

What do Physiotherapy Undergraduate Students Feel about Research? A Survey of Perception, Attitude, Intention, and Engagement

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Abstract: Research is an essential part of modern physiotherapy and plays a major role in shaping the clinical, academic, and professional identity of physiotherapists (PT). In India, physiotherapy education has undergone significant changes in recent years, with universities updating their curriculum to include research methodology, biostatistics, project work, and scientific writing. This study is intend to understand what undergraduate PT students feel about doing research in their third and final year, what challenges they think they might encounter and what benefits they feel they may achieve in doing their research project. **Methods:** The Qualitative study population comprised of 3rd and 4th year BPT students enrolled in recognized physiotherapy colleges who met the eligibility criteria and consented to participate in the study. A total of 111 undergraduate physiotherapy students participated in the study. The sample comprised 60% female (n=67) and 40% male (n=44) respondents. Interns of age, 36% of students were between 18–20 years, 45% were aged 21–23, and 19% were 24 years or older. Each item was measured using a 5-point Likert scale (1 = Strongly Agree to 5 = Strongly Disagree), with lower mean scores indicating stronger agreement or more favorable responses. **Results:** The results highlight a commendable level of awareness and a positive mindset towards the role of research in professional growth and evidence-based practice. Students are not only open to engaging with research but also show genuine interest in contributing to it- given the right support and environment. However, emotional barriers such as uncertainty and a lack of confidence continue to impact their readiness to participate fully. While the intention to engage in research is strong, actual hands-on involvement remains limited.

Keywords: Perception, Attitude, Intention, and Engagement, Research, BPT students

1. Introduction

Research is an essential part of modern physiotherapy and plays a major role in shaping the clinical, academic, and professional identity of physiotherapists. Research provides the foundation for evidence-based practice, allowing clinicians to understand what treatments work, why they work, and for which patients they work best. In this way, research supports safe, ethical, and effective patient care. (1,17)

In India, physiotherapy education has undergone significant changes in recent years, with universities updating their curriculum to include research methodology, biostatistics, project work, and scientific writing. These changes aim to prepare students for evidence-based clinical practice and help them develop the ability to evaluate research papers, interpret data, and apply scientific knowledge in real settings. However, despite these additions to the curriculum, the experience of learning research varies widely among students. Some students find research interesting and motivating, while many others feel confused, anxious, or unsure about how to approach research-related work. This makes it important to understand how Indian physiotherapy undergraduates feel

about research during their training. (21,22,23)

To understand student experiences more clearly, four key components are often used in research education: perception, attitude, intention, and engagement. These components help describe how students think about research, how they emotionally respond to it, what they plan to do with it in the future, and how much they are currently involved in research-related activities. (7,10) By studying these four areas, this research aims to understand how undergraduate physiotherapy students relate to research and how ready they feel for research-based learning.

Why Research Matters in Undergraduate Physiotherapy Training

Research plays multiple roles in physiotherapy education and each of these roles contributes to a student's overall professional development. Some of the key roles include:

1) Enhancing Clinical Decision-Making

Research helps physiotherapists make informed decisions by evaluating treatment effectiveness and identifying which techniques provide the best outcomes. Students who understand research can assess whether a particular intervention is appropriate for a specific condition.

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2) Developing Critical Thinking Skills

Research encourages students to think deeply, analyse information, and question existing practices. This skill is important in clinical settings where quick and accurate decisions are required. ⁽¹⁸⁾

3) Promoting Lifelong Learning

Physiotherapists must continuously update their knowledge. Research training creates a learning mindset that helps students adapt to new developments in healthcare.

4) Supporting Professional Growth

Physiotherapy graduates who understand research are better prepared for postgraduate studies, academic positions, clinical specialization, and leadership roles.

5) Improving Patient Care

Evidence-based practice leads to safer and more effective patient care. Students who understand research can interpret findings and apply them appropriately in clinical situations. Because of these benefits, research is now considered an essential part of physiotherapy training globally and in India. ^(6,9)

Hence, this study is intended to understand what undergraduate PT students feel about doing research in their third and final year, what challenges they think they might encounter and what benefits they feel they may achieve in doing their research project.

