

A Review on Online Pharmacy

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Abstract: *In recent years there is a tremendous increase in online shopping for different commodities like cloth, jewellery and the sale of medicines have been increased via online/ internet. Online pharmacy is one of the technology advancements that is about to create a huge demand in the upcoming days. Though it is convenient to get them, there is high risk of self medication and misuse of drugs especially that come under schedule H and X. In this article we have discussed in detail about online pharmacy, its advantages and disadvantages, differences between online and local pharmacy, and certain measures to avoid misuse of e-pharmacy. Pharmacy is the health profession that links the health science with the chemical science and it is charged with ensuring safe and effective use of pharmaceutical drugs. The internet brings many advantages, not least in being able to acquire medicines with relative ease. That's how the Wikipedia defines it. For a student it is a career, an ambition and of a course a learning process. Buying drugs/medicines online is the latest trend amongst the Indian patients and consumers I will detail the potential good, the existing bad, and the ever-present ugly of the online pharmaceutical business. In recent years there is a tremendous increase in online shopping like cloth, jewellery and also sale of medicines have been increased with using online/ internet as a medium. Online pharmacy is one of the advanced technology that is about to create a huge demand in the upcoming days. As it is easy to get, There are some loopholes in using it under certain act (schedule H and X). In this article we have discussed in detail about online pharmacy, its benefits and loopholes, a survey regarding online pharmacy, certain Acts and conclusion, The Internet has revolutionized the way in which ordinary people conduct their everyday business. People can bank pays bills, manage investments, order various products, and obtain information on an infinite number of topics online. It is not surprising that such an innovation would provide a vehicle for the layperson to educate them and guide the direction of their health. Nor is it surprising that the healthcare industry would seize this opportunity to modernize a commonplace function—prescription dispensation. Many internet pharmacies offer overnight shipping, allowing customers to avoid the delay of regular mail. Internet pharmacies can offer privacy that is often lacking in a traditional pharmacy. However, there is need to consider critically the ethical principles in the use of cyber medicine. The development of online pharmacies has prompted regulatory and monitoring actions at the federal, state, and professional organization levels. The sale of online medications in the international system is potentially dangerous and requires international regulation. Here is an overview of online pharmacies, their potential benefits, the organizations involved in regulating these sites, and the major controversies surrounding online pharmacies.*

Keywords: Online pharmacies, Internet, Advertisement, Act , Healthcare, pharmacy, prescription

I. INTRODUCTION

The General Pharmaceutical Council defines an internet pharmacy as “a registered pharmacy which offers to sell or supply medicines (or other pharmaceutical products) and/or provides other professional services over the internet, or makes arrangements for the supply of such products or provision of such services over the internet”¹. The new age of Internet pharmacies offers prescriptions without a physical exam or even a visit to the doctor's office. As the amount of information on the Internet grows, so does the access to various forms of health care and now self-medication². The Internet gives consumers and patients access to a large amount of helpful and often accurate health and drug information. It has also opened a doorway to risky online "pharmacies" that sell prescription drugs often at a high cost to the consumer in terms of both their pocketbook and their health. Many community based pharmacies have extended

their services online to make it easier to get refills and to provide prescription-filling access to patients who might have trouble getting to a pharmacy [3]. The online pharmacies of these companies fill prescriptions, provide patient information and dispense prescriptions, Internet has evolved into a self-organizing media, capable of multiple interactions within. A large number of consumer products including drugs are being advertised and sold over the Internet. [1] Though the marketing of drugs over the Internet is an inevitable outcome of the booming e-economy, it poses unique ethical, legal and quality challenges - the prime cause being the anarchic structure of the Internet. These challenges are important from the consumer, physician and regulator perspectives. Amongst the many commercial activities that are now flourishing in this environment are Internet Pharmacies (e-Pharmacies, Cyber Pharmacies), providing a variety of products (e.g. health and beauty products) as well as prescription drugs. Some pharmacies only dispense drugs with a valid prescription, some provide online consultations for prescribing and dispensing medicines, and some dispense medications without a prescription. [2] There are a number of reasons that may lead patients to the use of the internet in search of medical care. It acts as a second opinion or second doctor for desperate patients. Also, it gives insight into patient problems, as well as the drugs that could cure them. [3]

Objective

This paper aims to highlight the online buying behaviour of medicines. Firstly, the paper aimed at finding the factors which influence the e-buying of medicines. Secondly, it proceeded with investigating the most crucial factors about the same. The paper focuses on finding how the buying patterns differ among consumers with respect to generic and non-generic medicines. This research is conducted to get a superior comprehension of inspirations driving purchaser choices on acquiring professionally prescribed medicines on the web. The paper gives new bits of knowledge into Indian consumer behaviour and their viewpoints for online pharmacies. The paper also includes a theoretical framework that explicit the relationship between influencing factors of online medicine buying among Indian consumers.

