Research Article

Evaluation of Skill Lab Training as A Method for Clinical Teaching Compared to Traditional Method In 1st Year MBBS Students

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A B S T R A C T

Objective: To assess the perception of 1st year MBBS students regarding skill lab training. To compare the skill lab training with the traditional method on healthy volunteers

Study Design: Cross-sectional study.

Methodology: The study was conducted in Phase- 1 MBBS, in the skill lab at Mahavir Institute of Medical Sciences, Vikarabad, Telanagana. Participants were provided with informed consent forms outlining the purpose of the study and assuring the confidentiality and anonymity of their responses. 75 were exposed to traditional methods and other 75 students to skill-lab training. Data collection involved the use of a self-administered questionnaire, with responses of 17 questions were measured on four-point likert scale from strongly disagree to agree. The study received clearance from the institutional ethics committee before commencing.

Results: Assessment of the perception graded marks of 1St year MBBS students regarding training by traditional lab observed that; 10 highest perception graded marks scorer were observed 2 (2.7%) of students and 8 graded marks scores were reported 72 (96.0%). The mean perception graded marks in the traditional lab training students was 8.01. Assessment of the perception graded marks of 1St year MBBS students regarding training by OCSE/skill lab observed that 10 highest perception graded marks scorer were observed 45 (60.0%) of students and 8 graded marks scores were reported 30 (40.0%). The mean perception graded marks in the OCSE/skill lab training students was 9.20 The mean assessment of the perception graded marks of students training of OCSE/skill lab was significantly higher as compare to training of traditional lab, which was statistically highly significant (P<0.001). Training of OCSE/skill lab was significantly better as compare to training of traditional lab

Conclusion: In conclusion, this research provides compelling evidence supporting the incorporation of skill laboratories into medical education. The current findings lay a strong foundation for rethinking and enhancing the methods used to train future healthcare professionals.

Keywords: Clinical Skills, traditional methods, skill lab training.

INTRODUCTION

Traditional medical learning methodologies have been challenged by new healthcare delivery systems and technology advancements. Proficiency and expertise in clinical abilities, which are acquired via repetition, are necessary for clinical practice. Clinical skill labs were created to help people get over this fear and gain knowledge without upsetting patients.

A difficult educational circumstance Being a doctor is a significant transition for a medical student, and he may feel anxious and unprepared to conduct clinical skills on patients[1]

A fundamental component of medical education that connects theoretical knowledge with clinical practice is skills training[2].

Many medical schools across the nation and the world have set up skill labs, but there is a lack of information on the different facets of the training that these labs provide. Clinical skill labs give medical personnel and students the opportunity to practise clinical skills before using them on patients. Learning on healthy people is declining because of a number of obstacles, including societal norms and human ethics. Thus, learning in a safe environment that closely mimics actual life is made possible by skills lab training.[3]

The objective of the current study was to assess the perception of 1st year MBBS students regarding skill lab training. To compare the skill lab training with the traditional method on healthy volunteers.

MATERIALS AND METHODS

The study was conducted among Phase-1 MBBS students at Mahavir Institute of Medical Sciences, Vikarabad, Telangana, comparing traditional teaching with skill-lab training. A total of 150 students participated, 75 were exposed to traditional methods and other 75 students to skill-lab training.

Data collection involved the use of a self-administered questionnaire with responses to 17 Likert-scale questions collected via self-administered questionnaires[4]. Ethical clearance and informed consent were obtained prior to the study. Outlining the purpose of the study and assuring the confidentiality and anonymity of their responses.

