In Search Of Research- Cross Sectional Study To Assess Knowledge, Attitude And Practice Of Research In Undergraduate Medical Students.

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Abstract: Background & Objective of the study: Research in medical field is growing in leaps and bounds creating a new career option for the students. But there is poor understanding of research and its vastness among undergraduate students. There is dire need to expose undergraduate students to some basics of research activity. Prior to their orientation towards research there is a need to assess the knowledge, attitude and practice of research so as to pave way for developing new methodologies, strategies to foster student interest in research as an academic career and help create young researchers among this field.Objective of the study was to assess the knowledge,attitude and practice of research among medical undergraduate students.Materials & methods: A pre-validated questionnaire was prepared, provided to II Phase-II term MBBS students and their response was collected. Quantitative evaluation of the data acquired was done. Results: Response rate to the questionnaire was 84.8%. Though 81.2% students showed positive attitude towards research, mean score of research knowledge was 51.7% and mean score of research practice was only 11.9%. Conclusion: Undergraduate students have positive attitude towards research but their knowledge & practice of research is low. Further steps have to be undertaken to raise this bar of knowledge and practice of research among the undergraduate students. [Dr Ashwini R NJIRM 2016; 7(4) :68-72]

Key Words: Medical Undergraduate, Research, Knowledge, Attitude, Practice.

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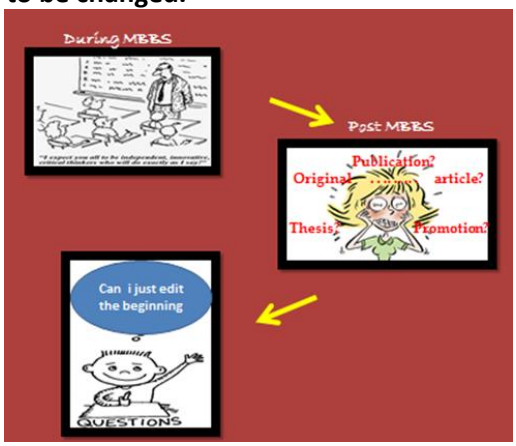
Introduction Research is an important part of medical field that is growing in leaps and bounds creating a new career option for the students. But there is poor understanding of research and its vastness among undergraduate medical students. Presently there are less programs in the curriculum for undergraduates to expose them to this emerging career option. There is a dire need to expose undergraduate students to some basics of research activity[1,2,3].The present medical education system is focusing on ways to improve knowledge, attitude, skills and inculcate lifelong self-directed learning among students than factual learning. Undergraduate level research orientation and student participation in research activity may be our step towards enhancing their knowledge, communication skills and problem solving skills [4,5] . Studies have shown that Post-graduate medical students have low knowledge but positive attitude towards research[6]. Exposing students at undergraduate level itself may help them be prepared for future Post-graduate programs and inculcate positive influence on career choice (Fig 1). Prior to orientation of students towards research there is a need to assess their knowledge, attitude and practice of research so as to pave way for developing new methodologies, strategies to foster student interest in research as an academic career and help create young researchers among this field.

Fig 1:- Present scenario of medical students that needs to be changed.



Methods: Ethical Clearance was obtained. A pre-validated questionnaire was provided to all II Phase-II term MBBS students who were willing to be a part of the study(140 of the total 165 students) and their response was collected (Tables:1-5). Quantitative evaluation of the data acquired was done.

Results: Response rate to the questionnaire was 84.8%. Though 81.2% students showed positive attitude towards research, mean score of research knowledge was 51.7% and mean score of research practice was only 11.9% (Fig 2). Among the reasons for non-participation of undergraduate students in research 82.1% agreed for heavy load of curriculum studies ,

77.9% agreed for lack of knowledge of research and 77.1% agreed for lack of research training to be the cause where else 80.7% disagreed for lack of interest in research to be the culprit (Fig 3).

