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REVIEW ARTICLE

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USING REALIST SIMULATION ON SAFE SURGERY PROTOCOL IMPLEMENTATION: AN INTERPROFESSIONAL REPORT

¹Luís Augusto Franzão Vasconcelos, ^{1*}João Victor Batista Moreira, ²Ladislau Ribeiro do Nascimento, ¹Giselle Pinheiro Lima Aires Gomes, ²Kyara Batista Machado, ¹Joyce Vilarins Santos Soares, ²Marcos Antonio Dias Saraiva, ¹Eudilanay Ferreira de Moura, ¹Luiz Alberto De Melo, ¹Vinícius Dias de Oliveira Coelho e ²Jonair Oliveira de Souza

¹Universidade Federal do Tocantins, Programa de Educação pelo Trabalho para a Saúde, Palmas, Tocantins, Brasil;

²Universidade Federal do Tocantins, Programa de Educação pelo Trabalho para a Saúde, Miracema, Tocantins, Brasil

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*Corresponding author:

João Victor Batista Moreira

ABSTRACT

With the advancement of discussions and practices related to patient safety, with regard to health care in the surgical field, there is a need to systematize and develop training and professional training strategies. In this perspective, the present experience report aims to describe the process of implementing the safe surgery protocol in a hospital, located in the State of Tocantins, Brazil, and to report on a realistic simulation practice used as a teaching-learning strategy in the training of health professionals. The project was elaborated and executed by a team composed of students, preceptors and tutors from an Interprofessional Education through Work for Health Program - PET-Saúde/Interprofissionalidade, and had the hospital's surgical nursing team as a strategic audience. The realistic simulation was developed through the application of a safe surgery checklist, and a briefing with information about the professionals' real workspace, their difficulties and perceptions about the implementation of the protocol. As a result, positive feedback was obtained and the training of the nursing team was carried out, enhancing the proper application of the checklist in the service.

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INTRODUCTION

PET-Saúde/ Interprofissionalidade consists on a program from Brazilian Ministry of Health (Ministério da Saúde, 2018) that aims to collaborate in the implementation of Interprofessional Education (IPE) in Brazil. Its actions are based on the theoretical and methodological bases of EIP (Reeves, 2016; Costa, 2016), which propose collaboration and interactivity between different health professions. This report refers to a practice associated with the project linked to notice no. 10, July 23, 2018, promoted by the Municipality of Miracema do Tocantins in partnership with the Universidade Federal do Tocantins (UFT), and the Universidade Estadual do Tocantins (UNITINS). With the main theme of interprofessionality, this project has a joint effort by students, teachers and professionals

in the areas of medicine, nursing, nutrition, psychology, social work and physical education. The practice described here is produced by a tutoring group, linked to the referred program, whose guiding theme is Patient Safety. This group aims to promote patient safety through interprofessional education (IPE) and to solve neuralgic points mentioned by Frenk *et al.* (2010), such as fragmentation of health work, duplicity and rework that increase the risk of failure among professionals, and limited capacity on team working by health professionals. Thus, it stands out among the essential skills to be developed by health professionals: situational awareness, decision making, communication, teamwork, leadership, conflict management and fatigue, which are related to the reduction of risks and unnecessary damage to patients (Flin *et al.*, 2008; Gordon *et al.*, 2015). Prepared by the World Health Organization (WHO), together with the *Joint Commission International* (2015), the Six International Patient Safety Goals (6 IPSTG) seek to standardize and standardize good health

practices. They aim to: identify the patient correctly; improve communication between health professionals; ensure safety in the prescription, use and administration of medications; making safe surgery possible; reduce the risk of healthcare-associated infections; reduce risks of damage to the patient due to falls and pressure injuries. From the perspective of the IPE, in order to collaborate in the promotion of patient safety, a realistic simulation practice was carried out in conjunction with the implementation of a safe surgery protocol in a large hospital, located in the capital of the State of Tocantins. This protocol was proposed by the Ministry of Health and consists on the use of the Safe Surgery Checklist, which was developed by the World Health Organization - WHO (Ministério da Saúde, 2013).

