2011; De Bel-Air, 2014).

The availability of psychotropic medications, such as antidepressants and antipsychotics, is essential for the initiation and continuity of patient care. Drug shortages can lead to many unexpected consequences, such as a delay of therapy, switching to another medication, and increased patient monitoring (McLaughlin et al., 2013). Recently, there have been several complaints expressed by some psychiatrists who practice in private clinics in Riyadh, Saudi Arabia. Specifically, that their patients are finding it difficult to fill prescriptions for non-controlled prescription drugs at retail community pharmacies. Thus, the current study investigated the authenticity of these complaints through determination of the availability of some highly demanded and prescribed psychotropic medications (e.g., selective serotonin reuptake inhibitors (SSRIs), serotonin-norepinephrine reuptake inhibitors (SNRIs), typical and atypical antipsychotics, and lithium) that have been reported to be in short supply in retail community pharmacies by some psychiatrists.

## 2. Methods

### 2.1. Study design and sampling plan

A cross-sectional study design was used to explore the prevalence of psychotropic drug shortage at retail community pharmacies, primarily in Riyadh, Saudi Arabia. A convenience sample of 300 community pharmacies was chosen. This method was used due to time and resource limitations; however, community pharmacies from different locations as well as from different regions were included to make the sample as representative as possible. This study was approved by the Institutional Review Board (IRB) office of the College of Pharmacy at King Saud University.

### 2.2. Data collection

Psychiatrists in private clinics were contacted and asked to provide a list of the medications that were reported to be in short supply by their patients. This list included 28 medications, which were as follows: Amitriptyline, Amoxapine, Aripiprazole, Bupropion hydrochloride (HCl), Buspirone HCl, Carbamazepine, Citalopram, Duloxetine HCl, Escitalopram, Fluoxetine, Haloperidol, Hydroxyzine HCl, Lamotrigine, Lithium, Olanzapine, Paroxetine, Prochlorperazine, Procyclidine, Promethazine, Quetiapine, Risperidone, Sertraline, Thioridazine, Topiramate, Trazodone, Trifluoperazine, Valproic acid, and Venlafaxine. Some of these medications have been listed by the World Health Organization (WHO) as essential medicines for mental disorders in primary health care

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