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Original Research Article

Knowledge, attitude and practices towards research among undergraduate medical students in a teaching hospital, Trichy

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ABSTRACT

Background: Late advancements in medicine and health care have made research an integral part of modern medicine, but research in most developing countries of the world is not a mandatory component of medical education, although it is well known that it has a positive effect on the quality of medical education. This study was conducted with an objective to assess the knowledge, attitude and practice towards research among undergraduate medical students.
Methods: This is an Observational KAP study done among the undergraduate medical students in a teaching hospital Trichy. Around 200 students were selected from 2nd, 3rd, final MBBS students and Interns by Consecutive sampling method.
Results: Among 200 study participants, 43% were females and 57% were males. Around 16% of the study participants were second year MBBS, 17%were final year MBBS part-I, 29% from the final year MBBS part-II and 38% (76) were interns. The overall percentages of knowledge, attitude and practice of the study participants in doing a medical research were 94%, 83% and 61% respectively.
Conclusions: Encouraging medical students to engage in scientific research has shown excellent performance in daily clinical practice which requires multiple skills, and doctors who have had scientific training during their medical education may have an advantage over others when it comes to decision making using information collected from various resources.

Keywords: Research methodology, Students, Curriculum, Medical ethics

INTRODUCTION

Research is the keystone for progress in any field of science, depending upon contributions made by systematic research works, precisely the objective of any research is to unravel questions and acquire new knowledge.[1] Research is a systematic process to achieve new knowledge, science or invention by the use standard methodsand revision of current knowledge.[2,3] Research is the primary tool used in virtually all areas of science to expand the available knowledge.[1]

Research has become an extremely crucial element in the advancement and improvement of health care services provided, it is important in understanding the problems which affects the health of individuals which contributes to the health of the community, and also helps to find the gap in our health systems.[4,5] Medical research has an impact on the prevention, diagnosis and newer treatment modalities to diseases and especially on health care programs policy of the nation.[6] Therefore, globally the concern toward medical science research has increased in both developing and developed countries because biomedical research can improve medical care.[7]

In this current era, where advancements in the field of medicine are taking place at an unparalleled pace, it has now become an essential requirement to stay updated with the progressing medical techniques evolving.[8] Therefore, health research has become an integral component of medical education.[6] Research training is a fundamental component to help building up a physician's research skills, including literature search, critical appraisal, independent learning, and composing research papers.[4,9] Literatures have shown early exposure to research skills and experience of research in an early time in the medical profession is associated with continued professional academic work and may also help resident's career decisions and improve postgraduate research productivity.[9,5] Studies have also shown that inculcating critical thinking and reasoning skills amongst medical students can have a positive attitude towards scientific research from the beginning of their medicalcareer.[4,8] The development of research skills is important at the individual and also at the institutional level to gain a sustainable knowledge on medical research.[6] The maxim of medical education is to prepare physicians to meet the challenges of practice by fulfilling their roles as clinicians, educators and clinical researchers. In the new trends of medical education, research training is subsumed as a part of medical curriculum and residency training programs to build a task force of proficient physician scientists.[10]

According to various literatures available, the three key factors in research are knowledge, attitude and barriers which have a pivotal role toward research among medical fraternity.[11] One of the principal key factors underlying any study is the researcher's credence on their study, as it is these that motivate them to undertake a study primarily.[12] The attitude to medical research grows from the researcher's inquisitiveness and interest in a specific subject or their desire to solve a problem within a community.[13] Negative attitude towards research serve as an obstacle to learning associated with poor performance in research.[5,11] With this background, the objective of the study was to assess the knowledge, attitude and practice towards research among undergraduate medical students in a tertiary care teaching hospital in Trichy, Tamil Nadu.

METHODS

Study design, location, population and duration

This is an Observational KAP study, carried out at Trichy SRM medical college hospital, Trichy district. The study was conducted on undergraduate students of Trichy SRM medical college hospital for 15 days from 16 September to 30 September 2019.

