

## A cross sectional study on attitude, knowledge and barriers towards research among medical post graduate students

Shashiraj HK<sup>1</sup>, Deepali A<sup>2,\*</sup>, Kavitha BS<sup>3</sup>, Mahesh SH<sup>4</sup>

<sup>1</sup>Associate Professor, <sup>2,3</sup>Assistant Professor, Dept. of Physiology, <sup>4</sup>Assistant Professor, Dept. of Community Medicine, SS Medical College, Tumkur

**\*Corresponding Author:**

Email: deepalianna@gmail.com

### Abstract

**Introductions:** Research is a systematic scientifically based investigation done in any branch of knowledge for enhancement of existing knowledge and pursuit of new information. Adequate knowledge, right attitude and critical evaluation of the research material are the most important factors which determine the quality of research.

**Objectives:** The present study was taken up to identify the barriers as perceived by the students and make appropriate changes in the post graduate curricular to facilitate quality research based practice among medical professionals.

**Materials and Method:** A cross sectional questionnaire-based study was carried out in post graduate students of Sri Siddhartha Medical College.

**Results:** All the 90(100%) postgraduates agreed that conduction of research will improve their career prospects and lack of skills and knowledge were found to be the main barriers to conduct research. Majority of students felt that allocation of separate time, support from funding agencies and right to select their own guide will help in better outcome.

**Conclusion:** The present study reveals that there is a need to consider the introduction of periodic research methodology training programs for post graduates. The academic personal should develop effective strategies and pedagogies to develop positive attitude and practices in student training which will motivate them to actively participate in research activities to contribute in the scientific progress of the country.

**Keywords:** Research, Knowledge, Attitude, Career prospects.

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### Introduction

Research is a systematic scientifically based investigation was done in any branch of knowledge for enhancement of existing knowledge and pursuit of new information. Research forms one of the best measures of scientific progress of a country.<sup>(1)</sup>

Evidence based medicine has become one of the most important factor in medical decision making in health care delivery.<sup>(2)</sup> In selecting evidence for any health care practice the only studies of value are those that have been carefully designed and implemented. All well designed studies have the potential to contribute to existing evidence even though they may not provide definitive results. In health research merging of sciences of epidemiology and clinical studies has lead to better information about the effectiveness of health practices.<sup>(3)</sup>

In recent years there has been tremendous increase in research activity all over the world more so in developing countries which is because of the development of a trend to resolve health care problems in their geographical areas which is backed with evidence.<sup>(1)</sup> Adequate knowledge, right attitude and critical evaluation of the research material is the most important factors which determine the quality of research.<sup>(4)</sup>

In Indian it is important to encourage students of health sciences to perceive research on health problems

pertaining to their local area in order to offer effective socially and culturally acceptable health solutions to the local community.<sup>(5)</sup> Research provides the health science students an academic challenge and a self learning experience which is important in producing doctors and other health care personal with an understanding of evidence based medicine practices which will contribute in the scientific progress of the country.<sup>(6)</sup>

Sri Siddhartha Medical College, a composite college of Sri Siddhartha Academy of higher education and research delivers health care services to both urban and rural population of Tumkur district of Karnataka state. The Academy offers post graduate education in various specialties of medicine and the conduct of research by the postgraduates is a part of their curriculum. The present study was taken up to evaluate the attitude, perceptions and knowledge related issues concerning the postgraduate students during the conduct of research work.

### Materials and Method

A cross sectional study was carried out among postgraduate students of Sri Siddhartha Medical College, after obtaining the approval of institutional Ethical Committee. Before the conduction of this questionnaire based survey the nature and the purpose was explained to all the students and informed consent

was taken from all the members of the study group. Confidentiality was maintained during the entire process of this survey. A total of 90 postgraduate students participated in the survey which included opinions of postgraduates regarding conduct of research and difficulties faced by them.

**Questionnaire:** A self-structured questionnaire was constructed after review of literature. Feedback from both students and faculty members was taken to check for appropriateness of the questionnaire and was restructured based on the feedback received. The responses were assessed on a two point likert scale.

**Statistical analysis:** Data was tabulated using Microsoft office excel sheet and the response were expressed in percentages. Data was analyzed using EPI INFO (Version 7).

## Results

**Table 1:** A total of 90 post graduate students participated in the study with males constituting 71.11% and females post graduates were 26 in number constituting 28.89% of the study group with a mean age of 28.8years (SD  $\pm$  3.23).

