

Knowledge, experience, attitude and barriers of postgraduate physiotherapy students toward extracurricular research activities

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Objective: To determine knowledge/experience, attitudes and barriers of postgraduate physiotherapy students in extracurricular research activity.

Methodology: This descriptive cross-sectional study was done from April to October 2019 using convenient sampling technique. All Postgraduate Physiotherapy Students graduated within 2 to 5 years, both genders, currently working in health care management were enrolled. A self-made questionnaire was distributed among 163 students online/manually in Lahore and Islamabad Universities. The validity of the questionnaire is 0.92. The data were analyzed

using SPSS Version 20.

Results: Majority of participants had knowledge and positive attitude toward extracurricular research activities. Approximately 68% of the students were aware of extracurricular research while others stayed neutral. The major barriers which were faced in research activities were unavailability of mentors (73.6%), and lack of time (61.3%).

Conclusion: Majority of participants had knowledge and positive attitude towards extracurricular research activities. (Rawal Med J 202;46:118-122).

Keywords: Attitude, barriers, extracurricular.

INTRODUCTION

Research is the basic need for clinical and academic professionals, which develops and improves patient care and also enhances students' skills and latest knowledge as key to evidence based practice.¹ It is associated with carrier achievements from graduate to post graduation level.² Many students think Extracurricular Research Activity (ERA) is important and they have positive attitude towards it, but few of the students have worked properly and published their work by their own. Some know how to present a scientific paper as well as writing up and submitting a paper for publication.³ They also face number of issues like, lack of time, funding, work load and different procedures of research including statistical work.⁴ ERA gives positive attitude toward the students to improve their academic performance, maintain study skill and physical activity.⁵

Many students do not always participate in ERA because they are unaware and don't know the importance because lack of adequate research training so they cannot conduct any research.⁶

Some do not have enough knowledge to write a scientific paper, lack of time, insufficient database access have barriers in research.⁷ Majority of the clinical students are actively involved in ERA, because they are able to select topics of their own interest and enjoy the opportunity to present their work and discuss their topic with colleagues having similar interest.^{8,9} In Pakistan problems of attitudes and barriers in ERA have been explored but these problems are not highlighted at postgraduate level. The aim of this study was to determine knowledge/experience, attitudes and barriers of postgraduate physiotherapy students in ERA.

METHODOLOGY

This descriptive cross-sectional study was carried out from April to October 2019 after the approval of study. Data were collected from postgraduate physiotherapy students of Lahore and Islamabad.

$$\text{Sample size} = \frac{Z_{1-\alpha/2}^2 p(1-p)}{d^2}$$

Sample size was calculate by above formula and came to be 163 by applying following parameters, Where, $Z_{1-\alpha/2} = 1.96$ (Standard normal variant at 5% type I error ($p < 0.05$), $P = 0.88$ (Expected proportion in population), $d = 0.05$ (absolute error). All Postgraduate Physiotherapy Students who had graduated within 2 to 5 years, both genders, currently working in health care management were enrolled. Those who are employed like teachers are excluded. The data was collected manually and online by Riphah International university of Islamabad, ISRA university of Islamabad, The University of Lahore and Riphah International university of Lahore. An informed consent was taken from all participants.

A self-structured and pre validated questionnaire was used. Eight professionals validated the questionnaire and validity was 0.92. This questionnaire has four parts. Part one is based on demographic data and each part describe an assessment of different aspects. Knowledge was assessed by three questions, Attitude assessed by five and barriers by four questions.

Statistical Analysis: Statistical analysis was performed using SPSS version 21. Mean and standard deviation were calculated for quantitative variables and frequency /percentage for categorical variables at level of ≤ 0.05 as significant.

RESULTS

A total of 163 students participated in the study. The mean age was 25.46 ± 2.41 . Participants were selected from Lahore city and Islamabad and most were from Riphah University and UOL (Table 1). Regarding knowledge, in response to the question, "extracurricular research activity, 112(68.7%) participants responded yes, 30(18.4%) responded "No" and 92(56.4%) said that they had knowledge of scientific paper (publication) (Table 2).

Table 1. Socio-demographic profile (n=163).

