

International Journal of Research in Health and Allied Sciences

Journal home page: www.ijrhas.com

Official Publication of "Society for Scientific Research and Studies" [Regd.]

ISSN: 2455-7803

ORIGINAL RESEARCH

Online pharmacy versus offline pharmacy: A comparative study

Syed Ali Mehdi

Innovation Think Tank coordinator and Scientific Partnership Zone Lead, Seimens Healthineer, UAE

ABSTRACT:

Background: Recent decades have witnessed an escalation of global pandemics, each of which hampered business activities and economic growth. The present study was undertaken for comparing the online pharmacy shopping versus offline pharmacy shopping. **Materials & methods:** A total of 200 participants were enrolled. Innovative survey was carried out. Complete demographic and clinical details of all the participants were obtained. A survey based analysis was framed and self-framed questionnaire was given to all the subjects. Open questions were used, covering the topics of the study survey to map the general attitudes of the prospective sample. In the main study, data were collected directly from subjects using the outpatient health services for chronic or acute conditions. **Results:** 34.5 percent of the participants belonged to the age group of less than 30 years while 41 percent of the participants belonged to the age group of 30 to 50 years. 64 percent of the participants were males while the remaining were females. 84.5 percent of participants have head of online pharmacy shopping. 41 percent of the participants said they use online pharmacy shopping. 48 percent of the participants felt it unsafe to use online pharmacy shopping. **Conclusion:** Elderly age, female gender, rural residence and low literacy level were the factors responsible for non-use of online pharmacy shopping.

Key words: Online, Pharmacy, Offline

Received: 12 June, 2020

Accepted: 26 June, 2020

Corresponding author: Syed Ali Mehdi, Innovation Think Tank coordinator and Scientific Partnership Zone Lead, Seimens Healthineer, UAE

This article may be cited as: Mehdi SA. Online pharmacy versus offline pharmacy: A comparative study. Int J Res Health Allied Sci 2020; 6(4):104-106.

INTRODUCTION

Recent decades have witnessed an escalation of global pandemics, each of which hampered business activities and economic growth. While consumers naturally integrate online and offline shopping, retailers are still exploring the possibilities of optimal integration. The customer journey no longer follows only one channel. While most retailers still seem to be searching for how to best integrate online and offline shopping, many examples already exist of retailers trying to optimise this integration. By expanding the range of products available to consumers, stimulating competition, and enhancing pharmacy shopping convenience, e-commerce is changing the way people shop. Its popularity is growing.^{1, 2} The extant literature has situated the importance of e-commerce platforms that facilitate virtual interactions and include informative and insightful product information that consumers might consider to be economic benefits.^{3, 4} An online pharmacy is an internet-based vendor that sells medicines and includes both legitimate and illegitimate pharmacies. Independent Internet-only sites, online branches of "brick-and-mortar" pharmacies, and sites

representing partnership among pharmacies fall under the purview on "online pharmacies." Contemporary times are witnessing a surge in E-commerce, including online shopping, and this includes the sale of prescription and nonprescription medicines as well. The concept of online pharmacies and online sale of medicines has been in vogue worldwide for more than two decades.^{4, 5} Hence; the present study was undertaken for comparing the online pharmacy shopping versus offline pharmacy shopping.

MATERIALS & METHODS

The present study was undertaken for comparing the online pharmacy shopping versus offline pharmacy shopping. A total of 200 participants were enrolled. Innovative survey was carried out. Complete demographic and clinical details of all the participants were obtained. A survey based analysis was framed and self-framed questionnaire was given to all the subjects. Open questions were used, covering the topics of the study survey to map the general attitudes of the prospective sample. In the main study, data were

collected directly from subjects using the outpatient health services for chronic or acute conditions. All the results were recorded in Microsoft excel sheet and were analyzed by SPSS software.

RESULTS

In the present study, a total of 200 participants were enrolled. 34.5 percent of the participants belonged to the age group of less than 30 years while 41 percent of the participants belonged to the age group of 30 to 50 years. 64 percent of the participants were males while the remaining were females. 68.5 percent of the participants were of urban residence while the remaining was of urban residence. 22.5 percent of the participants were illiterate or were educated upto primary. 84.5 percent of participants have head of online pharmacy shopping. 41 percent of the participants said they use online pharmacy shopping. 48 percent of the participants felt it unsafe to use online pharmacy shopping. Elderly age, female gender, rural residence and low literacy level were the factors responsible for non-use of online pharmacy shopping.