**Table 2:** Which illustrates the perceived barriers towards conduct or research reveals that lack of skill and knowledge (54.44%), lack of standard plan and protocol for conduct of research (62.22%) and lack of additional time for research activities (58.89%) where the most difficult factors as perceived by post graduates to start research activities. 58.89% of post graduate students opined that lack of financial support was not an issue in starting research. 71.11% of respondents agreed that lack of mentor/guide support was not an issue of significance in starting research work.

**Table 3:** Shows that all the 90(100%) post graduates who participated in the study agreed that conducting of research improves their career prospects and 92.22%

felt that conducting research will expand their knowledge base. 78.89% of respondents agreed that quality of patient service will improve with continued research activities. Separate time for conduct of research 95.56% and support of funding agencies to conduct research (87.78%) were considered as important factors in conducting research.

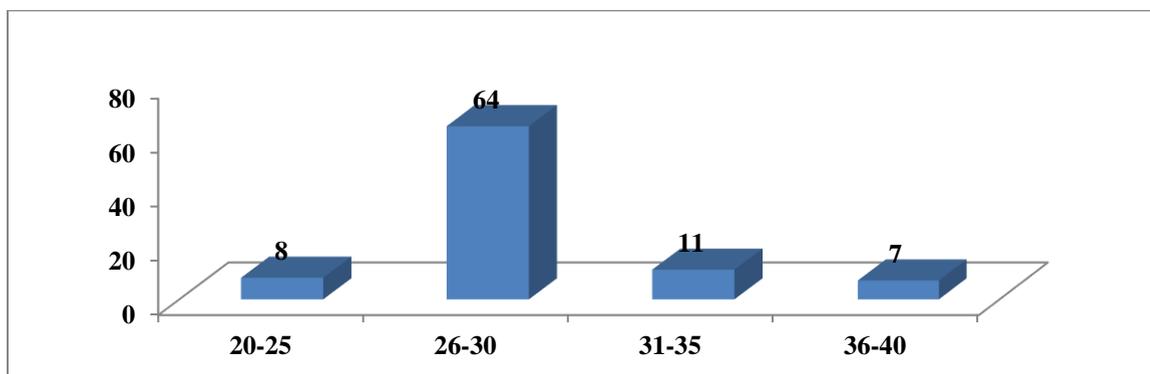
83.33% of students felt that training in research methodology should be made mandatory as it improves skill and knowledge, 75.56% also agreed that students should have the right to select their own guide for proper guidance during the research. 62.22% of post graduates opined that conducting research should not be mandatory for appearing in final year exams of post-graduation. 66.67% of the students said that they conduct research by personal interest and not because it is a part of post graduate curriculum.

**Table 4:** Shows that selection of topic for research (71.11%), interpretation of results (62.22%) and article publishing (62.22%) were the most difficult factors they encounter during conduct of research. Data collection (62.22%), writing part of research (62.22%), obtaining permission (75.56%) and sample selection (54.4%) were considered as least difficult factors during conduct of research.

**Table 1: Age and sex distribution**

Age group	Frequency	Percentage (%)
20-25	8	8.89
26-30	64	71.11
31-35	11	12.22
36-40	7	7.78
Sex		
Male	64	71.11
Female	26	28.89

Mean Age: 28.8 SD- ( $\pm$ 3.23)



**Fig. 1: Age distribution of study subjects**

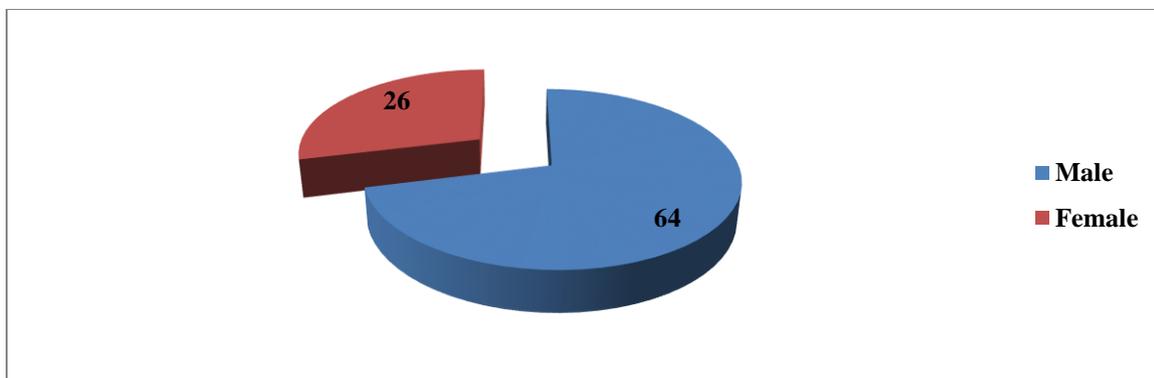


Fig. 2: Sex distribution of study subjects

Table 2: Perceived barriers to start research

	Least difficult		Most difficult	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Lack of skill & knowledge	41	45.56	49	54.44
Lack of standard plan of research	34	37.78	56	62.22
Lack of financial support	53	58.89	37	41.11
Lack of time	37	41.11	53	58.89
Lack of mentor/guide support	64	71.11	26	28.89

