



Original article

The extent of use of online pharmacies in Saudi Arabia



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ABSTRACT

Purpose: Online pharmacies sell medicine over the Internet and deliver them by mail. The main objective of this study is to explore the extent of use of online pharmacies in Saudi Arabia which will be useful for the scientific community and regulators.

Methods: An Arabic survey questionnaire was developed for this study. The questionnaire was distributed via email and social media. Four sections were created to cover the objectives: experience with online shopping in general, demographics, awareness of the existence and customer experiences of buying medicine online, and reasons for buying/not buying medicine online.

Results: A total of 633 responses were collected. Around 69% (437) of them were female and the majority (256, 40.4%) was in the age range 26–40. Only 23.1% (146) were aware of the existence of online pharmacies where 2.7% (17) of them had bought a medicine over the Internet and 15 (88.2%) respondents out of the 17 was satisfied with the process. Lack of awareness of the availability of such services was the main reason for not buying medicines online. Many respondents (263, 42.7%) were willing to try an online pharmacy, although majorities (243, 45.9%) were unable to differentiate between legal and illegal online pharmacies. The largest categories of products respondents were willing to buy them online were nonprescription medicines and cosmetics.

Conclusion: The popularity of purchasing medicines over the Internet is still low in Saudi Arabia. However, because the majority of respondents are willing to purchase medicines online, efforts should be made by the Saudi FDA to set regulations and monitor this activity.

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1. Introduction

Online pharmacies are companies that sell medicines, including prescription-only medicines, over the Internet and deliver them by mail (Makinen et al., 2005). The first online pharmacy was started in the United States (US) in the late 1990s, and sold both nonprescription and prescription-only medicines (Orizio et al., 2011). In the US, around 3000 websites were selling prescription medicines in 2009. This had increased to more than 5000 in 2010, and continues to rise rapidly (MarkMonitor, 2011; NABP internet report, 2011). The US Food and Drug Administration (FDA) have a section on its website entitled “Buying Medicines Over the Internet” (Gallagher and Colaizzi, 2000). A comprehensive review of

previous research on online pharmacy and their usage has been published in 2011 showed that it is spreading continuously with partial regulation (Orizio et al., 2011). Policy regulations and individual health literacy are two main aspects that the authors recommend to improve this phenomenon. However, such information about the online purchase of medicine is not available in Saudi Arabia. Exploring Saudi Food and Drug Authority (SFDA) website gives little information about regulations on internet sale of products or pharmaceuticals in the country (SFDA website, 2016). A warning statement has been published in SFDA website in 2011 (SFDA website, 2011). Usually a release form has to be filled by those who order a medicine online and supply a list of documents including the prescription. It is important to understand how this service operates to ensure that appropriate regulations are put in place to monitor and control the online purchase of medicines and to prevent any risk of prescription-medicine abuse. The aim of the study is to explore the extent of purchasing medicine online in Saudi Arabia. Two main objectives will be sought; the first will be the existence of such phenomenon, the second will be the reasons behind the willingness to purchase/not purchase medicine online.

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2. Methodology

2.1. Development of questionnaire

Previous research has addressed different aspects of online pharmacy. An Arabic-language questionnaire was built through different stages. A review of related literature was done first (Orizio et al., 2011; Mazar et al., 2012). Then two experts in pharmacy and medicine were asked to review the survey, following which a few amendments were made. Clarity of the questionnaire was examined by three pharmacists and three lay persons. A pilot study involving 10 subjects (pharmacists and lay persons) was undertaken to examine the final draft of the survey.

The survey was developed using the SurveyMonkey program and distributed randomly via email and social media such as WhatsApp, Instagram, and Twitter, between June 2013 and March 2014. An introductory paragraph has been created which insure confidentiality and anonymity of data collection and analysis. It also contains a statement “I consent to participate in the study” which participant must click before proceeding to the first question. The target population was Saudi Arabian citizens and residents. The questionnaire is available upon request.

