



**KNOWLEDGE, ATTITUDE, PRACTICES, AND PERCEIVED BARRIERS TOWARDS
RESEARCH AMONG FINAL YEAR STUDENTS AND INTERNS OF HOMOEOPATHIC
MEDICAL COLLEGE: A CROSS- SECTIONAL SURVEY STUDY**

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ABSTRACT

Introduction

Research is an extremely crucial element in advancement of medical science and for improvement in health care services. Though the progress in the field of Homoeopathic medicine is taking place at unparalleled pace, for global acceptance of Homoeopathy by the scientific fraternity research of internationally accepted standards must be conducted. India has the government approved education system of Homoeopathy and largest number of Homoeopathic institutes in the world. Being more than 200 years old and more than 75 years of institutionalised Homoeopathy in India, it is worth to find out the gaps or the barriers and solutions for the lack of its acceptance globally. Research training at institute level and building research skills of Homoeopathic students at undergraduate level can be a crucial step in improving research contribution of Homoeopathy, for its acceptance as a scientific system of medicine as well as improving the utility of Homoeopathy in health care system.

Objective: To identify the Knowledge, Attitude, Practices, and Barriers towards research among final year Students and Interns of Homoeopathic Medical college.

Methods: A cross sectional survey study was conducted among 151 final year students and Interns from Homoeopathic Medical College by using Self-designed Survey questionnaire which was circulated through the Google form.

Result: The Knowledge section's multiple choice, fundamental and application-based questions were observed to be correctly answered by 51.6% of the participants. 81.3% of participants had a favourable attitude regarding conducting research and including research as a mandatory subject in Undergraduate curriculum. However, this was not reflected in their practices as only 46.3% are doing some research related activity. 65.1% of participants responded that lack of time, resources, funding, guidance are some of the barriers in learning research.

Conclusion: Most participants are aware about the fundamentals of research, but they are not knowing its application in real time situation. The majority of participants believe that the inclusion of research as a subject in undergraduate curriculum can improve the current outlook as well as participation in research activities. However, they are not sure whether it will improve the present state of research as they feel this will need extra time, funding, and proper guidance. However, timely inclusion of research in undergraduate curriculum and providing research-oriented faculty in Homoeopathic Institutes can positively change the current scenario of Research in Homoeopathic education.

KEYWORDS

Research, Knowledge, Attitude, Practices, Barriers, Homoeopathy, Survey

INTRODUCTION

In recent years paradigm shift has been noticed from experience based to evidence-based practice in medicine and education.^[1] Research is a cornerstone of evidence based medical practice.^[2] The scientific advancement of any medical system depends on research as it explores the hidden areas, defines the flaws, and open new horizons for future research. ^[3,4]Research in medicine has an impact on prevention, diagnosis, and newer treatment modalities to disease and especially on health care program policies of the nation. ^[5]It is crucial for identifying the issues that have an impact on an individual's health and how those issues affect community health as well as any gaps in our healthcare systems.^[3]

Homoeopathy is one of the most widespread forms of complementary medicine. However, even today many questions are being raised about its Scientificity. Critics of Homoeopathy have pointed out that Homoeopathy is not evidence-based medicine. Research in health care is still a much-neglected area in our country. ^[1]To have a scientific standing, greater acceptability and credibility we need to have research orientation and research studies of internationally accepted standards.^[2,4,6]

Research experience has been recognized to help foster scientific thoughts and nurture evidence-based practice in clinical settings. It is a well-known fact that developing a positive attitude is a key component of medical education. Exposing students to the fundamentals of research earlier in their academic careers will not only improve their knowledge and attitude towards it, but will also teach them teamwork, critical analytical thinking, and writing skills, as well as improve their future clinical practice, career choices, and enhance postgraduate research output. ^[7]Our country's independent AYUSH ministry's establishment and operation allows us to create models that incorporate AYUSH system of medicine to treat a variety of common health issues. Homoeopathic education system concentrates mainly on preparing more and more doctors who are trained in Homoeopathic science, but seldom promotes research activities. Although opportunities to participate in research, such as the STSH supported by CCRH, have boosted the research projects undertaken by undergraduate students of Homoeopathic medical colleges, still there is lack in research quality and quantity in the field of Homoeopathy.^[1,4,8]To achieve a lasting understanding of medical research, it is crucial for both individuals and institutions to strengthen their research skills.