Importance of Studying These Four Components

Understanding perception, attitude, intention, and engagement together give a complete picture of how students relate to research. These components help identify:

- What students understand about research
- How comfortable they feel
- What they plan to do with research in the future
- How much exposure they currently have

Educational literature supports the importance of evaluating these areas to strengthen research training. ^(10,18)

2. Methodology

Study Design: A qualitative research study in which a structured close-ended questionnaire is circulated by email to 3rd and 4th year BPT students of various colleges.

Study Population: The study population comprised 3rd and 4th year BPT students enrolled in recognized physiotherapy colleges who met the eligibility criteria and consented to participate in the study.

Study Sample: The study sample consisted of 111, BPT 3rd and 4th year undergraduate students who participated in the study through convenience sampling.

Inclusion Criteria:

- Students currently studying in 3rd and 4th year BPT.
- Students willing to participate in the study.
- Students who provide online informed consent.

Exclusion Criteria:

- 1st and 2nd year BPT students.
- Internship students.
- Students who are absent or do not submit the Google Form.

Outcome Measure:

- Scoring of the questionnaire is done using 5-point Likert scale.

Procedure:

- 3rd and 4th year physiotherapy undergraduates will be invited to participate in the study.
- A Google Form link will be created and circulated through WhatsApp groups, email, or class networks.
- A brief description of the study will be given at the beginning to explain purpose, confidentiality, and anonymity.
- Digital consent will be obtained by asking participants to agree before proceeding.

Students will have sufficient time to complete their responses, and they will be advised to finish the questionnaire in one sitting. Responses will be automatically recorded in Google Forms and kept secure. Once the data collection period has ended, the responses will be exported for data cleaning and statistical analysis. The gathered data will then be analysed to comprehend the overall trends concerning research among 3rd and final-year physiotherapy students.

Data analysis

The data collected from 111 undergraduate physiotherapy students were analyzed to assess their perceptions, attitudes, intentions, and engagement with research. The analysis is presented in two parts: demographic characteristics and section-wise response analysis based on Likert-scale scoring.

Demographic of Respondents:

Out of 111 participants:

- Gender distribution included 60% female (n = 67) and 40% male (n = 44).
- Age breakdown showed that 36% were aged 18–20 years, 45% were between 21–23 years, and 19% were 24 years or older.
- Academic level was evenly split between 56 students in the 3rd year and 55 in the fourth year of study.

Likert Scale Framework

All questionnaire items were rated using a 5-point Likert scale, where:

- 1 = Strongly Agree
- 2 = Agree
- 3 = Neutral
- 4 = Disagree
- 5 = Strongly Disagree

Lower scores indicate greater agreement or more frequent engagement, while higher scores reflect disagreement or less involvement. The mean score for each item was calculated, and an overall mean was derived for each section to summarize students' perspectives.

a) Formula for calculating the Mean (average) is:

$$\text{Mean} = \frac{\sum X}{N}$$

Where:

- $\sum X$ = Sum of all observed values (e.g., Likert scores for each item)
- N = Total number of values (e.g., number of questions or responses)

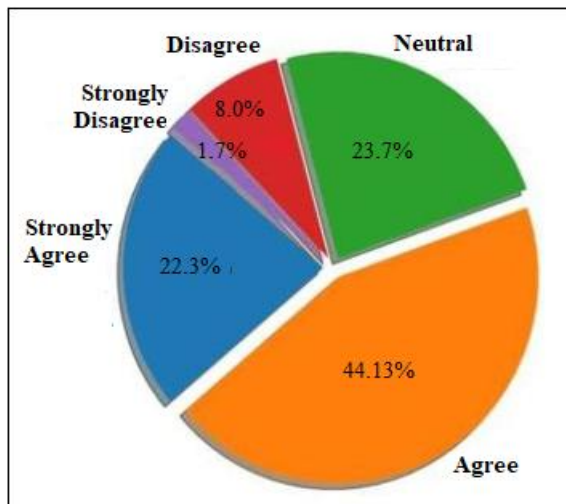
b) Interpretation of Mean Scores

- 1– 1.80 → Strongly Agree
- 1.81– 2.60 → Agree
- 2.61 – 3.40 → Neutral
- 3.41 – 4.20 → Disagree
- 4.21 – 5.00 → Strongly Disagree

