# Attitudes, Perception and Barriers towards Research inOccupationalTherapyUndergraduate Students: A Cross-Sectional Study



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A INTRODUCTION: A constantly growing knowledge base is the fundamental requirement for any profession to survive in the ever-changing demands of the healthcare community. Early exposure to research and related activities is quintessential to developing a knack for research. AIM: To determine the attitudes, perspectives and barriers to research in Physiotherapy and Occupational Therapy in undergraduate students.

B MATERIALS AND METHOD: A survey-based study design was opted to carry out this research. An online survey was circulated among 1st, 2nd, 3rd, 4th year students and interns of various physiotherapy and occupational therapy colleges in India. A Likert type scale and percentage analysis was used to infer results.

RESULT: A total of 145 responses were received where students from all the years participated equally. Although most students had a positive attitude towards research, they had not been involved in any research activity. The students found research relevant to their lives, however, they felt conducting research is a challenging undertaking. Despite their desire to do research and their belief that there is a demand for researchers in the allied health field, the students were unable to participate in research due to a variety of hurdles identified in the study. The challenges identified, from major to minor were universities prioritising education over research, a lack of enthusiasm for research, a lack of funding at universities, poor infrastructure, a lack of supervisors, insufficient training, and lastly a lack of interest and good proposals.

CONCLUSION: The majority of students believed that research is valuable to their future careers. They had an optimistic outlook towards research. It identifies the major impediment, which is universities' lack of emphasis on research activity at the undergraduate level among other typical roadblocks must be overcome to ensure a desirable outcome.

KEYWORDS: Therapy, Research, Undergraduates, Attitudes, Barriers

### INTRODUCTION

One of the most significant features of a career is the possession of a knowledge foundation. This knowledge base must continue to expand and evolve, and it is the professional's, clinician's, and researchers' responsibility to participate actively in this process. Scientific ideas must be incorporated into clinical practice, investigated, tested, and altered (or rejected) in an endless loop to give the greatest care.<sup>1</sup> Michels, a prominent figure in physical therapy, in 1978 stated that "standards for practice should be established and based on research evidence of the effectiveness of the methods used".<sup>2</sup>

In the current era of scientific research and evidencebased practice in the fields of rehabilitation, a pragmatic outlook towards research from a very ground level is indispensable for the growth of professions like physical therapy and occupational therapy in the right direction. Thus, facilitating a robust system for optimal patient care substantiated by a wide range of scientific evidence is important. It is crucial to promote critical thinking and reasoning skills in medical students at an age to develop a positive attitude towards health care research.<sup>3</sup> According to APA, attitude is "a relatively enduring and general evaluation of an object, person, group, issue, or concept on a dimension ranging from negative to positive".4 Attitudes can range from positive to negative. Several studies conducted in the past point towards students, in general, having a negative attitude towards research. Papanastasiou in his study saw that students usually have a negative attitude towards research; However, those who view research as useful to their profession tend to have a positive attitude towards it.<sup>5</sup> A similar study has been conducted by Salvi Shah in Vadodra, Gujarat which concluded that though physiotherapy students view research as useful to their careers and practice, many of them are hesitant to indulge in research due to their perceived difficulties and anxiety towards research.<sup>6</sup>

Perception is defined as the process of identifying and inferring the environment and implication of sensual motivations. Perception will be susceptible by thought and might occur subliminally, without cognizance.<sup>7</sup> A study conducted by Abida Arif and colleagues discovered that the majority of students agreed that undergraduate research is vital for the advancement of

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the physical therapy profession.<sup>3</sup>

Barriers are circumstances that prevent the progress of the field in clinical research. The most commonly identified barriers to research include inadequate experience, lack of motivation and scanty mentorship.<sup>8</sup> Besides a lack of experience with the research process, other hurdles being the inability to give up revenuegenerating time and a lack of administrative financial support, clinical research in physical therapy continue to face significant obstacles.<sup>9</sup>

A study conducted on post-graduate physiotherapy students in Gujarat found that postgraduate physiotherapy students have poor knowledge, a positive attitude toward research and a positive opinion of research. Despite having studied research as part of their graduation requirements, they still have a modest understanding, which should be addressed.<sup>10</sup>

