

PERCEPTION, ATTITUDES
AND BARRIERS IN
UNDERGRADUATE MEDICAL
STUDENTS TOWARD MEDICAL
RESEARCH AT REHMAN
MEDICAL COLLEGE,
PESHAWAR, PAKISTAN

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**PERCEPTION, ATTITUDES AND BARRIERS IN UNDERGRADUATE
MEDICAL STUDENTS TOWARD MEDICAL RESEARCH AT REHMAN
MEDICAL COLLEGE, PESHAWAR, PAKISTAN**

Abstract

Objectives

To identify the perception, attitude and barriers of undergraduate medical students toward medical research at Rehman medical college, Peshawar, Pakistan.

Method

A descriptive cross-sectional study was conducted in undergraduate medical students of Rehman Medical College Peshawar, Pakistan from 15 May to 15th June 2016. A pretested questionnaire was completed by 150 medical students. The questionnaire consisted of 16 questions. The students response was recorded on a Likert scale from strongly agree 1 to strongly disagree 5. The collected data was analyzed by SPSS version 17.

Results

Of the 400 students enrolled 150 of the student's responded. The response rate was 37.5%. 70% of the students had previous experience in research and 92 % agreed that research is an important component of medical education. 88.6% considered research as a mandatory component of medical school curriculum. The motives of the student's behind conducting Research during medical school included Research being mandatory in curriculum (88.6%), facilitating acceptance to residency program (40.7%), Appreciation and acknowledgement by teachers (47.3%) and Research by peer (46.7%).

The barriers were Lack of interest (16.7%), lack of time due to extensive medical curriculum (58%), exam phobia (49.3%) and lack of training in scientific literature (31.4%) and research methodology (25.3%).

Conclusion

The majority of students in the study showed diverse attitudes and perceptions toward medical research. Addressing perceived students barriers can help in an improvement in Research activities among medical Students.

KEY WORDS (MeSH) Undergraduate medical students, Research ,Attitudes, Perception, Barrier.

Introduction:

This is an era of evidence based practice and Research is an important component of medical practice. Without Research no new development would have come in health care.³ Medical student exposed to research have the advantage of getting residency in prestigious training programs if they have publications. After post-graduation our college requires either two published papers in an indexed journal or Dissertation.¹The Pakistan Medical and dental council view research qualifications at par for appointments in teaching medical institutions. The higher education commission is now working toward a strong research culture at a doctoral level. Research papers are required for promotion in professional career however the trend of writing papers after achieving the professional level is low .²

Worldwide there is a growing interest among the medical faculty to conduct research. Many institutions have adopted the scholar role as one of the core competencies .There has been a significant movement towards providing medical students with early research experience with in medical school curriculum.³ There has been a documented decline in the number of Physician scientists in medical practice.³ A number of technical-based specialties have expressed concern of professional stagnation without the constant reconstruction afforded by the development of novel clinical and basic science knowledge. ^{2, 3, 4} Postulated explanations for the decline of the physician-scientist include less financial incentive, family, practice philosophy and inadequate exposure to research before career paths are determined .^{5, 6, 7} The Royal College of Physicians and Surgeons of Canada has adopted the Scholar role as one of the core competencies of specialty training that has translated to the expectation of a contribution to research in training. However, published studies regarding resident and

medical student research in specialty training has documented ambivalent attitudes regarding its value with as much as 75% of residents preferring to engage in other scholarly activities as compared to research.² Other proposed remedies to reverse this disinclination towards basic science or clinical research output by practicing physicians include the implementation of MD-PhD programs, fostering research in sub-specialty fellowships and increased exposure to research at the medical school level by means of medical scientist training programs.¹ Furthermore, there has been a significant movement towards providing medical students with early research experience within the medical school curriculum.

Significance of the proposed study:

There is increasing demand of research in undergraduate medical curriculum, as well as in post graduate, it appears pivotal to inquire into the experience of research during medical school. It is important to know the prevailing attitudes and perceptions of the students toward research so that strategies can be formulated to motivate them for research.

The objectives of this study is to identify the perception, attitude and barriers of undergraduate medical students toward medical research at Rehman medical college, Peshawar, Pakistan.

Material and Methods

This study was conducted at Rehman Medical College Peshawar Pakistan from 15th may 2016 to 15th June 2016. It was a descriptive Cross sectional study. The study population comprised of 1st, second year and third and fourth year undergraduate Medical students with a Sample size of 400 as there are 100 students in each MBBS class. Sampling Technique was non probability convenience sampling.

