

Perceptions and Attitude of Under Graduate Medical Students towards Research & Identifying the potential barriers in a Medical College of Western Odisha

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Abstract- Background- Involvement of the undergraduate students in research activity during the MBBS Curriculum is important to understand evidence based medicine. But very few opportunities have been available for them. **Objectives-** 1. To assess the perception and attitude of Undergraduate medical students towards research in a medical college of western Odisha. 2. To identify the potential barriers to conducting the research. **Material and methodology-** It was an observational cross-sectional study conducted for a period of 2 months (November- December 2024) among all the batches of MBBS students of Bhima Bhoi Medical College & Hospital, Balangir. A universal sampling method was used and the sample size was 248. **Results-** The majority of the study participants were in the age group of 21-23 years which was 153 (61.7%). Among all the batches, participation from the 3rd professional part 1 was only 51(20.6%) which was the least among all the batches. Only 25 (10.1%) participated in the various research activity. Conferences related to research presentations were attended by only 64(25.8%) students. Only 26 (10.5%) believed that research during this MBBS period would not help them achieve their future goals. The majority of the study participants mentioned that

college did not provide enough resources in terms of money and tools which was 170 (68.5%) and even 176 (71%) reported that training for research methodology was not provided in college. **Conclusion-** Interest in research is present among the students but due to some barriers and lack of motivation they do not do research.

Key Words- Knowledge, Medical students, Obstacles, Research, Undergraduate.

Introduction- Research is the invention of new knowledge, skill, and science by enhancing the understanding of a particular phenomenon by the systematic collection, analysis & dissemination of data. The involvement of research in medical science was found to be profoundly effective as it plays a crucial role for advance in health care practices.

Health research in the medical curriculum is an important part of medical education as it helps in critical thinking, improves reasoning skills, and helps to practice evidence-based medicine. Evidence-based practice means to treat the patients with the recent advanced technology in the respective fields. The knowledge in the medical field is not static as it continuously is subject to change. Hence the conduction of medical research is very pivotal to refine the knowledge of promotive, preventive, diagnostic & rehabilitative guidelines and treatment protocols so that we can provide better care to our patients. ⁽¹⁾

Despite so much importance of research in the medical field, medical students are reluctant to conduct research activity during their undergraduate days. The significant barrier might be due to an overburdened medical curriculum with not enough time for students to focus on research, lack of supervisor support and guidance from the faculty, inadequate training and exposure in research methodology to students, hard to publish research during medical school, lack of research interest as they think it is not necessary for them; it is just waste of time and limited access to data sources (i.e., internet), materials and equipment. ⁽²⁾

With this background we have conducted this study among the undergraduate students of our institution with the **objectives:** 1. To assess the perception and attitude of Undergraduate medical students towards research in a medical college of western Odisha. 2. To Identify the potential barriers to conduct the research.

Material and Methods-

It was an observational cross-sectional study conducted for a period of 2 months (November-December 2024) among all the batches of MBBS students of Bhima Bhoi Medical College &

Hospital, Balangir. It is a government medical college with 100 seats. A universal sampling method was used. Students were given the consent form and the questionnaires through the Google form. Those who filled out their Google form were included for this study purpose. The interns were not included in this study and those who didn't give consent were excluded. A total of 248 filled up the Google form out of 400 students of various batches, so the sample size was 248.

The questionnaire included various parts: 1. Socio-demographic parameters, 2. Perceptions and attitude of students toward research. 3. Potential barriers to conducting the research activity. This was done in a Google form and was circulated among the students with the help of the class representatives of each batch. Data was entered and analysed using SPSS version 21. The Categorical variables were expressed in terms of number and percentage.

Results: Out of 400 students, 248 (62%) study participants responded to this study.