Research scholars are as important for a profession as are clinicians. In an ideal world, there can be overlapping in these roles. While the clinician is responsible for treating the client, a researcher ensures that there is enough evidence to support a particular protocol thus ensuring competency in the practice. Mosey in his study highlights the knowledge, skills and personal attitudes of a competent scholar." In this fastpaced world, for a profession to survive and uphold its importance it is imperative to have a scientific base that is continuously upgraded and supported by empirical evidence. A study conducted by B. C. Abreu and colleagues' states that the ability of therapists to develop proficiency in scientific inquiry and analysis is one of the most recent and significant components for adapting to the continually evolving environments.12

**Need for research:** While a lot of studies exist regarding attitudes, perceptions and skills required for research in medical and nurse practitioners, limited evidence is present highlighting the perception, inclination and barriers to research in physiotherapy and occupational therapy in India. This paper intends to highlight the viewpoint of undergraduate students about research, their understanding of research and the perceived barriers to research in their formative years.

#### MATERIALS AND METHOD

A survey-based study design was opted to carry out of this research

Non-probability convenience sampling method was used. An online survey was carried out using Google Forms, which was distributed through WhatsApp and emails among the following institutes:

- Pandit Deendayal Upadhyaya National Institute for the Persons with Physical Disabilities (Divyangjan)
- Amarjyoti Institute of Physiotherapy
- Amity University
- Banarsidas Chandiwala Institute of Physiotherapy
- Jamia Milia Islamia University
- MGM Allied Health Sciences Institute
- Galgotias University

Statistical method employed: Percentage analysis.

#### **Inclusion criteria:**

• Students pursuing Bachelors in Physiotherapy or Bachelors in Occupational therapy from any university or college

- Year of study 1<sup>st</sup>/2<sup>nd</sup>/3<sup>rd</sup>/4<sup>th</sup>/Interns
- Both males and females

#### **Exclusion criteria:**

- MPT/MOT or PhD students
- · Medical and allied health professionals
- Working Physiotherapists and Occupational therapists

#### PROCEDURE

The online survey was sent to students who matched the eligibility requirements. The survey included 25 multiple-choice questions (MCQs) using a 5 point Likert scale for answers and two demographic questions to determine the department and year of study of the participating students. Students were also questioned if they had ever authored a research paper throughout their undergraduate years of study before taking the survey. The questionnaire used in this study was formulated using studies done by Abida Arif et al.<sup>3</sup>, Monika Saini et al.<sup>7</sup>, Vairamani and Akoijam<sup>8</sup>, and Papanastasiou<sup>5</sup>. The survey's 25 multiple-choice questions evaluated students on three criteria:

1. Attitude of students towards research

a. Undergraduate students can plan and conduct a research project and write a scientific paper.

b. Each student should conduct/ participate in research on their course even if it is not in their curriculum.c. I feel confident in interpreting and writing a research paper. d. Skills that I gain during research are useful in my future work.

e. Research will help in better understanding of the subject and aid in critical thinking.

f. Clinical experience is more important than researchbased evidence when making clinical decisions.

g. Patient outcomes improve with continued research for treatments.

h. Taking time to do research is time wasted if it does not enhance my future career.

2.Perception of students regarding research

a. Research is irrelevant to my life.

b. I am very interested in conducting clinical research during my undergraduate years.

c. It is not in the scope of an undergraduate student to conduct and write research.

d. Conducting research is a difficult task.

e. Occupational/ physical therapy students can plan and conduct research project without supervision.

f. Only physical therapists and occupational therapists with research backgrounds are the most qualified to conduct studies with regard to physical therapy and occupational therapy treatment.

g. A demand exists for researchers in the physiotherapy and occupational therapy profession.

h. Research during undergraduate years is important for positive growth in the occupational therapy and physical therapy profession and it encourages Evidence-based practice.

3. Barriers faced by students in carrying out research

a. I don't feel comfortable asking professors to explain the clinical applications of research evidence

b. I have not received adequate training to help me understand different kinds of scientific research designs and how to interpret a research.

c. There is lack of funding in universities to facilitate student research projects.

d. There is a lack of motivation in students.

e. There is lack of sufficient mentorship.

f. There is lack of interest in research.

g. Lack of access to laboratory equipment for performing research project.

