

POPINVITED: ID# 100821

Title:

Using Simulation to Improve Safety in Patient Care: Did I Do That?

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ACCEPTED

Session Title:

Rising Stars of Research and Scholarship Invited Student Posters

Slot:

RS PST1: Sunday, 17 November 2019: 11:45 AM-12:15 PM

Applicable Category:

Clinical, Academic, Students, Leaders

Keywords:

Medical error, Simulation and Teaching Prevention

References:

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Abstract Summary:

Preventable medical errors are listed as the third leading cause of death in the United States, claiming anywhere between 250,000 and 400,000 lives annually. As a result, health care providers must address crucial components of patient safety. Simulation in healthcare is one way to address this.

Content Outline:

Using Simulation to Improve Safety in Patient Care: Did I Do That?

It has been said that practice makes perfect. Since preventable medical errors are listed as the third leading cause of death in the United States, claiming anywhere between 250,000 and 400,000 lives annually (Goolsarran, Hamo, Lane, Frawley, & Lu, 2018; Leotsakos et al., 2014), it has become crucial to address components of patient safety through the use of simulation. Following the lead of the aviation industry, the health care industry has begun to implement simulation as a means to focus attention on the importance of human interaction and emphasize a model of team-based cooperation (Smith & Gallo, 2015). Though the principles and concepts of patient safety are acknowledged as being essential to health care education (Goolsarran et al., 2018), many providers remain unsure as to how best to integrate safety into education, clinical care, and bedside practice (Leotsakos et al., 2014).

In designing simulation scenarios appropriate for health care providers, some concepts must be kept in mind. As the ultimate goal of simulation is to enhance patient safety and reduce health care error, it is crucial that participants understand that they are practicing in a safe environment where mistakes are embraced as a tool for learning, rather than as something to be feared. Concepts such as enhancing interprofessional communication, developing critical thinking skills, improving the efficacy of practice, refining psychomotor skills, and enhancing clinical judgement and decision making serve as the support system for the primary intent of furthering patient safety and reducing health care error.

First, focusing on the concepts listed above, Kolb's (1984) Experiential Learning Model (ELM) shows us that concrete experiences allow us to evaluate and reflect upon our behavior and make assessments for change. In simulation, this is possible. Simulation exercises can integrate the components of Kolb's ELM to promote safety and improve patient outcomes, as well as enhance provider communication and collaboration in the clinical setting. By structuring learning in a simulated safe environment, providers

are able to think, plan, perform, and debrief, and then revise their responses in patient care scenarios that might present higher likelihood for safety errors in the health care setting. By participating in simulation through the ELM, participants engage in activities that increase awareness of professional roles, advance teamwork, and enhance interprofessional collaboration, thus addressing a primary component of health care errors (Poore, Cullen, & Schaar, 2014).

Second, the processes of Kolb's ELM serve to explain how simulation may enhance critical thinking which could improve efficacy in practice relative to clinical judgement, psychomotor skills and decision making. These skills are sharpened with simulation wherein the health care provider reflects upon experiences in which critical thinking is applied to the assessment of behaviors that occur during a concrete experience. It is important to remember that each participant brings personal clinical experience to the simulation that affects how he or she applies knowledge during the experiential learning cycle (Kolb, 1984). Each individual experience contributes to the overall collaboration of the team throughout the scenario. The concrete experience of simulation is essential so that members of the interprofessional team learn methods of interacting and communicating that best protect the safety of their patients. During both the concrete experience of simulation and throughout the reflection period, participants interact within a team, developing an awareness of their environment and resources, and examine their own beliefs and experiences (Poore et al., 2014).

Next, during the actual simulation scenario, the provider is placed in a concrete simulated experience where that provider is allowed to perform to his/her best ability and then reflect on this performance. Team members must interact in the simulated clinical environment, communicating and utilizing resources to provide optimal care to their "patient." Participants must apply their current knowledge and clinical reasoning to the clinical scenario (Chmil, Turk, Adamson, & Larew, 2015), in collaboration with the other members of the team. Following the simulation scenario, reflection occurs, allowing the provider to conceptualize or think through what just happened. During this process of reflection, unacceptable practices may be uncovered, or best practices may be evident throughout the simulation.

Later, reflection concludes, participants transition to the 'thinking through' or abstract conceptualization of the practices uncovered during simulation. At this time group collaboration may reveal new theories of how to better implement similar practices in the future. Simulation can make participants aware of their practice and the practices of the interdisciplinary team. In this process, new practices or theories about current practices can be formulated for next steps in the patient care process. New ideas may be stimulated and alternate practices may come to the forefront (Morse, 2012). The ultimate purpose of simulation is to bring practice habits to the forefront and make best practices the hallmark of patient care. Best practices will promote error prevention and safer patient care.

