Use of AI in Pharmacy

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Abstract:-

Artificial Intelligence (AI) emerged as an intervention for data and number-related problems. This breakthrough has led to several technological advancements in virtually all fields from engineering to architecture, education, accounting, business, health, and so on. Al has come a long way in healthcare, having played significant roles in data and information storage and management - such as patient medical histories, medicine stocks, sale records, and so on; automated machines; software and computer applications like diagnostic tools such as MRI radiation technology, CT diagnosis and many more have all been created to aid and simplify healthcare measures. In arguably, Al has revolutionized healthcare to be more effective and efficient and the pharmacy sector is not left out. During the past few years, a considerable amount of increasing interest in the uses of Al technology has been identified for analyzing as well as interpreting some important fields of pharmacy like drug discovery, dosage form designing, poly-pharmacology, and hospital pharmacy. Given the growing importance of AI, we wanted to create a comprehensive report which helps every practicing pharmacist understand the biggest breakthroughs which are assisted by the deployment of this field.

Artificial intelligence (AI) is a trans-formative technology used in various industrial sectors including healthcare. In pharmacy practice, Al has the potential to significantly improve medication management and patient care. This review explores various Al applications in the field of pharmacy practice.

The incorporation of Al technologies provides pharmacists with tools and systems that help them make accurate and evidence-based clinical decisions. By using Al algorithms and Machine Learning, pharmacists can analyze a large volume of patient data, including medical records, laboratory results, and medication profiles, aiding them in identifying potential drug-drug interactions, assessing the safety and efficacy of medicines, and making informed

recommendations tailored to individual patient requirements. Various Al models have been developed to predict and detect adverse drug events, assist clinical decision support systems with medication-related decisions, automate dispensing processes in community pharmacies, optimize medication dosages, detect drug-drug interactions, improve adherence through smart technologies, detect and prevent medication errors, provide medication therapy management services, and support telemedicine initiatives.

By incorporating Al into clinical practice, health care professionals can augment their decision-making processes and provide patients with personalized care. Al allows for greater collaboration between different healthcare services provided to a single patient. For patients, Al may be a useful tool for providing guidance on how and when to take a medication, aiding in patient education, and promoting medication adherence and Al may be used to know how and where to obtain the most cost-effective healthcare and how best to communicate with healthcare professionals, optimize the health monitoring using wearables devices, provide everyday lifestyle and health guidance, and integrate diet and exercise.

Keywords:- Pharmacy practice, Clinical pharmacist, Artificial intelligence, Pharmacointelligence