

ASSESSMENT OF MEDICAL STUDENTS' INTEREST IN RESEARCH IN CENTRAL INDIA

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ABSTRACT: BACKGROUND & OBJECTIVES: Research plays a vital role in medical profession as far as patient care is concerned. Hence, this study was undertaken with objective of assessing awareness regarding research in medical students of Central India and their interest, involvement, and barriers in research activities with emphasis on need of research in medical curriculum. **MATERIAL & METHODS:** A prospective, cross-sectional, questionnaire-based study carried out on 475 MBBS students, selected by simple random sampling from January-June 2013. Data was collected and analyzed for percentage, mean and standard deviation. **RESULTS:** 94.7% students responded, 99.5% students were aware about research, and 94% students were interested in research, 99.3% thought that research is important in medical field and 91.3% were willing to contribute to research project. Barriers for research were no extra time for research (62.6%) and lack of guidance (21.5%). 84.4% students agreed that research should be included as a part of medical curriculum. **CONCLUSION:** The study showed that majority of students were aware of research and interested in research, but some significant barriers were deterring them from active participation in research. Barriers need to improve properly to promote research in medical students and research should be incorporated in medical curriculum.

KEYWORDS: Medical education, Medical students, Research.

INTRODUCTION: Research, a very meaningful endeavour, is the systematic investigation of things to establish facts and conclusions, which plays a vital role in medical profession and the inspiration being unanswered medical queries eventually improving patient care. It forms a crucial and core component of medicine because of its potential for advancement of scientific knowledge. Health research is essential to improving health care, but unfortunately health research has a low priority in developing countries. Today's physicians are either pure clinicians or only researchers, but there is a need of multitasking physicians as far as patient care is concerned. Importance of research as a basis for information and learning has been emphasized before as a part of medical education.¹

Participation of medical students in research helps them to develop personality skills such as to groom their communication skills, time management, thinking out of box, to become independent learners, etc.². The other important aspect is its long term career implications for medical students.

As research is not an integral part of medical curriculum in India, the situation is worsened and opportunities to medical students for research are limited. Research is not considered a part of medical curriculum in many countries. In undergraduate medical students, it can be mandatory or voluntary like in Germany students have to submit dissertation to obtain academic degree of doctor³, whereas in United Kingdom⁴ and Australia some students undertake an optional year additional to their undergraduate curriculum to intercalate a degree and pursue dedicated research.

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Unfortunately, this provision is not available in India. Indian students are rarely exposed to research in the period of their academic development.

On reviewing the research scenario in India, it was found that quality research is limited in our country. The research articles published are very few in number. As per MCI (Medical Council of India) requirements, postgraduate students have to carry out a dissertation compulsorily as a part of their curriculum, thus research is being promoted in residents only. Unfortunately, the research culture is adopted only by very few universities of India. In a study of Chaturvedi S et al, 91% of interns reported no research experience in medical school⁵. For this, we have to boost the young researchers to participate in research. It is essential to develop positive attitude towards scientific research amongst medical students from beginning of their career⁶. Students must be sensitized to research and should be made aware of why research is important to health care. In India, there is also a need to improve the existing medical education system to encourage research culture as our system does not incorporate research methodology as a part of curriculum. Considering the demands, attitudes of medical students, and competing interest of formulating undergraduate medical curriculum, it is pivotal to experience research during medical school, so the health research should be incorporated in medical curriculum.

With this in mind, the current study was planned with the objective of assessing the awareness regarding health research in students of a Medical College in Central India as well as their interest, involvement, and barrier in research activities with an emphasis on need of health research in medical curriculum.

MATERIALS AND METHOD: A prospective, cross-sectional, questionnaire-based study approved by Institutional Ethical Committee was carried out on 475 MBBS students of N.K.P. Salve Institute of Medical Sciences & Research Centre, Nagpur, out of which 450 students responded, selected by simple random sampling from January 2013 to June 2013. A structured and validated questionnaire was used for the study to collect information regarding age, gender, interest in research, participation in research, barriers in research, etc. Before starting the study, it was pretested on a group of 28 students, 7 students from each batch, who were excluded from final analysis. Prior to administering the questionnaire, the students were addressed regarding the purpose and process of data collection. Questionnaires were distributed among the participants after taking informed consent. Data was analyzed for percentage, mean, and standard deviation.