Table 1: Students response to questions pertaining to research knowledge

	Questions pertaining to research knowledge	Agree (%)	Disagree (%)	Don't Know (%)
1	Can you, as a medical student conduct a research before completion of MBBS?	75.0	12.1	12.9
2	Ethical clearance is not required for conducting research. It is required only if you want to publish your research material	34.3	45.7	20.0
3	Research topic, Research problem, Research question, Hypothesis is the correct order for the development of a research idea	45.7	32.1	22.2
4	Literature review, Data collection, Analysing and interpreting the data- are all required for research conduction	92.9	1.4	5.7
5	Abstract provides a step by step account of what you did as a researcher during the research study	65.0	10.0	25.0

Table 2: Students response to questions on attitude towards research

	Questions pertaining to students attitude towards research	Agree (%)	Disagree (%)	Don't Know (%)
1	Undergraduates should be compulsorily made to participate in research activities	57.1	34.3	8.6
2	Undergraduate student can plan & conduct a research project	90.7	5.7	3.6
3	Undergraduate student can write a scientific paper.	52.1	23.6	24.3
4	Research is useful for future in medical profession	95.0	2.1	2.9
5	Research conduction secures better chances for taking PG programs like thesis etc	84.3	5.7	10.0
6	Research conduction is essential for patient care and improvement of health care	85.7	8.6	5.7
7	Research conduction promotes communication skills	90.7	7.1	2.2
8	Research conduction promotes independent learning ability	94.3	3.6	2.1

Table 3: Students response to questions pertaining to practice of research

	Questions pertaining to practice of research	Yes (%)	No (%)
1	Have you participated in a research project?	10.0	90.0
2	Have you planned and conducted a research project	13.6	86.4
3	Have you written any scientific paper?	2.9	97.1
4	Have you attended any research orientation program	21.4	78.6

Table 4: Students response on reasons for research non participation

	Perceived barriers for research participation	Yes (%)	No (%)
1	Lack of interest in research	19.3	80.7
2	Lack of research training	77.1	22.9
3	Lack of knowledge on research conduction	77.9	22.1
4	Lack of time	60.7	39.3
5	Lack of financial help/ incentives for research	37.9	62.1
6	Heavy load of curriculum studies	82.1	17.9

7	Lack of mentorship	59.3	40.7
8	Lack of motivation	56.4	43.6
9	Lack of interpersonal communication	51.4	48.6

Table 5: Students response on measures to improve student research participation

	Measures to improve student research participation	Agree (%)	Disagree (%)
1	Target students to research early in MBBS course	83.6	16.4
2	Conduct mandatory research courses	60.0	40.0
3	Provision of more research training	90.7	9.3
4	Make provision for more research projects	94.3	5.7
5	Conduct research method workshops	92.9	7.1
6	Encourage students for mentored health research	97.9	2.1
7	By boosting funds for research	81.4	18.6
8	Conduct student conferences	87.1	12.9

97.9% students agreed that mentored health research, 94.3% agreed that by making provision for research project and 90.7% agreed that by increasing research training the student participation in research could be improved (Fig 4).

Fig 2:- mean score of research practice among students was only 11.9%. 90% students had never participated in any research project & 78.6% had never even attended any research orientation program.

Fig 2

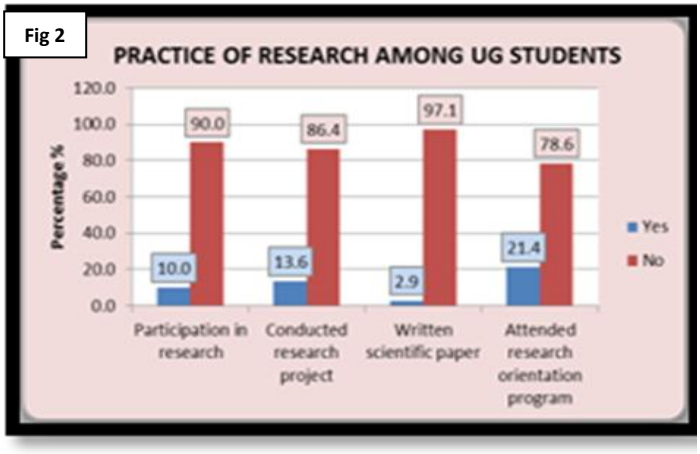
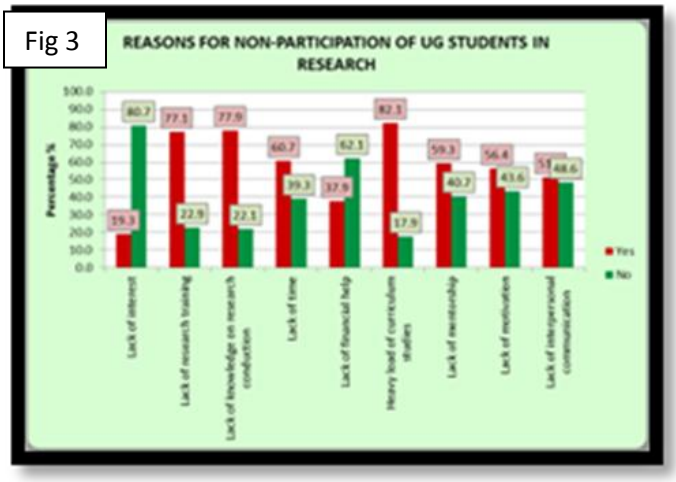


Fig 3:- 82.1% agreed heavy load of curriculum studies , 77.9%- agreed -lack of research knowledge & 77.1%- agreed - lack of research training to be the cause for their non-participation in Research, where else 80.7% disagreed lack of interest in research to be the cause.