1) Perception of Research

Table 1: Mean Scores of Physiotherapy Undergraduates' Perceptions Toward Research

Question of Perception Section	Mean Value
1. Research is essential for the advancement of the physiotherapy profession.	1.7 (Strongly Agree)
2. Research is necessary to improve evidence-based practice in physiotherapy.	1.7 (Strongly Agree)
3. I find research activities (e.g., reading literature, conducting studies) challenging or difficult.	2.5 (Agree)
4. Research in physiotherapy is often too complex for undergraduate students to understand.	2.5 (Agree)
5. Research helps physiotherapist stay update with the latest treatment techniques.	1.8 (Strongly Agree)
6. I believe research is more suited for postgraduate students than undergraduates.	2.5 (Agree)
7. Engaging in research can enhance my critical thinking skills.	2 (Agree)
8. I perceive research as an opportunity to contribute to patient care improvements.	1.9 (Agree)
9. Research activities are time-consuming and detract from clinical training.	2.7 (Neutral)
10. Research is intimidating due to its technical and statistical components.	2.4 (Agree)



Graph 1: Participant's overall view on perception

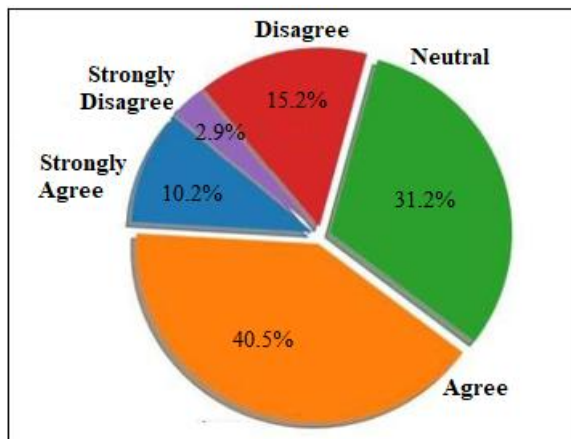
Overall Mean Score: 2.17 (Agree)

Result: This table shows that majority of the student have a positive perception towards research.

2) Attitude toward Research

Table 2: Mean Scores of Physiotherapy Undergraduates' Attitudes Toward Research

Question of Attitude section	Mean Value
1. I enjoy learning about research methods and their application in physiotherapy.	2.3 (Agree)
2. I feel confident in my ability to understand and apply research findings to clinical practice	2.3 (Agree)
3. I feel anxious or overwhelmed when asked to engage in research tasks.	2.7 (Neutral)
4. I am motivated to learn more about research to improve my skills as a physiotherapist.	2.1 (Agree)
5. I feel that research is irrelevant to my day-to-day learning as a student.	3.2 (Neutral)
6. I feel discouraged by the complexity of research methods.	2.9 (Neutral)
7. I am enthusiastic about incorporating research into my future practice.	2.3 (Agree)
8. I am confident in my ability to critically appraise research articles.	2.3 (Agree)
9. I am hesitant to engage in research due to fear of failure.	2.9 (Neutral)
10. I am frustrated by the lack of practical guidance in research training.	2.5 (Agree)



Graph 2: Participant's overall view on attitude.

