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Knowledge, Attitude, Practice and Barriers of Research among Medical Students

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ABSTRACT

BACKGROUND: Understanding the concept of evidence-based medicine needs strong research knowledge. Yet, the emphasis of a research-oriented curriculum for undergraduate medical students is not developed to its fullest form. **OBJECTIVE:** The objective of the study was to evaluate knowledge, attitude, experience, and the barriers of research among medical undergraduates. **METHODOLOGY:** A descriptive cross-sectional study was done among medical students. The study participants anonymously filled out a five-part questionnaire consisting of (1) demography 2) knowledge 3) attitude 4) practice 5) barriers). Data was analyzed using descriptive statistics. **RESULTS:** A total of 250 students took part in the study, of which 53.6% were males, and 46.4% were females. 47% was the knowledge score regarding the concept of research and its methodology. Sixty-five percent agreed to the importance of research in medical school, and sixty-three percent believed that research would facilitate a better understanding of the subject and clinical practice. Nearly 61% opined that research was not a waste of time and did not interfere in studies. Barriers for research were lack of awareness (62%), interest (57%), funds (56%), time (56%), and difficulty in follow-up of patients (45%). Almost 40% of students disagreed to lack of encouragement from the faculty. **CONCLUSION**: The study participants had fair knowledge regarding research and expressed a positive attitude towards involvement in research activity. Some of the barriers were lack of awareness, time, funds, and difficulty in patient follow-up.

Key word: Awareness, barriers, medical undergraduates, research

INTRODUCTION

Scientific research is the systematic approach by which theories and hypotheses can be proved or disapproved [(1)]. Research, not just in the medical field but also in every other field, is a way through which students and scholars apply the information they obtained through books onto tests and find new conclusions or confirm pre-established facts. Research assures understanding of the subject and improves the knowledge of students. Understanding the concept of evidence-based medicine needs strong research knowledge, and that can only be obtained through experience. Though nobody denies the importance of research in the medical field, it is still not given much importance when it comes to the undergraduate Indian medical curriculum. Research improves student's critical and independent thinking, creativity, and, most importantly, inquisitiveness and discovery. According to research in 2015, only 4.3% of the institutions had over 100 publications per year which contributed to 40.3% of total research in India. 50.73% of Medical institutions do not have a single publication per year, most of them being public-funded [(2)]. According to previous studies, the factors which play a key role in research are knowledge, attitude, experience, and barriers towards research [(2)]. This research aims to find the knowledge, attitude, practice and perceived barriers among medical students towards research.

METHODOLOGY

A descriptive cross-sectional study was done among 250 medical students of second M.B.B.S., of Narayana Medical College, Nellore. The study was approved in prior by the ethics committee of the institute. The data was collected using a pre-designed, pre-tested, self-administered, validated questionnaire which was used in a previous study [(3)] after taking permission from the author. Written consent was taken from the students. Students who were present on the day of the study and given consent were included in the study and students who were absent on the day of study and students who were not willing to participate were excluded from the study. The study tool used for collecting data was a five-part questionnaire which was used in a previous study [(3)].

The first part aimed to obtain the details about the socio demography of the participant like gender, if father or mother a doctor or a PhD holder.

The second part consisted of questions to assess the knowledge of the participants about research. It consisted of five statements with each correct answer the participant gets one added mark with the total amounting to 5 and the least being 0.

The third part aimed to assess the attitude of medical students towards research through 8 questions which are to be answered in a Likert scale, with strongly disagree being 1 and strongly agree being 5. The score of the 8 questions were added with a maximum score of 40 and a minimum score of 8 can be obtained with higher value depicting good attitude towards research.

The fourth part of the questionnaire consisted of 3 questions that project the experience of the participants towards research if there was any.

The last part of the questionnaire had 7 questions whose objective was to obtain the perceived barriers among medical students when it comes to research.

Data was entered in Microsoft Excel and analyzed using appropriate descriptive statistics.

RESULTS

Out of 250 study participants, 134(53.6%) were male and 116(46.4%) were female. No statistically significant difference was found between knowledge and attitude of student groups based on gender.

