
USE OF INTERNET PHARMACIES BY THE PUBLIC

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ABSTRACT

OBJECTIVES The objectives of the study were to observe the number of Maltese patients who purchase medicines over the internet, to evaluate how well-informed the public, doctors and pharmacists are when selecting a legal internet pharmacy and to appraise the awareness of doctors and pharmacists on the possibility of their patients using the internet to purchase medicines that may cause adverse effects or drug interactions with the medications they themselves may dispense or prescribe.

METHOD A self-administered questionnaire was devised following an adaptation of another questionnaire entitled 'The Use of Online Pharmacies by British Columbia Residents' carried out by the British Columbia Centre for Social Responsibility in 2009.¹ This questionnaire was distributed to members of the general public. Two other questionnaires were designed and distributed to pharmacists working in community pharmacies and physicians. Data obtained from these studies was analysed using SPSS® version 22.

KEY FINDINGS Nine hundred and seventeen participants took part in this study. Ninety seven per cent (n=888) revealed that they purchased products over the internet and 5.1% (n=47) purchased medicines online. From the 915 participants who answered a question regarding the safety of internet pharmacies, 79.9% (n=731) felt that internet pharmacies were not as safe as local community pharmacies. Nineteen of the 47 participants who ordered medicines online were willing to self-diagnose their medical condition and 3 of the 43 participants mentioned that they had suffered from side-effects following the use of medicines purchased over the internet. Fifty-three per cent of both pharmacists and doctors agreed that patients should be given the opportunity to purchase medicines over the internet if the source was reliable.

CONCLUSION Maltese patients need to be educated on how to choose a legal internet pharmacy. Purchasing from sites that promote self-diagnosis or provide prescription-only medicines (POMs) without a prescription should be discouraged. The importance of educational campaigns to increase awareness among healthcare professionals was also identified.

KEYWORDS Authenticity, Internet Pharmacies, Online Pharmacies, Risks.

INTRODUCTION

An increasing number of people are using the internet for online medical services, one of which is for the purchase of pharmaceuticals.² Legitimate online pharmacies can be recommended to patients as these are regulated. However, illegitimate online pharmacies that sell POMs without a prescription and possibly counterfeit pharmaceuticals or medicines of dubious quality, are a problem.³ Among the various types of internet pharmacies that exist, there are a substantial amount that operate illegally.⁴ Patients should expect the same high standard of pharmaceutical care from internet pharmacies as that from a physical one. The public may find it difficult to distinguish between a legal or rogue internet pharmacy.⁵

Presently there are no internet pharmacies established in Malta. The Maltese public may however purchase medicinals for their personal use from online pharmacies that are based overseas. Article 85c of Directive 2011/62/EU which amends Directive 2001/83/EC concerns the sale of medicinal products over the internet. This sets the rules regarding the standards and regulations that must be maintained by internet pharmacies. As a consequence of this Directive, the European Commission (EC) introduced the European Union (EU) authenticity logo which must appear on all legally operating websites in the EU by June 2015.

The aim of the study was to assess the popularity of internet pharmacies with the Maltese public and if there is a serious risk to public health as a consequence.

METHOD

Three self-administered questionnaires were used for data collection. A draft copy of the questionnaire aimed at the general public was developed in English, validated and subsequently translated to Maltese. A pilot study was performed on the draft questionnaire in English. No ethics approval was necessary for this study. The final draft of this questionnaire was converted to an online survey using Google Docs®. People 18 years and over were eligible to participate in the study. The questionnaire was disseminated by means of an invitation to members of the public in the form of a covering letter including a link to the questionnaire. It was circulated through a social media group with approximately 18,000 members and



also by posting it on the researcher's Facebook® webpage. E-mails were sent to different contacts and to members of an organisation for senior citizens. University students were also invited to participate in the study. Hard copies of the questionnaire were distributed as well.

Another two questionnaires for doctors and pharmacists working in retail pharmacies were developed. The final version of these questionnaires was distributed online. An e-mail was sent to all registered pharmacists via the Pharmacy Council. The questionnaire was also circulated through the social media group 'Maltese Pharmacists and Pharmacy Students' and hard copies were distributed to pharmacists attending lectures organised by the Malta College of Pharmacy Practice at the University of Malta. The questionnaire for doctors was circulated by the editor of the Synapse® which is a local journal. Hard copies were sent to doctors. Data from these three questionnaires was collected over an 8-week period from October 2014 to end of November 2014 and analysed using SPSS® version 22.0.

RESULTS

A total of 917 responses were received from the questionnaire for the general public. Eight hundred and eighty-eight participants (96.8%) declared that they have purchased products online. Five per cent (n=47) of the participants used the internet to purchase medicines.

