Evaluation Of Patients' Perceptions Of Their Satisfaction With Primary Healthcare's E-Prescription Service (Wasfaty) In Saudi Arabia 2024

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Abstract

Background: Electronic prescriptions are becoming more common in industrialized nations like Saudi Arabia in the 21st century, when there are sufficient resources to handle both technical and human resource concerns. In order to improve patient safety, e-prescribing was designed to reduce the time between the provider's office and the pharmacy, decrease medication errors, improve care quality and patient satisfaction, and decrease illegible prescriptions and dissatisfaction. Most providers believe that e-prescribing improves patient safety.

The study aims: To evaluate patients' perceptions of their satisfaction with primary healthcare's e-prescription service (wasfaty) at King of Saudi Arabia (KSA) 2024.

Methods: A cross-sectional study was conducted among patients attending primary health care; a questionnaire filled out by the patient's through an interview with the patient was utilized for data collection.

Results: There were 200 participants; the majority of them were between the ages of 30 and 39 (34.0%), males (63.0%) and females (37.0%). The majority of participants were Saudi (88.0%), and the majority of them lived in urban areas (71.0%).

Conclusion: The aim of the present research was to evaluate the digitalization of prescription drug orders, the transfer of medication receipts from pharmacies within primary healthcare centers to community pharmacies, and the perceptions of patients regarding their satisfaction with e-prescribing. Despite some issues with the initial implementation of e-prescriptions, family doctors and patients were found to be content with the use of e-prescriptions.

Keywords: Evaluation, Patients' Perceptions, Satisfaction, Primary Healthcare's E-Prescription Service.

Introduction:

Since Alma Atta's proclamation in 1978, primary health care centers (PHCCs) have been established all over the world. In Saudi Arabia and around the world, service delivery based on primary health care concepts has greatly improved. There are still certain gaps, such as the community's voluntary use of

the medical services offered by PHCCs. Regular training and academic pursuits by healthcare professionals help to improve the standard of services provided to the public [1-3].

According to the Vision 2030 Saudi Arabia document [4], in order to meet the needs of the populace, there is a need for skilled family medicine physicians as well as health care services. With that in mind, PHCC implemented a number of adjustments to enhance the quality of its health care delivery services. The provision of "Wasfaty" service facilities for primary health care attendants is one of the interventions. Wasfaty is just the patient's electronic prescription, which may be obtained from any public or commercial pharmacy without the patient having to pay. Through an e-prescribing solution for the general public, Wasfaty service can be offered as an extra access channel to connect PHCCs and hospitals so that patients can obtain prescriptions from pharmacies, including community pharmacies [5].

"The direct computer-to-computer transmission of electronic prescriptions (e-prescriptions) from the prescriber office to community pharmacies" [6] is the definition of e-prescribing. Physicians initiate the e-prescriptions, which are then electronically transmitted to community pharmacies so that patients can receive their prescription drugs and other medical supplies at no cost. To make it simple to find the closest pharmacy in the area, the program links hospitals and primary healthcare facilities to a few community pharmacies spread across several areas [7]. Automation and digitalization are pervasive in today's environment, and various nations employ various approaches to integrating IT into healthcare. The evaluation of patients' perceptions of their satisfaction with e-prescribing (Wasfaty) is part of these initiatives in Saudi Arabia [8].

The Assessment of Perceptions of Patients' Satisfaction with E-Prescribing (Wasfaty) was examined in light of these modifications. Numerous technologies that facilitate the management and exchange of data for patients, service providers, insurers, payment institutions, and all other parties involved in health and healthcare are referred to as health information technology [9]. Information technology use in healthcare has the potential to improve service quality, safety, and efficiency while lowering costs for both patients and service providers [10].

Despite the reports of such contributions, hospitals and doctors continue to use technology at a low level [11]. Individuals who are older or have more complicated medical demands have made it apparent that they would like to continue receiving their prescriptions on paper. Younger adults said they would be likely to purchase prescription-only medications online because they saw the practical benefits [12]. However, little was known about the proposed revisions. A significant portion of respondents voiced concerns about autonomy and privacy. The issue of what occurs when a third party wishes to pick up a patient's medications which happens frequently was frequently brought up [13]. We draw the conclusion that patients are currently not sufficiently satisfied with the proposed adjustments.

Given these factors and the system's recent technical issues, we believe that a revised risk/benefit analysis of the proposed strategy is desperately needed [14]. The E-Prescribing (Wasfaty) Program in Saudi Arabia seeks to "put into practice the e-transformation project in the field of health [15] and includes measures to increase the use of information technologies in the delivery of health services. Along with reducing prescription waste, increasing medication availability, improving patient medication counseling, and assisting in the prevention of medication errors, the services also seek to increase health spending efficiency [16].