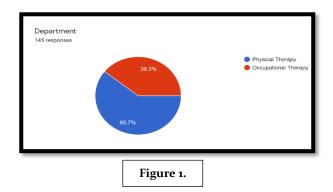
h. There is lack of good research ideas and familiarity with research proposal writing.

i. Priority is given to education over research in universities.

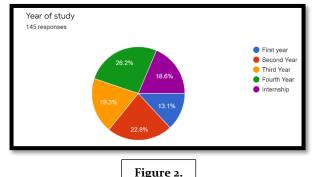
To each of the questions posed above, students were asked to offer a single response.

#### RESULTS

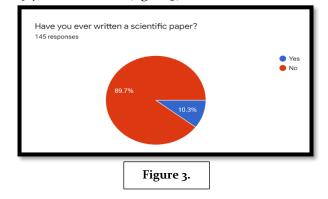
For each question, a percentage analysis was performed. Out of 190 students, only 145 responded to the survey out of which 88 (60.7%) were PT and 57 (39.3%) were OT students (figure 1).



13.1% of the 145 students in the study were in their first year, 22.8% in their second year, 19.3% in their third year, 26.2% in their fourth year, and 18.6% were interns (figure 2).

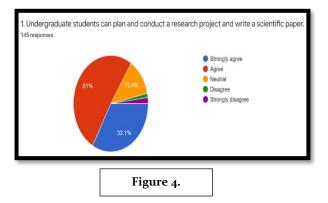


10.3% of the students had produced a research paper during their undergraduate studies, compared to 89.7% who had not (figure 3).



84.1% of students (51% strongly agreed and 33.1% agreed) believed that undergraduate students can plan and perform research projects as well as produce a

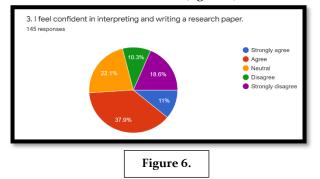
scientific report, whereas 3.5% disagreed. The remaining 12.4% had a neutral stance (figure 4).



Out of the 145 participants, 27.6% strongly agreed that every student should conduct/participate in research for their subject, even if it is not required by their curriculum. While 34.5 percent only agreed, and 19.3 percent said they could not decide. 18.7%, on the other hand, disagreed with the assertion (figure 5).

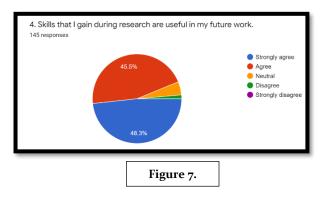


11% of students strongly agreed that they were confident in their ability to interpret and write a research report, and 37.9% agreed as well. While 28.9% of those polled said they disagreed. A total of 22.1% of students took a neutral stance (figure 6).

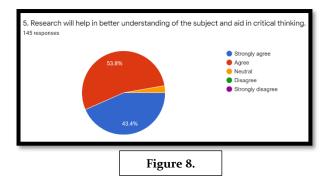


The majority of students (93.8%) believed that the abilities they will acquire while undertaking research will be valuable in their future careers. Only 1.4 percent

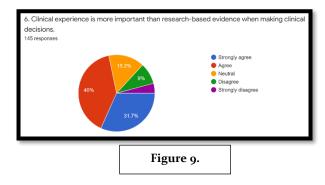
of students disagreed with this, while the remaining 4.8 percent were undecisive (figure 7).



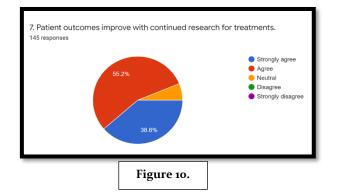
43.4% of students strongly agreed that research helps students gain a deeper comprehension of the subject while also improving their critical thinking skills 53.8% of them agreed as well, while a tiny percentage of students (2.8 percent) remained undecisive (figure 8).



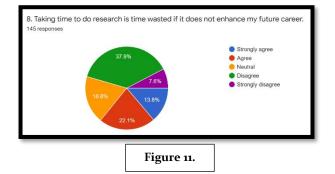
When it comes to making clinical decisions, 31.7% of students firmly believed that clinical experience is more significant than research-based evidence, and 40% agreed as well. However, 13.1% of students disagreed, and 15.2% were undecisive (figure 9).