RESULT: In the present study, 450 (94.7%) out of 475 students responded. Out of which, 448 (99.5%) students were aware about the term “research” and 423 (94%) students were having interest in research, most common factor behind interest being self motivation in 213 (51%) students and for academic standing in 159 (38%) students. Majority of students 420 (99.3%) thought that research is important in medical field and 412 (97.4%) students were of opinion that medical undergraduate students can plan and conduct research project as depicted in Table I.

Medical literature for research purpose was searched by 159 (37.6%) students in the college (62.2%) and other than college (37.8%) whereas 251 (59.3%) students had read medical journal out of interest (54.6%) and as a part of curriculum (32.3%). We also observed that very few students 116 (27.4%) were aware about Indian Medical Medline Indexed Journal.

It was also found that 55 (13.1%) students contributed to research in the past, 33 (60%) as principle investigator and 22 (40%) as co-investigator and 14 (25.5%) students were having their manuscript published in journals, 55 (13.1%) students were currently involved in research project and majority of students 386 (91.3%) were willing to contribute to research project as seen in Table II. Out of 357 (84.4%) students were of opinion that there is exposure to research in parent institute, 250 (70.1%) students thought that it is adequate and 107 (29.9%) found it inadequate. Faculties of institute were supporting to students for research as per the opinion of 366 (86.5%) students.

As evident in Table III, barriers for research experienced by medical students were not having extra time for research by 265 (62.6%) students followed by lack of guidance 91 (21.5%) and inadequate facilities for research 29 (6.9%). At the same time, 357 (84.4%) students agreed that research should be included as a part of medical curriculum.

DISCUSSION: Research is an integral part of medical education. It is an essential part of undergraduate medical curriculum as well. To compensate the decline in number of physician-scientist in medical practice in developing countries during last decade, the medical student research experience is being emphasized. Specific research skills must be integrated in all aspects of undergraduate curriculum so that it will be relevant to routine practice of all doctors.

In our study, response rate was 94.7% which is in concordance with Park SJ et al⁷, Ejaj K et al⁸, Mitra S et al⁹, however Forester JP et al¹⁰, Siemens DR et al¹¹, and Al Ghamdi KM et al¹² reported comparatively low response rate. In the present study, 242 females (53.7%) and 208 (46.2%) males of age group 18 to 23 years (Mean = 20.16 years and SD = 1.35 years), were included. This is in agreement with study of Khan H et al⁶, Park SJ et al⁷, Mitra S et al⁹, Al Ghamdi KM et al¹², and Harsha Kumar HN et al¹³, however, gender was not found to be statistically significant factor for involvement in research ($X^2 = 1.911$, $p = 0.167$) by Ejaj K et al⁸.

We found that 448 (99.5%) students were aware about the term “research” and 423 (94%) were having interest in research, most common factor behind interest being self motivation in 213 (51%) students and for academic standing in 159 (38%) students. Our findings are similar with the findings of Harsha Kumar HN et al¹³ and Mosafa SR et al¹⁴.

Majority of students 420 (99.3%) thought that research is important in medical field and 412 (97.4%) students were of opinion that medical undergraduate students can plan and conduct research project. This finding is comparable with that of findings of Khan H et al⁶, Forester JP et al¹⁰, Siemens DR et al¹¹, Al Ghamdi KM et al¹², and Amin TT et al¹⁵.

It was observed that 159 (37.6%) students searched the medical literature for research purpose and 251 (59.3%) students had read medical journal out of interest (54.6%) and as a part of curriculum (32.3%). The findings of our study regarding reading a medical journal are comparable with Ejaj K et al⁸. It was found that 55 (13.1%) students contributed to research in the past, 33 (60%) as principle investigator and 22 (40%) as co-investigator. This is not in concordance with Khan H et al⁶, Park SJ et al⁷, Ejaj K et al⁸, Siemens DR et al¹¹, Al Ghamdi KM et al¹², Harsha Kumar HN et al¹³, Amin TT et al¹⁵, and Munabi IG et al¹⁶. In our study, 14 (25.5%) students were having their manuscript published in journals which is congruent with that of Ejaj K et al⁸, but differs from Harsha Kumar HN et al¹³.

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It was also noted that 55 (13.1%) students were currently involved in research project and majority of students 386 (91.3%) were willing to contribute to research project. These findings are similar with that of Park SJ et al⁷, Ejaj K et al⁸, and Mitra S et al⁹.