One of the crucial actions made to use information technologies in the health sector is electronic prescription, or e-prescription, which improves patient safety and happiness by simplifying communication between institutions throughout prescription processes [17]. One benefit of technology is that it can improve people's performance at work and make them stronger than they would be on their own. Human mistake can therefore be reduced [18]. Furthermore, the transformation of health services and the provision of safer and better treatment are greatly aided by information technology [19]. Because of this, information technologies play a crucial role in creating electronic prescriptions, which are documents created electronically by authorized people that include written instructions and information on a patient's medication and how to take it [20].

From another point of view, in medical terms, a "near miss" is a medication prescription error

that occurred but had no impact on the patient. Handwritten prescriptions, the most common way to prescribe drugs in the Eastern world, are frequently linked to avoidable medication errors, such as near misses or close calls. These errors are detected and fixed before they reach the patient, either intentionally or accidentally, by system controls. On the other hand, the electronic prescribing system significantly lowers these errors and also leads to better patient satisfaction, lower rates of morbidity, and lower mortality. To put it simply, an e-prescribing system is one that allows prescriptions to be electronically transmitted from the provider's office to pharmacies. Therefore, the present study aims to evaluate patients' perceptions of their satisfaction with primary healthcare's e-prescription service (wasfaty) at King of Saudi Arabia (KSA) 2024.

Methods:

A cross-sectional study was conducted among patients attending primary health care; a questionnaire filled out by the patient's through an interview with the patient was utilized for data collection. Initially, two family medicine residents questioned patients at the conclusion of their visits and asked them to fill out and electronically submit a questionnaire. Distributing the questionnaire on social media platforms, such as Saudi Arabian WhatsApp community groups, from January to March 2024 helped to increase the number of participants. The sample size was estimated to be (200) using Raosoft calculator, following the criteria of 95% confidence level and 5% margin error, covering about 200 participant.

The structured questionnaire was modified from earlier research with same objectives. Four domains made up the questionnaire: three sections used a five-point Likert scale to assess patients' perceptions of the community pharmacy, pharmacy staff, and e-prescription-related features, while one component asked for demographic and background information. The data gathering tool was first created in English and subsequently translated into Arabic. The Arabic version of the survey was back-translated into English to ensure translation validity. The back translation was carried out by the study investigators, who were multilingual speakers of both languages. A team of professionals with expertise in clinical pharmacy conducted the face and content validity tests.

Google forms were used in the creation of the online data gathering tool. Google forms were chosen since the authors have previously collected data at the national level from the Saudi populace with success. As a result, they knew its characteristics. According to a prior study, Google Docs provides a simple, cost-free, and practical platform for distributing questionnaires to clinical populations. Additionally, it preserves the data's fidelity, security, and quality. Inclusion criteria: Patients who had previously used Wasfaty services and were 18 years of age or older and qualified for free government healthcare services in Saudi Arabia. Exclusion criteria: Patients under the age of eighteen, those who have never used the Wasfaty system, and those who use private healthcare services in Saudi Arabia. Those who had never utilized the e-service before were excluded using a filter question.

The Statistical Package for Social Sciences (SPSS) version 28.0 for Mac was used to process, and analyze the gathered data. Likert scales from 1 (not at all satisfied) to 5 (extremely satisfied) were used to define demographic and background data in terms of frequency and e-prescription-related variables. In addition to mean and SD, the scale's distribution was shown as percentages. When the mean value was 3, it was deemed to be skewed toward high satisfaction; when it was less than 3, it was deemed to be skewed toward low satisfaction.

The data collection tool was piloted with 20 participants, who were representative of the study population, to ensure the clarity of language and the questionnaire structure. The findings of the pilot study were not involved in the final results. The questionnaire was reviewed and modified based on the feedback received in the pilot. The final questionnaire was distributed in Arabic. Permission from the family medicine and Directorate of Health Affairs of the Primary Health Care were obtained. All information was kept confidential and results will be submitted to the department as feedback.

Results:

Table (1): shows there were 200 participants, and the majority were between the ages of 30 and 39 (34.0%), 40 and 49 (25.0%), and 18 and 29 (37.0%). Most of them were male (64.0%), while most of

them were female (37.0%). In terms of nationality, the majority of participants were Saudi (88.0%) and non-Saudi (12.0%), and most of them lived in urban areas (71.0%) and rural areas (29.0%). In terms of educational attainment, the majority of participants had a university degree or higher (69.0%), while those with only a high school diploma or less (31.0%) were. Acute conditions were 41.0% and chronic conditions were 59.0%.