Sample size

The sample size was calculated using the formula;

$$S=4PQ/L^2.$$

Study done by Satav et al showed that the attitude towards medical research was 56%.[14] Taking that as prevalence with absolute precision of 7.5 the sample sizec alculated was 175, by adding 10% non-response rate the total sample was finally rounded off to 200.

Inclusion and exclusion criteria

Students from 2nd MBBS, 3rd MBBS Part I and Part II, final year and interns were included. First year MBBS and students who were not willing to participate in the study were excluded.

Sampling method and data collection

Consecutive sampling method (Simple random sampling method) was used to identify the study participants. For data collection, *p*re-designed structured questionnaire were used to collect the data regarding knowledge, attitude and practice towards medical research. Assessment was done using scoring system. Informed consent in the local language (Tamil) were obtained before the data collection.

Statistical analysis

Data entered in MS excel and analysis was carried out in SPSS version 25.

RESULTS

The gender distribution among the study population. Among 200 undergraduate medical students, 43% (86) were females and 57% (114) were males (Figure 1). Around 16% (32) of the study participants were second year MBBS, 17% (34) were final year MBBS part-I, 29% (58) from the final year MBBS part-II and 38% (76) were interns.

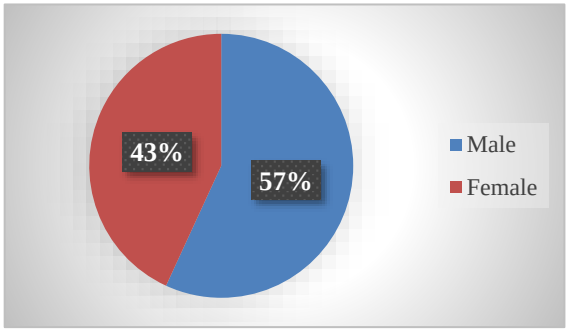

Figure 1: Gender distribution among the study population.

The knowledge (92% males, 97% females) and attitude (85% males, 80% females) showed minor variations with respect to gender regarding medical research among the study population, but a significant difference was found while assessing the practice component (45% males, 68% females) (Figure 2).

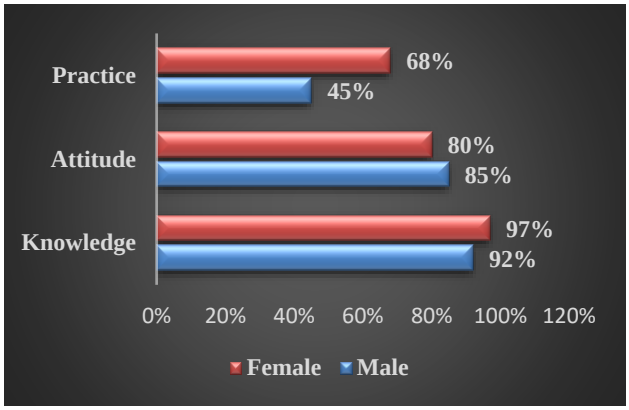

Figure 2: Gender wise comparison of knowledge, attitude, practice among the study population.

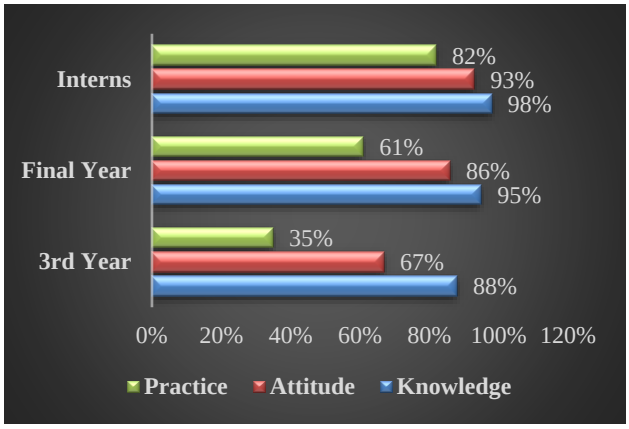

Figure 3: Study year wise comparison of knowledge, attitude and practice among the study participants.

