

Original Research Article

Knowledge, Attitude, Research Participation and Obstructions among Medical Students towards Research

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Abstract

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The purpose of medical research study is very wide. It is about knowing the diseases physiology and pathophysiology, to understand the effect of congenital and outdoor factors on human health, knowing the burden of diseases in the population, introducing the new helpful interventions in the medical field, keeping healthcare workers up-to-date. The purpose of this study was to assess the knowledge, attitude, participation and obstructions among medical students towards research and also their background experience. A cross sectional study was conducted in university students of medical departments such as nursing, doctor of physiotherapy, medical imaginary doctor, IMBB, MBBS were measured in 2020 through based questionnaire. Close-ended question was used to assess the knowledge, attitude, participation and difficulties among medical student while conducting research study. One hundred and thirty-eight medical students were involved in the research study. Most of the students who participated in the research were nursing students 47.8% (66), 16.7% (23) students were medical imaginary doctor, 10.1% student were IMBB department, 25.4% (35) student were department of MBBS, Doctor of physiotherapy. This study showed the average knowledge and behavior of student towards the research but students lacked participation and facing the different barriers while conducting the research study. Students showed average knowledge and attitude towards research. All students know about the advantages of research project but they did not actively participate in any research related tasks because of the obstacles they are facing. These obstructions must be expressed by giving suitable observation, good mentorship, research funding and awards for students to join in research activities. It is suggested to establish research workshops, common research presentations, and journal clubs to provide knowledge and skills needed for the medical students to carry out their logical study in their various prospect.

Keywords: Perception, attitude, barriers, medical research.

INTRODUCTION

Research is a systematic process in which we solve problems. Research can be defined as a systematic collection of data that uses disciplined methods. Research in a few words can be define as "A systematic investigations to answer questions or solve problems using well-organized methods" (Erkin et al., 2017).

Research study is known to have several advantages

such as; it makes the researcher to have good knowledge in their respective field, enables the researcher to make better choices, ensures that the researcher develops individual study abilities. Medical faculty have needs to improve the method of engaging the students in research. They must teach the students that research is not only an activity but a skill that every

healthcare workers must learn.

Medical students also need to know about the requirements of research skills, training needs and research motivations from their educational backgrounds.

According to Falco-Peguerolese et al. (2020), critical thinking is an important support in research study. Critical thinking boots-up scientific competencies and it is an extremely useful tools in clinical practices. Many authors have defined the attitudes and features that must be established to be able to think critically and make decisions in any field. Conducting research in medical field increases daily despite the challenges students are facing in the clinical setup. For example, nursing students have changed level of knowledge in the area of research and they may have different attitude towards research.

According to Bilal et al. (2019), it is proven that medical students have enough knowledge about research and their importance. They are well oriented towards research advantages and the scope of the research study. Although their attitude toward the research process was below average. A study was conducted in the Federal Medical and Dental College, Islamabad, Pakistan to assess the attitude of students towards research-based activities. According to this study, medical students' attitudes towards research is still on the average. They need to improve the attitude towards research. Institutions should conduct the program and training centers and activities that build-up the interest of medical students in research study (Haider., 2020).

Another study conducted was to assess the actual practices of medical students to research in institute of India. According to Neeraj (2020), it is stated that the actual practices of research is not enough for medical students as compared to the attitude towards research. Students of Lahore University have no good practices of medical research. When they begin their projects, they do not understand how they can start, thereby they get confused. In this case, the instructor should give proper time to every student to enhance their interest in research. In many cases, one instructor guides the whole class during research project and he does not have enough time to give proper feedback to the students. This is a barrier toward research from the instructor. Another barrier towards research is that students do not have enough time to do research project. In many cases, students get confused and they get stressed about their project.

According to Soe (2018), medical students have good level of knowledge and positive attitude toward research but have some barriers like lack of time to complete research, lack of research skills, lack of opportunities, financial problems, lack of research mentors, lack of feedback, formal teaching of research methodology, awarding, poor internet connection and inadequate access to relevant medical journals that faces the student during the research. All of these barriers are the reasons

that divest students of interest. When thy faces difficulty in projects, they find out ways to get out from this activity. A good research work enhances motivations, goals, opinions, values, develop positive attitude, improves knowledge and makes a researcher competent in the medical field.

Significance of the study

The students who have contributed in this program showed that this practice has supported their critical thinking skills and increased their understanding of the pathophysiology behind diseases that allows them to better treat and educate their future patients. Past students also shown that this experience sharps their problem-solving skills and encouraged them to be inquisitive. In addition, students mentioned that it was very rewarding to be able to spend their summer getting immediate experience to the trials and problems of research.