According to various literatures available, the main factors in research are knowledge, attitude, practices, and barriers. Many KAPB studies have been conducted in medical colleges of different countries. Findings of Indian studies conducted on medical college students by Pallamparthy, Sharma shows high to moderate knowledge, encouraging

attitude but low practices, common barriers faced by students were lack of time, lack of research training and infrastructure, lack of motivational rewarding environment, etc. [5,9] There is no recent information available about knowledge, attitude, practices and perceived barriers towards research of Undergraduate Homoeopathic medical college students. Final year students and Interns are the future of health care and homoeopathy. Therefore, the assessment of final year Homoeopathic medical college students' and Interns' knowledge, attitudes, practices, and perceived barriers to research will help us plan the appropriate changes needed for the proper training programmes. Eventually, this will increase the number of Homoeopathic research studies, which in turn will improve the effectiveness and scientific rigour of the public health care system. As a result, public health services can be efficiently provided at primary health centres.

Researchers and policymakers working closely together can significantly alter our nation's health situation. Every effort made at the undergraduate level to become familiar with the KAPB will assist to enhance the current state of research in the field of healthcare. Catching them early is the adage that can undoubtedly increase our young students' awareness, interest, and curiosity if we address the obstacles and needs that prevent them from devoting their time to research.

The purpose of conducting this survey study is to assess the knowledge, attitude, practices, and barriers towards research among the final year Homoeopathic medical students and Interns to find out the gaps and appropriate solutions to bridge these gaps. This can be achieved by suggesting the changes in the syllabus and curriculum of Homoeopathic undergraduate course to the policy makers. Besides this, training of faculties in the subject of research who can motivate undergraduate students to participate in research activities and also help and guide them to conduct actual research projects.

Objective: To identify the Knowledge, Attitude, Practices, and Barriers towards research among final year Students and Interns of Homoeopathic Medical college.

Methods

Study design and setting

A cross sectional survey study was conducted at Dhondumama Sathe Homoeopathic Medical College, Pune, Maharashtra, India. Undergraduate students of Final year of winter 2022-2023 batch and Interns of batch 2022-2023 were included in the study.

Participants and Data collection procedure

After obtaining the ethical approval, students were addressed by the institutional research team. Objectives of the study were explained to Undergraduate final year BHMS students and Interns of 2022-23 batch. Self -designed questionnaire was prepared and validated and then circulated online using google form to students who were voluntarily willing to participate in the survey study. Purposive sampling method was used to acquire the responses from the participants using google forms. Participants took 7 to 10 min to answer the questionnaire. Students who were not willing to be a part of survey were excluded from the study. Out of 151, all students submitted the survey questionnaire.

Data collection tool

Self-designed Survey questionnaire of total 40 questions was prepared. Multiple references from previously published work relevant to this topic were taken for formulation of questionnaire and further questionnaire was pre-tested before collection of data. It was divided into 4 sections; Knowledge, Attitude, Practices and Barriers, each part contains 10 questions. Questions related to theory and application were covered in Knowledge section. Attitude section had questions related to student's outlooks towards inclusion of research as a mandatory subject, other perceptions whether research is an extra burden, whether it helps in improving critical thinking, conduction of research should be mandatory to every Homoeopath, etc. Practice Section contained questions regarding participation in research activities like reading a journal, writing an article, attending a research workshop, participation in research study, conduction of any pilot study, etc. Barrier section contained questions related to perceived barriers towards research like lack of time because of other educational activities, not interested because it is not a part of curriculum, lack of familiarity with the subject due to lack of access to resources and guidance, etc. Knowledge was assessed using score "1" for correct answer while score "0" for incorrect answer, Attitude and Barriers were assessed using Likert scale ranging from 1 to 3 (3 agree, 2 neutral, 1 disagree) While practices were assessed by 4-point Likert scale ranging from 1 to 4 (4 always, 3 often, 2 sometimes, 1 never).

