

Attitude and Anxiety of Master of Physiotherapy Students towards Research - An Observational Study

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Abstract: **Background:** Physiotherapy research promotes optimum care for patients through evidence-based physiotherapy practice. Students' attitude towards research motivates them to engage in research, develop research skills and apply research findings in clinical settings to promote positive patients outcome. **Aim:** The aim of this study is to analyse the attitudes and anxiety of Master of Physiotherapy students towards research component. **Materials and Methods:** A cross-sectional survey was carried out with purposively selected students (n=100) from Physiotherapy colleges in Ahmedabad. With informed voluntary consent, data on students' attitude and anxiety toward research were collected using Revised-Attitudes toward Research (R-ATR) scale which was devised by Elena T. Papanastasiou in 2005. R-ATR consists of 13 items measured on a 7-point Likert scale. A value of 1 indicates a response of 'strongly disagree' and a value of 7 corresponds to 'strongly agree'. Analyses were performed using SPSS version 20. **Results:** Most of the participants 'strongly agree' (5.52) that research is useful for the career, 'very high' (5.27) Positive attitude towards research and 'very high' (4.78) anxiety towards research. **Conclusion:** Although many of the students have a favorable attitude towards the research and acknowledge its usefulness and benefit to Physiotherapy profession, many of them perceived their research course as stressful and have anxiety towards the research.

Keywords: Research, Attitude, anxiety, Master of Physiotherapy students

1. Introduction

Research is the process of collecting and analyzing information to increase our understanding of the phenomenon under study². The aim of the research is to contribute towards the understanding of the phenomenon and then to communicate that understanding to others. It gives rewarding learning experiences for students, producing graduates capable of high personal and professional achievement⁴. In today's fast-changing world, research has become one of the most important intellectual possessions for every human being to change his way life in accordance with the needs and demands of the society. It is a key ingredient in shaping up the world that man lives in and the new experiences they see and encounter in their surroundings. It opens new frontiers to many fields like education, business, economics, medicine and science. Truly, research in itself had made a significant contribution to man's giant leap towards the future⁵. The core curriculum must ensure that relevant and appropriate research expertise is attained by all graduates who are then provided with a suitable foundation from which they can develop such specialized research skills as may be required in their careers⁶. Attitude is positive or negative affect towards a particular subject. A comprehensive definition of attitude includes emotions, beliefs, behaviors and their interaction⁵. The attitude towards research basically means a detailed study of thinking, feeling and the person's behavior towards research. It is important to identify the attitudes toward research so that a positive attitude can be developed among students and hence their learning can be facilitated in turn. Students usually tend to view research methods courses negatively⁷. Many records could show evidence of the students' negative attitudes towards research in relation to courses in, statistics and mathematics^{8, 9}. A number of researches have been

conducted to explore the attitude and anxiety towards research and the results showed that attitudes towards research are generally not positive. Students think that it is tough and dry to study the research⁸. they do not understand the concepts of research and its importance in their professional life¹⁰. Prior research studies have found that negative as well as positive attitudes towards a course can impact the sum of attempt one is prepared to go through in acquiring knowledge or skills in that subject, which may have an effect on choosing higher level courses in analogue fields beyond those of minimum requirements^{7, 11, 12, 13}. To date, a very few research have evaluated Physiotherapists' perspective outlook on research within the Physiotherapy practice in India. Therefore, evaluating the Master of Physiotherapy students' attitude and anxiety towards research is a need to design patient centered teaching and learning strategies that will promote favorable attitudes of learners towards research in the physiotherapy domain.

Aim

The aim of this study is to measure the attitude and anxiety of Master of Physiotherapy students towards research.

Objective

- To measure the attitude of Master of Physiotherapy students towards research.
- To measure the anxiety of Master of Physiotherapy students towards research.

2. Materials and Methods

A cross-sectional study was conducted in the form of an offline, questionnaire-based survey. 100 master of

physiotherapy students participated in the study from Ahmedabad city and study duration was of 1 month.

The inclusion criteria of the study:

- Master of Physiotherapy students.
- Colleges of Ahmedabad city.
- Age group 20 to 30 years.
- Both male and female.
- Willing to participate.

The exclusion criteria for the study are:

- Students who were taking anti-depressants.
- Colleges of different districts.

The survey was circulated to the Master of Physiotherapy students. Their informed consent was obtained for use of their data for this study. To prevent multiple responses from the same participants, only one response was allowed per item.