Table 1: Sociodemographic Parameters of study participants(n=248)

Variables	Numbers	Percentage(%)
Age (in years)		
17-20	61	24.6
21-23	153	61.7
>23	34	13.7
Gender		
Male	147	59.3
Female	101	40.7
MBBS batch		
1 st year	69	27.8
2 nd year	63	25.4
3 rd Professional Part I	51	20.6
3 rd Professional Part II	65	26.2

Majority of the study participants were in the age group of 21-23 years which was 153(61.7%). Male respondents were 147 (59.3%) and 101(40.7%) were females. Nearly almost equal proportion of students of various batches responded in the study which were 69(27.8%) from the 1st MBBS batch followed by 65(26.2%) from 3rd Professional Part -II MBBS Batch.

Among all the batch, participation from the 3rd professional part 1 was only 51(20.6%) which was the least among all the batches. (**Table 1**).

Table 2: Distribution of Study participants regarding the perception of research(n=248)		
Variables	Number	Percentage(%)
Interest in research activity		
Yes	206	83.1
No	42	16.9
Participated in research activity		
Yes	25	10.1
No	223	89.9
Attended a conference on research presentation		
Yes	64	25.8
No	184	74.2
Faculty members emphasized research during classes		
Yes	137	55.2
No	111	44.8
Research should be a part of the MBBS curriculum		
Yes	211	85.1
No	37	14.9
Research will help in better understanding a subject		
Yes	229	92.3%
No	19	7.7%
Research activity during MBBS period will help in their future goals		
Yes	222	89.5%
	26	10.5%

No		
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Out of 248 study respondents, 206 (83.1%) were interested in research activity but only 25 (10.1%) participated in the various research activities. Conferences related to research presentations were attended by only 64(25.8%) students. 211(85.1%) agreed that research should be a part of the MBBS curriculum and 229(92.3%) believed research would help them in better understanding of the subjects. Only 26 (10.5%) believed that research during this MBBS period would not help them to achieve their future goals. (**Table 2**)

Attitude Parameters:

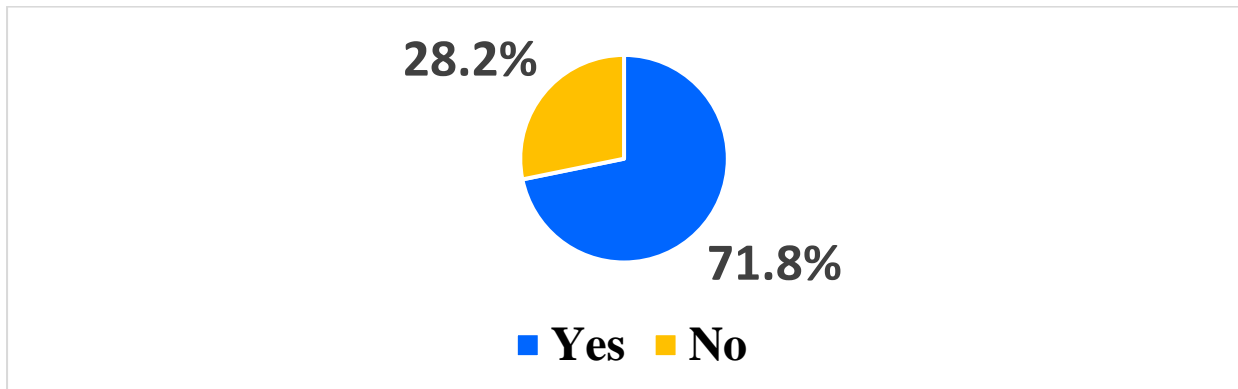


Figure 1: Opinion of the participants on their involvement in research if it was not Mandatory(n=248)

Out of 248 study participants; only 70 (28.2%) reported they would not have liked to be involved in any research activity if it is not done mandatory. (**Figure 1**)