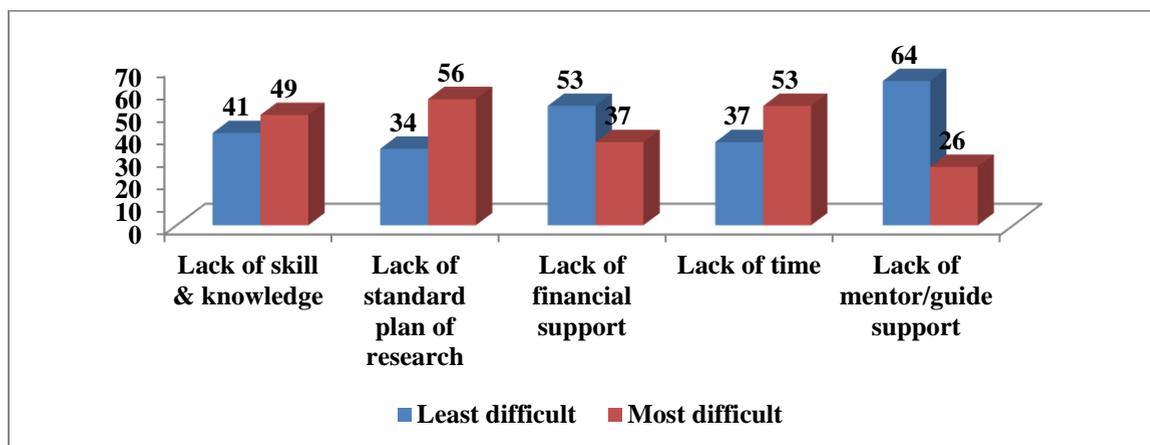


Fig. 3: Perceived barriers to start research

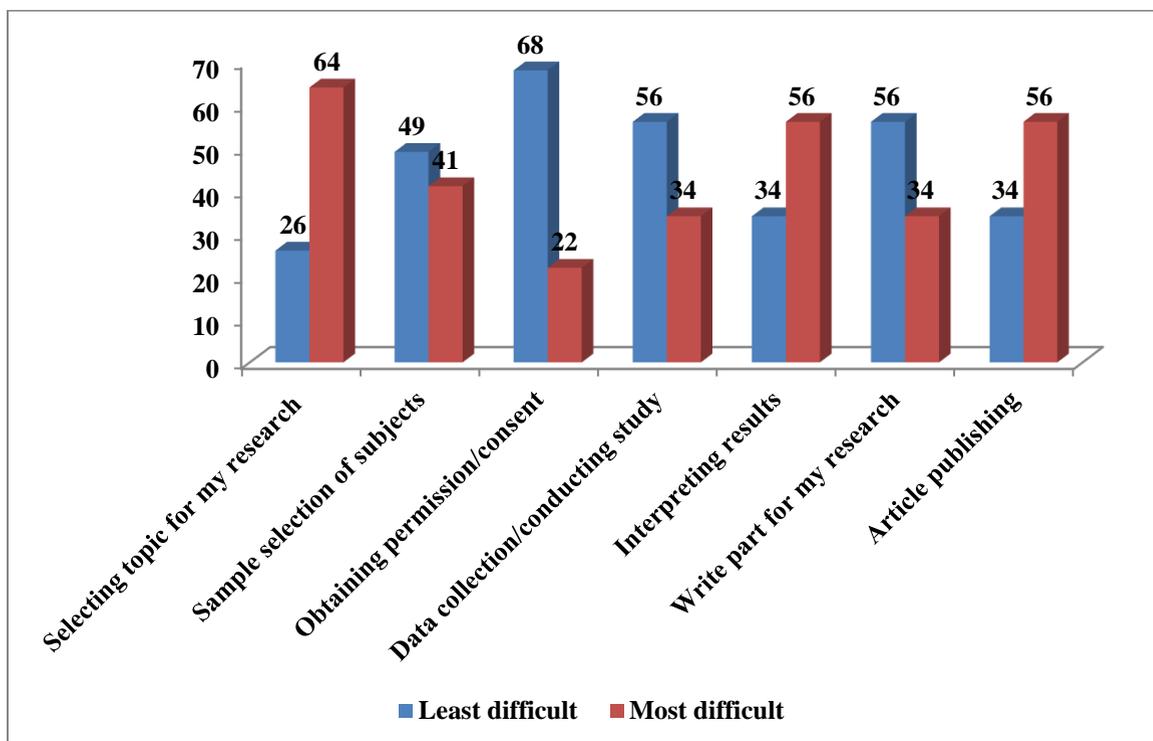
Table 3: Perceptions and opinions of medical post graduates towards conduct of research

