Deep Science Publishing, 2025
https://doi.org/10.70593/978-93-7185-272-2_5

Chapter 5: Augmented Reality to Make Drug Prescription More Fun

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Abstract: The prescription of drugs is one of the key aspects of the patient care, and more conventional approaches do not guarantee understanding, compliance, and interaction. Prescriptions and prescriptions that are written and supported by verbal instructions are likely to be misunderstood and often lead to medication errors and non-adherence. Even though the electronic prescriptions and the digital reminders have been offered, they are still not as interactive and engaging to the patients which underscores the necessity to have more efficient and patient-friendly means to do this. Augmented Reality (AR) has proved to be an innovative technology that would transform prescription practices. AR allows visualizing medications, dosage regimen, and possible side effects by superimposing the digital images on the physical objects. The fact that it has been successful in medical training and education and patient guidance proves its potential in enhancing the understanding and interaction among different populations. In the pharmaceutical care, AR will assist animated instructions, 3D pills recognition, gamified reminders, and real-time medication intake progress, all of which will aid in the improvement of adherence, error reduction, and communication between patients and caregivers. Although such benefits are present, AR-based prescriptions have several issues, such as technical, cost, and implementation barriers and have constraints in regulation, as well as patient-centered factors, such as digital literacy and accessibility. Nevertheless, the current innovations such as artificial intelligence, wearable gadgets and telemedicine integration have great potential to break these barriers. AR can also be applied to personalized medicine, pediatric adherence, education about rare diseases, and preventive care, as it is proposed to make the process of medication administration more interactive, safe, and enjoyable. Conclusively, AR-based prescription systems are a paradigm shift in the pharmaceutical care. Sealing the gaps in the conventional prescription practices, they promise to raise adherence and safety and to transform the concept of patient engagement in drug therapy. As more research is done, regulation is made clear, and scalable solutions are found, AR in the foreseeable future might transform into a broader healthcare application than an experimental one.

Keywords: Augmented reality (AR), Drug Prescription, Medication Adherence, Patient Education, Digital Health Technologies