Methodology

100 Master of Physiotherapy students were taken from Ahmedabad city and study duration was 1 month. The Revised Attitude Towards Research (R-ATR) Questionnaire were distributed to the Master of Physiotherapy students of different colleges of Ahmedabad. After that participants were screened for inclusion and exclusion criteria those who were meeting the inclusion criteria were included in the study. Written consent form was obtained after explanation.

Instrument

For the purpose of this study, the researcher administered the R-ATR scale which was R-ATR scale consists of 13 items measured on a 7-point Likert scale. A value of 1 indicates a response of ‘strongly disagree’, and a value of 7 corresponds to ‘strongly agree’. The items in the R-ATR were subdivided into five subscales: usefulness of research

in the students’ profession (4 items); research anxiety (5 items); and positive attitudes towards research (4 items).

Statistical Analysis

The data was analyzed using SPSS version 20. The background characteristics and study variables were described as Mean and standard deviations (SDs).100 students participated in the study. 89% were female which is representative of the gender breakdown of the students in the college of education at Ahmedabad. A higher response on each question corresponded to more positive attitudes toward research. All of the items had an average score between 3.92 and 5.54 on a 7 point likert scale. The standard deviations of all items were reasonable and ranged from 1.44 to 1.75, indicating that no item had a strong floor or ceiling effect.

3.Results

Data was analyzed using SPSS version 20. The mean age of patients was (22.26±3.65) with involvement of 11 males and 89 females. Attitude and anxiety of students were measured. Average Mean and SD of research usefulness were 5.52 (SD=1.59), Research Anxiety were 4.78 (SD=1.62) and Positive research predisposition were 5.27 (SD=1.48).

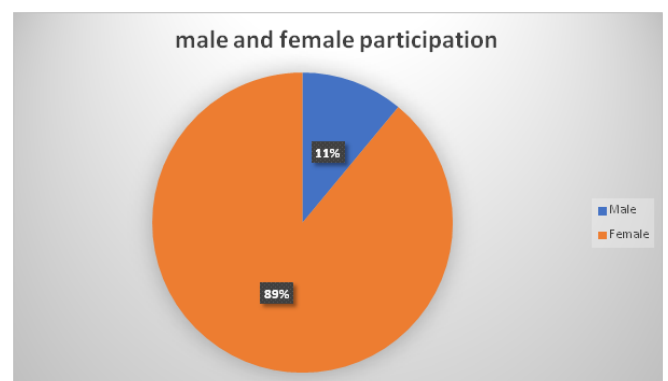


Table 1: factor 1: Research Usefulness

Research Usefulness	Mean	SD
Research courses are useful for my career	5.54	1.55
Research is connected to my field of study	5.48	1.46
The skills I have acquired in research will be helpful to me in future	5.38	1.75
Research should be indispensable in my professional training	5.69	1.64

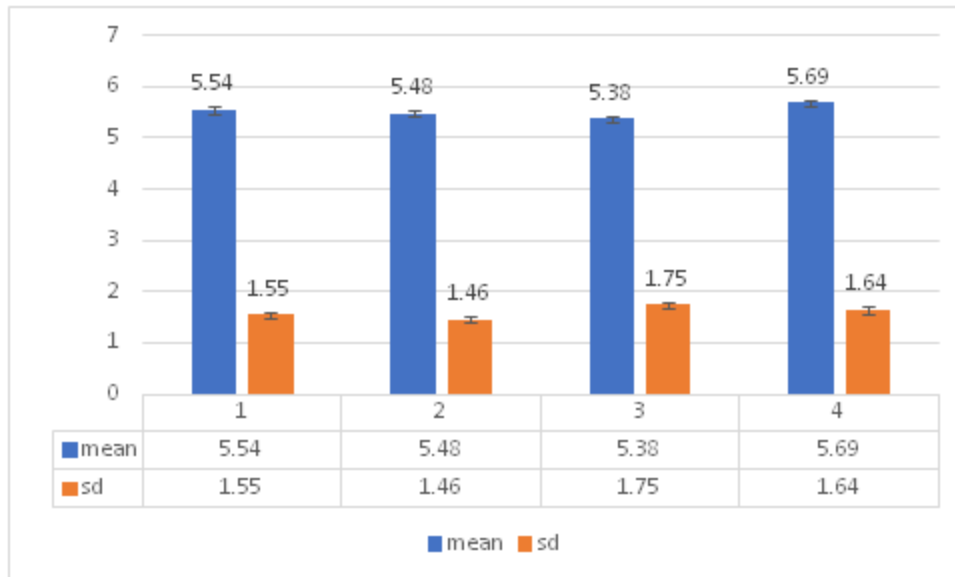


Table 2: Factor 2: Research Anxiety

Research Anxiety	Mean	SD
Research courses makes me anxious	4.57	1.55
Research courses scare me	4.07	1.72
Research courses are stressful	4.61	1.75
Research courses makes me nervous	4.49	1.64
Research courses are difficult	4.65	1.45