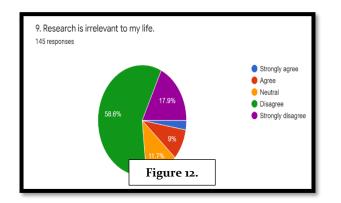
Continued research for treatments leads to better patient outcomes, according to 38.6% of students. 55.2 percent of them agreed as well, with the remaining 6.2 percent taking an indifferent position (figure 10).



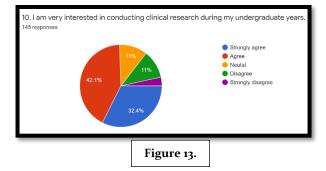
13.8% of students strongly felt that doing research is a waste of time if it does not help them advance in their careers, while 22.1% agreed and 7.6% strongly disagreed with this assertion, whereas 37.9% disagreed. Rest 18.6% of those polled had no opinion (figure 11).



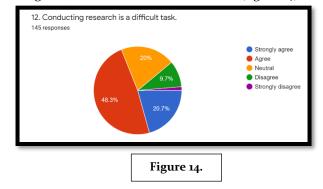
While 11.8% of students said research is irrelevant to them, the majority of 58.6% disagreed, with 17.9% strongly disagreed and 11.7% of students were undecisive (figure 12).



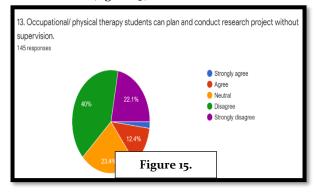
A total of 74.5% of students expressed interest in doing a research study during their undergraduate years, whereas 14.4% did not (figure 13).



According to 31% of students, conducting and writing a research paper was beyond the scope of an undergraduate student. However, 50.4% of students disagreed, while 18.6% were undecisive (figure 14).

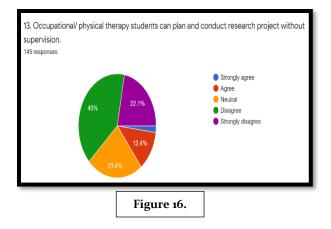


20.7% of students strongly thought that conducting research is tough, and 48.3% agreed. While 11.1% of students disagreed with this and 20% maintained a neutral stance (figure 15).

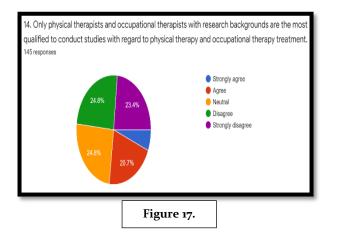


14.5% of students agreed that OT/PT students can organize and conduct a research project independently. However, 22.1% strongly disagreed with this assertion, while 40% disagreed and 23.4% were neutral (figure 16).

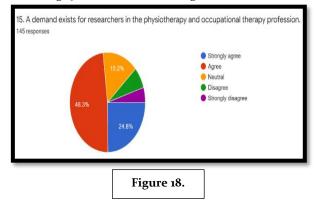
Only physical therapists and occupational therapists



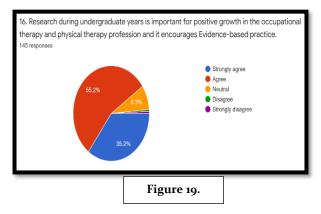
with research backgrounds are the most suited to undertake studies in physical therapy and occupational therapy treatment, according to 6.2 % of students who strongly agreed and 20.7% who agreed. However, 23.4% of students strongly disagreed with this assertion, while 24.8% disagreed. Rest 24.8% of people were neutral (figure 17).



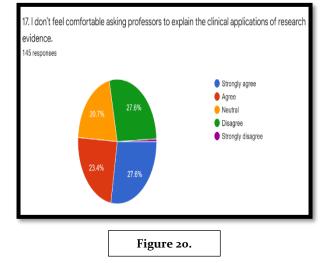
24.8% of students strongly believed there is a demand for researchers in the field of physiotherapy and occupational therapy, and 48.3% agreed. However, 11.7% of students disagreed with this, while the remaining 15.2% were neutral (figure 18).



A majority of students (90.4%) agreed that undergraduate research is vital for healthy growth in the OT/PT profession and promotes evidence-based practice. In addition, 1.4% of them disagreed with this statement, while 8.3% were undecisive (figure 19).

