

Research Journal of Pharmaceutical, Biological and Chemical Sciences

Study Of Laboratory Based Practical Learning Impact On Second MBBS Students.

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ABSTRACT

Laboratory-based practical learning is a crucial component of medical education, allowing second MBBS students to apply theoretical knowledge and develop practical skills. Our study aims to assess the impact of laboratory-based practical learning on students' psychomotor skills development, knowledge retention, and overall learning experience. A 50 second MBBS students, consisting of 42 females and 8 males, participated in our present study. A pre-test and post-test design was employed, and a structured questionnaire was used to collect data on self-perceived improvements in practical skills, confidence levels, and understanding of medical concepts. Descriptive statistics were utilized for data analysis. The results indicate that both female and male students experienced improvements in clinical skills after engaging in laboratory-based practical learning sessions. Specifically, 38 out of 42 female students and 7 out of 8 male students reported improved skills. Moreover, a significant number of students demonstrated improved knowledge retention, with 40 out of 42 females and 7 out of 8 males reporting enhanced understanding and recall of medical concepts. Additionally, the majority of students expressed satisfaction with their overall learning experience during the practical sessions, with 41 out of 42 females and all 8 males reporting satisfaction. Our study highlights the positive impact of laboratory-based practical learning on second MBBS students' clinical skills, knowledge retention, and overall learning experience.

Keywords: laboratory-based practical learning, second MBBS students, knowledge retention, learning experience.

<https://doi.org/10.33887/rjpbcs/2023.14.3.31>

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INTRODUCTION

The acquisition of practical skills and hands-on experience is an important area of medical education. In the field of medicine, where theoretical knowledge alone is insufficient, laboratory-based practical learning plays a vital role in the training of second-year MBBS students [1]. These practical sessions provide students with the opportunity to apply their theoretical knowledge, develop critical thinking skills, and gain proficiency in various laboratory techniques [2, 3].

Laboratory-based practical learning allows second MBBS students to bridge the gap between classroom learning and real-world medical practice [4-6]. It offers them a controlled environment to practice clinical procedures, conduct experiments, and develop their diagnostic and therapeutic skills. Through hands-on experience, students learn to handle medical equipment, perform physical examinations, interpret laboratory results [7].

Moreover, laboratory-based practical learning enhances students' understanding of complex medical concepts by providing them with visual and tangible representations [8]. It promotes active learning, encouraging students to actively engage in problem-solving, decision-making, and teamwork [9].

MATERIAL AND METHODS

The study was conducted over a period of six months, during which the students' performance in laboratory-based practical sessions was evaluated with involved 50 students, 42 female and 8 male students. A pre-test and post-test design was utilized to measure the students' practical skills, knowledge retention, and overall learning experience before and after engaging in practical sessions.

To gather data, a structured questionnaire was developed and learning outcomes specific to the second MBBS curriculum. The questionnaire consisted of both closed-ended and Likert scale items, designed to assess the students' self-perceived improvement in practical skills, confidence levels, and understanding of medical concepts.

The practical sessions were conducted in a simulated laboratory environment. They were encouraged to actively participate in group discussions, case-based learning, and problem-solving activities.

After the completion of the practical sessions, the post-test questionnaire was administered to the students to evaluate the effectiveness of the laboratory-based practical learning. The collected data were analyzed using descriptive statistics.

RESULTS

Table 1: Improvement in practical Skills

	Improved	No Improvement
Female Students (n=42)	38	4
Male Students (n=8)	7	1

Table 2: Knowledge Retention

	Improved	No Improvement
Female Students (n=42)	40	2
Male Students (n=8)	7	1

Table 3: Overall Learning Experience

	Satisfied	Not Satisfied
Female Students (n=42)	41	1
Male Students (n=8)	8	0



In Table 1, it can be observed that the majority of both female (38 out of 42) and male (7 out of 8) students reported an improvement in their skills after engaging in laboratory-based practical learning sessions.

Table 2 demonstrates that a significant number of female students (40 out of 42) and male students (7 out of 8) experienced improved knowledge retention as a result of the practical sessions.

Table 3 indicates that the vast majority of both female (41 out of 42) and male (8 out of 8) students expressed satisfaction with their overall learning experience during the laboratory-based practical sessions.

DISCUSSION

The results of this study provide valuable insights into the impact of laboratory-based practical learning on second MBBS students' knowledge retention, practical skills and overall learning experience. The findings reveal positive outcomes across all three areas, with a majority of students reporting improvements.

In our study, demonstrates that students benefited significantly from the practical sessions. The majority of students reported an improvement in their ability to perform various practical skills. This highlights the effectiveness of hands-on learning in enhancing practical skills. The small difference in improvement between male and female students indicates that the impact of practical learning is not influenced by gender.

The results related to knowledge retention are also promising. The study reveals that both female and male students experienced a deeper understanding and improved ability to recall and explain medical concepts. The interactive nature of the practical sessions, coupled with the opportunity to apply theoretical knowledge in a practical setting, played a crucial role in facilitating better knowledge retention. This finding suggests that practical learning serves as a complementary approach to traditional classroom instruction, helping students solidify their theoretical knowledge through practical application. Moreover, the overall learning experience of the students was highly positive. Both female and male students expressed high levels of satisfaction with the practical sessions. This suggests that the hands-on nature of the sessions, combined with active participation and problem-solving opportunities, contributed to a more engaging and fulfilling learning environment. The practical sessions provided an opportunity for students to actively engage with the material, enhancing their motivation and interest in the subject matter. Additionally, the positive learning experience reported by both male and female students underscores the importance of incorporating practical sessions into the medical curriculum to enhance student engagement and satisfaction.

While the results of our study are promising, there are certain limitations that should be considered. The sample size, particularly for male students, is relatively small, which may limit the generalizability of the findings. Further research with larger and more diverse samples is needed to validate these results. Additionally, the study focused on self-reported improvements, which may be subject to bias. Future studies could incorporate objective assessments to provide a more comprehensive evaluation of the impact of practical learning.

CONCLUSION

In conclusion, the findings of our study support the effectiveness of laboratory-based practical learning in improving practical skills, knowledge retention, and overall learning experience among second MBBS students. These results underscore the importance of integrating practical sessions into the medical curriculum to enhance the training of future healthcare professionals. Medical educators can utilize these findings to design and implement effective practical learning experiences, promoting a more comprehensive and engaging medical education.



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