Problem of statement

University students face many barriers to conduct a research study. This study contributes to show off their barriers towards research. This study helps to explore the negative and poor knowledge attitude and practice towards research. It also explores the barriers which are facing researchers.

Purpose of the study

The purpose of this study was to know about the knowledge, attitude, practices and barriers towards research. This study also helps to overcome the anxiety and fear toward research.

Objectives of the study

To assess the knowledge, attitude, implementation and barriers among medical students and health-care professionals toward the conduct of a research study.

METHODOLOGY

Study design

A cross-sectional study is designed to figure out the determinants behind the knowledge, attitude, implementation and barriers among the medical students towards research.

Sample size

The students from the departments of Allied Health Sciences made up the population of this study. The target population consist of 138 male and female participants and all in medical field.

Study settings

Students were selected from the university or Lahore.

Study population

All students of medical departments were selected for the study population.

Research tool

Likert scale close ended questionnaire was adopted for data collection from the study participants. Result was analyzed through SPSS.

Sampling Techniques

Questionnaire was used for data collection taken from the article.

Ethical consideration

In this research, ethical consideration will be preferred. For this purpose, the permission will be obtained from the ethical committee institute before data collection. Permission will require a written approval from head of institute in the form of consent. Furthermore, inform written and verbal consent will be taken before data collection from participants. Students will be given the right of autonomy and the nature and purpose of the study will be informed prior to the implementation of any action. Participants will have right to leave the study participation at any time. In this case, other participants will be added for the accomplishment of data information. Participant will be informed about the aims of the study and privacy of the collected data will be assured. A written consent will be taken from respondent to those who will be willing to participate in this study. All respondent will be informed that their participation is highly appreciated and they can participate voluntarily.

RESULTS AND DATA ANALYSIS

Results and data analysis were taken up through

systematical and logical techniques (SPSS version 21) after the accomplishment of data collection process. Table 1

A total of 138 students 43 (31.2%) male and 95 (68.8%) females respectively were included in this study. Overall response rate is 100.0 percent. The students response age group is 68% are they are in between 22-25 years of age. 61% of students age group is 18-21 year of age. The least amount in the students ages is more than 25years. A total of 96.4% of students were BS level and the remaining students from master's level are respondents. A total of 47% of students were included in this study from nursing department. 23% of students' respondents were from department of Medical Imaginary doctors. Respondents were 14% from IMBB department and the remaining were doctors of physiotherapy and little bit MBBS students. The respondents were 95 (68.8%) girls and 43 (31.2%) males. Mostly, students who responded were 2nd year, 3rd and 4th year students.

Questionnaire to assess the previous experience of research to students include 3 items. 35.5% of students only have previous experience of research and the remaining have no previous experience of research. 27% of students spend only 1-4 months of their time. 7.2% of students successfully published their research study.

Overall students have enough knowledge about research study. 60.9% agreed that research study improved their critical thinking. 42% of students were well oriented to research and 40.6% of students agreed that medical research enhanced their knowledge and 26.8% of students strongly agreed to this item.

To assess the attitude of students, 5 items were included. 38.4% of students agreed that medical research is valuable. 29.7% of students strongly agreed to volubility of research. 29.7% of students are interested to conduct a research study. 21.7% of students strongly agreed in research. Answer to the question if research study is enjoyable? 27.5% and 20.3% of student agreed and strongly agreed that research study is complicated. 27.5% agreed that medical research is time consuming, 23.9% neutrally agreed that medical research is time consuming and 29.7 students agreed that medical research is time consuming.

Medical student's research practices are very poor as compared to their knowledge and attitude. In this session, four items were included. Only 33% of students agreed that they are willing to take part in research study. 21% of students strongly agreed to take part in research study but the remaining students do not agree to take part in some students minor practices in research. Only 23.2% and 20.5% students agreed that they have spent more than 2 months taking part in research study respectively. On the other hand, 32.6% and 20.3% agreed and strongly agreed that they are willing to take part in a medical research project even if it does not lead to publication respectively. 31.2% and 19.6% of students

Table 1. Demographic data

SR#	Demographic Characteristics		Number	Percent
			N =523	
1	Age	18-22	61	(44.2)
		22-25	68	(49.3)
		More than 25	9	(6.5)
		Total	138	(100.0)
2	Sex	Male	43	(31.2)
		Female	95	(68.8)
		Total	138	(100.0)
3	Degree	BS	133	(96.4)
		MS/M Phil	5	(3.6)
		Total	138	(100.0)
4	Year of study	1 st year	14	(10.1)
		2 nd year	46	(33.3)
		3 rd year	42	(30.4)
		4 th year	36	(26.1)
		Total	138	(100.0)
5	Department	LSN	66	(47.8)
		MIT	23	(16.7)
		IMBB	14	(10.1)
		Other	35	(25.4)
		Total	138	(100.0)