Table 1: Demographic data

Parameter		Number of subjects	Percentage
Age group (years)	Less than 30	69	34.5
	30 to 50	82	41
	More than 50	49	24.5
Gender	Males	128	64
	Females	72	36
Residence	Rural	63	31.5
	Urban	137	68.5
Educational qualification	Illiterate or upto primary	45	22.5
	Upto secondary	53	26.5
	Graduate	42	21
	Post graduate	60	30

Table 2: Preference of subjects about use of online and offline pharmacy shopping

Variable		Number of subjects	percentage
Have u ever heard of online pharmacy shopping	Yes	169	84.5
	No	31	15.5
Do you use online pharmacy shopping	Yes	82	41
	No	118	59
Do you feel online pharmacy shopping is safe	Yes	96	48
	No	104	52

DISCUSSION

A lack of oversight, dud medicines, sugar pills, expired, adulterated, and contaminated medicines pose a real risk for patients. Lack of monitoring encourages fraudulent practices such as sending incorrect dosages or generic variants when the physician has prescribed a brand name. Government and regulatory agencies and courts of law have tried to address these controversies, but the interventions have not been able to keep pace with the

rapid growth and onslaught of the “rogue” internet pharmacies. The US Food and Drug Administration (FDA) with INTERPOL and 200 law enforcement agencies around the world conducted a global action against online pharmacies, in the year 2014, wherein 237 people were arrested and more than 10,600 illicit websites were shut down.^{6, 7} Hence; the present study was undertaken for comparing the online pharmacy shopping versus offline pharmacy shopping.

Table 3: Reasons for non-use of online pharmacy shopping

Variable	95% CI	p- value
Elderly age	83.58	0.01 (Sig)
Female gender	76.15	0.02 (Sig)
Rural residence	84.66	0.01 (Sig)
Illiteracy or low educational qualification	89.46	0.03 (Sig)

In the present study, a total of 200 participants were enrolled. 34.5 percent of the participants belonged to the age group of less than 30 years while 41 percent of the participants belonged to the age group of 30 to 50 years. 64 percent of the participants were males while the remaining were females. 68.5 percent of the participants were of urban residence while the remaining was of urban residence. Fittler A et al gathered information on the frequency and attitudes of patients purchasing medications online in a nationally representative sample of outpatients. A total of 1055 outpatients completed the survey (response rate 77.23%). The mean age was 45 years, and 456 (43.22%) reported having chronic health conditions. The majority (872/1055, 82.65%) of the respondents were aware that medications could be obtained online, but only 44 (4.17%) used the internet for previous medication purchases. Attitudes towards the different pharmaceutical supply chain retail channels showed significant differences (P<.001), respondents accepted retail pharmacy units as the most appropriate source of medications while rejected internet pharmacies. Respondents were asked to evaluate 9 statements regarding the potential benefits and disadvantages about the online medicine purchase, and based on the computed relative attitude rate there is a weak still significant tendency toward rejection (P<.001). Correspondence of demographic factors, internet usage behavior, and prospective online drug purchase attitude was evaluated. Respondents who use the internet more and purchase goods online will be more likely to buy medications online. Furthermore, youth and education will determine the medication purchase behavior. Many patients will purchase medications on the internet in the future.⁸ In the present study, 22.5 percent of the participants were illiterate or were educated upto primary. 84.5 percent of participants have head of online pharmacy shopping. 41 percent of the participants said they use online pharmacy shopping. 48 percent of the participants felt it unsafe to

use online pharmacy shopping. Elderly age, female gender, rural residence and low literacy level were the factors responsible for non-use of online pharmacy shopping. Kim, Dou et al., Shih et al. and Zhang et al., identified and analyzed platform management decisions based on two-sided market theory, and maximize platform profits by building a platform market model. Hagiu and Halaburda studied the effect of different levels of information on the profits of two-sided platforms under monopoly and competition conditions. Lin et al. examined the optimal two-sided pricing strategy of the platform while considering the seller's innovative decision-making and price competition. Howell, Emmanuel and Hagiu, Chao and Derdenger shown that the strategic interactions between two-sided platforms depend not only on their price decisions, but also on whether the platforms are equally subsidizing one side of the market.⁹⁻¹⁷

A systematic review by Orizio et al investigated the available evidence regarding online pharmacies, published between 2003-2010. The authors summarized population surveys on consumer's perceptions and attitudes yet could not find consistent information regarding the number of consumers and their characteristics. According to another review by Orsolini et al a range of variables must be considered in profiling online pharmacy customers. Most online customers were reported to be young, Caucasian, and individuals without any health insurance. However, there are variations in gender and age depending on the type of medication purchased. Women and more educated individuals were associated with the online search of health-related information, and, conversely, subjects with a low literacy level are prone to purchase from illegal websites.^{18, 19}

CONCLUSION

From the above results, the authors conclude that Elderly age, female gender, rural residence and low literacy level were the factors responsible for non-use of online pharmacy shopping.

