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MINI REVIEW ARTICLE

REVIEW OF COMPUTER BASED SIMULATIONS IN PHARMACY EDUCATION

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ABSTRACT:
Simulation in pharmacy education is the use of technology to create a realistic environment for educational purposes. This article reviews some of the most popular types of computer-based simulations, their advantages, and disadvantages, as well as methods for evaluating their effectiveness. It also looks at current trends in computer-based simulation and discuss ways in which such tools can be further improved. Computer-based simulations are a valuable tool for pharmacy education, allowing students to learn and practice the necessary skills in a safe environment. Some simulations allow students to practice pharmacokinetic calculations, while others focus on patient counseling or medication dispensing. They can also be used as an assessment tool to evaluate student's performance on specific tasks.

Key words: *Computer based simulation, pharmacy education, pharmacokinetic calculations, CBS*

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INTRODUCTION:

In the world of pharmacy education, computer-based simulations are becoming an invaluable tool in helping students gain a better understanding of pharmacy concepts [1]. Computer based simulations provide an interactive environment which allows students to practice skills and develop their problem-solving abilities [2]. This article provides a review of how computer-based simulation is being used in pharmacy education, as well as its potential benefits for students. We will look at some of the most popular types of simulations, their advantages and disadvantages, as well as methods for evaluating their effectiveness. Finally, we will consider current trends in computer-based simulation and discuss ways in which such tools can be further improved.

WHAT IS COMPUTER-BASED SIMULATION?

Simulation in pharmacy education is the use of technology to create a realistic environment for educational purposes [2]. Computer based simulations are created using software that allows learners to interact with various aspects of a simulated patient or disease process [3]. This type of simulation has been shown to be an effective tool for teaching pharmacotherapy and other pharmacy topics.

WHY IS IT IMPORTANT IN PHARMACY EDUCATION?

It is important in pharmacy education because it helps students to understand and apply the principles of drug action and develop critical

thinking skills [4]. It also allows students to learn in a safe and controlled environment.

TYPES OF COMPUTERS BASED SIMULATIONS:

There are several types of computer-based simulations that can be used for pharmacy education. These include:

1. **Virtual Pharmacy:** This type of simulation allows students to experience a realistic pharmacy environment. Students can interact with patients, dispense medication, and perform other tasks that they would encounter in a real-world setting [2,3].
2. **Patient Case Studies:** These simulations provide students with the opportunity to work through patient cases and apply their knowledge to real-world scenarios. Students can learn how to effectively communicate with patients, understand their medications, and make recommendations for treatment [4].
3. **Medication Administration:** In these simulations, students learn how to properly administer medication to patients. They must follow the correct procedures and adhere to safety protocols while dispensing medication [3].
4. **Pharmacokinetic Simulations:** These simulations help students understand how different drugs are metabolized by the body. They learn about the absorption, distribution, metabolism, and excretion of drugs and how this process can affect a patient's response to medication [5].
5. **Disease State Simulations:** These simulations allow students to explore how different diseases progress and how they are treated with medications. Students can learn about the symptoms of various diseases, the course of treatment, and the side effects of medications used to treat them [4].

HOW TO USE COMPUTER-BASED SIMULATIONS IN PHARMACY EDUCATION:

Computer based simulations (CBS) have been used in pharmacy education for over two decades. Their use has been shown to improve student performance and understanding of various pharmacy concepts. Additionally, CBSs can provide a safe environment for students to practice their skills without the risk of harming patients [6].

There are many different types of computer-based simulations available for use in pharmacy education. Some simulations allow students to practice pharmacokinetic calculations, while others focus on patient counseling or medication dispensing. Many simulations are web-based, while others are installed on a computer or server.

To use a computer-based simulation in pharmacy education, first select the simulation that best meets the learning objectives for your students. Next, create an account and log in to the simulation. Once logged in, follow the instructions on how to use the simulation [6,7]. Most simulations will require students to complete a task or series of tasks. After completing the tasks, debrief with your students about their experience using the simulation.

CONCLUSION:

Computer-based simulations are a valuable tool for pharmacy education, allowing students to learn and practice the necessary skills in a safe environment. Not only do computer-based simulations offer an engaging way to teach complex concepts, but they can also be used as an assessment tool to evaluate student's performance on specific tasks. Finally, with the variety of simulation platforms available and their ability to integrate new technologies and content, these tools have great potential for

continuing improvement in pharmacy educational programs.

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