METHODOLOGY

Realistic simulation practice was used as a method, defined as an active teaching methodology (Salvador *et al.*, 2019). Widely used in the training of health professionals and other areas, its correct application results in dynamic processes, capable of generating learning opportunities based on hypothetical situations similar to reality, in addition to integrating theory and practice in exercises that allow repetition, reflection, evaluation and analysis (Bland *et al.*, 2010). This strategy was used during a training session, named "Safe Surgery" and assigned to all nursing technicians and nurses who make up the surgical team of the health institution. It was prepared with the application of the Safe Surgery Checklist, which is formed by three stages. The first occurs before the patient's anesthetic induction, addressing identification information. The second stage is for the moment of confirmation of the procedure and team, which must be completed before the surgical incision. And the third step consists of the act by which the team records all the procedures performed. This must be completed before the patient leaves the operating room (WHO, 2009). Part of the theoretical foundation of the course was based on the knowledge of professionals and students about the National Patient Safety Program, which aims to offer quality and safe health care (Portaria nº. 529, 2013). It's also noteworthy the realization of a previous study by the students and the team on realistic simulation and the Safe Surgery Protocol, which addresses measures to be followed in order to reduce avoidable complications and generate greater safety for patients and professionals.

TEAM AND OBJECTIVES

Lined up with the interprofessional perspective, the team was consisted of nurses, students from medical, nursing, nutrition, social work and physical education courses, who together planned, promoted and performed the training and implementation of the safe surgery protocol's checklist on the service. In addition to these participants, all of whom are linked to PET, members of the direction from the surgical center and from the patient safety unit were also on the team. All of them had prior knowledge of patient safety and had been trained in the potential use of realistic simulation, as proposed by Kaneko *et al.* (2019). The project started with a planning based on a survey of the reality of the institution, where the imminent need to implement the protocol for safe surgery was diagnosed, protocol of which the professional team did not have practical or theoretical knowledge in its majority. The simulation was planned with the objective of training nurses and nursing

technicians working in the operating room to perform the protocol of safe surgery properly. After a brief explanation on the topic, the following steps were followed: identification of possible difficulties, proposing strategies for better execution of actions, elucidation of probable errors in conducting the process, and practical presentation of the protocol before its execution in the classroom surgery, in order to guarantee participants an experience close to reality, enhancing the fulfillment of the objective (Kaneko *et al.*, 2019).

PLANNING AND EXECUTION

The number of professionals who should be covered was determined through a survey carried out by the nursing coordination of the surgical center. Consultations were held on the availability of professionals to participate in the practice, suggestions on the training proposal and the logistics for its implementation, in order to determine facilitators and guarantee the professionals' commitment throughout the event. In this way, the development of the activity was determined on August 19 and 20, 2019, in the surgical techniques laboratory (an environment that has simulation equipment necessary to guarantee loyalty to a surgical center) at the university. The simulation took place during the morning period of both days, with transportation, provided by the health institution, and a coffee break, tactics designed as a resource that generates accessibility, integration and setting in the context of the practice, fundamental to the effective participation of the target audience (Kaneko *et al.*, 2019). Each simulation environment was delimited by screens and had the following items: safe surgery checklist sheet that would be used in the health service, medical record with information about the case, stretcher, focus, clothing, gloves, masks, infusion pump, intubation kit, auxiliary instrumentation table, all in the mold of an operating room, and a cardiac resuscitation mannequin. At first, a pre-briefing was held through meetings at the health service to create cases, determine the roles of the organizers, responsibilities and possibilities of conducting the case through the conduct of the participants. In addition, during a technical visit to the laboratory, a scenario testing was carried out by the organization in a previous simulation. The training consisted of a simulation of procedures. The participants were divided into groups that rotated in two different cases, both duly presented with a wealth of details (Kaneko *et al.*, 2019) and availability of fictional medical records. To carry out the simulation, the organization team counted on the participation of actors representing an anesthetist, a surgeon, an assistant and a nurse. The division of roles was determined according to skills, competences and previous knowledge relevant to the area of each of the organizers. At each rotation, one member of each group would be responsible for conducting the checklist. It is worth emphasizing that the failure to carry out some topics on the checklist proposed by the organization team would be sufficient for the appearance of complications resulting from risk factors, or from unidentified adverse events. In case of participant failures, the team should be ready to manage its avoidable negative repercussions once it's identified in the checklist. For the beginning of the simulation, the group member who would participate as responsible for carrying out the checklist and conducting the procedure was selected by self-disposition or by determination of the organization. The case had to be orally passed on to the rest of the group, who should observe the entire process and, subsequently, identify flaws or punctuate the events of the simulation that was to be

developed. Each participant received explanations about elements such as professional identification, activities to be developed, and the role that would be assigned to him in the simulation. Each had a period of time necessary to review the case and checklist before the organizing team signaled the start of the simulation. Immediately after each simulation, there was a moment to discuss the case among the members, when failures and successes were highlighted. Experiences and doubts were shared after both simulations were performed, at a time for discussion among all participants. Then, the organization exposed tools and mechanisms for correcting and preventing errors to course participants in order to promote a better execution of the checklist based on the simulation results.