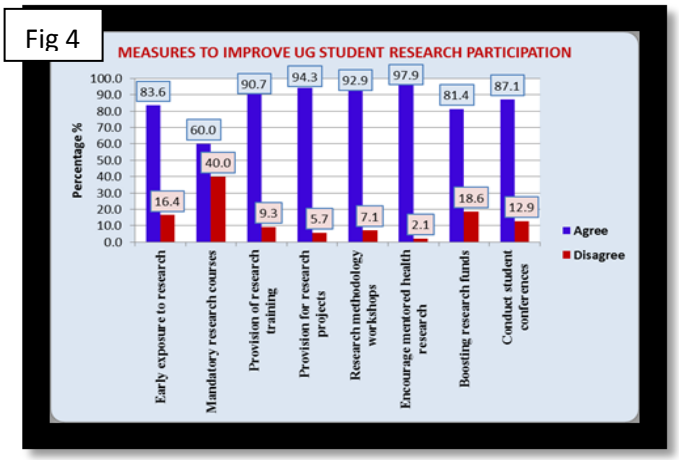
Fig 3



Discussion: As an undergraduate medical student we do not recollect being taught about research, undergoing any formal research training or even participating in research. But the scenario has drastically changed today. As a postgraduate medical student one is expected to conduct research, submit it as thesis and as a teaching faculty in medical college we are asked to put forth the list of research articles published in our name to even get a promotion. The results of our study are alarming and reflect the fact that research has already infiltrated and blended into our medical field so much that we are left with no choice but to expose the present undergraduate medical students at the earliest to this growing field.

Fig 4:- 97.9% agreed- mentored health research, 94.3% agreed-making provision for research project & 90.7% agreed that by increasing research training student participation in research could be improved.

Fig 4



Response rate to the questionnaire was high in our study. Being a cross sectional study, only a few students were absent and a very few did not consent to enrol as a participant in the study. High response rate could be a good representation of the positive attitude students have towards research in medical college.

The mean score of knowledge was 51.7% which were comparable to similar studies by Khamiset al[3] (49%) & Khan et al[4] (49%).

Present study showed that the undergraduates had positive attitude towards research(Mean score-81.2%). 57.1% students favoured compulsory student participation in research activities which coincided with study by Jamali et al[5](53%).90.7% students were confident about their ability to plan & conduct research but percentage dropped to 52.1% when asked about scientific paper writing ability. Majority students (>84%) agreed that their research involvement would definitely have positive impact on their future medical programs, communication skills, independent learning behaviour, patient care and hence essential for overall improvement of health care system.

We found significant disparity in the students attitude and their participation in research. Despite the positive attitude towards research, the mean score of research practice was only 11.9%. 90% students had never participated in any research project & 78.6% had never even attended any research orientation program (Fig 2).

Perceived barriers for undergraduate participation in research activities (Fig 3) were heavy curriculum load (82.1%), lack of knowledge on research conduction (77.9%) and lack of research training (77.1%). Surprisingly only 19.3% students perceived lack of interest in research to be the culprit for their non-participation, revealing the positive attitude students had and their willingness to enter into this field of research. Similar study by Khamiset al[3] revealed lack of research training (76.7%), lack of time (74.3%), study load (69.5%) as commonly agreed upon reasons and lack of interest (54.7%) as least agreed upon reason for non-participation in research activities. Giriet al[6] however in a study pointed out heavy work load (59.5%) as a major cause for undergraduate students non participation in research.

Students(>90%) agreed that by encouraging mentored health research, making provision for research project, research training and conducting workshops, such scenario of low research participation could be positively altered (Fig 4).

Conclusion: Undergraduate students have positive attitude towards research but their knowledge & practice of research is low. Their involvement in research activities is being affected by their heavy load of curriculum studies, lack of knowledge on research and lack of research training.

Further steps have to be undertaken to raise this bar of knowledge and practice of research among the undergraduate students.

Conducting studies that can assess effect of research orientation and training programs may be undertaken to help improve upon student research participation.

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