Results

Demographic details

- The questionnaire was distributed to a total of 151 participants, and all were filled and returned (participation rate was 100%).
 - Out of 151 participants 76 were final year students and 75 were Interns.
- A. Knowledge about Research.

The Knowledge section's multiple choice, fundamental based

questions were observed to be correctly answered by 70.6% Participants. While, only 41.8% participants gave correct answers of application-based questions. It was observed that 51.6% participants gave correct answers of fundamental and application-based questions.

Table 1. Final year Students and Interns knowledge about Research (n=151)

Questions	Correct n (n%)	Incorrec t (n%)
Research is- Searching again and again Finding solution to any problem Working in a scientific way to search for truth of any problem None of the above	134 (89)	16 (10.5)
What is the main objective of research? To review the literature To summarize what is already known To get an academic degree To discover new facts or to make fresh interpretation of known facts	143 (95)	07 (4.6)
Incidence and natural history of a condition can be obtained through which of the following study? Cohort study Experimental study Descriptive study None of the above	53 (35.3)	97(65)
Randomization, replication, and local control is the basic principle of which type of study? Observational study Experimental study Descriptive study Survey study	80 (53.3)	70 (46.7)

Which of the following is NOT the characteristic of research title Short Accurate Novice Interesting	68 (45.3)	82 (54.7)
The researcher wants to study knowledge and practices related to menstrual hygiene in an urban slum. He should select his sample by using: Simple random sampling Stratified sampling Purposive sampling Snowball sampling	28 (18.6)	122 (81.3)
A researcher is interested in studying the perspectives about Homoeopathy among urban population. What tool should he prefer for the study. Rating scale Interview Questionnaire Schedule	89 (59.3)	61 (40.6)
“Controlled group” is a term used in--- Survey research Historical research Experimental research Descriptive research	88 (58.7)	62 (41.3)
Likert scale is a single item scale. True False	41 (27.3)	109 (72.6)
“PICO criteria” (Population, Intervention, Control, Outcome) is used to frame- Research Title Research question Research Hypothesis	50 (33.3)	100 (66.6)

Research Objective		
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B. Attitude towards Research

Out of 151 participants, 71% participants feel that research subject should be added in the curriculum, 77.3% participants think active participation in research will help to improve research skills of students. While 82% participants answered favourably regarding conduction of research at Undergraduate level will help them to understand subject. However, 25.8% participants think research is difficult to understand, while 6% believed that research is a burden.

Table 2: Final year Students and Interns approach towards research (n=151)

Questions	Agree n (n%)	Neutral n(n%)	Disagree N (n%)
Research methodology” as subject should be made compulsory in undergraduate training	107 (71)	39 (26)	4 (2.6)
Undergraduates and Interns should participate in research	116 (77.3)	30 (20)	4 (2.6)
Undergraduates and interns should carry out a research and write a paper	36 (24)	83(55.3)	31 (20.6)
The concept of research is difficult to understand	31 (20.6)	83(55.3)	36 (24)
Conduction of research will help in better understanding of the subject.	123 (82)	22 (14.6)	5 (3.3)
Research promotes critical thinking	109 (72.6)	32 (21.3)	9 (6)
Every Homoeopath should conduct at least one research during undergraduate course	105 (70)	36 (24)	9 (6)
Record keeping is one of the key components of research.	133(88.6)	14 (9)	3 (2)
Promotion and conduction of research in Homoeopathy is need of an hour	106 (70.6)	36 (24)	8 (5.3)
It is an extra burden to do research in terms of time, money, manpower, etc.	9(6)	32 (21.3)	109 (72.6)

C. Practices towards research

Out of 151 participants, 76.6% of participants have never attended any research workshop, 70.6% participants have never participated in any research activity conducted in college, 70.6% participants have never read any article on PubMed and other databases, 82% participants have never attempted to write an article for a journal, 83.3% participants have never participated in any research competition.