Statistical data analysis: Statistical data was analyzed by IBM SPSS 25.0 version software. Collected data were spread on excel sheet and prepared master chart. Through the master chart tables and graphs were constructed. For quantitative data analysis mean and standard deviations were calculated and un-paired t-tests was applied, for qualitative data analysis chi-square and Fisher exact tests were applied for statistical significance. If P-value was less than 0.05 considered as significant

RESULTS

Table No.1: Assessment of the perception graded marks of 1St year MBBS students regarding training by traditional lab

Graded Marks	Number of students	Percentage
≤ 7	1	1.3
8	72	96.0
10	2	2.7
Total	75	100.0
Mean ± SD	8.01 ± 0.48	---

Study observed that; 10 highest perception graded marks scorer were observed 2 (2.7%) of students and 8 graded marks scores were reported 72 (96.0%). The mean perception graded marks in the traditional lab training students was 8.01

Table No.2: Assessment of the perception graded marks of 1St year MBBS students regarding training by OCSE/skill lab

Graded Marks	Number of students	Percentage
≤ 7	0	0.0
8	30	40.0
10	45	60.0
Total	75	100.0
Mean ± SD	9.20 ± 0.98	---

Study observed that; 10 highest perception graded marks scorer were observed 45 (60.0%) of students and 8 graded marks scores were reported 30 (40.0%). The mean perception graded marks in the OCSE/skill lab training students was 9.20

Table No.3: Comparison of assessment of the perception graded marks of 1St year MBBS students regarding training of OCSE/skill lab and traditional lab

Training Methods	Number of students	Perception Graded Marks Mean ± SD	Unpaired t-test value & P-value
OCSE/skill lab	75	9.20 ± 0.98	t = 9.372, P = 0.000 HS
Traditional lab	75	8.01 ± 0.48	
Total	150	8.61 ± 0.97	----

Study reveals that; The mean assessment of the perception graded marks of students training of OCSE/skill lab was significantly higher as compare to training of traditional lab, which was statistically highly significant (P<0.001). Training of OCSE/skill lab was significantly better as compare to training of traditional lab