Inclusion criteria was all undergraduate medical students from Ist year to 4th year MBBS .Exclusion criteria include postgraduate medical students and students not giving informed consent .

Permission to conduct the study was taken from Institutional Ethical Board. Data was collected through a Pretest Structured Questionnaire. The Questionnaire consisted of 16 questions .Questionnaire was developed after pilot questionnaire on 10 students. ² Students response was recorded on the Likert scale for each question from strongly agree 1 to strongly disagree 5.

The questionnaire was distributed to about 400 participants after their informed consent ensuring about their confidentiality and anonymity. It was distributed in first, second and third and fourth year MBBS class after the lectures and was supplemented by emails to all respective students having email accounts so as to get maximum response. Reminders at weekly intervals was sent by Email to all participants to submit the filled in questionnaires.

⁵ Data was analyzed by SPSS version 17. Frequencies ² and percentages were calculated for categorical variables .Mean and Standard deviation was calculated for numerical variables.

RESULTS

Of the 400 students, 150 students responded and returned the questionnaire. The response rate was 37.5%. Out of 150 students, First year MBBS students were 22 (14.7%), 2nd year students were 49(32.7%), 3rd year 26(17.3%) and 4th year students were 53 (35.5%). The table 1 shows sex wise distribution and table 2 shows age wise distribution. The mean age of the students was 21.67 years.

Table 1 Sex wise Distribution:	Frequency	Percent
Male	81	54.0
Female	69	46.0

Table 2 Age wise Distribution:(years)		
19	7	4.7
20	27	18.0
21	29	19.3
22	45	30.0

Table 3		
Previous Experience in Research:		
Yes	105	70.0
No	45	30.0
Total	150	100.0

70% of the students had previous experience in Research (Table 3).

During the study the majority of the students agreed that Research is an important component of medical education (92%). 88.6% of the students believes that Research should be a mandatory component of medical school curriculum, where as 4.7% disagreed with it and 6.7% had a neutral response.(Table 4)

40.7% of the students considered that Research experience should be important criteria for accepting Residency while 48.7% disagreed to it.

The motives of the students behind conducting Research during medical school included Research being mandatory in curriculum (88.6%), facilitating acceptance to residency program (40.7%), Appreciation and acknowledgement by teachers (47.3%) and Research by peer (46.7%).

The Barriers to conducting Research varied widely. The barriers were lack of training in scientific literature and research methodology, lack of interest, lack of time and exam phobia.

Lack of training in Research methodology and in reviewing scientific literature was one of the barrier. Majority of the students (50.6%) in Rehman Medical College thought they had adequate training in Research

methodology, 24% had neutral response and 25.3% said they have Lack of training.

For adequate training in reviewing scientific literature 33.3% had a neutral response where as 35.4% thought there training is adequate and 31.4% disagreed to it.

Research mentors are available to students of MBBS from Ist year at Rehman Medical College.

Research mentors are easily available to medical students in RMI in 43.3% of the students where as 51% disagreed to it and 22.7% a neutral response had. According to students the supervisor offer good training and guidance in 50% of the students, where as 28% of the students disagreed to it and 26% had a neutral response.

58% of the students thought that they don't have ¹adequate time in medical school to pursue Research.

Exam phobia was another barrier to conducting Research.49.3% thought that because of Exam phobia they cannot perform Research, 34.7% disagreed to it and 16% had neutral Response.

Majorly of the Medical students at Rehman medical college thought that they had adequate opportunity to present (66%) and publish (45.4%) Research during medical school.