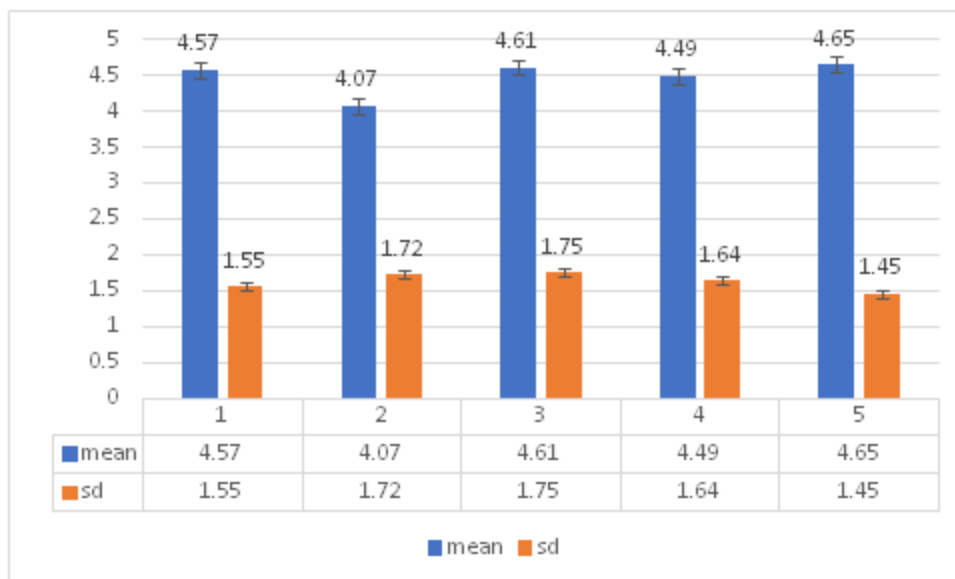
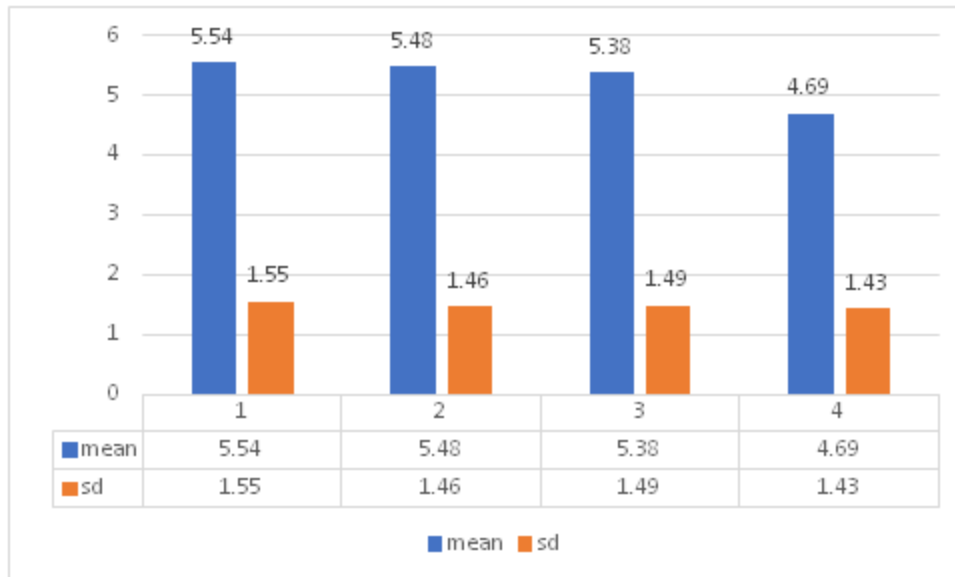


Table 3: Factor 3: Positive Research Predisposition

Positive Research Predisposition	Mean	SD
Research is useful for my career	5.54	1.55
Research is connected to my field of study	5.48	1.46
The skills I have acquired in research will be helpful to me in the future	5.38	1.49
Research should be indispensable in my professional training	4.69	1.43

