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Knowledge and Awareness of Simulation Based Learning in Physiotherapy Students of Gujarat

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ABSTRACT

Background: Simulation-based learning is an educational approach that uses simulated environments or scenarios to help learners practice skills, make decisions and experience real-world situations in a controlled setting. Simulation-based learning (SBL) can be beneficial in physiotherapy as it allows students and professionals to practice techniques, develop their clinical skills and make real-time decisions in a safe and controlled environment.
Aim: To assess the Knowledge and Awareness about Simulation Based Learning in Physiotherapy students.
Method: A self-administered questionnaire of 10 items was formulated based on Effectiveness and Perceptions, Educator and Student Interaction, Skill Development and Specialized Benefits. The questionnaire was face validated by 5 subject experts. A google form was created and circulated among Under-Graduate, Intern and Post-Graduate in Gujarat. Descriptive analysis of data was done.
Result: 220 responses were obtained. Responses obtained included 63%under-graduate students, 30% interns and 7% post-graduate students. 20 individuals had EXCELLENT knowledge, 60 individuals had GOOD knowledge, 35 individuals had FAIR knowledge, 105 individuals had POOR knowledge about Simulation Based Learning.
Conclusion: Physiotherapy students often possess a general awareness of simulation-based learning (SBL) but many lack comprehensive understanding and practical exposure. This gap can hinder the development of essential clinical competencies and may contribute to increased anxiety and diminished confidence during real-world patient interactions.

Keywords: *knowledge, physiotherapy, Simulation*

INTRODUCTION

Simulation-based learning (SBL) has emerged as a pivotal educational strategy in physiotherapy, offering learners a controlled environment to develop and refine clinical skills. This approach allows students to engage in realistic scenarios, facilitating the gradual acquisition of conceptual knowledge and practical competencies. [1] In the context of physiotherapy education, SBL addresses several challenges faced by novice students.

Traditional clinical placements often expose students to high-pressure situations, leading to anxiety and fear of making mistakes in real patient interactions. SBL mitigates these concerns by providing a safe space where errors become learning opportunities,

thereby enhancing self-confidence and reducing performance anxiety. [2] SBL ensures consistent and equitable learning experiences for all students. This approach is particularly beneficial in specialties with limited exposure opportunities, such as pediatrics and intensive care units [3]

For an educator selecting SBLs, it is important to consider the most appropriate simulation experience for the learner, as well as what aspects of the task will be the focus during learning. Less complicated simulations may be most appropriate for novice students learning basic skills, whereas more advanced learners can benefit from more complex simulations. [4]

Despite its growing adoption globally, awareness and implementation of SBL in Indian physiotherapy education remain limited. Thus this study aims to evaluate the current levels of knowledge and awareness regarding simulation-based learning among physiotherapy students and educators in India, so that gaps are identified and inform strategies for effective integration of SBL into physiotherapy education are made.

MATERIALS & METHODS

A self-administered questionnaire consisting of 10 items was prepared based on Effectiveness and Perceptions, Educator and Student Interaction, Skill Development and Specialized Benefits. The questionnaire was face validated by 5 experienced physiotherapists who have experience of more than 5 years in this field and a experienced simulation trainer. All the suggestions given by experts were looked upon and a final questionnaire was designed based on most appropriate suggestions. Later on, a Google form was prepared and circulated among all 4 years' undergraduate students, interns and post graduate students of Gujarat. As the questionnaire had Likert 2 options YES or NO only the correct answer was given 1 point. At the end total score out of 10 was calculated. Descriptive statistics of the data was done.

Table 1: The Questionnaire

1st component: Effectiveness and Perception:
1)SBL is an effective alternative to conventional learning method.
2)SBL will replace traditional learning method in upcoming era
3)SBL trains students for real world scenarios.
2nd component: Educator and Student Interaction:
4) SBL encourages meaningful collaboration between educators and students.
5)1:1 educator-to-student model is the most used model in SBL
6)SBL creates a more interactive environment between educators and students.
3rd component: Skill Development:
7)SBL influence student's confidence in Real life treatment decision making
8)SBL improves hands on skill of students.
4th component: Specialized Benefits:
9)SBL contributes to the development of empathy to students
10)SBL is beneficial for training students in taking assessment.

Table 2: Scoring for the questionnaire:

0-2	POOR
3-5	FAIR
6-8	GOOD
9-10	EXCELLENT

Table 3: Total responses obtained

Undergraduates	63%
Interns	30%
Postgraduates	7%

Table 4: Awareness and Knowledge of students:

Awareness	200
Knowledge: Excellent:	20
Good:	60
Fair:	35
Poor:	85

STATISTICAL ANALYSIS

Statistical analysis was done using Microsoft excel 2007

RESULT

220 responses were obtained.

DISCUSSION

Out of 220 responses obtained only 9.09% students had excellent knowledge about simulation based learning in physiotherapy. 27% students had good knowledge while 15.9% students had fair knowledge and 38.6% students had poor knowledge regarding simulation based learning which suggests that out of 220 responses 200 were aware about simulation based learning but most of students were lacking in practical application because as they did not have in depth knowledge regarding SBL which in accordance with a study conducted by Karthik S et al which suggests that majority of participants from various Indian Physiotherapy educational institutes were aware of the use of SBL in Physiotherapy education, but there was a lack of practical implementation due to lack of knowledge[5]

Traditional methods of evaluation have been the written examination and the practical examination which unfortunately also looks at the cognitive or knowledge/theoretical domain more than the psychomotor or skills domain, leading to students concentrating more on theory rather than practicing skills which ultimately leads to less skills when performing on patients [6]. A study conducted by Aderanke K et al in Nigeria suggests that even undergraduate students had awareness and knowledge regrading simulation-based learning which also impacted the perception of learning of students. [7].

Although a study conducted by Sok Ying L et al states that certain times simulation can also be a hindrance in learning as it may lead to overconfidence of the students [8Therefore, it is imperative to utilize simulation-based learning not only to enhance practical skills and modernize contemporary teaching methodologies but also to leverage this technology to stay ahead in an increasingly competitive academic environment.

Furthermore, simulation can significantly improve student engagement by fostering confidence while simultaneously guiding learners in balancing confidence with humility and self-awareness.

CONCLUSION

Physiotherapy students often possess a general awareness of simulation-based learning (SBL) but many lack comprehensive understanding and practical exposure. This gap can hinder the development of essential clinical competencies and may contribute to increased anxiety and diminished confidence during real-world patient interactions.

Declaration by Authors

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