Table 2. Assess to Previous Experience

SR#	Previous Experience		Number	
			N=138	
1	Another previous/current research experience	Yes	49	(35.5)
		No	79	(57.2)
		Continuing	10	(7.2)
		Total	138	(100.0)
2	Another previous/current research experience duration (months)	No Previous experience	89	(64.5)
		1-4 Months		
		5-8 Months	38	(27.5)
		9-12 Months	7	(5.1)
		Total	4	(2.9)
		138	(100.0)	
3	Publications	No	125	(90.6)
		yes	10	(7.2)
		Soon to be	3	(2.2)
		Total	138	(100.0)

SR#	Question to assess research knowledge		N=138	percent
1	What do you think that medical research promotes critical thinking?	Agree	84	(60.9)
		Disagree	8	(5.8)
		Neutral	24	(17.4)
		Strongly agree	18	(13.0)
		Strongly disagree	1	(.7)
		No idea	3	(2.2)
		Total	138	(100.0)

Table 2. Continue

2	What do you think that medical research enhancing one's career prospect?	Agree	58	(42.0)
		Disagree	14	(10.1)
		Neutral	38	(27.5)
		Strongly agree	22	(15.9)
		Strongly disagree	1	(.7)
		No idea	5	(3.6)
		Total	138	(100.0)
3	What do you think that medical research enhancing knowledge?	Agree	56	(40.6)
		Disagree	13	(9.4)
		Neutral	27	(19.6)
		Strongly agree	37	(26.8)
		Strongly disagree		
		No idea	5	(3.6)
		Total	138	(100.0)
Question to assess research attitude			N=138	percent
4	What do you think that is the medical research being valuable?	Agree	53	(38.4)
		Disagree	12	(8.7)
		Neutral	25	(18.1)
		Strongly agree	41	(29.7)
		Strongly disagree	1	(.7)
		No idea	6	(4.3)
		Total	138	(100.0)
5	What do you think that medical research being interesting?	Agree	41	(29.7)
		Disagree	15	(10.9)
		Neutral	34	(24.6)
		Strongly agree	30	(21.7)
		Strongly disagree	8	(5.8)
		No idea	10	(7.2)
		Total	138	(100.0)
6	What do you think that medical research being enjoyable?	Agree	38	(27.5)
		Disagree	13	(9.4)
		Neutral	41	(29.7)
		Strongly agree	28	(20.3)
		Strongly disagree		
		No idea	6	(4.3)
		Total	12	(8.7)
			138	(100.0)
7	What do think that medical research being complicated?	Agree	34	(24.6)
		Disagree	12	(8.7)
		Neutral	34	(24.6)
		Strongly agree		
		Strongly disagree	40	(29.0)
		No idea	7	(5.1)
		Total	11	(8.0)
			138	(100.0)

Table 2. Continue

8	What do you think that medical research being time consuming?	Agree	38	(27.5)
		Disagree	15	(10.9)
		Neutral	33	(23.9)
		Strongly agree	41	(29.7)
		Strongly disagree		
		No idea	4	(2.9)
		Total	7	(5.1)
			138	(100.0)
Questions to assess research participation			Numbers	
			N=138	
9	Do you have ready to take part in any research related task?	Agree	46	(33.3)
		Disagree	17	(12.3)
		Neutral	34	(24.6)
		Strongly agree	29	(21.0)
		Strongly disagree		
		No idea	7	(5.1)
		Total	5	(3.6)
			138	(100.0)
10	Do you have time to apply more than 2 months on a research study?	Agree	32	(23.2)
		Disagree	22	(15.9)
		Neutral	42	(30.4)
		Strongly agree	31	(22.5)
		Strongly disagree		
		No idea	5	(3.6)
		Total	6	(4.3)
			138	(100.0)
11	Do you have willing to take part in a medical research project even if it does not lead to a publication?	Agree	45	(32.6)
		Disagree	17	(12.3)
		Neutral	38	(27.5)
		Strongly agree	28	(20.3)
		Strongly disagree		
		No idea	7	(5.1)
		Total	3	(2.2)
			138	(100.0)
12	Do you have the willingness to devote the same time to medical research as well as university studies?	Agree	43	(31.2)
		Disagree	16	(11.6)
		Neutral	38	(27.5)
		Strongly agree	27	(19.6)
		Strongly disagree		
		No idea	7	(5.1)
		Total	7	(5.1)
			138	(100.0)
Questions to assess research obstruction			N=138 percent	
13	Do you think that lack of allotted time for research?	Agree	50	(36.2)
		Disagree	13	(9.4)
		Neutral	32	(23.2)
		Strongly agree		
		Strongly disagree	35	(25.4)
		No idea	5	(3.6)
		Total	3	(2.2)
			138	(100.0)