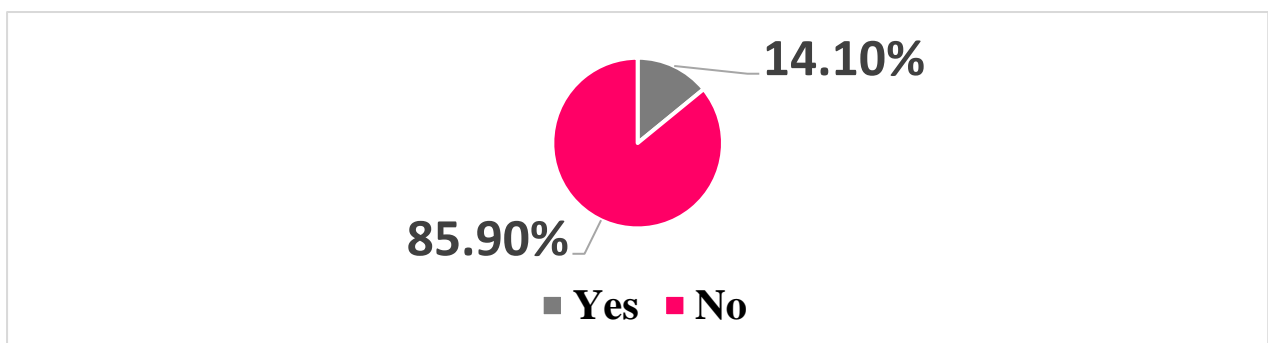


Figure 2: Respondents' attitude regarding research is a waste of time and disturbance during the MBBS curriculum (n=248)

Figure 2 illustrates that 85.9% of the participants do not view research as a waste of time and a disturbance during MBBS.

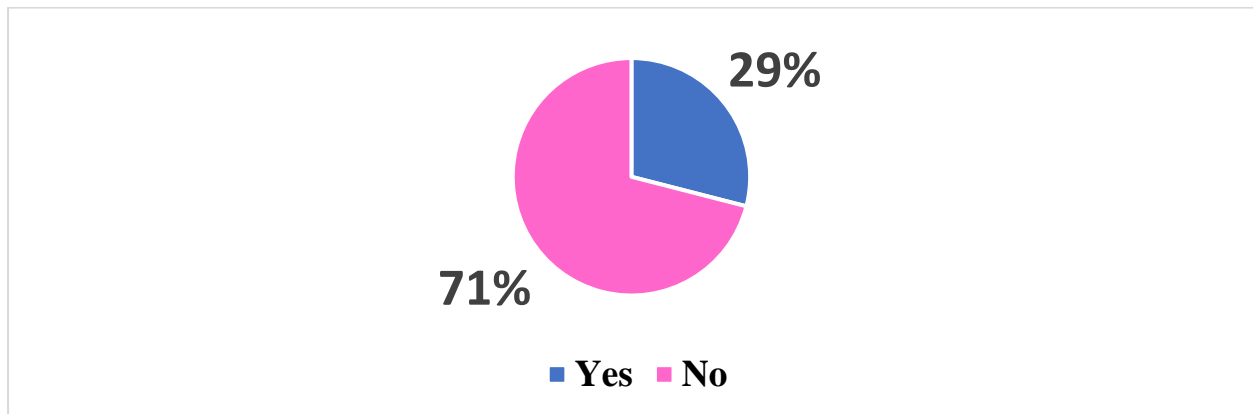


Figure 3: Perspective of Participants regarding research is an extra burden (n=248)

Figure 3 depicts that 72(29%) of the respondents thought research was an extra burden.

Table 3: Various Challenges/barriers faced by the Respondents during Research (n=248)		
Variables	Numbers	Percentage(%)
Duration of MBBS is a constraint		
Yes	118	47.6
No	130	52.4
The college provides enough resources in terms of money and tools		
Yes	78	31.5
No	170	68.5
The college provides training for research methodologies		
Yes	72	29
No	176	71

The majority of the study participants mentioned that college did not provide enough resources in terms of money and tools which was 170 (68.5%) and 176 (71%) reported that training for research methodology was not provided in college. Duration of MBBS is a constraint for conducting and completing the research was reported by 118(47.6%) of students. (**Table 3**)

Discussion-

Research is one the backbone of the medical field. The perception and attitude of the undergraduate students regarding the medical research is utmost required and necessary.