Fig No.1: Bar diagram represents comparison of assessment of the perception graded marks between training of OCSE/skill lab and traditional lab
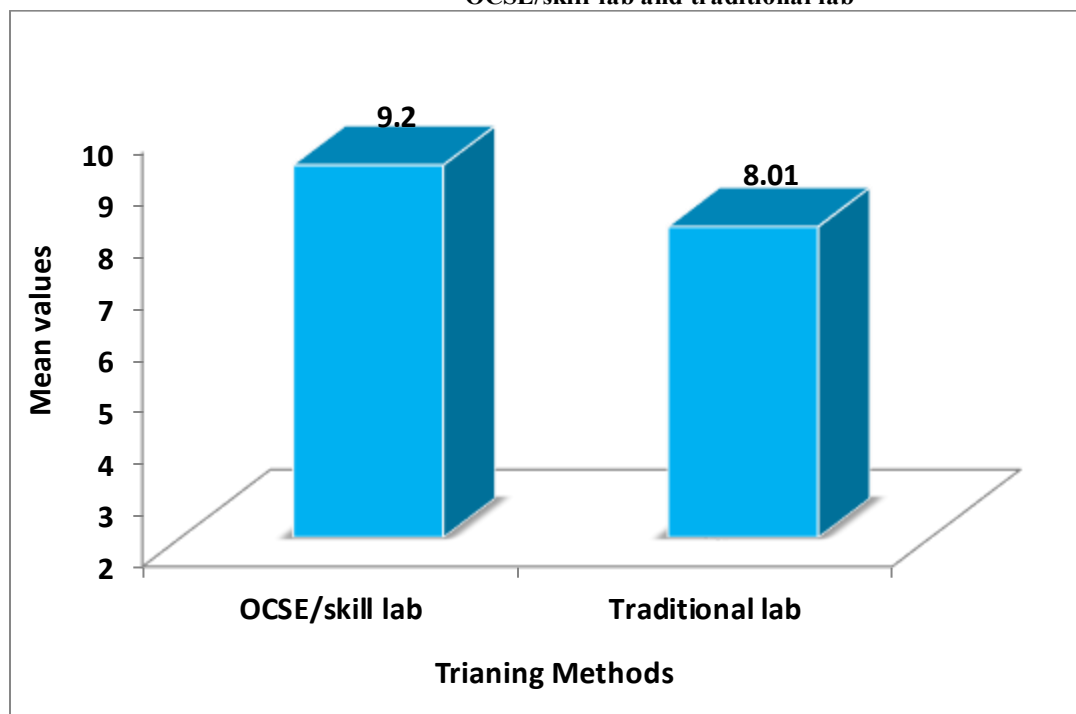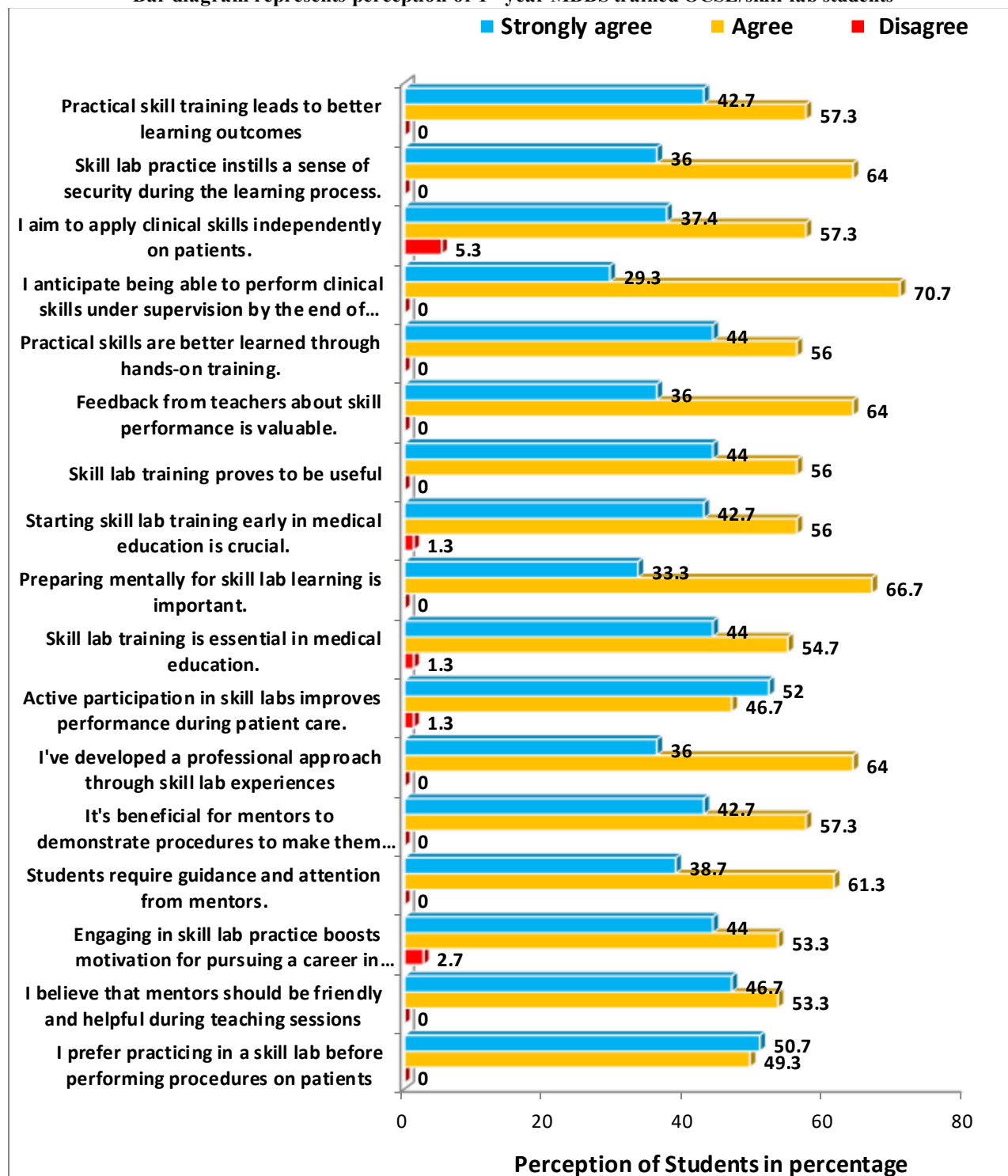