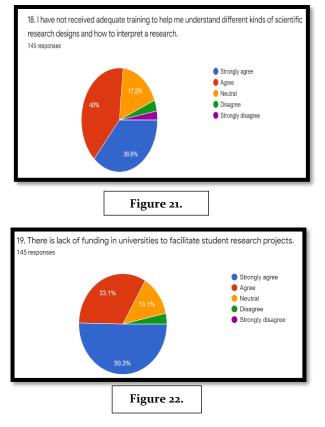


27.6% of students strongly agreed that asking professors to explain the clinical applications of research results makes them feel uncomfortable, and 23.4% agreed as well. However, 28.3% of students disagreed with this, while the remaining 20.7% were undecisive (figure 20).

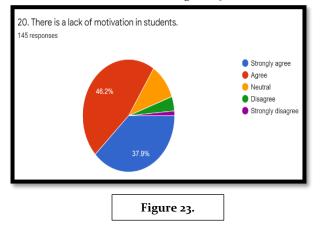


76.6% of students reported that they did not get appropriate training to help them comprehend various various types of scientific study designs and how to interpret findings. Only 6.2% of students disagreed, while 17.2% were undecisive (figure 21).

Only 3.4% of students disagreed with the statement that universities lack resources to support student research initiatives, while 83.4% felt this is true and rest 13.1% of subjects were still uncertain (figure 22).

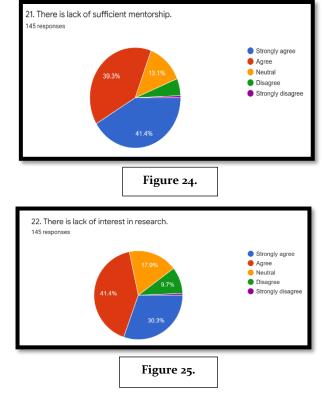


The majority of students (84.1%) believed there is a lack of motivation among students to complete a research assignment, while only 5.5% disagreed. Rest 10.3% maintained a neutral stance (figure 23).

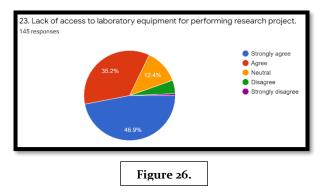


80.7% of students said there is a lack of adequate mentorship, while only 6.2% disagreed. 13.1% of students maintained a neutral stance to it (figure 24).

The majority of students (71.7%) believed they lack the interest to conduct research, while 10.4% disagreed. Rest 17.9% of students said they had no opinion (figure 25).



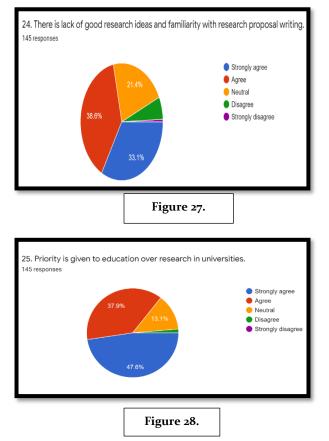
There was a shortage of access to laboratory equipment for conducting a research project, according to 82.1% of students. 5.5%, on the other hand, disagreed with this assertion (figure 26).



While 71.7% of students thought that there was a shortage of strong research ideas and expertise with research proposal writing and 6.9% disagreed. Rest 21.4% who responded had no opinion (figure 27).

In universities, 47.6% strongly believed that education takes precedence over research, and 37.9% agreed as well. Only 1.4% of respondents disagreed, while 13.1% were neutral (figure 28).

The challenges identified, from major to minor were



universities prioritising education over research (85.5% agreed), a lack of enthusiasm for research (84.1% agreed), a lack of funding at universities (83.4% agreed), poor infrastructure (82.1% agreed), a lack of supervisors (80.7% agreed), insufficient training (76.6% agreed) and lastly a lack of interest (71.7% agreed) and good proposals (71.7% agreed).

#### DISCUSSION

The goal of this study was to highlight the viewpoint of undergraduate physiotherapy and occupational therapy students on research. An attempt was made to discover these students' perspectives on research. The perceived impediments to conducting research projects have also been mentioned.