Advantages

- Access to drugs for the disabled or housebound,
- Access 24 hours a day,
- A virtually unlimited number of products available
- Free access to information, comparison shopping



Disadvantages

- Lack of meaningful interaction with physician and pharmacists.
- In many cases, customers are not aware that products offered by online pharmacies may not have the same quality that a retail pharmacy may offer.



Benefits of Internet Pharmacies

Internet pharmacies offer a host of benefits. They are convenient and allow customers to avoid nuisances such as going out in bad weather, parking hassles, standing in line, and the inevitable wait for the prescription to be filled. Patients with limited mobility or those living far from a pharmacy can benefit tremendously from legitimate Internet pharmacies by eliminating travel to a traditional pharmacy. [7, 8] Potential customers of online pharmacies are attracted to these sites by the large-scale advertising campaigns of pharmaceutical companies on television in the press, by Internet advertisements, including spam, from the online pharmacies themselves, and by the reputed low prices. It can bring notable benefits in terms of saving time and money, but this is not always true. Sometimes medicines are more expensive than in usual drugstores. Online pharmacies have been international in nature since the first days of their activity. [9, 10] Online pharmacies have the potential to empower patients by providing information about new medications, adverse effects of medications, and health conditions.



Risks and concerns

- Illegal or unethical pharmacies sometimes send outdated, substituted, or counterfeit medications to the person who ordered the drug instead of the real medication
- Sometimes, an online pharmacy may not be located in a country that is claimed. For example, one study of drug shipments claiming to be from Canada revealed many of the drugs actually originated in several other countries and were often false medications.
- Minors can order controlled substances without adult supervision.
- Other concerns include potential lack of confidentiality, improper packaging, inability to check for drug interactions, and several other issues

The British Community Pharmacy Patient Safety Group was concerned that online pharmacies should implement “appropriate safeguards”, “particularly when prescribing and dispensing medicines that are liable to abuse, misuse and overuse”. The coroner in Leicester investigating a death found that a patient requesting drugs “has potential access to multiple online pharmacies”, each of which “have no knowledge of what each other have been prescribing”.

International consumers

International consumers sometimes purchase drugs online from online pharmacies in their own countries or those located in other countries. A distinct increase in the frequency of buying medicines and health products online was measured since the breakout of the COVID-19 pandemic. Some of these pharmacies require prescriptions while others do not. Of those that do not require prescriptions, some ask the customer to fill in a health questionnaire with their order

Different types of online pharmacies

First, the online pharmacy may be an independent Internet company that has no physical pharmacy site for a consumer to visit. This first group includes the pharmacy benefits manager arm of health plans, which also may provide selected services for nonmembers. Second, the online pharmacy may be a “clicks-and mortar” pharmacy, typically the online branch of a major pharmacy chain that has an actual storefront. Several chains have purchased online companies as a marketing strategy. [4] These partnerships have enabled customers to request refills of prescriptions through Web sites and have given customers the option to pick up the refill at a local branch of a major pharmacy or receive the refill in the mail. [5] Finally, independent neighborhood pharmacies have formed networks and have built Web sites to represent themselves. Some online pharmacy Web sites have “cyber doctors,” who evaluate patients via Internet communication and determine whether to prescribe medication based on this communication. The management and services of online pharmacies may be administered entirely in one state, may span several states, or may be located offshore. [6]

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pharmacies can offer perks not found in traditional pharmacies. Some companies send e-mail alerts when the prescription is due for a refill, such a reminder may improve patient compliance with drug therapies. Improving therapy compliance not only is beneficial to the patient's physical health, it is possible that the cost of healthcare paid by insurers, employers, and third-party payers could be reduced by improving patient outcomes. [11] Online pharmacies have the potential to promote communication among pharmacists, physicians, and patients; whether this potential has been realized is debatable. For example, the option to send questions at any time of day about the adverse effects of medications may encourage patients to question pharmacists. In addition, the cloak of anonymity that the Internet offers may encourage patients to ask questions about some medications that they would be too embarrassed to ask in a busy pharmacy. [12]