Table No.4: Perception of 1st year MBBS trained OCSE/skill lab students

Sl. No	Questions	Perception (N=75)					
		Disagree		Agree		Strongly agree	
		No	%	No	%	No	%
1	I prefer practicing in a skill lab before performing procedures on patients	0	0.0	37	49.3	38	50.7
2	I believe that mentors should be friendly and helpful during teaching sessions	0	0.0	40	53.3	35	46.7
3	Engaging in skill lab practice boosts motivation for pursuing a career in medicine	2	2.7	40	53.3	33	44.0
4	Students require guidance and attention from mentors.	0	0.0	46	61.3	29	38.7
5	It's beneficial for mentors to demonstrate procedures to make them easier for students.	0	0.0	43	57.3	32	42.7
6	I've developed a professional approach through skill lab experiences	0	0.0	48	64.0	27	36.0
7	Active participation in skill labs improves performance during patient care.	1	1.3	35	46.7	39	52.0
8	Skill lab training is essential in medical education.	1	1.3	41	54.7	33	44.0
9	Preparing mentally for skill lab learning is important.	0	0.0	50	66.7	25	33.3
10	Starting skill lab training early in medical education is crucial.	1	1.3	42	56.0	32	42.7
11	Skill lab training proves to be useful	0	0.0	42	56.0	33	44.0
12	Feedback from teachers about skill performance is valuable.	0	0.0	48	64.0	27	36.0
13	Practical skills are better learned through hands-on training.	0	0.0	42	56.0	33	44.0

14	I anticipate being able to perform clinical skills under supervision by the end of the course.	0	0.0	53	70.7	22	29.3
15	I aim to apply clinical skills independently on patients.	4	5.3	43	57.3	28	37.4
16	Skill lab practice instills a sense of security during the learning process.	0	0.0	48	64.0	27	36.0
17	Practical skill training leads to better learning outcomes	0	0.0	43	57.3	32	42.7

Bar diagram represents perception of 1st year MBBS trained OCSE/skill lab students

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DISCUSSION

Clinical skills can be defined as discrete and observable act within the overall process of patient care. It has 3 components, procedural knowledge, underlying basic science knowledge and clinical reasoning.

In a study done by Hashmin et al, it was found that medical students take skill lab training as a preferred method[3] in a study by Muhammad Alamgir khan et al, acquisition of clinical skills significantly improved when medical students were trained in skill laboratories[1]

In a study conducted by Zhang et al in Chinese medical students, the results of OSCE were compared among 2 groups who either received or did not receive skill lab training. the results were significantly better in students who were trained in skill laboratory.The study by ravikumar et al shows that skills lab training as highly beneficial and advocate for its mandatory inclusion from the first year of the mbbs curriculum[2]

The clinical skills laboratory offers a holistic platform for the development of skills across all learning domains. The feedback of the present study has shown that the study module will prepare the students with proper clinical examination skills before encountering real patients[5]

In a study found that a significant majority of students (94.8%) preferred practicing in skills labs before interacting with patients. This preference aligns with the findings of other studies which emphasize that hands-on practice is crucial for building confidence and competence in medical procedures[6,7].

The study also showed that students perceived skills lab training as beneficial in enhancing practical skills, providing realistic simulations, and improving confidence. These findings are in line with literature suggesting that skills labs effectively simulate clinical scenarios, thereby preparing students for real patient interactions[8,9].

The findings clearly indicate that skill laboratory training significantly enhances students' performance and consistency in clinical procedures. The skill lab group outperformed the traditional training group, as evidenced by higher mean scores, more consistent results, and statistically significant differences in performance.

The results suggest that integrating skill laboratories into medical curricula can bridge the gap between theoretical knowledge and practical expertise, ultimately leading to more competent and confident healthcare professionals

CONCLUSION

In conclusion, this research provides compelling evidence supporting the incorporation of skill laboratories into medical education. While further studies with larger, more diverse samples are necessary, the current findings lay a strong foundation for rethinking and enhancing the methods used to train future healthcare professionals

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