Although the students were of an opinion that undergraduate students should plan and conduct research even if it is not in their curriculum, the majority of students who participated in this research had never written a research paper. This result corroborates with the result of studies conducted in Sweden, Pakistan and Gujarat indicating a positive attitude of undergraduate students towards research activities.<sup>1,3,13-14</sup> Many students felt that research is essential to maintain competence in the profession and provide optimal care to the clients. Qualitative research is wellestablished in the field of rehabilitation and plays a vital role in its future development. It is critical to continue to develop qualitative researchers and methodologies.<sup>15</sup> Indulging in research adds to one's skillset and fosters critical thinking. Critical thinking is essential among the information, skills, and procedures required to enable evidence-based practice.<sup>16</sup> The most significant research activity is reading research literature to update knowledge, and the second most crucial activity is using research insights to improve occupational therapy practice. Therefore, inculcating the habit of referring to empirical data early on is necessary. Early exposure to journals, research articles have been shown to increase the ease of interpretation and application of research in future practice.<sup>17</sup> While clinical experience is an important determinant of successful practice, it is always beneficial for the clinician as well as the client if the latest evidence is incorporated into clinical decisions. Research evidence when incorporated into clinical practice increases the efficacy and accountability of the clinician. Nurses and other clinicians can take responsibility for their practices and revolutionize health care by gaining knowledge and skills in the evidence-based practice process.18 Evidence-Based Practice mentors. collaborations between academic and clinical settings, evidence-based practice advocates, clearly articulated research, time and resources, and administrative support are all important components of a best practice culture.18

Undergraduates who have exposure to research in their formative years tend to have a more favourable outlook towards research. This has been found in several studies.<sup>5,17</sup> Undergraduate students are interested in performing research, according to the findings of this study. Despite the fact that research methodology and biostatistics were included in the curriculum, undergraduates were unable to participate in research due to a lack of practical experience with the research process, which may lead to the misconception that conducting research is a difficult task, as indicated by the findings. Given the current situation, in which the world is developing at an incredible rate, research is the most effective approach for a profession to stay up with changing societal needs. As much as we give importance to clinicians, researchers who diligently work towards forming the scientific databank, evidence for the current practices, devising new

methods analysing and preparing them for utilisation is of paramount importance. A study conducted by Pighills A. and colleagues says that academicians and clinicians should work closely to produce clinically relevant research.<sup>19</sup>

The growing trend of evidence-based practice shows the increasing need for rehabilitation professionals to indulge in research activities. As per a study conducted by A. Thomas and M. Law, fieldwork experiences and research activities that take place in clinical settings along with defined roles for universities in supporting evidence-based practice have the potential to achieve some important outcomes in promoting evidencepractice. They highlighted that more based participation in research would in turn lead to the use of research findings in practice as well.<sup>20</sup> A discipline that continuously evolves and has a scientific basis to account for its theories and practices is a discipline that can effectively make its place in the current advancing world.

The most common hurdles encountered by the participants to indulge in research are lack of funding, insufficient mentorship, lack of incentive in research which further contributes to sparse motivation and interest towards scholarly work in students. Furthermore, the emphasis on education far outweighs the importance placed on research throughout undergraduate years. A healthcare organisation could be transformed by an evidence-based practise programme that aims to produce mentors in both clinical and academic contexts.<sup>21</sup> Application of learned subjects is imperative to gain confidence in a particular area and same goes for research. Occupational therapy practitioners are still hesitant to use EBP due to a lack of confidence in evaluating and applying research.<sup>21</sup> Another factor for shying away from the research is the lack of mentorship for students to guide them through the research process. These findings are consistent with those of prior investigations.7,8,22,23 Although knowledge is insufficient in itself to change behaviour, it is a necessary prerequisite. Regular journal reading, whether through personal subscriptions or access through facility libraries, can support lifelong learning and the adoption of new findings.<sup>24</sup>

#### CONCLUSION

According to the findings, students had a positive attitude toward research, which is an excellent sign for the profession's future. The students' enthusiasm for research gives the Indian allied health profession reason to be optimistic about the future. The limiting issues, such as a lack of funds, infrastructure, mentorship, and practical training, must be addressed in order to permit involvement in research-related activities. The major barrier being the priority given to education over research in universities needs to be addressed by the concerned authorities.

**Ethical Approval:** Ethical approval was taken through section 1 of google forms from each participant.

# LIMITATIONS OF THE STUDY

- Small sample size

- Only Undergraduate students were included

- No standardised scale was used to measure the attitude towards research.

## **SCOPE FOR FUTURE STUDIES**

- Factors that can enhance research participation

- Curriculum changes needed to indulge students in research

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