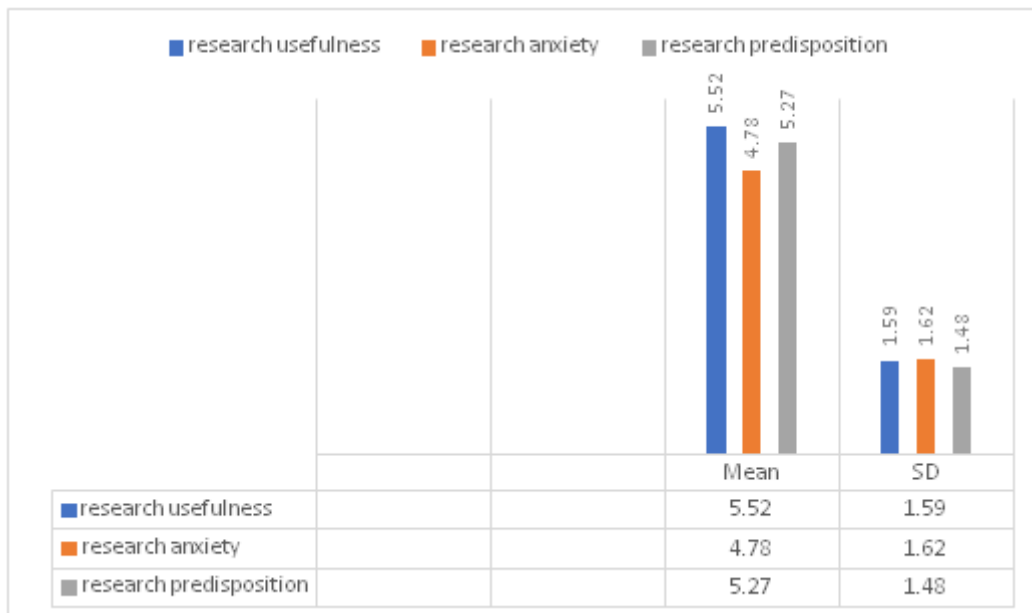


The mean score from all the attitude items was calculated from the individual scores. Higher scores indicate positive attitude toward research while lower scores reflect less encouraging attitude toward research. Operationally, low,

moderated, and high levels of attitude toward research were scores of 1.00 – 3.50; 3.51 – 5.49 and ≥ 5.50 , respectively.

Average Mean and SD of Factor 1, Factor 2 and Factor 3

Factors	Mean	SD
RESEARCH USEFULNESS	5.52	1.59
RESEARCH ANXIETY	4.78	1.62
POSITIVE RESEARCH PREDISPOSITION	5.27	1.48



4. Conclusion

According to the result of this study we concluded that the master of physiotherapy students have “very high” attitude in Research usefulness, “very high” Anxiety towards

research, “very high” Positive research predisposition. Our findings add new data to the knowledge of attitude and anxiety in the master of physiotherapy students towards research.

Revised Attitude towards Research (R-ATR) Scale

Please rate your degree of agreement or disagreement with each of the following statements

	1. Strongly disagree	2.	3.	4.	5.	6.	7. Strongly agree
1. Research courses make me anxious	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I enjoy my research course(s)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Research courses scare me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Research is useful for my career	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. I love research courses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. I find research courses interesting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Research is connected to my field of study	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Research courses are stressful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Research courses make me nervous	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. The skills I have acquired in research will be helpful to me in the future	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Research should be indispensable in my professional training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Research courses are difficult	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Research courses are pleasant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. Discussion

Research results showed that most of the participants (80%) reported that research is useful for the career. Positive attitude towards research was demonstrated by 69.33% Master of Physiotherapy students with mean and standard deviation score of 4.25 ± 1.12 . In the present study overall 72.67% of students have anxiety towards research with mean and standard deviation score of 3.60 ± 1.40 .

Similar findings were reported by Alghamdi et al¹⁵ who conducted a study among final year undergraduates in medicine at King Saud University, Riyadh, KSA, in which 67.4% felt that conducting research should be mandatory for all medical students in their curriculum and also by Samia Saud A et al¹⁴ who conducted research on undergraduate nursing students at the College of Nursing A, King Saud bin Abdulaziz University for Health Sciences, and found that that students are benefitted from studying and conducting research ($n = 123$, 72%), nearly 70% ($n = 120$) expressed their desire to study research process in detail ($n = 108$, 60.6%) and 73% of the students felt that research oriented thinking is suitable for professional life but not for personal life. Consistent findings were reported by Al Nashmy et al¹⁶ and Amin et al¹⁷ that Bachelor of Science graduates in medical and allied health subjects in the KSA, demonstrated a moderately positive attitude towards research with mean and standard deviation score of 4.4 ± 1.1 out of 6. Siamian et al and Abida Arif et al reported that participants had a positive attitude towards research, mainly for the activity

to review the literature to keep the knowledge update and use research results to improve practice.