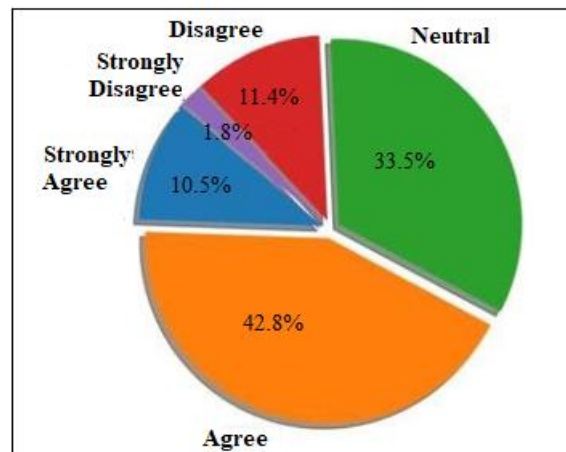
Overall Mean Score: 2.55 (Agree)

Result: This table shows that majority of the students have a positive attitude towards research and are willing to participate in research related activities.

3) Intention to Engage in Research

Table 3: Mean Scores of Physiotherapy Undergraduates' Intentions to Engage in Research

Question of Intention section	Mean Value
1) I plan to participate in research activities (e.g., reading literature, conducting studies) after graduation.	2.3 (Agree)
2) I would engage in research if provided with more Support (e.g., mentorship, time).	2.1 (Agree)
3) I plan to regularly read research articles to stay Updated in my field.	2.2 (Agree)
4) I am likely to pursue a career that involves research Activities.	2.5 (Agree)
5) I plan to apply research findings to my clinical Practice after graduation.	2.3 (Agree)
6) I am unlikely to engage in research due to time Constraints in my future career.	2.9 (Neutral)
7) I intend to mentor future physiotherapy students in Research activities.	2.3 (Agree)
8) I am unlikely to pursue research due to lack of interest.	3.2 (Neutral)
9) I plan to participate in research to address gaps in Physiotherapy practice.	2.4 (Agree)
10) I plan to advocate for the importance of research in physiotherapy.	2.4 (Agree)



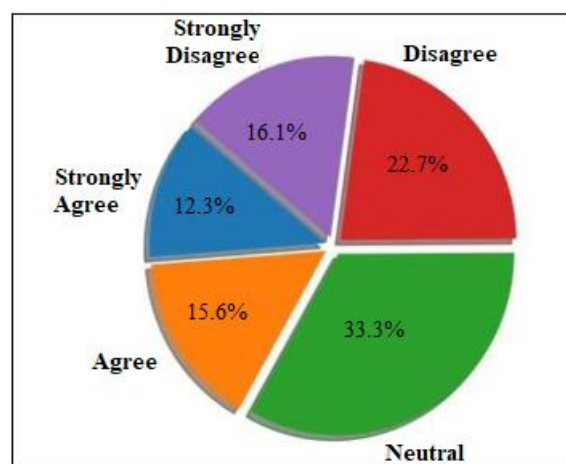
Graph 3: Participant's overall view on intention.

Overall Mean Score: 2.46 (Agree)

Result: This table shows that the majority of students intend to participate in research.