Table (1) Distribution of the demographic data of study Participate (n=200)

	N	%
Age		
18-29	44	22
30- 39	68	34
40- 49	50	25
More than 50	38	19
Gender		
Female	74	37
Male	126	63
Nationality		
Saudi	176	88
Non-Saudi	24	12
Residence		
Rural	58	29
Urban	142	71
Education Level		
High school and below	62	31
University education and above	138	69
Reason for visit		
Acute condition	82	41
Chronic condition	118	59

Table (2) show that the reducing prescription writing errors and the errors of providing incorrect medicine or dosage a significant relation were P-value=0.001 X^2 386.000, and % of satisfaction were (84.0%), regarding the Simplifying patient's process to obtain medicine a significant relation were P-value=0.001 X^2 162.000, and % of satisfaction were (73.6%), regarding the facilitating patient's process to obtain medicine and increasing patient satisfaction a significant relation were P-value=0.001 X^2 122.800, and % of satisfaction were (74.0%), regarding the increasing patient satisfaction a significant relation were P-value=0.001 X^2 165.600, and % of satisfaction were (82.4%)

Concerning the reducing patient waiting time a significant relation were P-value=0.001 X^2 12.400, and % of satisfaction were (59.2%), regarding the Creating the perception of more contemporary, technological, and higher-quality service to the patient satisfaction a significant relation were P-value=0.001 X^2 430.800, and % of satisfaction were (84.2%), regarding the creating the perception of more contemporary, technological, and higher- quality service to the patient satisfaction a significant relation were P-value=0.001 X^2 664.800, and % of satisfaction were (89.2%), regarding the speeding up prescription writing and saving time a significant relation were P-value=0.001 X^2 89.200, and % of satisfaction were (70.4%).

Table (2): Distribution of patient satisfaction factors affecting patients experience with e- prescription service (Wasfaty)

Items	% of satisfaction	Chi-square	
		X^2	P-value
1. Reducing prescription writing errors and the errors of providing incorrect medicine or dosage	84	386.000	<0.001*
2. Simplifying patient's process to obtain medicine	73.6	162.000	<0.001*
3. Facilitating patient's process to obtain medicine and increasing patient satisfaction	74	122.800	<0.001*
4. Increasing patient satisfaction	82.4	265.600	<0.001*
5. Reducing patient waiting time?	59.2	12.400	0.015*
6. Creating the perception of more contemporary, technological, and higher- quality service to the patient satisfaction	84.2	430.800	<0.001*
7. Approachability and friendliness of pharmacists and support staff with patient satisfaction	89.2	664.800	<0.001*
8. Speeding up prescription writing and saving time	70.4	89.200	<0.001*

Table (3) show that the removing handwriting and simplifying prescription writing increasing patient satisfaction a significant relation were P-value=0.001 X^2 634.800, and % of satisfaction were (87.8%), regarding the being patient able to see former medicines and information related and simplifying following-up the patient a significant relation were P- value=0.001 X^2 874.000, and % of satisfaction were (91.2%), regarding the simplifying generation of prescription or removing by anther prescription and allowing adding explanation to prescription increasing patient satisfaction a significant relation were P- value=0.001 X^2 116.800, and % of satisfaction were (74.0%), regarding the being able to see the medicine, dosage, equivalents, and prices on the system and providing convenience to patient in determining the medicine to be prescribed a significant relation were P- value=0.001 X^2 202.000 and % of satisfaction were (56.6%).

Concerning the enabling prescription writing even in external environments (mobile services) where internet access is provided had Positive effects a significant relation were P-value=0.001 X^2 97.200, and % of satisfaction were (70.0%), regarding the simplifying patient's process to obtain medicine a significant relation were P-value=0.001 X^2 232.800, and % of satisfaction were (80.0%), regarding the eliminating situations such as loss or tearing of prescription a significant relation were P- value=0.001 X^2 734.800, and % of satisfaction were (89.4%), regarding the eliminating situations such as loss or tearing of prescription a significant relation were P-value=0.001 X^2 650.800, and % of satisfaction were (93.3%).

Table (3): Complete distribution of patient satisfaction factors affecting patients experience with e-prescription service (Wasfaty)

Items	% of satisfaction	Chi-square	
		X^2	P-value
1. Removing handwriting and simplifying prescription writing increasing patient satisfaction	87.8	634.800	<0.001*
Being patient able to see former medicines and information related and simplifying following-up the patient	91.2	874.000	<0.001*

Items	% of satisfaction	Chi-square	
		X^2	P-value
3. Simplifying generation of prescription or removing by anther prescription and allowing adding explanation to prescription increasing patient satisfaction	74	116.800	<0.001*
4. Being able to see the medicine, dosage, equivalents, and prices on the system and providing convenience to patient in determining the medicine to be prescribed	56.6	202.000	<0.001*
Enabling prescription writing even in external environments (mobile services) where internet access is provided had Positive Effects	70	97.200	<0.001*
Simplifying patient's process to obtain medicine	80.8	232.800	<0.001*
Eliminating situations such as loss or tearing of prescription	89.4	734.800	<0.001*
E-prescriptions being safe and no alterations to be made on prescription	93.6	650.880	<0.001*

