

Cross-Sectional Survey on Physiotherapy Students' Attitudes towards Research

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Author's Contribution

^{1,2}Conception and design, Collection and assembly of data, ²Analysis and interpretation of the data, ³Critical revision of the article for important intellectual content, ^{2,3}Statistical expertise.³ Final approval and guarantor of the article

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A B S T R A C T

Background: Research plays an essential part in academic advancement of medical students. At student level research experience is highly associated with future career achievements.

Objective: The study was aimed at determining physiotherapy students' attitude towards research.

Methodology: A cross-sectional survey was conducted from August 2019 to November 2019. A sample of 308 undergraduate and postgraduate physical therapy students was recruited. The responses of participants were taken on self-administered questionnaires consisting of Attitude towards Research scale.

Results: Most of the students reported a positive attitude towards research (n=56.2%). The participants reported overall higher mean scores for Attitude towards research i.e. 4.18 ± 0.94 . There was no significant association between Overall attitude towards research and undergraduate/Postgraduate Programs (p-value>0.05). Positive Attitude towards research was reported by 59.7% postgraduate students and 53.6% undergraduate students.

Conclusion: Majority of the students had positive attitude towards research.

Keywords: Attitudes, Physical therapy, Research, Students.

Introduction

Nowadays scientific communities of a country take research situations as a measure of progress in science.¹ In today's changing world research is an important intellectual possession for everyone to alter their life according to the demands and needs of society. ² One of the most important part of medical education is educating in health research as the biomedical research expansion as well as progression is leading to transform medical care. ³

Professional research is known as the base for promoting and upgrading technology and medicine.⁴ Medical institutes are educating students, for reaching accreditation standards as well as supporting prospective of students about their career and for generating a pool of researchers.⁵ Curricula of research have been reformed by medical institutes for

training of students in research.⁶ This has now become a requirement for each student who wants to get a bachelor's degree. It is a challenge as well as a priority of medical academics and educators to promote research activities among medical students at undergraduate level.⁷ Students of post-graduation may view research courses with greater enthusiasm and seriousness since they believe it will benefit them in their professional lives. ⁸

When compared to graduates who were not active in this subject throughout their undergraduate degree, undergraduate students who are involved in research have a considerable impact on doing research projects after graduation. ⁶

"Either positive or negative effects toward a subject is called an attitude" and this attitude toward research entails a thorough examination of a person's thoughts, feelings, and actions in relation to research.⁹ In this era where efforts are directed towards promotion of research culture among all professions, this is a very discouraging situation.¹⁰ Problems such as research difficulty, number of workloads on students as well as anxiety regarding the research subject are associated with negative attitude of students.² Faculty at teaching-intensive universities can improve student learning while also profiting from a fruitful research programme.¹¹ Presentations and publications, in turn, assist the university by increasing its prominence in the scientific community. Furthermore, incorporating scientific research into the medical curriculum will foster a competitive climate in which supervisor will be challenged to improve and expand their research capacities and output. During research projects, supervisory aid helps students minimize academic challenges.¹²

There are many factors that effects attitude of students regarding research which needs to be identified to promote the culture of research in medical institutes.⁷ For intrinsic motivation regarding engaging in research, a positive attitude is required.¹³ To increase basic as well as clinical healthcare related research, number of researchers and to develop a proper center for research in our country, a positive attitude as well as students' motivation is needed to be enhanced and established.¹⁴

The goal of this study was to assess physical therapy students' attitudes toward research. There is limited information on physical therapy students' attitudes towards research. Some research studies have focused on undergraduate medical, nursing, and social work students' attitudes toward research, but no similar studies exist for undergraduate and postgraduate physical therapy students. Findings of this study will assist in identifying their attitude and provide an insight into necessary measures for enhancing research activities by students.

Methodology

This cross-sectional study was conducted after the approval from the Institutional review board of Azra Naheed Medical college (690/DPT/ANMC/SU). Sample size was calculated using 61% prevalence of positive research attitudes in medical students. However, the response rate was 85.5% and 308 students responded. Participants were selected using a convenience sampling technique from different private and government physical therapy institutes of Lahore, Pakistan. Final year undergraduate and final semester post graduate physical therapy students were selected for the study. Students were excluded if they were unwilling to participate, or they had

elected for a course instead of research project and PhD students.

Before distributing the questionnaire nature and purpose of the study was explained to the students. Students were asked to complete the questionnaire after signing the consent form. A Self-administered questionnaire comprises of demographic portion and Attitudes towards research scale (ATR) was distributed.