The present study showed the response rate among the students for this survey was 62% as compared to a 66.5% response rate in the study conducted by Hadhramout University, Yeman by Ghouth et al. ⁽³⁾

In our study, it was found that the 1st year MBBS professionals participated in the highest proportion compared to other batches whereas in the study conducted at Maharastra, it was found that the final year medical students comprised the highest number of participants which was 105 (27.5%). Out of 382 medical students; 32% of the entire study sample indicated that they had participated in a research project, while the rest of the students had not. ⁽⁴⁾

In the present study, it was observed that the majority of the students 206 (83.1%) were interested in research activity. 211(85.1%) agreed that research should be a part of the MBBS curriculum and 229 (92.3%) believed research would help them in better understanding of the subject. Only 26 (10.5%) believed that research during the MBBS period would not help them to achieve their future goals.

A study conducted by Aithubaiti A et al reported that 78.5% of the study respondents were interested in participating in the research activity at the undergraduate level. An almost equal proportion of the participants agreed that their college organized and prioritised the research activity among the students but about 56.6% reported that the faculty members did not have sufficient time to mentor their under graduate students. ⁽⁵⁾

Another study conducted by Achi et al found that most of the respondents i.e. 99.4% had a positive perception regarding medical research as they believed it would promote critical thinking, and enhance career prospects and knowledge. ⁽⁶⁾

On the contrary, a study done by Sayed et al/ reported that 13.3% of respondents agreed that they had an interest in research activities. Although 69.8% of the students were of the view that research should be taught to all students, however only 11.1% thought that research would be helpful in their future career. ⁽⁷⁾

Our study presented that almost 85.9% of the participants do not view research as a waste of time and a disturbance in their study during MBBS. Whereas 72(29%) believed it was an extra burden. Respondents would not have liked to be involved in any research activity if it was not made mandatory for them as reported by 70 (28.2%) of students.

In this present study we have observed that most of the students agreed that the college did not provide enough resources in terms of money and tools which was 170 (68.5%) and even 176 (71%) reported that training for research methodology was not provided in college which were the major constraints in completing the research activity. Besides this, the duration of the MBBS curriculum was reported to be another barrier as explained by 118(47.6%) students.

A study by Shukla et al reported that the most important obstacle that students face is the routine work of their training period. They are overtly engaged in the lecture schedule, clinical posting, and examination which was similar to the findings of our study. ⁽⁸⁾

A similar study done by Dsouza M A et al reported that the major constraints in conducting research reported by students were time constraints (45%) and inadequate training for research (50%). ⁽⁴⁾

Contrary to this, a study done by Aithubati A et al reported that adequate infrastructure to organize the research program and exposure to basic/advanced statistical tools which are needed for the preparation of the research report was present which was stated by 43% and 37.5% respondents respectively. ⁽⁵⁾

A similar study by Assar et al found that the top 10 barriers perceived by students towards research were lack of access to lab equipment for lab research (68.1%), priority of education over research (66.8%), lack of time because of educational tasks (66.1%), generally poor attention given to researchers (64.6%), lack of fund (62%), poor collaboration between different academic departments and research centres (61.3%), Insufficient research skills (60.8%), lack of suitable research space (59.9%), lack of professor input(59.2%) and lack of familiarity with research studies (57.8%). ⁽⁹⁾

Whereas in another study done by Sayed et al it was seen that the major barriers to research, as opined by students were lack of time (81.8%), skills (81%), interdepartmental cooperation (78.5%), funding (76.3%), motivation (74.4%) and interest (73.4%) ^{·(6)}

Conclusion – More than two-thirds (83.1%) of the students are interested in research activities during the MBBS program. Only 25 students participated in research activity during short term studentship sponsored by ICMR under the guidance of the faculty. Most of the students believed that research should be a part of the MBBS Curriculum. 71% of the participants are interested in doing research even if it is not mandatory. The major barrier to conducting research was reported to be the lack of resources and proper training on research methodology.

Recommendations- Emphasis on interest for research among students to be generated by faculties of various departments through involving the students in ICMR-funded extra mural projects. Training on research methodology is to be conducted for the students of all the batches. Resources and funding are to be provided for carrying out research activities.

Limitation- All the students of four batches view could not be taken as only 248 students participated out of 400 students. Interns were not included.

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