

CHAPTER - 17

EXPLORING PERCEPTION OF INDIVIDUALS ON USING ARTIFICIAL INTELLIGENCE FOR REPORTING SIDE EFFECTS OF MEDICINES

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INTRODUCTION

Ensuring the safety of medications is of paramount importance to guarantee that patients derive the intended benefits without encountering any harm. Adverse drug events (ADEs) encompass the various harmful occurrences that can arise from the use of medications, including allergic reactions, side effects, instances of overmedication, and errors in medication administration. These events have the potential to cause harm to patients, escalate healthcare expenditures, and may even lead to hospitalizations. Accurate and timely reporting of side effects holds significant importance in enhancing drug safety and ensuring positive patient outcomes. The reporting of side effects plays a pivotal role in the early identification of potential safety concerns related to medications and can contribute to the formulation of new safety measures. Individuals, healthcare professionals, and pharmaceutical companies have the option to

report side effects to regulatory bodies such as the FDA through programs like MedWatch, facilitating a collaborative effort to uphold and advance drug safety standards [1][2].

Patients play a crucial role in offering valuable insights into the severity of symptoms and the repercussions on their daily activities. Their perspectives often provide a more comprehensive understanding compared to reports solely from healthcare providers. Establishing a dynamic management system and an efficient reporting mechanism is vital for identifying medication errors and fostering safe practices. The Institute for Safe Medication Practices curates a roster of high-alert medications, emphasizing their potential for substantial harm if utilized incorrectly [3].

Research findings indicate that patients reporting adverse drug reactions (ADRs) contribute more comprehensive and detailed information on drug safety compared to reports from healthcare providers. The implementation of pharmacovigilance (PV) obligations in the European Union has resulted in an increased incidence of adverse reaction reporting, with patient submissions constituting approximately 30% of the annual total reported reactions. Timely, thorough, and accurate reporting of adverse drug events (ADEs) is indispensable for monitoring and enhancing patient safety. To prevent medication errors, specific measures must be implemented to ensure safety throughout each stage of the medication process, with clinical pharmacists playing a pivotal role in error monitoring and detection. In summary, prioritizing and sustaining medication safety is paramount for patient well-being, and reporting ADEs constitutes a crucial component of these endeavours [4].

The current system for reporting medication side effects encounters various limitations and challenges that require attention to boost participation and improve reporting accuracy. A significant drawback is the issue of underreporting, where healthcare professionals frequently refrain from reporting side effects due to concerns about legal ramifications, limited understanding of reporting procedures, insufficient awareness, and time constraints. Furthermore, the existing reporting system lacks user-friendly electronic platforms, making it challenging for healthcare professionals to access and complete reporting forms, resulting in reduced accuracy and participation. Another obstacle pertains to the lengthy nature of the reporting form, potentially dissuading healthcare professionals from thorough completion. Additionally, patient engagement in reporting side effects remains low, primarily attributed to a lack of awareness regarding reporting mechanisms. Addressing these limitations, streamlining reporting procedures, and enhancing awareness among healthcare professionals and patients are essential steps for improving the reporting system [5].

RESEARCH QUESTIONS

1. What opinions did patients or consumers hold regarding the utilization of AI-driven software in pharmacovigilance?
2. What elements contributed to the approval or disapproval of AI-driven software for pharmacovigilance among patients or consumers?
3. How did patients or consumers view the prospective influence of AI-driven software on drug safety and the monitoring of adverse reactions?

RESEARCH OBJECTIVES

1. To evaluate patients' or consumers' perspectives on the application of AI-driven software in pharmacovigilance, aiming to comprehend their views on advantages, apprehensions, and the possible contributions to monitoring drug safety.
2. To identify the determinants affecting patients' or consumers' acceptance or refusal of AI-based software for pharmacovigilance, encompassing demographic aspects, past encounters with technology, trust levels in AI, and perceived usability.

RESULTS AND DISCUSSION

The data analysis conducted using SPSS revealed intriguing insights into the attitudes and behaviours of participants regarding pharmacovigilance, telemedicine, and the utilization of AI-based software. The study, encompassing 29 variables, explored diverse aspects, including demographics, technology usage, and perceptions related to healthcare practices. Concerning medical treatments, approximately 65% of the 161 respondents reported using allopathic medicines, with 43% experiencing side effects. In contrast, alternative treatments like Homeopathy and Ayurveda were associated with minimal reported side effects. The analysis of side effect reporting methods among allopathic medicine users indicated that 25% did not disclose side effects. Notably, 68% preferred in-person consultations, while only 7% utilized digital services for reporting.

The findings highlighted a generally low perceived difficulty in reporting side effects, with a significant proportion

finding the process easy. Interestingly, 53% of respondents did not report side effects, citing reasons such as perceiving them as non-risky or avoiding bothering healthcare providers. Demographic factors played a role in telemedicine usage, with 52% of respondents aged 18 to 39 utilizing telemedicine compared to less than 10% in the 40 to 60 age group. Urban residents predominantly utilized telemedicine services, with 32% usage among rural residents. Comfort with smart gadgets was high across both rural and urban areas.

Perceptions on the provision of telemedicine services revealed a correlation between previous utilization and positive beliefs about future availability. Participants who considered reporting side effects important expressed a high willingness to use convenient reporting mechanisms. Familiarity with AI concepts was moderate, with 50% reporting some familiarity. Familiarity with AI correlated with positive perceptions of its potential to enhance drug safety. Educational levels demonstrated a significant association with attitudes towards side effect reporting, with higher education levels correlating with a stronger perception of its importance. Similarly, residence in rural areas showed lower awareness and importance attributed to reporting side effects. Understanding AI concepts also influenced perceptions of drug safety positively.

CONCLUSION

In summary, the outcomes of this research offer crucial insights into diverse facets associated with drug safety, the reporting of adverse drug reactions, the utilization of telemedicine, and perspectives on artificial intelligence (AI) in the healthcare domain. The study indicated a notable proportion of respondents engaging in the use of allopathic medicines, with

around 37% encountering side effects. This underscores the significance of vigilant monitoring and reporting of side effects, particularly in the realm of allopathic medication. Notably, a segment of participants opted not to disclose side effects, and among those who did, a majority favored direct, in-person consultations with their physicians. This underscores the continued prominence of traditional healthcare channels in reporting side effects, while the integration of digital reporting methods appeared to be comparatively limited.

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