The study year wise comparison of knowledge, attitude and practice among the study participants is depicted in (Figure 3). The knowledge, attitude and practice of the participants showed an exponential rise in their perception towards research with each passing year of medical course.

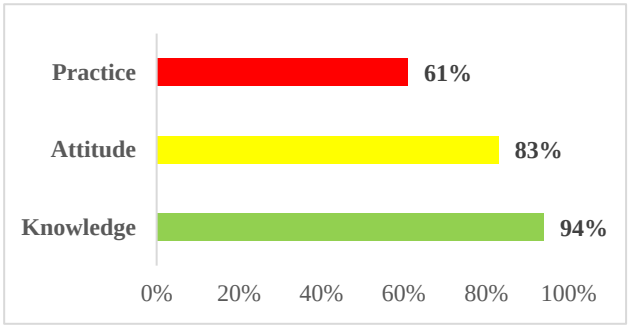

Figure 4: Overall knowledge, attitude and practice among the study participants.

The overall percentages of knowledge, attitude and practice of the study participants is depicted in (Figure 4). This shows that the medical students were having excellent knowledge (94%) and attitude (83%) towards medical research, but very moderate in doing (61%) a research project.

DISCUSSION

Our study results suggest that the overall knowledge score among the study population was encouragingly excellent (94%), in contrast to this study similar studies done on undergraduates by Noorelahi et al and Pallamparthy et al (70%) which showed moderately good knowledge regarding research and few other studies done by Amin et al (46%) and Khan et al (49%) which showed poor to moderate knowledge.[7,10,17,18]

The total knowledge score was better in Interns (98%), followed by final year (95%) and 3rd year (88%) MBBS students. This result was comparable to study conducted on similar study population by Vujaklija et al and Noorelahi et al which reported similar increase in knowledge among students with each passing year of medical course.[6, 10] Similar to the knowledge component, the study population has a very good total attitude score of 83% in this study when compared with other studies done by Nel et al (61%) and Memarpour et al (70%) carried out on undergraduates demonstrated a moderate attitude toward research.[19,2]

Results of the current study showed that the students attitude score towards medical research were higher with their advancing academic year, with interns having the highest score (93%) followed by Final year (87%) and 3rd year (67%).Similar results were seen in the studies done by Noorelahi et al, Pallamparthy et al and Siamian et al who have also recorded better attitude score with advancing academic year.[10,17,20] Contrary to the knowledge and attitude component, the practice of medical research was found to be average in this current study with overall practice of 61%. On comparison of practice based on gender, male students showed to have poor practice of research (45%) when compared to female students (68%) which is notably significant, but the total practice of the study population showed higher values compared to other studies carried out in similar study setup.[9,10,17] Study by Tarig et al revealed that compulsory research in the curriculum was the primary reason for doing research.[9]

Limitations

The analyses of this study were derived from a self-report survey and verification of the individual data was not possible. Secondly, this was a cross-sectional study therefore; we could neither observe the changes over time nor inference the causality. This study included only students from one college and a limited sample size. The study didn't include the barriers to practice of research such as organizational, strategic, and policy barriers, communication barriers, and cultural and language barriers and funding.

CONCLUSION

Despite the beneficial good knowledge and attitude towards research, the present study reports that the number of completed thesis projects and publications were very few in numbers. As medical research is an evolving discipline for undergraduates, students at regular intervals should be subjected to research methodology during their undergraduate curriculum. Students who complete their research studies should be motivated to present and publish their thesis by giving incentives to encourage the students. Our College has a very strong trend in practicing research because of the highly motivated mentors who guide the undergraduate students to bring out projects on their own and recommend publication as well. Therefore this study suggests that each and every medical college should have a research wing to inspire and direct undergraduate students to become potential researchers.

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