Table (4) show regarding the Satisfaction Score patient satisfaction factors affecting patients experience with e-prescription service (Wasfaty**)** most of the participant high satisfaction were constitutes (58.3%) followed by average satisfaction were constitutes (35.3%) but weak were (6.5%) while a significant relation (P-value =0.001)and **X2** (161.345). While Range were (16-80) but the Mean± SD (59.92±12.711)

Table (4): Description of the Satisfaction Score patient satisfaction factors affecting patients experience with e-prescription service (Wasfaty)

Satisfaction		Score	
	%	Range	Mean ± SD
Weak	6.5	16-80	59.92±12.711
Average	35.3		
High	58.3		
Total	100.0		
X^2	161.345		
P-value	<0.001*		

Discussion

This research was conducted to evaluate patients' perceptions of their satisfaction with primary healthcare's e-prescription service (wasfaty) at KSA 2024. According to the study's findings, most of the participants were male, most were between the ages of 30 and 39, most were Saudi nationals, most lived in cities, most had a university degree or higher, and the majority had a chronic illness as their reason for visiting.

According to a study conducted by Alotaibi et al. (2021) [21], patients in Saudi Arabia expressed moderate satisfaction with electronic prescriptions in terms of accessibility and facilities, with a mean

score of 3.3 out of 5. A local study found similar results, with patients reporting higher happiness with waiting time (4.3/5) and waiting area (4.3/5) but the same satisfaction with counseling area and privacy. This might be because the survey only included pharmacies that offer Wasfaty services, which are free for all citizens. As a result, there is probably more demand for these pharmacies, which could lead to slower service.

Based on a study by Wrzosek et al. (2021) [22], there is potential for improvement in the communication between doctors and pharmacists. This problem has already been noted, especially with regard to communication about possible drug errors. It may also be challenging to interact with prescribers because community pharmacies operate at different hours than primary healthcare facilities [23]. These hurdles to communication between prescribers and pharmacists could be addressed by implementing a drug therapy management program in community pharmacies, where pharmacists have the power to modify treatment regimens [24].

In accordance to the analyzed study, e-prescribing without medication decision support (MDS) reduces errors and adverse drug event missed systems (ADEs) [6]. Prescriptions with insufficient information and those that are unreadable have decreased, which has improved patient safety. E-prescribing's requirement for structured entry may be somewhat to blame for the improvement. The idea that e-prescribing with pharmaceutical decision-making enhances patient safety is not well supported [25]. Furthermore, there is some evidence that when combined with e-prescribing, two forms of medication decision support—drug-dosing and drug-disease—improve patient safety [26]. The paucity of research on patient safety and e-prescribing with MDS may be due to the fact that e-prescribing is only a part of the greater cycle of ambulatory administration of medications [27].

In line with Almaghaslah et al. (2019) [28], the shift to e-prescribing services has aided in enlisting the private sector to supply the public with pharmaceutical services through neighborhood pharmacy. As a result, it solves the problem of primary healthcare centers having too few pharmacy employees. As previously noted, allied healthcare professionals may operate pharmacies in primary health care centers when pharmacy staff is unavailable [29]. The views of family doctors on e-prescriptions were assessed in several studies. The e-prescription application's ability to expedite prescription writing and save time was the most commonly mentioned benefit. Internet and system-related issues were the most often reported issues [30].

It was discovered that a sizable percentage of family doctors were content with e-prescription notwithstanding certain issues with its use. The degree of satisfaction with e-prescriptions is fairly high, according to an analysis of studies on the topic done in other nations. According to research by Tan et al., (2017) [31] revealed that America, 87% of doctors and 83% of e-prescribers, respectively, expressed satisfaction with the use of e-prescriptions. According to research done in Sweden, Austria, and England, a sizable percentage of doctors believe that using e-prescriptions is advantageous [32-34]. We also realized during informal discussions about this study, that a substantial number of health care workers themselves were ill-informed, and we plan to document this in future research. We cannot ignore the benefits of automation and digitalization, but blind techno- optimism [34] should not be at the expense of personal privacy or public health.

Conclusions:

Patients' perceptions of their needs made it apparent that they wanted to keep getting their prescriptions on paper. In contrast, other patient perceptions indicated that they would like to purchase their prescription-only medications online and saw benefits from paperless e-prescriptions. However, there was very little information available regarding these intended and implemented changes. Concerns about privacy and autonomy, as well as issues with a third party picking up medications from the pharmacy, were often raised. We draw the conclusion that patients currently lack sufficient information and comprehension of the proposed modifications. We believe that an updated risk/benefit analysis of the proposed policy is critically needed in light of these factors as well as the system's recent technical issues. From the standpoint of the patient, more evaluations of the system's risks and benefits might be necessary.

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