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Original research article

A qualitative study on the experiences of medical students with basic life support training via simulation

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Abstract

Background: It is important for both healthcare professionals and regular people to know how to do basic life support. With the help of a scenario, the goal of this study was to look at what medical students thought about their basic life support training.

Material and Methods: 20 medical students who had already completed their Basic Life Support training filled out an open-ended form as part of this qualitative study. This study was conducted at the Department of Hospital Administration, Kamineni Institute of Medical Sciences Narketpally, Telangana, India**.** This study was done between April 2023 to March 2024. The experts looked at what the medical students thought of basic life support simulation training. A phenomenological approach was used to look at the material that was gathered.

Results: The data showed that medical students' experiences with basic life support training based on simulations could be put into five separate groups. Effectively focused training and working together to practice are both good. There is a continuous training process that doesn't stop, and attention doesn't slip when in a group without actively participating. The experiences of medical students were looked at in great detail, and they were compared to what other studies had found. We also looked at the pros and cons of using simulation-based teaching in schools. The benefits of training in basic life support through simulations will show that this method works well for finding new ways to do things. Make the best and most supportive learning setting possible to get as many people as possible involved. Ask kids for their opinions often to make sure they stay involved.

Conclusions: Basic life support training that is based on simulations can help new teachers learn skills that will make them even more useful in the classroom.

Keywords: Basic life, training, Simulation, qualitative; medical students

Introduction

People are often stressing the importance of learning Basic Life Support (BLS), which is crucial in the event of a cardiac arrest. Nurses frequently administer BLS to patients experiencing a heart attack as their initial course of action. In order for nursing students to be certified to provide BLS when necessary, they must complete a rigorous training program [1]. They are directly in charge of providing medical care for critically ill patients who could go into cardiac arrest. It is crucial that students feel secure when applying a real skill, and it is well recognized that scaffolded learning which integrates theory and practice rather than relying solely on one learning event is the best way to foster confidence in students. In order for their students to be able to administer BLS in an emergency, nurse trainers must devise strategies for boosting their self-assurance [1-3].

Most people concur that providing adequate BLS improves survival rates. At the moment, BLS is taught using behavioristic learning theory. According to this theory, humans learn by imitating, watching, and copying others. The training uses a low-fidelity simulation resuscitation manikin that is replaced once a year [2-4]. Through deliberate practice and close examination of BLS training videos, students can pick up new knowledge and abilities. Additionally, scientific theories that emphasize learning by doing, such as Kolb's theory, align with this type of instruction. This technique allows users to place themselves in virtual scenarios that aid in learning and provide them with practical experience in a particular area [3-5].

Nurse educators employ a variety of training methods to assist students in practicing BLS techniques. The Nursing and Midwifery Council acknowledges simulation as an instructional approach that

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incorporates many modalities. Prior to registration, this is required for education and training. Repetition, feedback, and review opportunities facilitate the acquisition of safe and practical skills in a secure learning environment. Furthermore, simulations increase people's self-confidence in their capacity to assist others in medical emergencies. BLS is typically taught using LFS, which consists of a collection of static tools that don't communicate with one another. However, because medium-fidelity simulation may provide more in-depth performance feedback, it is increasingly being employed for BLS training [4-6].

The Bureau of Labor Statistics also employs high-fidelity simulation BLS. By using digital manikins that can faithfully replicate human physiological responses, this technique enhances the realism of the simulations. Additionally, simulations allow you to hone critical abilities like communication and teamwork. Constructivist theory forms the basis of HFS, which allows users to interact with real-world scenarios and receive immediate feedback. Because LFS does not allow nursing students to visualize what they are doing, it does not provide them with a realistic experience [5-7]. For instance, students benefit from low-fidelity simulation (LFS), medium-fidelity simulation (MFS), and HFS in different ways. These various simulation formats all provide students a boost in self-assurance. Increased simulation levels have been demonstrated to support trust-building in a variety of ways [6-8].

Because HFS is costly and has time and location constraints, it is crucial to remember that it has built-in limitations. However, given its portability and low resource requirements, VR technology presents itself as a viable alternative to conventional simulation techniques. Although the usage of VR technology in education is growing, BLS training is not currently making extensive use of it. This document summarizes the advantages and disadvantages of the various simulation forms and provides a brief explanation of each [7-9]. The purpose of this study was to investigate the perceptions of medical students on basic life support models.

Material and Methods

A total of 20 medical students participated in this qualitative study by responding to an open-ended questionnaire upon completion of their Basic Life Support course. This study was conducted at the Department of Hospital Administration, Kamineni Institute of Medical Sciences Narketpally, Telangana, India**.** This study was done between April 2023 to March 2024. The researchers examined the medical students' perceptions of virtual training that focused on basic life support. The analysis was conducted utilizing a phenomenological approach.

Everyone who took part in the study gave their written permission, and their information was protected. There were twenty medical students who took part in this study and learned basic life support through simulations. Following a two-week training time, they were asked to act as informants.