Briefing: Initially for the application of the realistic simulation method used for the implementation of the safe surgery checklist in the health service, a technical visit was made to the hospital's surgical center, in order to better understand the work space of the professionals who make up the nursing team who would participate in the training, and thus develop a reliable approach (Kaneko *et al.*, 2019). Through meetings, the strategic audience of the simulation and the average number of people who would participate were determined. Likewise, an action plan was made considering the availability of professionals, the interest on the topic and the better date for the proposal to be carried out. There was also the identification of the location that would meet the demand and the offer of transport to the public. Spaces were planned with materials and equipment similar to the reality of the professionals where the organizers would perform different tasks to put the simulation into practice. Likewise, the public would organize itself into groups and elect a leader to proceed with the action. After conclusion and feedback, the simulation would end.

Debriefing: The realistic simulation aimed to implement the protocol for safe surgery in the health service. Which was carried out through the training of professionals: nursing technicians and nurses from the surgical team. In a general overview, the approach through simulation, linked to the statements exposed, the build up materials and the sharing of experiences from the public, generated satisfactory results and reached the main objective of the action. During the execution, difficulties arose that could be found in the real application of the checklist, namely: lack of time, low adherence of other professionals to the protocol and conflicts related to the hierarchy between professions. Such difficulties generated debates, and led to the conclusion that there are barriers that they will face initially, however, with the present simulation and practice they can be extinguished. Some errors were conducted to happen on purpose to observe the attention of professionals during the procedures. Although the majority identified the errors, the importance of preserving attention during the procedures was emphasized. The value of good communication and team interaction was also highlighted. In the end, the participants expressed that even in the face of all the difficulties encountered in the work environment, they are committed to offering good quality care to patients. They emphasized that, despite the safe surgery protocol imposing challenges for its implantation, there is no doubt about the positive results to come from it.

DISCUSSION

In Tocantins' health context, the hospital's health service referred is considered of excellence and has a well-structured

Patient Safety Center. However, until the moment of the reported action, it didn't count on a Safe Surgery Protocol in its operating room. Thus, in view of the commitment of PET/Health-interprofessionalism to the promotion of actions aimed at improving services (Costa, 2016), the group directed efforts to create conditions for the implementation of such protocol. Using the laboratory of the partner educational institution in this interprofessional project highlights the value of the involvement between teaching and service for the realization of the IPE. In addition to the location, the methodology itself stands out, the realistic simulation respected the basic premise of EIP: "learn together to work together" (WHO, 2010). During the training, responsibilities, objectives, visions and knowledge were shared between service professionals, tutors and students who together formed a support network and enriched mutual objectives for the project. This network was based on the respect associated with the yet overcoming ignorance in relation to the specificities of each profession. It was observed that the use of realistic simulation was effective in the objective of ensuring integration and absorption of knowledge in a manner applicable to the practice, since the training professionals showed full attention during the execution of the scenarios, and after the simulation, feedback occurred where the participants exposed their difficulties and reflected on errors that emerged during the simulation. There was satisfying participation and involvement of all involved. During the debriefing, it was emphasized that the use of realistic simulation, as the main teaching method developed, was a positive experience, functioning as a potentializer of the proposed objective, and providing students with the opportunity to work the theory-practice association together, also acting as facilitators, ensuring work-based learning and teaching. This experience followed the theoretical assumptions of EIP. The strategy ensured a learning experience with another, over others, from the profession itself (Barr, 2015). In the same perspective, the actions were carried out interactively, together, with the purpose of improving the quality of health services (Reeves, 2016).

Final Considerations

The implementation of the safe surgery protocol represents a major step forward in promoting patient safety in the institution. And the participation of students linked to the education through work project has a great impact on their theoretical-practical training. It is worth mentioning: all carried out research and studies during the preparation and execution of the activity. The use of the realistic simulation technique proved to be adequate and very significant, as evidenced, above all, by the adhesion and engagement of execution team members and the professionals involved in the learning situation. Once the safe surgery protocol was instituted, the hospital now has another guarantee tool for the promotion of patient safety and moves in line with the global proposals for quality healthcare. Education through work, as proposed by the name of the project, was evident at the time. It proved to be effective for the individual, academic, professional and institutional development of all participants. Activities related to realistic simulation have demonstrated effectiveness in terms of personal, academic and technical training of participants. In summary, this experience reiterates the scope of realistic simulation as a significant methodological strategy for the development of training practices in health, and highlights the convergence between interprofessionalism and patient safety.

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