2.2. The questionnaire

Four main sections were created. The first section consisted of three questions investigating the respondents' experiences with online shopping. The second section collected demographic information including age, gender, education, and monthly salary. The third section included nine questions exploring the respondents' experiences of buying medicines online. These questions covered the following topics:

- Awareness of the existence of online pharmacies
- Previous history of buying medicines online
- Number of times buying medicines online
- The quality of medicines bought over the Internet
- Whether the website was local or international
- Whether a prescription was obtained beforehand
- Whether they were asked to provide a prescription or complete a survey or answer a questionnaire about their health status
- The reason for choosing to buy medicines online
- The satisfaction level with this process.

Most of the response categories to the previous nine questions were in yes/no format. Other responses included specific statements such as reasons to buy medicine online.

The final section investigated the reasons why respondents were unwilling to buy medicines online and whether or not they intended to purchase medicines online in the future. Two additional questions at the end of the questionnaire were asked, can you differentiate between legal and illegal online pharmacies and what categories of medicines they are willing to be available online.

2.3. Data analysis

The data were stored and analyzed using Excel 2010. Data are expressed as percentages.

3. Results

3.1. Participants characteristics

A total of 633 responses were collected. Of the respondents, 607 (95.9%) regularly browsed on the Internet. A significant number

(428, 67.6%) of the respondents had tried to buy something online, of whom more than half (356, 56.6%) bought clothing or shoes. Items such as homewares (114, 18%), food (66, 10.5%), electronics (209, 33%), books (140, 22%), and medicines (17, 2.7%) were also purchased online. Around 69% (437) of the respondents were female. The majority (40.4%, 256) was in the age range 26–40 and more than 61% (390) had a bachelor's degree. Surprisingly, 38% (242) of the respondents had no income. Table 1 shows the demographic details of the respondents.

3.2. Extent of use of online pharmacy

Only 23.1% (146) were aware of the existence of online pharmacies and only 2.7% (17) had bought medicines over the Internet.

Five respondents had tried to buy medicines online on one occasion, eight had tried 2–5 times, one had tried 6–10 times, and three had tried more than 10 times. The majority of the 17 respondents who had purchased medicines online (15, 88.2%) were satisfied with the process. Three (17.6%) believed that the medicines they bought from an online pharmacy were of better quality than those bought from a community pharmacy, while seven (41.2%) said that they were worse and 7 (41.2%) were unsure whether there was any difference. Almost all (16) of the respondents who had purchased medicines online indicated that the website was international, while only one person did not know where the website was located. Two of the 17 respondents (11.8%) said that they had a prescription for the medicines they purchased online. One had been asked to provide the prescription, while the other one had been asked to answer a number of questions regarding his/her health status.

3.3. Reasons for buying/not buying medicine online

Table 2 lists the reasons cited for buying medicines online. It can be seen that unavailability of the medicine locally was the most popular reason. Respondents who had not purchased any medicines online were asked to state the reason why they had not done so. The most commonly cited reason was a lack of awareness of online pharmacies (see Table 2 for other reasons). Other reasons were added as a free text; free texts were read and categorized by the author. A significant number of participants (142) did not answer this question.

Table 1
Respondents' demographics.

	Number (%) N = 633
<i>Gender</i>	
Female	437 (69)
<i>Age (years old)</i>	
Less than 18	31 (4.9)
18–25	209 (33)
26–40	256 (40.4)
41–60	132 (20.9)
More than 60	5 (0.8)
<i>Education</i>	
Elementary	3 (0.5)
Intermediate	17 (2.7)
Secondary	78 (12.3)
Diploma	30 (4.7)
Bachelor	390 (61.6)
Master	79 (12.5)
PhD	36 (5.7)
<i>Monthly salary (US dollar)</i>	
No salary	242 (38.2)
Less than 1300	57 (9)
1300–2600	121 (19.1)
2601–3900	90 (14.2)
3901–5200	51 (8.1)
5201–6500	38 (6)
More than 6500	34 (5.4)

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