As per findings of Sekhar DS et al¹⁷, 65.2% students felt that institutional support was not sufficient for undergraduate research in Indian scenario. This differs from our study where we found that 357 (84.4%) students were of opinion that there is adequate exposure to research in parent institute and 366 (86.5%) thought that faculties of institute were supporting to students for research.

Regarding barriers for research, majority of students 265 (62.6%) were not having extra time for research followed by lack of guidance 91 (21.5%) and inadequate facilities for research 29 (6.9%). These findings are in agreement with Siemens DR et al¹¹, AlGhamdi KM et al¹², Harsha Kumar HN et al¹³, Mosafa SR et al¹⁴, Amin TT et al¹⁵, and Sekhar DS et al¹⁷.

It was noticed in present study that 357 (84.4%) students were of opinion that research should be included as a part of medical curriculum. This is in concordance with Ejaj K et al⁸, Sekhar DS et al⁹, and AlGhamdi KM et al¹², however Park SJ et al⁷ and Harsha Kumar HN et al¹³ found that there was no widespread support from students for having research training as a compulsory part of medical curriculum.

In spite of awareness and interest of medical students in health research, our study encountered some barriers for students' participation in research. To overcome these barriers and to promote research participation in undergraduate medical students, provision of favourable environment and building of sound knowledge of research in medical students is must. Hence, research should be incorporated in medical curriculum, students should be involved in faculty research, and student research workshops and conferences should be conducted to prepare future scientists and researchers.

CONCLUSION: In our study, we found that majority of students were aware of research and also interested in research, but some significant obstacles were deterring them from active participation in research. So the barriers encountered need to improve properly to promote research in medical undergraduate students. For this research should be incorporated in medical curriculum along with involving students in faculty research and conducting student research workshops and conferences to prepare future scientists and researchers.

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TABLE I Medical students' interest in research

Characteristics	I MBBS students (n=122)	II MBBS students (n=126)	III MBBS students (n =202)
Interest in research:			
Yes	91 (74.6%)	96 (76.3%)	108 (53.5%)
No	03 (2.5%)	05 (3.9%)	019 (9.4%)
To some extent	28 (22.9%)	25 (19.8%)	075 (37.1%)
Factors behind interest:			
Self motivation	73 (61.3%)	64 (52.9%)	76 (41.5%)
For academic standing	35 (29.4%)	53 (43.8%)	71 (38.8%)
Family influence	01 (0.8%)	01 (0.8%)	14 (7.6%)
Teacher's motivation	10 (8.4%)	03 (2.5%)	22 (12.1%)
Is research important in medical field:			
Yes	114 (95.8%)	110 (90.9%)	170 (92.9%)
No	001 (0.8%)	002 (1.6%)	000 ()
To some extent	004 (3.4%)	009 (7.5%)	013 (7.1%)

TABLE II Participation of students in research

Characteristics	I MBBS students (n=122)	II MBBS students (n=126)	III MBBS students (n =202)
Contributed to research project:			
Yes	008 (6.7%)	017 (14.1%)	030 (16.4%)
No	111 (93.3%)	104 (85.9%)	153 (83.6%)
Would you like to contribute to research project:			
Yes	107 (89.9%)	114 (94.2%)	155 (84.7%)
No	012 (10.1%)	007 (5.8%)	028 (15.3%)
Exposure to research in your institute:			
Yes	92 (77.3%)	110 (90.9%)	155 (84.7%)
No	27 (22.7%)	011 (9.1%)	028 (15.3%)

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TABLE III Barriers for research in medical students

Characteristics	I MBBS students (n=122)	II MBBS students (n=126)	III MBBS students (n =202)
Barriers for research:			
Financial difficulty	02 (1.7%)	09 (7.4%)	015 (8.2%)
Lack of guidance	35 (29.3%)	30 (24.8%)	026 (14.2%)
No extra time for research	74 (62.2%)	67 (55.8%)	124 (67.8%)
Lack of interest	04 (3.4%)	04 (3.3%)	004 (2.2%)
Inadequate facilities	04 (3.4%)	11 (9.1%)	014 (7.6%)
Whether research can be included in medical curriculum?			
Yes	109 (91.6%)	107 (88.4%)	141 (77.1%)
No	010 (8.4%)	014 (11.6%)	042 (22.9%)

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