Once new implications for practice arise during the debriefing and abstract conceptualization phases of the cycle, it is important to test such implications in practice. While there is some disagreement about whether to implement the active experimentation phase in which new practices are integrated in a repeated simulation immediately following the initial simulation scenario or on an individual basis in the actual clinical setting, Stocker, Burmester, and Allen (2014) argue that participants will ultimately benefit from applying the concluded principles in a safe environment, without the added risks of adverse patient outcomes. Moreover, the simulated environment allows for additional feedback and further debriefing as necessary.

Lastly, implementing simulation into a hospital setting has allowed providers to utilize their skills in a non-threatening environment in which communication is valued and teamwork is essential. While the fidelity of the simulation is less pertinent, as simulation can be completed with low or high-fidelity mannikins, as well as with use of standardized patients, the important take-away is that providers integrate the culture of safety. The processes of practicing essential communication skills and teamwork are components that transfer readily to the actual clinical environment such that patients are better cared for in a culture of mutual respect and interprofessional collaboration. Safety becomes the ultimate goal of patient care.

Concluding, the use of simulation is becoming an essential component in establishing a system of health care safety. Addressing health care error has become a necessity, as the culture of health care evolves, and more and more patient lives are at risk. Implementing simulation as a training tool creates a safe environment that allows providers to learn and practice key skills such as communication and collaboration that ultimately improve patient outcomes, enhance mutual respect among the health care team, and most importantly, create a culture of safety as the hallmark of optimal patient care. Wow, did I do that?

Topic Selection:

Rising Stars of Research and Scholarship Invited Student Posters (25201)

Abstract Text:

Preventable medical errors are listed as the third leading cause of death in the United States, claiming anywhere between 250,000 and 400,000 lives annually. As a result, health care providers must address crucial components of patient safety. Following the lead of the aviation industry, simulation in health care has evolved to focus attention on the importance of interprofessional communication, critical thinking, psychomotor skills, clinical judgement and decision making as a means of furthering patient safety and reducing catastrophic medical errors. Simulation has demonstrated its efficacy as a tool in promoting safety patient care through practiced human interaction, cooperation, and interprofessional collaboration.

The primary focal points of simulation are the enhancement of patient safety and the reduction of health care error. Such objectives are attained as participants practice simulated patient scenarios in a safe environment wherein, they make mistakes as part of the learning process. In doing so, participants become aware of their own practices, reflecting on measures to improve. Each member of the simulation team brings unique experience and background to the learning process. Through implementation of Kolb's experiential learning model in simulation, health care providers progress through the phases of concrete experience (the actual simulation scenario in which each participant performs at his/her best level), reflective observation (application of critical thinking to the behaviors that occurred during the simulation scenario), abstract conceptualization (participants consider the relevance of the experience and stimulate new ideas and practices), and active experimentation (participants test newly learned practices in additional simulation scenarios). Each phase aids in the promotion of interprofessional communication, development of critical thinking and clinical judgement, refinement of psychomotor skills, ultimately improving the efficacy of practice.

As skills are practiced and refined, simulation participants go through the process of implementing new practices, receiving further feedback throughout. The cycle may be repeated as many times as necessary to further learning. Participants are encouraged throughout the simulation learning process to examine their own beliefs and experiences and develop an awareness of their environment and resources. Using simulation as an essential training tool ultimately enhances mutual respect throughout the health care team, improves patient outcomes, and creates a culture of safety that should be the hallmark of optimal patient care.

That brings us to 'what did I do and did I do that?' This phrase or similar phrases may be heard in the practice arena. All too often it is written about in journals and on occasion with unfortunate regret we must read in local, national and international news of a lost patient due to the error of a comrade. It is then we hear ourselves asking the perennial questions: "What happened?" "Why?" "What got missed?" "How could it have been prevented?" Often, we conclude the dismal truth that the tragedy or loss could have been prevented. Something must be done; something has to be done. One tragedy is too much. One loss is too much.

It is with this consciousness that we think of how to reach our practitioners at a level where we teach in a practice setting; a setting free of criticism and bursting with content that explains, tracks behaviors, illuminates actions, reveals systemic mix-ups and messes that belie the real intent of our practice. This setting affords and encourages a space for truth about error both near misses and errors committed. The system for reporting these errors must be transparent and free of fear of reprisal. It is here where we start to recognize the need for change; the change has to be implemented in practice everywhere. We must be open about errors, near misses and outright mistakes in our practice. The mode of practice should start with truth and concern for a transparent reporting system without fear of retaliation once the error/mistake is conceded.

Then, an approach to restructuring systems that cause practitioners to fail or systems that do not support a practitioner to successfully provide care for those whose welfare in them is entrusted. Simulation has been recognized as a key piece of the restructuring which allows practitioners to *practice* many skills in a safe lab setting. Practicing and then rinse and repeat practice of procedures and practice activity enables a care provider/practitioner to become more adept with treatment provisions. When practitioners and care providers hone skills and become master practitioners, they are more confident and more skilled; this is the net result, the upshot, of simulation. This is why we simulate. The goal is to prevent error, to avoid near misses and ultimately the goal is no loss of life. When we say, "Did I do that?" **that** is saving a life.