4) Engagement with Research

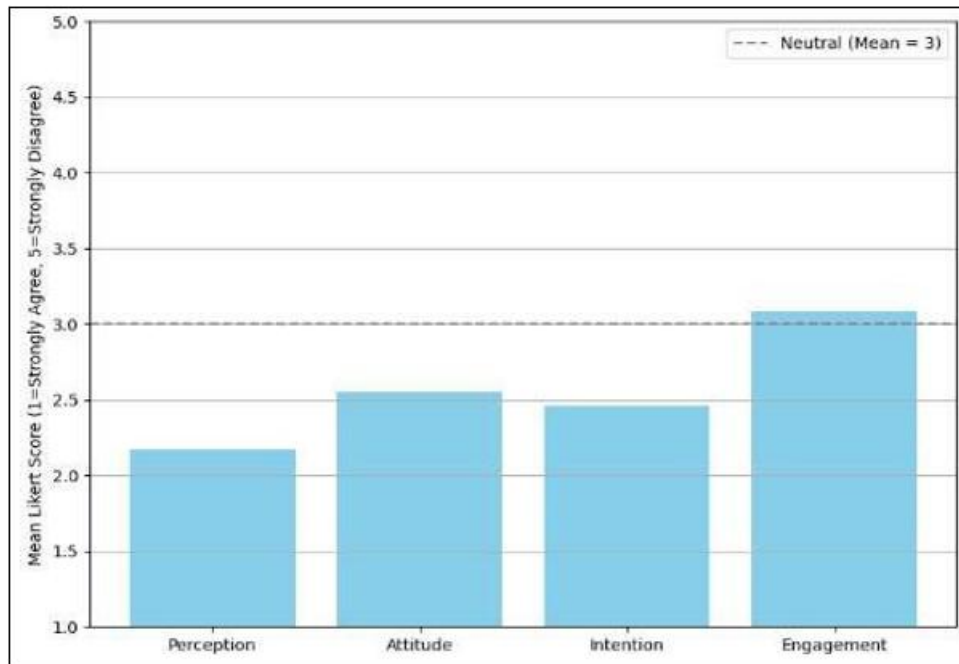
Table 4: Mean Scores of Physiotherapy Undergraduates' Engagement in Research Activities



Graph 4: Participant's overall view on Engagement

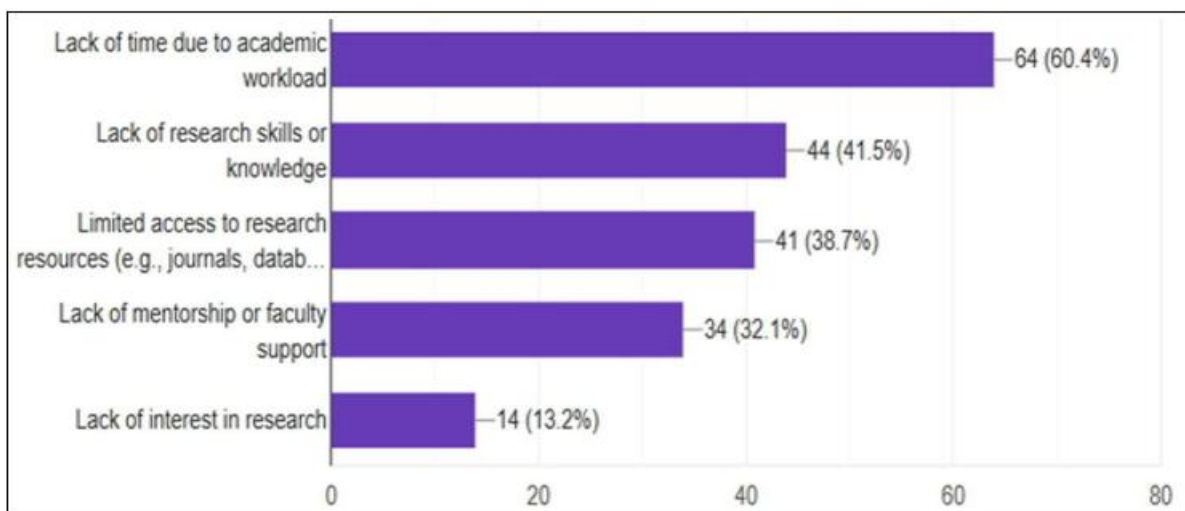
Overall Mean Score: 3.09 (Neutral)

Result: This table shows that the majority of students have given a neutral response, indicating that they are not practically involved in research-related activities and seem to have a restriction in implementing their theoretical knowledge in practical scenarios.



Graph 5: Average Likert Mean Score by Section

Q10. What barriers prevent you from engaging in research activities?



Graph 6: Barriers preventing physiotherapy undergraduates from engaging in research activities

Result: This table identifies that academic work load as a major barrier towards engaging in research

favorable responses.