From a total of 915 participants who answered the question regarding the safety of internet pharmacies, 179 (19.6%) felt that buying medicines over the internet was as safe as buying medicines from a local pharmacy. Seven hundred

and thirty one participants (79.9%) felt that this practice was not as safe as using a local pharmacy. Thirty of the 47 participants who ordered medicines online claimed that they ordered medicines from internet pharmacies in the EU, while 6 participants used online pharmacies outside the EU. Ten participants did not know the country of origin of the online pharmacy. Eighteen of the participants carried out checks to verify if the internet pharmacy was authentic. Two reasons why the public purchased medicines online were lower cost (20 out of 27) and lack of availability of medicines locally (29 out of 40). Three out of 42 participants suffered from side-effects following the use of medication purchased online. A total of 80 pharmacists participated in the study devised for pharmacists working in retail pharmacies. Forty-two pharmacists were in favour of patients using internet pharmacies if the source was reliable. The reasons given may be seen in Figure 1.

The reasons why pharmacists do not recommend the use of internet pharmacies to family members, friends or patients are presented in Figure 2. The main concerns were that pharmacists did not trust the sites or the quality of the medicines originating from online pharmacies. From the results in Table 1, it may be inferred that pharmacists perceived the risk that POMs are sold without a prescription as the highest risk to patients using internet pharmacies. Three other risks followed with equal scores. These were that the product has not passed through the required checks to ensure its quality, safety and efficacy, underage people can order controlled substances and medicines purchased are expired, unsafe or counterfeit. Pharmacists rated the risk that the patient or healthcare system may suffer a financial burden due to the need of remedial care following treatment with medicines purchased over the internet as the least important concern.

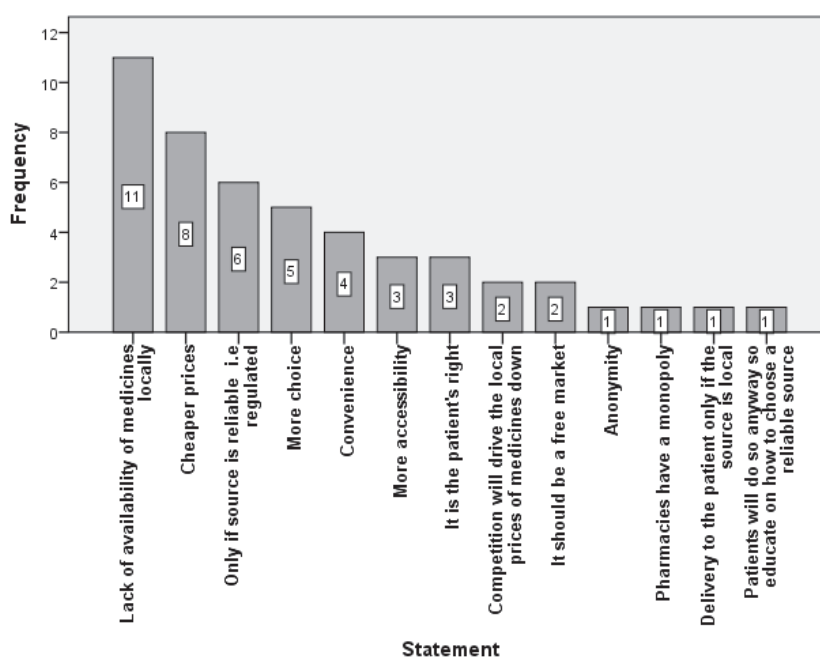


Figure 1: Reasons given by pharmacists as to why patients should be given an opportunity to procure medicines online if the source is reliable

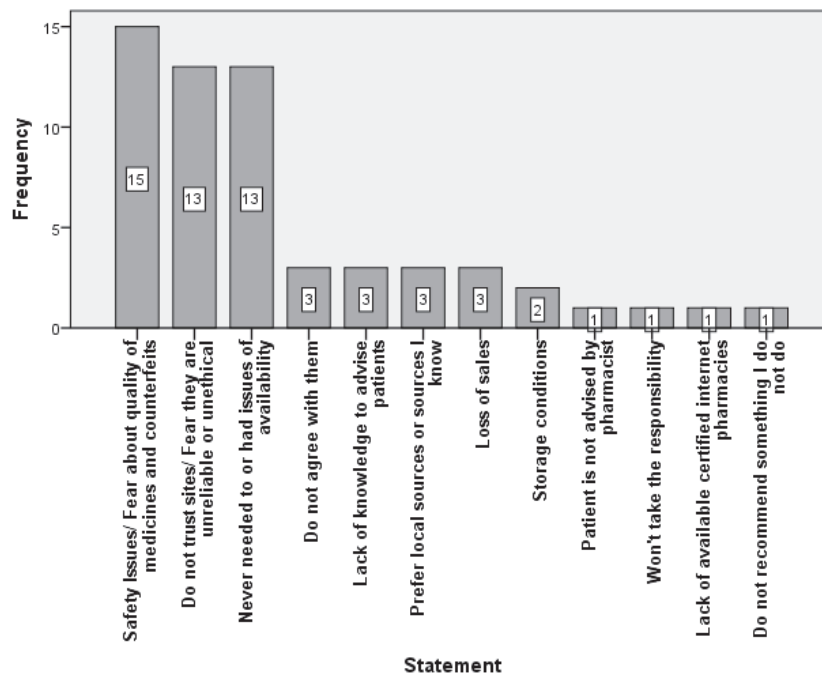


Figure 2: Reasons as to why pharmacists do not recommend the use of online pharmacies to family members, friends or patients at the pharmacy