	Agree		Disagree	
	Frequency	Percentage (%)	Frequency	Percentage (%)
I feel conducting research work increases my knowledge	83	92.22	7	7.78
I conduct research only because it is part of my PG curriculum	30	33.33	60	66.67
My career prospects will be better if I conduct some research work	90	100.00	0	0.00
Conducting research work should not be mandatory criteria for appearing for final exam	56	62.22	34	37.78

Qualities of services provided to patients will be increased with continued research work	71	78.89	19	21.11
Training in research methodology should be mandatory as it improves skill & knowledge	75	83.33	15	16.67
Separate time should be allotted while planning PG curriculum to conduct research	86	95.56	4	4.44
There should be support from funding agencies to conduct any research work	79	87.78	11	12.22
Students should have a right to select their own guide for proper guidance	68	75.56	22	24.44

**Table 4: Difficulties during conduct of research**

	Least difficult		Most difficult	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Selecting topic for my research	26	28.89	64	71.11
Sample selection of subjects	49	54.44	41	45.56
Obtaining permission/ consent	68	75.56	22	24.44
Data collection/ conducting study	56	62.22	34	37.78
Interpreting results	34	37.78	56	62.22
Write part for my research	56	62.22	34	37.78
Article publishing	34	37.78	56	62.22



**Fig. 4: Difficulties during conduct of research**

**Discussion**

The ever evolving health care delivery makes it mandatory for health professionals to carry out research

which ensures better clinical care because of learning and critical reasoning which forms a part of research activities. The best way to get an update of recent

advances is to take part in research projects as a post graduate student.<sup>(7)</sup> The present study was conducted to assess the perceptions and opinions of post graduate medical students relating to knowledge, attitude and practices towards conduct of bio medical research.

The present study helps us to identify the barriers as perceived by the students and make appropriate changes in the post graduate curricular to facilitate quality research based practice among medical professionals. Lack of time and lack of skills and knowledge were found to be the main barriers for conducting research. This is consistent with the other studies was done elsewhere in the world<sup>(8,9)</sup> financial support along with lack of support from guide were also barriers for research based activities<sup>(8)</sup> post graduate students also feel that the funding agencies should allocate a portion of their budget to promote research activities among students.<sup>(10)</sup>

Majority of the respondents felt that training in research methodology should be made mandatory as it improves skill and knowledge which is consistent with the study conducted by Sabzwari S et al which showed that physicians with the prior research training were more likely to participate in research.<sup>(11)</sup> 67.67% of students opined that their conducting research because of personal interest because of awareness of its importance in improving their skill and knowledge not because it is a part of their PG curriculum.

Separate time for conducting of research, support from funding agencies and the right to select their own guide for proper mentoring during their research work were considered as important factors which affect their active participation in research.<sup>(10)</sup>

All the 90 respondents (100%) felt that conduction of research improved their career prospects. Majority of the post graduate students stated that selection of topic (71.11%), interpretation of results (62.22%) and article publishing were the most difficult factors which they face during conduction of research.<sup>(12)</sup> Sample selection, obtaining data and data collection were perceived as not so difficult factors during research.

These findings suggest that training in research methodology and biostatistics should be done during early years so, as to improve upon the skills which are required during conduction of research.<sup>(12)</sup> Training of students in research methodology should start at an earlier stage in their career to develop necessary skills and knowledge based practices which will improve the research outcome. The academic personal and students should work to develop a supportive environment which will encourage and foster a passion for bio medical research.<sup>(13)</sup>

## Conclusion

The present study reveals that there is a need to consider the introduction of periodic research methodology training programs for post graduates to develop positive attitudes among them along with

support from funding agencies with separate allocation of time in curriculum for better conduction of research activities.

The academic personal should develop effective strategies and pedagogies to develop positive attitude and practices in student training which will motivate them to actively participate in research activities to contribute in the scientific progress of the country.

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