About one fourth of the student reported no interest in any such activity. Sabzwari, Kauser and Khuwaja¹¹ conducted a study on junior faculty in the medical profession in Pakistan and found that though the majority of them perceive research a difficult endeavour they have a positive attitude towards the research. Sadia Shaukat et al. conducted a study on the arts and science undergraduate students and found that students have a positive attitude towards research though most of them display a negative attitude on the difficulty of research. Papanastasiou found negative attitude towards research among undergraduate students. Siemens, Punnen, Wong and Kanji found that involvement in research was significantly enhanced in the fourth year medical students compared to the second year medical students. Zan & Martino also found that the performance of postgraduate students towards the research was better compared to undergraduate students. Research is very important to advance the practice for physical therapy in order to assist physical therapists in the development and testing of knowledge which is unique to their practice.

The results were compared between male and female. The study found that male had significantly positive attitudes towards research than the females along those five constructs. The finding was also confirmed by the finding of Oguan, Bernal, and Pinca (2014) that the male students are more positive compared to their female counterparts.

However, similar study of Bibi, Iqbal and Majid (2012) argued otherwise that male and female students have almost the same level of attitude toward research. Within the same interest, Belgrave, and Jules (2015) conducted a study on the attitude of students toward research. The study also found that students had a positive attitude toward research and it validated the hypothesis that students' perceptions of the functionality of research and its meaningful application to real-life situations results in a positive attitude towards research. Positive attitude can be a result of knowledge on research as pointed out by Hofmeister (2007), Kakupa and Zue (2019) and Seher (2018). By comparing Master students' and Doctoral students' attitude toward research, their study found that Doctoral students have more positive attitude toward research compared to Master students. Students who had more exposure to scientific research had positive attitude toward research (Seher, 2018). Therefore, the study pointed out that self-efficacy is positively related to positive attitude toward research as pointed by Oguan, Bernal, and Pinca (2014) that those with a high academic qualification and academic grade display a high positive attitude towards research (Rezaei, 2013).

Therefore Memarpour, Fard and Gashemi (2015), Monir, Bolderston (2009) suggested to provide greater availability of information in order to solve the problems related to self-efficacy and engage in research. Beside positive attitude toward research, there have been a lot of studies also pointing out the negative attitude toward research. Monir, and Bolderston (2009) had pointed in their study about the attitude and the perception of students toward research. The study revealed that students have negative attitude toward research and because of such negative attitude, the students have general disinterest in conducting research. They argued that general disinterest in research is the most common reason why students are not engaging in research. This was also confirmed by Oguan, Bernal and Pinca (2014) that most students have negative attitude toward research and they found research to be difficult. Though students recognize its usefulness and importance but they find it difficult and anxious toward research (Al Furaikh, et.al, 2017) and this attitude was caused by their lack of knowledge about research as pointed out by Kleinbaum and Swenson (1984), Kumari, et.al (2018). Feeling that research is difficult is discouraging students to conduct research as it is found that this is one of the reasons why graduate students do not finish their studies (Kleinbaum and Swenson, 1984). In terms of attitude and the intention to conduct research in the future, the previous studies have a mixed answer. Though students have positive attitude toward research and see research as useful in their profession and for their promotion, however, studies showed that positive attitude will not always translate into action, will not translate into plan to conduct research in the future. They cited many reasons along this line. For example, Siamian (2015) in his study found that students had a very positive attitude toward research, and it is useful in their life but such positive attitude did not correlate to their plan to conduct research in the future.

6.Limitations and Future Scope

The generalisation of the findings to other Physiotherapy students is limited due to the homogeneous nature of the sample. The research samples were selected from Physiotherapy colleges in Ahmedabad district. Although this college had students who came from different cultural, socioeconomic and demographic backgrounds, the results would be more informative if more colleges from different districts had been included. Another limitation is related to data collection which was conducted one time only. Even gender determination in results was not determined. A longitudinal study would be more worthwhile to observe the process of attitude change of students over time. The study does not indicate the baseline attitudes scores. It will be more valuable to conduct a future study on the pre-test and post-test research design to determine the attitudes of the students towards the research when they commence research subject and when they complete it. Finally, future research can be carried out to find out the comprehensive details of the barriers faced by students to participate in research activities to enhance the growth of the Physical therapy profession.

Funding

Nil

Conflicts of Interest

There are no conflicts of interest.

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