3. Results

A total of 111 undergraduate physiotherapy students participated in the study. The sample comprised 60% female (n=67) and 40% male (n=44) respondents. In terms of age, 36% of students were between 18–20 years, 45% were aged 21–23, and 19% were 24 years or older. The academic year distribution included 56 students in the third year and 55 students in the fourth year, ensuring that responses predominantly reflect perspectives from students in the advanced stages of their undergraduate education. Survey responses were categorized into four core domains: Perception, Attitude, Intention, and Engagement with research. Each item was measured using a 5-point Likert scale (1 = Strongly Agree to 5 = Strongly Disagree), with lower mean scores indicating stronger agreement or more

1) Perception of Research

The Perception section comprised 10 statements reflecting students' views on the value, necessity, relevance, and difficulty of research in physiotherapy. The mean score of 2.17 across all perception items suggests a strongly favorable perception of research among undergraduate students.

Students showed a high level of agreement with statements recognizing research as essential to professional development, improving evidence-based practice, and staying abreast of evolving treatment methodologies. This indicates a foundational understanding of the role research plays in clinical effectiveness and professional credibility. Despite a few items addressing research as potentially intimidating or complex, the overall average remains low, signifying that most students do not perceive these barriers

as dominant or insurmountable.

Interpretation: Students expressed a strongly positive perception of research. The low mean score indicates widespread agreement with statements that affirm research as essential for professional development, evidence-based practice, and patient care. While there was moderate acknowledgment of challenges such as complexity and time demands, these concerns were not dominant. This suggests that students recognize the foundational importance of research within physiotherapy and view it as integral to their academic and clinical growth.

2) Attitude toward Research

The Attitude section explored students' emotional responses and confidence levels toward participating in and learning about research. The computed mean score of 2.55 indicates a moderately positive attitude, though not as strongly favourable as their perception.

Students reported enjoyment in learning about research methodologies and a fair degree of confidence in their ability to understand and use research findings.

However, certain items related to emotional barriers- such as anxiety, discouragement, or fear of failure- received slightly higher mean scores, suggesting that these affective factors may influence some students' comfort levels.

Interpretation: The attitude score reflects a generally positive but slightly cautious orientation toward research. Students enjoy learning about research and believe in its clinical relevance, yet some express emotional barriers such as anxiety, confusion, or frustration, particularly when faced with complex methods. This moderate score implies that while interest and appreciation for research exist, students may benefit from enhanced instructional support, mentorship, and skill-building opportunities to deepen confidence and reduce apprehension.

3) Intention to Engage in Research

The Intention category gauged students' willingness and plans to engage in research activities both during and after their studies. With a mean score of 2.46, students expressed a moderately strong intention to read, apply, and participate in research, especially if facilitated by supportive academic environments.

Intentions were notably high regarding the desire to stay updated through regular literature review, apply research in clinical practice, and mentor others in the future. Statements indicating a lack of intent due to disinterest or time constraints received higher scores (approaching or exceeding 3.0), indicating that while intent is present, it is conditional and influenced by perceived external barriers.

Interpretation: Students demonstrated a clear and actionable intent to engage in research in their future careers. They expressed willingness to read literature, apply findings, and contribute to the research community—especially if provided with adequate support, mentorship, or structured opportunities. The slightly elevated score on certain barrier-based items (e.g., time constraints) suggests

that engagement is conditional but highly feasible with the right institutional infrastructure. This reflects a motivated but resource-dependent readiness.

Engagement with Research

The Engagement section measured actual involvement in research-related tasks, such as reading, writing, analysing data, and collaborating on projects. This was the only section where the mean score exceeded 3.0, indicating a neutral to slightly low level of actual engagement.

Students reported lower frequencies of participation in activities such as writing research reports, analysing data, or presenting findings. While reading literature and collecting data were more common, these still did not reach levels of regular practice among the majority of students.

Interpretation: This was the only domain with a mean exceeding the neutral point, indicating that students' actual participation in research activities is limited. While occasional involvement in reading literature or collecting data was reported, more advanced tasks- such as data analysis, writing reports, or presenting findings—were less frequent. This score reveals a clear gap between positive perception and intention and real-world engagement, highlighting the need for curricular integration of hands-on research experiences.