The average correct response for each question in the knowledge part is given in Table:1

Table:1 Questions Regarding Knowledge of Medical Research

Particulars	% correct response
Expand ICMR	72.8
Knowledge of types of studies.	28
Knowledge of writing research protocol	30.4
Knowledge of obtaining ethical clearance	90.4
Knowledge about obtaining permission for conducting clinical research	14.8

THE AVERAGE OF THE TOTAL KNOWLEDGE SCORE IS : 2.36 (47.2%)

Out of the 250 students only one female student has presented a paper so far and she answered that she did it out of interest. 92% of students are not self-motivated to do any research.

Table-2: Frequency Distribution of Participants in Research Attitude Scale (%)

Attitude Statements	Strongly Disagree	Dis-agree	Neu-tral	Agree	Strongly Agree
Research plays an important role in the medical field	3.2	6.9	21.4	32.6	35.9
It is important to conduct research in medical school	7.2	7.8	20.3	34.6	30.1
Research will be useful for better understanding of the subject in depth	4.6	8.2	23.4	34.9	28.9
Research should be mandatory in medical college	23.6	30.5	18.3	17.5	10.1
Research will improve one's clinical practice later	5.2	12.2	20.3	30.3	32.5
It is not an unnecessary burden for me to do research	8.8	10.7	22	45.2	13.3
Research is not a waste of time, and it does not disturb my studies	10.5	18.2	10.8	52.1	8.4
Research will be a part of my long-term goals	11.5	36.3	22.7	10.6	18.9

Table:3 Perceived Barriers With Its Distribution Of Response By Students In Percentage

Perceived Barrier	Strongly disagree	Dis-agree	Neutral	Agree	Strongly Agree
Lack Of Self Interest	8	12	23.2	43.6	13.2
Lack Of Awareness	6.8	8	23.6	45.6	16
Lack Of Funding	6.4	10	27.6	38	18
Lack Of Time	6	16.4	21.6	40.4	15.6
Difficulty To Follow Up Patients	3.6	14	37.6	34.4	10.4
Poor Accessibility Of Database	3.2	16	26	42.4	12.4
Lack Of Encouragement From Faculty	7.6	32.8	21.6	29.2	8.8

DISCUSSION

Knowledge is of particular importance when it comes to doing research. Where should one start, how should one do it, how should one get their research approved is very important. To carry out quality research, adequate knowledge, a positive attitude and acceptable skills are required among the medical students. The present study intended to assess the knowledge, attitude, practice and barriers to research among undergraduate students. The total knowledge score was encouraging at 47.2% but the students performed poorly when compared to a research done by Basavareddy et al., in kolar, where 70% knowledge score was reported [(2)]. Nearly 30% of the students were aware of the various types of studies in research methodology and about writing a protocol to conduct a research project. Most of the students (62.5%), felt that research is important in clinical practice and agreed positively to spend time for research in future. This finding is similar to a study done in South Africa, where 74% reported that research was important in medical education [(4)].

The paper presentation was meagre among the study group. Only one female student has presented a paper so far and she answered that she did it out of interest. 92% of students answered that they do not have any motivation to do any project. A study done in India on post graduate students had similar findings [(5)]. In spite of positive attitude towards research, the participation in research, presentation and publication of papers was less. Paper presentation and publication is mandatory for post graduates as per new post graduate curriculum guidelines by Medical Council of India. Number of presentations and publications increased as these are made a part of the curriculum. However, it isn't mandatory for undergraduates to involve in research. A few studies have shown that the main motive of doing research was because of mandatory research in curriculum. Less proportion of students wanted to pursue their career in research as the monetary benefit here is less compared to other fields in medicine [(6)].

In the current study, the major barriers to research as opined by the students were lack of self-interest (57%), lack of awareness (61.6%) and lack of funding (56%). Studies from Arab countries have also reported similar findings [(7)]. Very few studies are from India about the opinion of under-graduates on research. This study is an attempt to add to the same. Despite positive attitude towards research, the participation is found to be very meagre. The perceived barriers can be discussed at the administrative level, and suitable measures can be taken. The findings are limited to the study population. Selection bias is a major limitation to this study.

CONCLUSION: The study group had an encouraging level of knowledge about research and a majority of them expressed a positive attitude towards research activity. Some of the barriers were a lack of awareness, time, funds, and difficulty in patient follow-up. Research by the students can be improved if the barriers can be addressed by faculty and administrators.

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