Loopholes in Internet Pharmacies

Two dangers that go hand-in-hand are self-diagnosis and self-medication because consumers can purchase prescription drugs without ever speaking to a pharmacist or physician. In these days of managed care, it might be weeks before a patient can see a physician for non-emergency purposes. Patients might choose to treat themselves rather than wait for an appointment, or the patient simply may be too embarrassed to discuss the health problem with his physician. [13] These dangers are especially significant given that numerous Internet pharmacies are willing to dispense prescription drugs without a valid prescription. When a patient utilizes an Internet pharmacy, which provides a medication, based on a cyber-consultation, or if the pharmacy directly dispenses the medication without a prescription, important safeguards are missed. Not only does the patient miss an examination by his physician, the possibility exists that a licensed pharmacist may never review the prescription. The patient bypasses the two professionals who traditionally inform patients of proper utilization, dangerous side effects, and drug interactions. [14] Another drawback to Internet pharmacies may be cost, as some consumers pay more for prescription medications obtained over the Internet. High shipping costs and an inability to participate in many insurance plans adds to the cost. Another area of concern involves the prescribing-physician's credentials. The cyber doctor's qualifications and his experience may be questionable, yet the patient has no way to screen the physician. The possibility exists that the prescribing physician is practicing out of his area of specialty; in the non-cyber world, patients typically would not visit an orthopedist to obtain a prescription for Viagra.

Controversies Surrounding Online Pharmacies

Dispensing of Prescription Drugs without a Valid Physician Order The first major concern involves the dispensing of prescription-only medications without a prescription. This controversy gained media attention after the anthrax cases in 2001 when officials learned that people had obtained ciprofloxacin without a prescription. In a study conducted by the General Accounting Office, investigators found that 13% of online pharmacies dispensed medications without prescriptions, although most of these pharmacies were offshore. [15, 16]

Importation of Medications Senior citizens without a Medicare prescription drug benefit may turn to Internet sites to gain access to more competitively priced prescription drugs sold from foreign pharmacies. A recent Wall Street Journal Online/Harris Interactive Health-Care Poll of the public found that 7% of people sampled stated that they had "bought prescription drugs from a pharmacy in Canada or another foreign country—by going there, on the Internet or by mail—to save money." These practices have resulted in a second area of concern: ordering prescription drugs from foreign pharmacies via the Internet. [17]

Use of Cyber doctors

A third area of concern involves the filling of prescriptions generated by online physicians who obtain patient information solely from online questionnaires that may have check boxes that are preselected for the response that helps the patient obtain the medication in question. This model of care is concerning because patients may use these online physician services to obtain medications for symptoms that they may not have disclosed to their local provider. Alternatively, patients may entirely forego appointments with local physicians if they consult a Cyber doctors and receive a medication via the Internet that addresses their complaint. [18] Concerned about the risks of online consultations, federal, state, and professional organizations have taken actions and issued statements regarding online

consultations. The Federal Trade Commission has cited deceptive claims in cases in which online pharmacies made false statements about their medical staff and has required online pharmacy Web sites to meet certain privacy standards [19]. The DEA-issued guidelines, directed at dispensing and purchasing controlled substances via the Internet, state “It is illegal to receive a prescription for a controlled substance without the establishment of a legitimate doctor/patient relationship, and it is unlikely for such a relationship to be formed through Internet correspondence alone.”

Privacy Issues Encountered With Internet

Pharmacies Although there is no guarantee of privacy at a traditional pharmacy, the information transmitted and stored by Internet pharmacies is vulnerable to hackers. Much of this vulnerability can be overcome if the pharmacy uses secure server technology, maintains strict policies against sharing or selling patient personal data, and encrypts transactions during transmission. [20] Not all Internet pharmacies, however, make such a commitment to privacy. Furthermore, certain practices of both Internet pharmacies and traditional pharmacies raise privacy concerns. Some drug stores sell confidential patient information to third parties conducting marketing campaigns for drug manufacturers. [21] This inappropriate or inadvertent disclosure of private medical or prescription information can lead to a variety of problems, such as employment discrimination, increased health or life insurance premiums, and even denial of insurance coverage.