	Mean	Standard Deviation
POMs are sold without a valid prescription	3.76	0.557
The product has not passed through the required checks to ensure its safety, quality and efficacy	3.75	0.703
Minors and children can order controlled substances	3.75	0.606
The medicines purchased are expired, unsafe or counterfeit	3.75	0.606
Problems with resistance e.g. in the case of antibiotics	3.47	0.826
In the case of temperature sensitive pharmaceuticals, the medicines may be spoiled if precautions are not taken during delivery	3.68	0.612
Financial burden to the patient or healthcare system, due to the need of remedial care following treatment with medicines purchased over the internet	2.86	1.003
Improper packaging of the medicines e.g. absence of a patient information leaflet, the language is not in English, unconventional packaging or damaged packaging	3.26	0.807
Ease to obtain prescription drugs by drug addicts or abusers	3.50	0.886
Misdiagnosis due to the absence of face to face consultations between patients and qualified medical staff	3.74	0.568
Cyber-doctors offering a medical opinion are not qualified medics but a computer database deciding appropriate therapy and thus deceiving the public	3.64	0.733
The lack of interaction with the pharmacist for advice	3.58	0.689
Patients self-diagnose and treat themselves via the internet and internet pharmacies	3.59	0.610

$\chi^2(12) = 169.053, p < 0.001$

Table 1: The importance of risks when patients purchase medicines from internet pharmacies according to pharmacists

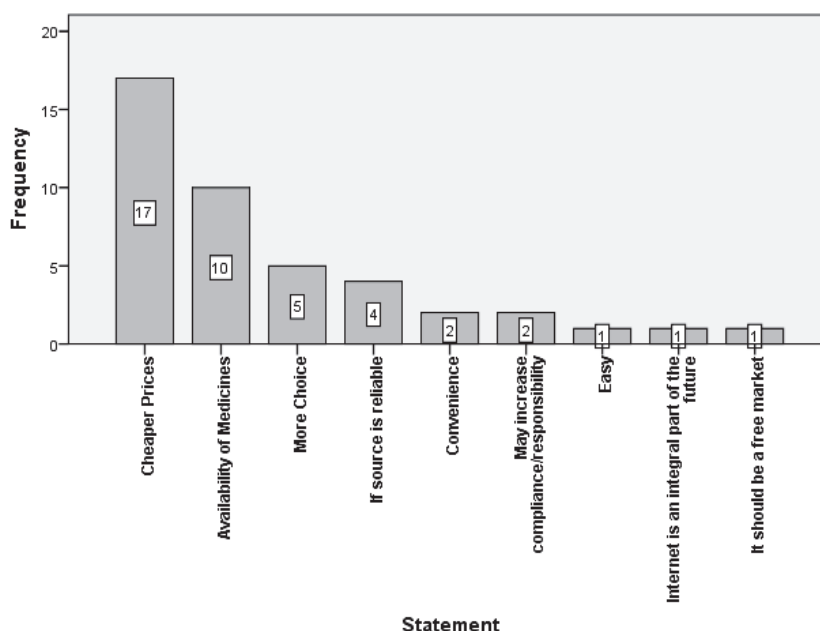


Figure 3: Reasons given by doctors as to why patients should be given an opportunity to buy medicines over the internet if the source is a reliable one

Fifty-nine responses from registered physicians practising in Malta were received. Thirty-one of these participants were in favour of using internet pharmacies if the source was reliable. The advantage of cheaper medicines purchased from internet pharmacies, availability issues of medicines locally and providing a wider choice of medicines to the patient were highlighted. A reason why doctors were not in agreement with the use of internet pharmacies even if the source was reliable was due to fear that advice from doctors and pharmacists would be bypassed by patients. Doctors believed that there was a lack of safety or control over internet pharmacies and that it was difficult to decide if the source was reliable. Doctors rated the risk that the product did not pass through the required checks to ensure safety, quality and efficacy as the most important risk for patients. Financial burden suffered by the patient or the healthcare system due to requiring remedial care following treatment with medicines purchased over the internet was rated as the risk of least importance. Five doctors were asked for advice by their patients following side-effects experienced due to medicines purchased from online pharmacies. Thirty-one doctors claimed that they never asked their patients whether they were using medications purchased online when prescribing. Six doctors identified patients who were abusing from illegal drugs purchased online.

DISCUSSION

From this study it was determined that 5.2% (n=47) of the population use internet pharmacies and from these, three experienced side-effects following the use of medicines purchased online. Not many use internet pharmacies and the numbers who experienced side-effects following their use is

low. It was determined that 79.9% (n=731) of the general public felt that internet pharmacies were not as safe as brick and mortar pharmacies. Although the majority of the participating doctors and pharmacists (52.5%) were in favour of the use of internet pharmacies if the source was reliable, many expressed their lack of trust for these sites and fears regarding the safety of the medicines originating from their use.

CONCLUSION

Internet pharmacies may be beneficial to our healthcare system. There must be a balance on how to regulate online pharmacies to avoid patient harm and at the same time ensure that over-regulation will not result in the loss of significant benefits to the patient.⁶

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