4. Discussion

The present study, titled “What Do Physiotherapy Undergraduate Students Feel About Research? A Survey of Perception, Attitude, Intention, and Engagement,” aimed to understand how senior undergraduate physiotherapy students perceive and engage with research during their academic course. A structured Likert-scale questionnaire was administered to 111 students to evaluate their perception, emotional attitude, intent to engage, and actual participation in research activities. As research forms a vital pillar of evidence-based physiotherapy practice, this study offers meaningful insights into students' preparedness and outlook towards research in the Indian academic setting.

The responses revealed that students held a distinctly positive perception of research. They largely agreed that research is essential for clinical growth, improving patient outcomes, and staying updated with the latest practices in physiotherapy. This reflects well on the way research is being introduced and highlighted within the curriculum. However, some students felt that research could be time-consuming or difficult to manage, indicating that while the importance of research is acknowledged, certain practical challenges still affect how students approach it. Regarding attitude, many students expressed genuine interest in research and reported that they enjoyed learning about it. At the same time, feelings of anxiety, confusion, or lack of confidence were not uncommon. These responses suggest that students may be enthusiastic but often feel underprepared or intimidated by tasks like statistical analysis or understanding complex methodologies. This highlights a need for greater academic support, especially through simplified instruction and personalized

mentorship, to help students develop a more confident and comfortable relationship with research.

Students also displayed a strong intention to take part in research-related work. Many shared that they would like to read more scientific literature, apply research findings in clinical settings, or even contribute to research projects in the future. However, this intent was often dependent on external support, such as availability of research mentors, dedicated time, and encouragement from faculty. This indicates that students' willingness is present, but the institutional environment plays a crucial role in shaping whether or not they follow through. The section on engagement showed that actual participation in research remains limited. While some students had taken part in literature reading or basic data collection, very few had experience with writing reports, conducting analysis, or presenting at academic events. This gap between interest and involvement is concerning and points to the need for more structured research opportunities within the undergraduate curriculum. Without hands-on experience, students may find it difficult to build the confidence and skills required for active research participation.

To summarize, the findings present a hopeful picture—students are aware of the importance of research, have a largely positive attitude, and are motivated to engage with it. However, they face practical and emotional barriers that limit their real-time involvement. Bridging this gap will require colleges and universities to integrate more accessible, student-friendly research activities provide consistent mentorship, and ensure that research training is not just theoretical but experiential. By doing so, physiotherapy programmes can foster a stronger research culture and better equip graduates for evidence-based clinical practice in the Indian healthcare system.

5. Conclusion

This study provides valuable insight into how undergraduate physiotherapy students perceive and approach research within their academic journey. The results highlight a commendable level of awareness and a positive mindset towards the role of research in professional growth and evidence-based practice. Students are not only open to engaging with research but also show genuine interest in contributing to it—given the right support and environment. However, emotional barriers such as uncertainty and a lack of confidence continue to impact their readiness to participate fully.

While the intention to engage in research is strong, actual hands-on involvement remains limited. This gap highlights the need for more practical, accessible, and student-friendly research opportunities within physiotherapy education. Strengthening mentorship, embedding research within the curriculum, and cultivating a supportive culture can empower students to move beyond theoretical understanding and actively participate in research. By doing so, institutions can nurture future clinicians who are not only informed by research but also contribute to its ongoing advancement.