REFERENCES

1. Brown J, Li C. Characteristics of online pharmacy users in a nationally representative sample. *J Am Pharm Assoc* (2003) 2014 May;54(3):289–94.
2. Mazer M, DeRoos F, Shofer F, Hollander J, McCusker C, Peacock N, Perrone J. Medications from the web: use of online pharmacies by emergency department patients. *J Emerg Med*. 2012 Feb;42(2):227–32.
3. Sugiura L. Respectable Deviance and Purchasing Medicine Online: Opportunities and Risks for Consumers (Palgrave Studies in Cybercrime and Cybersecurity) Cham, Switzerland: Palgrave Macmillan; 2018. Opportunities in Online Medicine Purchasing; p. 67-100.
4. Atkinson NL, Saperstein SL, Pleis J. Using the internet for health-related activities: findings from a national probability sample. *J Med Internet Res*. 2009 Feb;11(1):e4.
5. Khandelwal Nikhil, Duncan I, Rubinstein E, Ahmed T, Pegasus C. Community pharmacy and mail order cost and utilization for 90-day maintenance medication prescriptions. *J Manag Care Pharm*. 2012 Apr;18(3):247–55.
6. INTERPOL and Pharmaceutical Industry Launch Global Initiative to Combat Fake Medicines. [Last accessed on 2016 Oct 20]. Available from: <https://www.interpol.int/News-and-media/News/2013/PR031>.
7. Maharashtra FDA Approaches DCGI for Regulating Illegal Online Pharmacies Operating in India. In E-Retailing Laws and Regulations in India. [Last accessed on 2016 Oct 20]. Available from: <http://www.ptlb.in/ecommerce/?p=272>.
8. Fittler A, Vida RG, Káplár M, Botz L. Consumers Turning to the Internet Pharmacy Market: Cross-Sectional Study on the Frequency and Attitudes of Hungarian Patients Purchasing Medications Online. *J Med Internet Res*. 2018;20(8):e11115.
9. Dou G, Dou G, Xu X. One-side value-added service investment and pricing strategies for a two-sided platform. *International Journal of Production Research*. 2016. February; 54(13):1–14.
10. Emmanuel F, Hagiu A. Strategic interactions in two-sided market oligopolies. *Ssrn Electronic Journal*. 2008. July:8–11.
11. Fan R, Dong L. The dynamic analysis and simulation of government subsidy strategies in low-carbon diffusion considering the behavior of heterogeneous agents. *Energy Policy*. 2018. June; 117:252–262.
12. Hagiu A. Pricing and commitment by two-sided platforms. *The Rand Journal of Economics*. 2006. September; 37:720–737.
13. Hagiu A, Halaburda H. Information and two-sided platform profits. *International Journal of Industrial Organization*. 2014; 34:25–35.
14. Howell B. Unveiling 'invisible hands': Competition in two-sided health care markets. *Social Science Electronic Publishing*; 2006: 35–35.
15. Jin C, Wang X, Junmei L. Analysis on the optimal subsidy strategy of government in green supply chain. *Advanced Materials Research*. 2011. April; 224: 147–151.
16. Kelly B. D. The pass-through of subsidies to price. *Journal of World Trade*. 2014. April; 48(2): 295–295.
17. Kim S. How can we make a socially optimal large-scale media platform? Analysis of a monopolistic Internet media platform using two-sided market theory. *Telecommunications Policy*. 2016. September; 40(9): 899–918.
18. Orizio G, Merla A, Schulz PJ, Gelatti U. Quality of online pharmacies and websites selling prescription drugs: a systematic review. *J Med Internet Res*. 2011 Sep 30;13(3):e74.
19. Orsolini L, Francesconi G, Papanti D, Giorgetti A, Schifano F. Profiling online recreational/prescription drugs' customers and overview of drug vending virtual marketplaces. *Hum Psychopharmacol*. 2015 Jul;30(4):302–18.