



International Journal of Hospital Pharmacy (ISSN:2574-0318)



Simulated Cases in Clinical Training for Pharmacists

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ABSTRACT

Clinical classes are the milestones that help pharmacy students gain clinical competency and prepare them for their professional life. Although didactic methods provide theoretical knowledge, the retention rate of information is relatively low when compared with problem based teaching methods. Simulators such as high-fidelity mannequins or standardized simulated patients are often preferred by clinical teachers in schools that teach health profession. High and low fidelity mannequins, and computerized simulators require a cost and dedicated space, which can be a disadvantage. On the other hand, standardized patients are advantageous to develop communication skills. Hence, use of simulation based methods in clinical training are useful in general, because they lead students to self-directed learning strategies, critical thinking and rational decision-making. Therefore, dissemination of simulation techniques is important to improve clinical skills.

Keywords: simulation; pharmacy education; problem based learning; pharmacist; clinical courses; curriculum

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How to cite this article:

Hale Z. Toklu. Simulated Cases in Clinical Training for Pharmacists. International Journal of Hospital Pharmacy, 2017,2:3.



eSciPub LLC, Houston, TX USA.

Website: <http://escipub.com/>

Although didactic methods deliver theoretical knowledge to the students, the retention rate of information is relatively low when compared with problem based teaching methods (1). Simulation is a preferred teaching method for health professions. High-fidelity mannequins, computerized simulation systems and standardized simulated patients are the most common simulators. High/low fidelity mannequins, or computerized simulation systems mimic human physiology and respond to pharmacological interventions. As a disadvantage, these sophisticated equipment require an actual financial investment and dedicated space. The high cost and lack of space can be challenging in some institutions. Therefore, they are shared resources in most centers (2). Medical and nursing schools often use high and low fidelity mannequins and computerized simulators. On the other hand, standardized patients are advantageous for students to help them develop communication skills, and are rather preferred for some disease specific cases (2). Use of simulated cases in clinical training are useful in general, because they lead students to self-directed learning strategies, critical thinking and rational decision-making.

The Accreditation Council for Graduate Medical Education (ACGME) recently initiated a new project 'Pursuing Excellence in Clinical Learning Environments' with the aim of improving medical education nationwide, and providing a humanistic environment during clinical teaching (3). Simulation based medical education is a safe tool to teach the clinical competency in a safe environment to deliver patient care. Thus, it has the advantages of teaching in a controlled environment, which fulfills the ethical concerns as well (4). Moreover, standardized patients are used in US Medical Licensing Exam (USMLE) to test clinical skills and practice. Even though simulation techniques are often used during undergraduate and graduate medical education, it is relatively less common in the curriculum of pharmacy schools- especially in developing countries (1, 5, 6). According to Accreditation Council for Pharmacy Education (ACPE), simulation in pharmacy schools should have a place in PharmD curriculum. Simulation is defined (by ACPE) as an activity or event replicating pharmacy practice (7). When one shall think about the critical role in preventing and reporting ad-

verse drug reactions, as well as their role in evidence based medicine (8, 9), the importance of clinical competency will be better understood. In this aspect, clinical classes are essential to help pharmacy students gain clinical competency and these problem based learning methods prepare them for their professional life.

Simulation based methods provide a humanistic environment that promotes quality, safety, and professionalism. Simulation holds the advantages of teaching in a controlled environment. Simulation allows all students to be exposed to the same situation in the same setting. The students may practice clinical skills confidently with no fear and with no risk to real patients. Thus, patient safety and medical ethics are achieved. It may also alleviate problems related to faculty shortages (2). Moreover, it helps the students to improve their communication skills. Despite many advantages, simulation has also disadvantages. As mentioned above, the main disadvantages are cost, lack of space and replication. Because the students may get the clues from each other, preparing different cases for each semester could be difficult and time consuming. However, it could be argued that its advantages prevails over its disadvantages.

In conclusion, use of simulation based methods in clinical training are useful in general, because they lead students to self-directed learning strategies, critical thinking and rational decision-making. Therefore, dissemination of simulation techniques in pharmacy schools is important to improve clinical skills.

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