Table 4

Parameter	³ Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly Disagree
I consider Research as important component of medical education	72 (48)	66 (44)	6 (4)	5 (3.3)	1 (0.7)
I am involved in research because it is mandatory	53 (35.3)	80 (53.3)	10 (6.7)	6 (4)	1 (0.7)
I have no interest in research:	7 (4.7)	18 (12)	26 (17.3)	57 (38)	42 (28)
I consider that ¹ Research will be a part of long term career goals:	65 (43.3)	71 (47.3)	8 (5.3)	2 (1.3)	4 (2.7)
I consider that ¹ research should not be an important criteria for acceptance to residency:	16 (10.7)	49 (32.7)	24 (16)	43 (28.7)	18 (12)
I think that Medical school curriculum should have mandatory time for research:	71 (47.3)	51 (34)	21 (14)	5 (3.3)	2 (1.3)
I have ¹ adequate time in medical school to pursue research:	3 (2)	41 (27.3)	19 (12.7)	41 (27.3)	46 (30.7)
I am involved in research because it is beneficial in post graduate education:	63 (42)	61 (40.7)	21 (14)	3 (2)	2 (1.3)
I receive ¹ adequate training in research methodology in medical school.	17 (11.3)	59 (39.3)	36 (24)	30 (20)	8 (5.3)
I receive adequate training in reviewing scientific literature:	7 (4.7)	46 (30.7)	50 (33.3)	31 (20.7)	16 (10.7)
Research mentors are easily available to me:	12 (8)	53 (35.3)	34 (22.7)	36 (24)	15 (10)
Research supervisors offer good training and guidance to me:	12 (8)	57 (38)	39 (26)	24 (16)	18 (12)
I have adequate opportunities to present research in medical school.	18 (12)	72 (48)	30 (20)	26 (17.3)	4 (2.7)
I have adequate ¹ opportunities to publish research during medical school	¹³ (8.7)	55 (36.7)	42 (28)	4 (22.7)	6 (4)

Parameter	³ Strongly agree	Agree	Neither agree or disagree	Disagree	Strongly Disagree
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I consider that ¹ Research will be a part of long term career goals:	65 (43.3)	71 (47.3)	8 (5.3)	2 (1.3)	4 (2.7)
I consider that ¹ research should not be an important criteria for acceptance to residency:	16 (10.7)	49 (32.7)	24 (16)	43 (28.7)	18 (12)
Appreciation and acknowledgment by teachers to do research is sufficient	17 (11.3)	54 (36)	40 (26.7)	28 (18.7)	11 (7.3)
I am not interested in research because of exam phobia.	30 (20)	44 (29.3)	24 (16)	37 (24.7)	15 (10)
I am doing Research because my peers are doing it.	9 (6)	61 (40.7)	39 (26)	32 (21.3)	9 (6)

Discussion

Research is an important component of advancement and improvement in health care services. Understanding the perception of medical students will help us in devising methods to improve research practices in future doctors.

Research is not concerned a part of the medical school curriculum in many developed countries.¹⁵ However in our institute it was a mandatory component of medical school curriculum.

70% of the students at our institute said that they are aware of research which is comparable to study performed by Meraj et al.⁹

In our study 92% of the undergraduate medical students said that research is an important component of medical education which is similar to the study performed by Khalid et al in which 97.1% had the same view.¹⁰

In the same study a total of 67.4% believed that conducting research should be mandatory which is comparable to our study results. (88.6%)¹⁰

The Different barriers to participating in research in our study were Lack of interest (16.7%), lack of time due to extensive medical curriculum (58%), exam phobia (49.3%) and lack of training in scientific literature (31.4%) and research methodology (25.3%). The barriers reported are similar to those reported in the literature.^(3,4,8,9,10,11,12,13,14,15)

They are also similar to the study performed by Khalid et al¹⁰ in which lack of professional supervisor (84.7%), Lack of training (88.8%), lack of time (54%) and lack of interest (54%) were different barriers.

Lack of time (58%) was seen as an important barrier in pursuing research because of extensive medical curriculum. Our results in this regard are also comparable to the study performed by Siemen et al 2010.⁸ In this study, lack of time was a significant barrier to pursuing research during medical school however 31% of the respondent felt that there was adequate time for research projects. The extensive medical curriculum is physically and mentally demanding and the frequent clinical exams force students to prioritize the major demands of the curriculum ahead of research activities. These circumstances will result in a decreased interest to conduct research. Allocating a fixed-time in the academic calendar for student research may minimize the time obstacle and enable more interaction between students and their supervisors.¹²

The limitation of the study is that Results are limited only to the local institution and it's not possible to generalize the findings. Verification of the

data not possible. It does not represent research attitude trends and Class attendance has affected the response rate.

CONCLUSION

The student's perceptions about research at Rehman medical college were diverse. Majority of the students considered Research helpful in achieving their career goals. However lack of time and extensive curriculum at medical school are important barriers in persuading Research. Addressing perceived students barriers can help in improvement in Research activities in medical students.

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