Attitude towards research scale consists of thirty-two items with 5 sub dimensions which are usefulness of research, anxiety of research, positive attitude towards research, relevance to life and research difficulty. Each Item was scored on a seven-point rating scale. "Strongly disagree" is scored one, while "strongly agree" is scored seven. The reliability of the whole scale is very high and equaled 0.939.¹³ Difference of each factor was compared to the median 4. Means >4 was considered Positive and Means <4 was considered negative. Reverse coding was done for negative items. Reliability is good (Cronbach's $\alpha=0.82$).^{13, 15} The ATR consists of both negative worded and positive worded items and a higher score represents higher level of positive attitude.¹⁶ SPSS version 20 was used to analyze the data. Independent t test was used for between group comparison of research attitudes between undergraduate and postgraduate students. A P value of less than 0.05 was considered significant.

Results

The mean age of the students was 25.26 ± 2.59 and the mean cGPA was 3.22 ± 0.49 . Majority of the respondents reported a Positive Attitude towards research ($n=173$, 56.2%). The lowest scores were reported for the subscales, "Research anxiety" and "Research difficulty" with a mean value 3.17 ± 1.06 and 3.63 ± 1.51 respectively which show a negative attitude. The highest mean score was reported for the subscale, "Research usefulness" i.e., 5.30 ± 1.05 . Comparison of research attitudes between undergraduate and postgraduate students showed significant difference in research usefulness subscale ($p\text{-value}<0.05$) with a higher mean score for postgraduate students. Research anxiety, positive attitude,

Table I: Descriptive statistics for Attitudes towards research among undergraduate and postgraduate physical therapy students.

	Mean \pm SD
Research usefulness	5.30 ± 1.05
Research anxiety	3.17 ± 1.06
Positive Attitude	4.61 ± 1.31
Relevance to life	4.29 ± 1.40
Research Difficulty	3.63 ± 1.51
Overall Attitude	4.17 ± 0.94

relevance to life also had significant differences between undergraduate and postgraduate students ($p\text{-value}>0.05$). The research difficulty subscale had non-significant difference between undergraduate and postgraduate students ($p\text{-value}>0.05$). The total score of Attitudes towards research scale also showed non-significant differences between Undergraduate and postgraduate Physical therapy students ($p\text{-value}>0.05$)

Table II: Comparison of Attitude towards research between undergraduate and postgraduate physical therapy Students.

Subscales	Under graduate (n =154)	Post graduate (n =154)	P Value
	mean \pm SD	mean \pm SD	
Research usefulness for profession	5.13 \pm 1.15	5.47 \pm 0.91	.006
Research anxiety	3.32 \pm 1.13	3.02 \pm 1.01	.014
Positive attitude towards research	4.34 \pm 1.24	4.88 \pm 1.34	.000
Relevance to life	4.07 \pm 1.28	4.51 \pm 1.49	.007
Research difficulty	3.55 \pm 1.53	3.65 \pm 1.51	.540
Overall Attitude towards research	4.08 \pm 0.91	4.27 \pm 0.97	.084

Discussion

This study was focused on determining the attitudes towards research among physical therapy students. We also determined the differences of research attitudes between undergraduate and postgraduate physical therapy students.

Our findings showed that most of the participants had positive attitudes towards research. These findings are comparable with previous study.^{9, 14} A previous study showed that undergraduate students have a negative attitude toward research.¹¹ According to a survey performed in 2014, postgraduate students scored higher on research projects than undergraduate students.¹⁷ It's possible that this is because postgraduate students have already done research as part of their undergraduate studies.¹⁸

Our results showed that majority of the student consider research relevant and useful for their profession similar to the study previously done.³ Previous study showed finding where 44% agreed that research will have an important role in their future profession.¹⁹ In this study, postgraduate students regarded research as being more useful and relevant to their career than undergraduate students. The favorable opinions of postgraduate students may be due to the fact that they are at a critical point in their careers and hence place a high value on research.^{5, 9} The low opinion of students about the relevance of research to life will be an obstacle in future.

Many students have positive response, that in medical institutes teaching research subject would be helpful in their education.^{2,16}

As reported previously regarding the anxiety and difficulty our research also showed that student count research more stressful and complex, and for them the concepts were hard to understand and that they would make mistakes (10). According to a previous study, students' knowledge and attitudes towards research improve as they progress through their schooling. According to the findings of a recent study, postgraduate students find research more challenging than undergraduate students. The reason could be the type of study done in postgraduate is different than undergraduate research project.²⁰

The data was only gathered once for this study, which constituted a drawback. To determine the process of change in student attitudes over time, a longitudinal research would be more effective. It would be more helpful to use a pre- and post-test research strategy to determine students' attitudes when they are exposed to the study issue and after they have completed it. It is suggested that this study be replicated using other demographic descriptions to find the components that contribute to student anxiety and attitude. The baseline attitudes ratings are not mentioned in the research. Future research on pre-test and post-test research design will be more beneficial in determining the attitudes of students toward research when they begin the research subject and when they finish it

Conclusion

There exists an overall positive Attitude towards research among both undergraduate and postgraduate physical therapy students.

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