Table 3: Final year Students and Interns practices of Research (n=151)

Questions	Never n (n%)	Sometime s n (n%)	Often n (n%)	Always n (n%)
I have attended research workshop.	115 (76.6)	35 (23.3)	0 (0)	0 (0)
I have participated as a participant in a research activity conducted by PG students in the college	106 (70.6)	44 (29.3)	0 (0)	0(0)
I visit college library to read research articles published in various journals	29 (19.3)	102 (68)	19 (12.6)	0 (0)
I have written a research article for a journal	124 (82.6)	15 (10)	9 (6)	2 (1.3)
I browse research articles regularly on PubMed and other data bases	106 (70.6)	34 (22.6)	6 (4)	4 (2.6)
I have made an attempt to formulate a research title	81 (54)	54 (36)	10 (6.6)	13 (8.6)
I try to learn how to maintain a case record for research purpose	56 (37.6)	67 (44.6)	13 (8.6)	14 (9.3)
I have created pilot study proposal or a survey questionnaire	109 (72.6)	30 (20)	8 (5.3)	3 (2)
I have made an attempt to learn about basic statistics	82 (54.6)	47 (31.3)	13 (8.6)	8 (5.3)
I have participated in oral/ poster research competitions	125 (83.3)	25 (16.6)	0 (0)	0 (0)

D. Perceived barriers towards Research.

34% participants think that research is not a part of curriculum, so it is not essential to study. 62.6% participants feel that there is no proper guidance to learn about research,

51.3% participants think that there is lack of time to conduct research because of other academic activities, 48% participants feel that to learn about research there are inadequate resources, while 22% participants are not interested in learning about research.

Table 4: Perceived barriers faced by Final year Students and Interns towards practicing Research (n=151)

Questions	Agree n (n%)	Neutral n (n%)	Disagree n (n%)
Research is not the part of curriculum so never thought it is important to do research	52 (34.6)	53 (35.3)	45 (30)
Lack of guidance towards research	94 (62.6)	44 (29.3)	12 (8)
Lack of time to do research because of multiple educational tasks	77 (51.3)	60 (40)	13 (8.6)
Lack of access to research papers/data/studies	71 (47.3)	58 (38.6)	21 (14)
Lack of familiarity with research skills and statistical analysis	90 (60)	52 (34.6)	8 (5.3)
Lack of confidence in conducting research	71 (47.3)	52 (34.6)	27 (18)
Lack of interest in research	33 (22)	49 (32.6)	68 (45.3)
Lack of research suitable research space/infrastructure/ equipment	72 (48)	56 (37.3)	22 (14.6)
Lack of funds or timely funding for research projects	74 (49.3)	58 (38.6)	18 (12)
Lack of co-operation at various levels	76 (50.6)	50 (33.3)	24 (16)