WHO regulation for internet pharmacies

The World Health Organization (WHO) recognizes the potential benefits and problems of Internet prescribing practices. In 1997, the World Health Assembly (WHA) urged the international community to work cooperatively to control the online promotion, advertising, and sale of unauthorized medicines that could lead to public health risks. During a May 1998 meeting, WHA urged member states “to review existing legislation, regulations, and guidelines to ensure that they are applicable and adequate to cover questions of advertising, promotion, and sale of medical products using the Internet and to develop, evaluate, and implement strategies for monitoring, surveillance and enforcement.” Finally, WHA requested that the Director-General of the WHO encourage member states to monitor and survey such cross-border activity and report problem incidents to WHO. [26, 27] WHA also requested the Director-General to develop a guide to educate Internet users in obtaining “reliable, independent and compatible” medical products information. That request resulted in the WHO guide, *Medical Products and the Internet: A Guide to Finding Reliable Information*.

A model act for the regulation of internet pharmacies

1. All persons selling or offering to sell drugs, medicines, or other pharmaceutical services, at retail or wholesale cost in the State, including pharmacies providing services via the Internet, must be licensed or registered as a drug distributor with the State Board of Pharmacy.
2. Nonresident special pharmacy registration shall be granted by the Board upon disclosure and certification by the pharmacy
3. All pharmacies registered or licensed with the State Board of Pharmacy and who sell or offer to sell drugs at retail or wholesale cost on the Internet to persons located within the State or any other state must make such sales only in compliance with all State and federal laws governing the legal distribution of drugs. Failure to comply may result in revocation of the state license or registration. [28]
4. Pharmacies registered or licensed with the State Board of Pharmacy and who sell or offer to sell drugs at retail or wholesale cost on the Internet to persons located within the State or any other state are strictly prohibited from providing such drugs on the basis of a prescription generated from the utilization of an online questionnaire physician consultation. Furthermore, all pharmacies included in this section are prohibited from affiliating the site with or relating the site, in any way, to any other site, business, or physician that provides prescriptions for medications on the basis of an online medical consultation questionnaire.
5. Internet sites owned and/or maintained by State registered or licensed drug distributors must clearly and prominently display the following information on the Internet site:

Ethical issues

Ethical conduct ensuring privacy and confidentiality of the patient is one of the cornerstones of medical practice. Selling drugs over the Internet obviously necessitates the collection and use of confidential medical information. In an anarchic world over the Internet, nobody can be sure of what happens to this information. [30] Moreover, the security of electronic transactions is difficult to assess. Electronic environments inevitably carry significant non-zero probabilities of large information losses once a security breach has occurred. [31] Cases of Cyber-pharmacies not keeping privacy and confidentiality promises have also been reported. [32] Other issues like Trust have also been raised. Studies reveal that trust in drug information from traditional media sources such as television and newspapers transfers to the domain of the Internet, leading to utilization of the Internet for information search after exposure to prescription drug advertising. [33] It may be worth noting at this point the following extract from the modern version of the Hippocratic Oath: "I will remember that there is art to medicine as well as science, and that warmth, sympathy, and understanding may outweigh the surgeon's knife or the chemist's drug".[34]

II. CONCLUSION

Lawful Internet pharmacies benefit a consumer's healthcare experience in many ways. These pharmacies provide convenience and efficiency—two advantages coveted by people living busy lives. Consumers can take a few minutes out of their lunch break to place an order, or they can even order the prescriptions at 3 A.M., long after many conventional pharmacies have closed. Internet pharmacies can offer a degree of privacy not found at the local pharmacy, and patients can obtain prescriptions and ask questions away from the prying eyes and listening ears of neighbors, coworkers, and other parties. Finally, Internet pharmacies assist homebound patients and those living far from a traditional pharmacy. Internet pharmacies that perform illegal dispensing practices, however, assert a wrath of potential dangers to a consumer's health. Pharmacies that provide prescription medication without a valid prescription or provide a prescription on the basis of an online questionnaire enable consumers to bypass a very important safeguard—a face-to-face consultation with a licensed physician. If a patient is not examined by a physician and bypasses contact with a legitimate pharmacy, to uncover contraindications to prescription use and possible drug interactions, and to learn about side effects. It is clear that patients must be protected from such dangerous dispensing practices. Regulation, however, should not only eliminate unlawful Internet pharmacies, it should also enable the growth of a valuable addition to both the healthcare industry and e-commerce—the lawful Internet pharmacy. Finally, consumers' interests in online pharmacies should promote self-reflection in the medical community. Physicians and pharmacists should ask themselves why their patients would rather receive medications without a prescription, a face-to-face consultation, or a visit to their local pharmacy, and what legitimate and legal practices the medical community can adopt from online pharmacies to improve the physician-pharmacist-patient relationship.

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