Results

According to a similar method, ideas and models were used to describe events in a qualitative study. It was the goal of this study to give medical students a virtual experience with CPR training. During our study, two different researchers read the data transcriptions back and forth on their own.

Table 1: Participants' Biodemographic information

Sr. No.	Sr. No.	Option	%
1.	Age	21.0	-
2.	Gender	Female	15
		Male	5
4.	Residence	Urban	16
		Rural	4
5.	Grades in 12th Class	71 to 80	12
		81 to 90	8
6.	Any experience of simulation based training	No	15
		Yes	5

Mental Strain, Concentration and Self-Efficacy Data

Reliable tools were used to measure medical students' mental stress and ability to concentrate before and after simulation-based BLS training 12. A verified 5-point scale was also used to measure their level of self-confidence. People who were in the training session consistently put in a moderate amount of mental work and were much focused.

Focused Training

The people who took part in the training made it clear that they thought the virtual method was a fair and useful way to learn BLS. They were mostly interested in finding the best time and methods for performing Basic Life Support.

Easily Focused

Based on what the participants said, a simulation-based method is simple to understand and keeps their

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attention for the whole session. The CPR and BLS methods can be learned very quickly and easily with this method.

Group Practice Advantages

People worked with a partner during the training events. Group exercise is more interesting by nature. During the talks, two subgroups of this idea's strengths came up over and over again: CPR is always done by a group, whether it's a team setting or a person practicing alone. In simulation-based training, trainees used group activities that mimicked real-life situations to learn how to talk to each other, ask for help, and make smart choices.

Interrupted Training

During the next talk, each medical student who showed off the simulation environment's interface confirmed the high level of care they received while they were training. For students who had little or no experience, it was hard to figure out which way of communicating in a virtual setting would work best. Along with not being familiar, the observation process was easy to understand and made the trainees feel more immersed in the virtual world.

No Concentration Loss in Group Passiveness

During the simulated training, a lot of thought was given to the feeling of belonging to the goal. A lot of short comments and ideas were made during the talk about how to improve the focus in training. Medical students thought they were always interested in the study. Using related examples made the planning process easier and less complicated because they were based on a shared experience. The participants paid attention when they didn't need to do anything and were involved when they did.

Discussions

Everyone who took part had never used simulation-based BLS training before. Some of the benefits of the training tool that have been written about are in our five groups. On the other hand, our study shows a few important things about scenario-based BLS teaching in medical school. The most important result was that there was a strong link between how engaged the participants said they were and how active and hard the tasks were for them [8-10]. One of the best things about the simulated method is that it can get people involved and help them feel like they belong. Our results, which show that every person was happy with the experience and gave examples of how they actively took part in the simulated training, back this up. The commitment could come from the help with learning, or it could be caused by how important and intense the subject is. One of the great things about this simulation-based method is that it can promise interaction [9-11].

The average level of focus, which is a key part of flow, often got higher after the first training scenario, according to our psychometric study. This method could be used as a highly recommended training module for medical students when their own experiences are added to it. Because of this, they stand out more in the virtual world, and the amount of participation may depend more on how hard it is [10-12]. I think that the idea that a virtual world can be used as a complete school environment makes our teaching methods better. Also, one important thing about a good teaching tool is that it doesn't use the same simulated jobs over and over again.

Most of the feedback on performance came from peers in the virtual setting. In the real world, a teacher gave quick feedback on every case [11-13].

The participants liked the advice in general, but while they were in the virtual environment, they asked for more specific feedback. Simulation includes doing tests, getting involved, and making it easier for people to talk to each other. Cognitive skills and psychomotor skills are now different because of training. Several trainees agreed that training in psychomotor skills was an important part of simulation-based Basic Life Support (BLS) training [14-16]. The level of mental stress during training ranged from mild to intense, which suggests that mental stress was seen as an important part of simulation training. The higher level of stress says that the training space has been improved and is now better organized. On the other hand, learning BLS in a challenging and always-changing environment helps people use their skills well in real-life CPR scenarios. From talking to the players, it became clear that simulation had some good points [17-19].

A big reason why medical education doesn't work as well as it could and causes harm is that students don't know how to work with others. This problem seems to still be there while CPR is being done. Our study shows that the participants put a lot of value on working together and that setting up a shared framework of tasks and responsibilities was important for them to be involved in the scenarios [18-20]. These students thought that working together in training was more rewarding, powerful, and fun than working alone. Additionally, they all agreed that working together on a project as a team was helpful. On two different times, participants were taught in two simulation-based settings. A number of people said they were getting worse at CPR and suggested using simulated training to practice and learn again. There is training available to get a full understanding, skills, and hands-on practice with CPR [20-22].

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Conclusions

BLS training for medical students through simulation has five key benefits: intense training, improved focus, effective group practice, less distractions, and sustained attention even when participating passively in a group context. Issues including learner involvement during simulated procedures, levels of group contact, and comprehensive feedback on the training process can be effectively addressed by scenario-based simulation, which is suggested for successful BLS training. This is why BLS training that makes use of simulations enhances education across the board.

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Conflict of Interest: None.

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