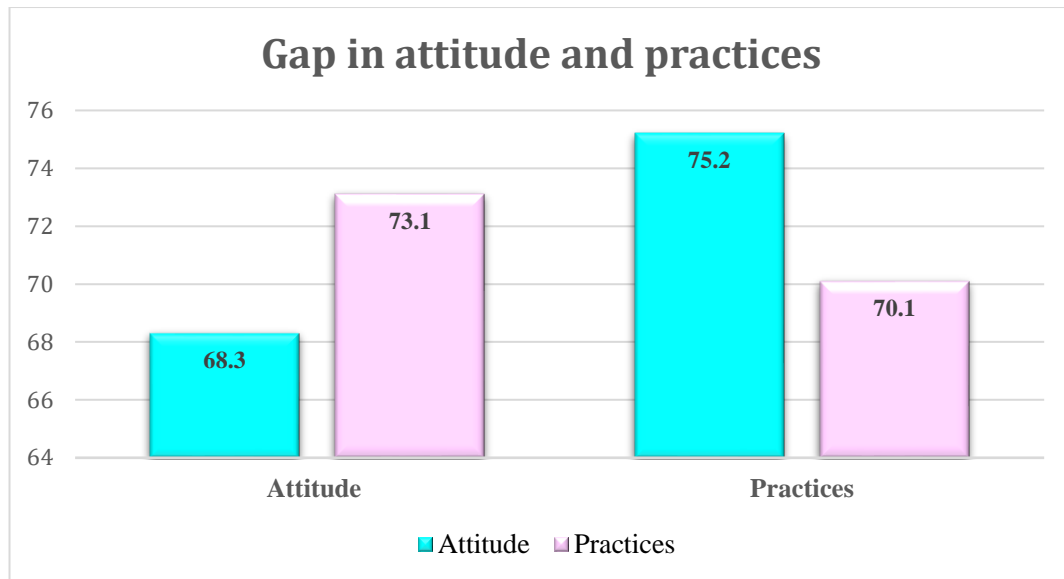


Figure: 1. Showing Gap in attitude and practices.

Gap in attitude and practices of research.

68.3% feel participation in research is required however, at the same time 73.1% participants have never participated in research. 75.2% participants feel conduction of research is needed but out of those 70.1% have never taken any efforts to even learn research.

DISCUSSION

An adequate level of knowledge, positive attitude, and reasoning skills play an important role in carrying out research. The present cross-sectional study was conducted to identify the knowledge, attitudes, practices, and barriers towards research amongst final year students and Interns of Homoeopathic Medical College, Pune, Maharashtra. The results of this study showed that participants of this study have moderate knowledge about basics of theory, but response of application-based questions reflected poor knowledge. Even though the knowledge was moderate to poor, attitude was positive towards research around 71% participants feel research should be added in the Undergraduate curriculum as a mandatory subject. Around 77.3% participants feel active participation and 82% participants think conduction of research will help to change the current scenario. Despite having positive attitude towards research, it was not reflected in practice, 75.12% participants have never done any research related activity like reading and reviewing a journal article, publishing an article, attending a research seminar or a workshop, conducting a small survey etc because research is not a mandatory subject or a part of curriculum. Lack of resources, guidance, time were few of the perceived barriers towards research.

Results of this study are very similar to other studies conducted in our county's different Medical and Dental colleges. Findings of study conducted at GMC Nagpur shows high level of knowledge, encouraging attitude towards research but the practices were significantly low. [9] Lack of time, funding, and facilities were the major barriers. Findings of another study conducted in medical college of Imphal are similar to findings of GMC, Nagpur's study. [9]

Regarding barriers encountered by the students trying to practice research, the unavailability of sufficient time because of educational tasks was reported in this study and it was observed in above-mentioned studies too. Integration of research projects or addition of research as a mandatory subject as a part of curricular requirements can help provide enough time and attention to them. The lack of knowledge and skills needed to perform research in addition to the lack of guidance was a prevalent barrier in our study and above-mentioned studies.

The study mainly points out the untranslated potential of the students which lies in their positive attitude towards research, however, it does not translate into actual knowledge or practice.

To our knowledge, this is the first study conducted in Homoeopathic college to assess the knowledge, attitudes, practices, and barriers towards research. However, use of purposive sampling and online surveying of students stands as a limitation and data may not be generalizable as it requires big population size. Survey with larger sample size can be conducted across the state.

Implications of findings Though the survey is conducted in one institute it clearly states that student's knowledge and practices in the area of research needs improvement. Inclusion of research as a mandatory subject can be a solution. Thus, integration of research as an educational task can contribute to changing the current scenario of research in Homeopathy.

Conclusion Undergraduate medical students of Homoeopathic medical college showed low to moderate level of knowledge. Despite having positive attitude towards research, it was not reflected in practices. The major barriers towards practice were the lack of time, the lack of access to the resources, lack of guidance, etc. Inclusion of research as a mandatory subject and integration of research into curricular activities is the need of an hour. To achieve this goal, it is crucial for both individuals and Homoeopathic institutions to strengthen their research skills.

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