References

- [1] Shah, C., Patel, D., & Desai, R. (2019). Attitude and anxiety towards research among physiotherapy students. *International Journal of Physiotherapy*.
- [2] Gabani, C., Mehta, A., & Shah, S. (2022). Attitude and perception toward research among undergraduate physiotherapy students. *Journal of Research in Rehabilitation Sciences*.
- [3] Jagga, V., & Gakhar, M. (2020). Attitude toward research among physiotherapy students and its association with demographic variables. *Asian Journal of Research and Reports in Neurology*.
- [4] Bhat, A., Kumar, S., & Rao, P. (2019). Awareness and perception of research among physiotherapy students in India. *International Journal of Physiotherapy*.
- [5] Sunder, D. S., Kaur, R., & Singh, H. (2018). Research orientation among undergraduate health science students in India. *Journal of Education and Health Promotion*.
- [6] Shah, S., & Mehta, A. (2020). Barriers to research participation among allied health science students. *Indian Journal of Public Health Research & Development*.
- [7] Mazher, S., Ehsan, M., & Arshad, N. (2022). Attitudes of physiotherapy students toward research. *Journal of Research in Rehabilitation Sciences*.
- [8] Memarpour, M., Fard, A. P., & Ghasemi, R. (2015). Evaluation of attitude, knowledge and barriers toward research among medical science students. *Asia Pacific Family Medicine*.
- [9] Oguan, F., Bernal, M., & Ponce, J. (2014). Research anxiety and attitude of graduate students. *American Journal of Educational Research*.
- [10] Al Ghamdi, K. M., Moussa, N. A., AlEssa, D. S., Al Othimeen, N., & Al-Saud, A. S. (2014). Perceptions, attitudes, and practices toward research among senior medical students. *Journal of Family & Community Medicine*.
- [11] Siemens, D. R., Punnen, S., Wong, J., & Kanji, N. (2010). Medical student attitudes toward research. *BMC Medical Education*, 10(4).
- [12] Ismail, I. M., Bazli, M. Y., O'Flynn, S., & McLean, M. (2014). Attitudes toward research among medical students. *Procedia—Social and Behavioural Sciences*.
- [13] Shaukat, S., Siddiquah, A., & Pell, A. W. (2014). Attitudes toward research among postgraduate students. *Universal Journal of Educational Research*.
- [14] Siamian, H., et al. (2016). Students attitudes toward research at a medical university in Iran. *Journal of Education and Health Promotion*.
- [15] Saleem, K., et al. (2015). Research attitude and knowledge among university students. *Journal of Ayub Medical College Abbottabad*.
- [16] Papanastasiou, E. C. (2005). Factor structure of the Attitudes Toward Research Scale. *Statistics Education Research Journal*.
- [17] Papanastasiou, E. C., & Schumacker, R. (2014). Attitude toward research: Scale development and validation. *Journal of Educational Research*.
- [18] Williams, D., & Coles, L. (2003). The use of

- research by teachers. British Educational Research Journal.
- [19] Roberts, D. M., & Bilderback, E. W. (1980), Reliability and validity of a statistics attitude survey. Educational and Psychological Measurement.
- [20] Sabzwari, S. R., et al. (2009), Barriers to research among junior faculty. BMC Medical Education.
- [21] Wong, S. C., & Kanji, N. (2010), Medical students' research interest. Medical Education Online.
- [22] Zan, R., & Martino, P. (2007), Attitude toward mathematics and research. Educational Studies in Mathematics.
- [23] Butt, I. H., & Shams, J.A. (2013), Master in education students' attitude toward research. International Journal of Humanities and Social Science.
- [24] Lopatto, D. (2010). Undergraduate research as a high-impact educational practice. Peer Review.
- [25] Burgess, A., et al. (2018). Research skills for medical students. BMC Medical Education.
- [26] Meraj, L., et al. (2016). Perceptions of research among medical students. Journal of Pakistan Medical Association.
- [27] Abdulghani, H. M., et al. (2014). Research motivation among medical students. BMC Medical Education.
- [28] Healey, M., & Jenkins, A. (2009), Developing undergraduate research and inquiry. Higher Education Academy.
- [29] Brew, A. (2013). Understanding the scope of undergraduate research. Higher Education.
- [30] Walkington, H. (2015), Students as researchers: Supporting undergraduate research. Journal of Geography in Higher Education.
- [31] Kuh, G. D. (2008), High-impact educational practices. AAC&U.