Variable		Number	%
Gender	Male	59	36.2
	Female	104	63.8
Semester	Semester 1	35	21.5
	Semester 2	59	36.2
	Semester 3	36	22.1
	Semester 4	33	20.2
Course	Neuromuscular physiotherapy (NMPT)	51	31.3
	Orthopedic manual physical therapy (OMPT)	48	29.4
	Sport physical therapy	31	19.0
	Cardiopulmonary physical therapy	7	4.3
	Musculoskeletal physical therapy (MSK)	26	16.0
City	Lahore	102	62.6
	Islamabad	61	37.4
Institute	Riphah International University	84	51.5
	University of Lahore (UOL)	71	43.6
	ISRA University Islamabad	8	4.9

Table 2. Responses of participants.

Knowledge, Attitude and Barriers		Yes	No	Neutral
Knowledge	Do you know what extracurricular research activity is?	112(68.7%)	30(18.4%)	21(12.9%)
	Do you have enough knowledge upon how to write a scientific paper for publication?	92(56.4%)	43(26.4%)	28(17.2%)
	Have you participated in extracurricular research project and received any extracurricular research education/training program respectively?	82(50.3%)	51(31.3%)	30(18.4%)
Attitude	Do you believe that extracurricular research activities are important for postgraduate students?	137(84%)	6(3.7%)	20(12.3%)
	Do you believe that your extracurricular research activities are important for future?	127(77.9%)	20(12.3%)	16(9.8%)
	Do you think more workshops upon how to write a scientific paper, will be beneficial?	117(71.8%)	20(12.3%)	26(16%)
Barrier	Do you have any financial support or grant to motivate students to conduct research?	89(54.6%)	47(28.8%)	27(16.6%)
	Do you have any resources to publish your research?	66(40.5%)	76(46.6%)	21(12.9%)
	Do you have a lack of time due to other commitments?	100(61.3%)	27(16.6%)	36(22.1%)
	Do you think students should do not receive acknowledgment for activity in research?	84(51.5%)	46(28.2%)	33(20.2%)
	Do you think lack of availability of mentors is a hindrance in your research?	120(73.6%)	13(8%)	30(18.4%)

The results of barriers, 89(54.6%) had grant of financial support for research but 47(28.8%) were not having such support. 66(40.5%) had resources to publish their research, lack of time was barrier felt by 100(61.3%), 84(51.5%) thought students should not receive acknowledgment for activity in research and 120(73.6%) participants thought that lack of availability of mentors was a hindrance in the research (Table 2).

DISCUSSION

We found that approximately 68% of the students were aware of extracurricular research while others stayed neutral. However, current result shows that 84 percent of people thought that extracurricular research was also essential at post graduate level. According to this study, around 50 percent of postgraduate students engaged in extracurricular research project and gained extracurricular education/training compared to the previous study in which students obtained a training score of 4.05/5.00.^{10,11} According to an earlier study, 56.1% of preclinical medical students in Lebanon were

engaged in extracurricular activities or had positive interpretation toward research.⁸

There is evidence that demonstrates 71% students thought that if they engage in more seminars or in more projects for extracurricular learning, there will be a huge chance that students will continue to be engaged in ERA in future.¹² We found that 77% postgraduate student had positive attitude toward ERA. This is similar to a study which reported that ERA was important for future.¹³

Our results showed that 51% students did not receive acknowledgement for ERA. Other studies found that majority of students received acknowledgment of research activity who participated in research during at undergraduate level as compared to postgraduate level.^{14,15} Undergraduate students who participated in extracurricular research usually published their article at postgraduate level due to enough knowledge but 10% did not have enough expertise to publish a scientific paper at undergraduate level.¹⁶ Most commonly reported barriers to research were lack of adequate funding and insufficient time.^{17,18}

Our results are similar. Kumar et al reported that students faced barriers about 61% is due to lack of time, did not received acknowledgement for activity in research in 51%, thought lack of availability of mentors as a hindrance in research in 73%.¹⁸ In this study, it was seen that major barriers in conducting research as postgraduate students were lack of knowledge, finance, time and lack of mentorship, as seen in other studies.^{19,20}

The sample size in this study was small because there are only two universities included from Lahore and Islamabad as they post-graduation level programs, that is why the response rate was fairly small. We recommend interactive sessions and workshops on all aspects of research from postgraduate students. Lack of time was found as a significant barrier against research.

CONCLUSION

Majority of participants had knowledge and a positive attitude toward extracurricular research activities. The major barriers which were faced in research activities were unavailability of mentors and lack of time.

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