Table 2. Continue

14	Do you think that lack of exposure and opportunities of research in our education system?	Agree	42	(30.4)
		Disagree	21	(15.2)
		Neutral	36	(26.1)
		Strongly agree	31	(22.5)
		Strongly disagree	4	(2.9)
		No idea		
		Total	4	(2.9)
		138	(100.0)	
15	Do you think that lack of training and support to the research will affect in the research process?	Agree	54	(39.1)
		Disagree	6	(4.3)
		Neutral	31	(22.5)
		Strongly agree	41	(29.7)
		Strongly disagree		
		No idea		
		Total	2	(1.4)
		4	(2.9)	
		138	(100.0)	
16	Do you think that lack of mentoring and guidance affect in the research process?	Agree	40	(29.0)
		Disagree	6	(4.3)
		Neutral	28	(20.3)
		Strongly agree	53	(38.4)
		Strongly disagree		
		No idea	5	(3.6)
		Total	6	(4.3)
		138	(100.0)	

strongly agreed to give their time.

Barriers are the main reason while students have poor practices in research. Overall, 61.6% agreed that they have very short time to conduct a research study. 52.9% student asks that they have least number of opportunities to conduct a research study in their educational system. 61.6% students ask that lack of training and support to the research will affect their research process. 67% of students agreed that they had lack of monitoring and guidance and this affected their research study. Table 2

DISCUSSION

A study has been conducted to evaluate the medical student knowledge, attitude practices and barriers towards research study. In the research study, 138 students were enrolled. In the respondents, 95 (68.8%) were girls and 43 (31.2%) were males which is in unity with earlier studies directed by Alsayegh et al., Abushouk et al., and Kyaw et al. (2020).

The medical student had enough level of knowledge and positive attitudes toward the conduct of medical research. These results were same as a research projects results conducted by Soe (2018). 60.9% agreed that research study improved their critical thinking. 42% were well oriented to research and it enhances one's

career viewpoint, 40.6% of students agreed that medical research enhances their knowledge, and 26.8 students strongly agreed to this item. In my results, 84 (60.9) % of students know that research enhances one's careers prospect. 27.5% and 20.3% of students agreed and strongly agreed that research study is complicated.

40.6% of students agreed that medical research enhanced their knowledge and 26.8% of students strongly agreed to this item and the result is similar to previous study results conducted by GU et al. (2020).

38.4% of students agreed that medical research is valuable. 29.7% of students strongly agreed to volubility of research. 29.7% of students were interested to conduct a research study. 21.7% of students strongly agreed in research. My results are similar to the study conducted by Al Furaikh et al. (2017) in previous study.

Only 33% of students agreed that they have the willingness to take part in research study. 21% of students strongly agreed to take part in research study but the remaining students do not agree to take part in some student's minor practices in research. Only 23.2% and 20.5% of students agreed that they have spent more than 2 months' in taking part in research study respectively. Medical student's research practices are very poor as compared to their knowledge and attitude which is similar to a total number of 323(N=323). 279 (86.4%) of students have not participated in any research

related task to the previous research study conducted by Turk et al. (2108.)

There is no doubt that some obstacles are challenging to research work in our universities subjecting it to under fulfilling the goals set for it. There are some obstructions faced by the students to conduct a research study. Obstructions are lack of allotted time for research, lack of mentorship, lack of research knowledge.

In the research study, about 61.6% agreed that they have very short time to conduct a research study. 52.9% of student asks that they have least number of opportunities to conduct a research study in their educational system. Overall, 61.6% of students ask that lack of training and support to the research will affect their research process. 67% of students agreed that they have lack of monitoring and guidance and the research study is related to the results of previous research studies conducted by GU et al., Singh et al., Saeed et al., Yasmin, et al., Auf et al. (2020).

CONCLUSION

This study showed good knowledge and attitude to conduct a research project. But students had not enough practices in research study. Students have average knowledge and attitude toward research. All students know about the advantages of research project but they did not actively participate in any research related tasks because of many obstacles. The obstacles include lack of allotted time, lack of mentoring, lack of exposure and opportunities, lack of guidance, financial problem, not enough knowledge about research project. These obstacles can be reduced through students consulting program. Universities department can provide supervisor that can guide the group of students (4 or 5 students). In this way, he can give each student a good amount of time and guide him properly. These obstructions must be expressed by giving a suitable observation, good mentorship, research funding and awards and providing access to electronic databases to inspire the undergraduate students to joining in research activities. It is suggested to establish research workshops, common research presentations, and journal clubs to provide knowledge and skills needed for the medical students.

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