

Survey of undergraduate medical students on their understanding and attitude towards the discipline of radiotherapy

ABSTRACT

Aim: The discipline of radiotherapy (RT) in India is considered a low priority subject. Postgraduate (PG) students rarely choose RT as a career option. The possible reasons could be: 1) limited availability of PG course training centers, 2) limited job prospects, etc. We decided to conduct a survey of undergraduate (UG) medical students to find out their awareness, understanding, and attitude toward the subject of RT.

Materials and Methods: A simple 12-point questionnaire was designed to assess the level of awareness, understanding, and attitude. It was handed over personally or sent by e-mail or post to UG students of various medical colleges in India. The data provided by respondents was analyzed.

Results: During the period from January to June 2008, 400 questionnaires were distributed. A total of 155 respondents sent their responses. Twenty-eight of them (18%) opined that RT is not a part of the bachelor of medicine and bachelor of surgery (MBBS) curriculum at their institute. About 84% replied that not more than 10 theory lectures/practical classes are assigned to RT during the entire UG period. About one-third of the respondents stated that there are no separate clinical postings for RT. According to 54% of the respondents, RT is still a low priority subject in the PG setting and the majority (70%) thought that inadequate exposure at the UG level and lack of awareness about the current prospects of RT are the main reasons for this.

Conclusion: The results of our survey indicate that the RT is still a low priority subject in India, mainly due to the poor exposure to the discipline and low awareness of the subject of RT during the UG program. The Medical Council of India (MCI) needs to ensure that adequate importance is given to RT in the MBBS curriculum so as to enhance awareness regarding the subject and increase exposure to this specialty.

KEY WORDS: Medical education, radiotherapy, undergraduate

INTRODUCTION

Radiotherapy (RT) is relatively a new medical discipline. It came into existence after the discovery of X-rays by the German physicist, Wilhelm Conrad Roentgen in 1895.^[1] It is a technology-oriented subject. Due to the rapid progression of this technology it has evolved relatively faster than most other medical disciplines. Along with two other oncology specialties, surgical oncology and medical oncology, RT is an important and useful treatment modality for cancer patients. About 45-55% of new cancer patients are treated with RT and about 20-25% will be irradiated more than once.^[2] Though RT requires installation of heavy and costly equipments, it is a treatment modality that is simple, noninvasive, and painless. With current and modern sophisticated RT techniques, the treatment is very precise and safe, with good clinical results and minimal side effects. Despite the fact that RT is a dynamic specialty, with evolving technologies

and novel therapeutic offerings, it is still considered a low priority subject in India. Medical graduates rarely choose this subject for postgraduation and very few consider it as a career option. This could be due to several factors, including the fact that there are limited number of institutes having recognized postgraduate (PG) courses in RT, limited job prospects, etc. However, the main factor seems to be a lack of proper exposure during the undergraduate (UG) medical education due to the minimal teaching of RT in the UG curriculum. We decided to conduct a survey of UG medical students to study their awareness, understanding, and attitude toward the subject of RT.

MATERIALS AND METHODS

A questionnaire [Table 1] was designed to assess the awareness, understanding, and attitude of medical UGs regarding the subject of RT. The questionnaire was simple to understand and had 12 points addressing

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Table 1: The 12-point questionnaire

Name:
Year of Joining MBBS:
College:

Please fill up the proforma below to the best of your knowledge and belief. You must tick only one choice unless specified otherwise.

1. Is radiotherapy/radiation oncology part of your MBBS curriculum?
 - Yes
 - No
 - I am not aware
2. In which year are you introduced to radiotherapy as a part of your MBBS curriculum?
 - 3rd year
 - Final year
 - Posting during internship
 - Never at all
3. In what way are you exposed to radiotherapy during your MBBS tenure?
 - Theory only
 - Clinical postings
 - Both
 - Never at all
4. How many postings and lectures in total are assigned to radiotherapy in your college?
 - 1-5
 - 5-10
 - 10 or more
 - None
5. Do you have separate postings for radiotherapy or are they merged with some other branch?
 - Separate
 - Merged with other subjects
 - I am not aware
6. How are you assessed in the field of radiotherapy?
 - Viva
 - Theory questions
 - Both
 - Never assessed
7. What is the status of radiotherapy posting during your internship?
 - Mandatory (please specify the duration)
 - Elective (please specify the duration)
 - I am not aware at all
8. Do you think that radiotherapy is a low priority field in the post graduate setting?
 - Yes
 - No
9. What would be your preference order for postgraduation for the following fields? Write 1 for most preferred and continue up to 5 for the least preferred. *Do not tick please*
 - Internal medicine
 - General surgery
 - Radiotherapy/radiation oncology
 - Radiodiagnosis/radiology
 - Pathology
10. What according to you is the reason for not choosing radiotherapy at PG level?
 - No proper exposure at UG level
 - Lack of awareness about the current status of radiotherapy
 - Lack of future placement prospects
 - If other please specify
 - Increasing exposure at UG level
11. What in your opinion should be done to attract bright minds into this field?
 - Creating awareness about the essentiality of this modality in cancer treatment
 - Setting up of radiotherapy departments in more government hospitals/colleges
12. What should be the role of MCI for improvement in course of radiotherapy?
 - Initiate radiotherapy as separate subject at undergraduate level
 - Mandatory internship posting in radiotherapy
 - Introduce radiotherapy at early stage in MBBS curriculum
 - Separate examination (written/ oral) at any stage in MBBS course

the above issues. The multiple choice questions (MCQ) format was used in the questionnaire as this is a well known method for medical surveys. Each question had 2-5 choices depending upon the nature of question. Certain questions required more than one choice to be ticked and for some questions a short reason had to be mentioned for selecting a particular answer.

During the period from January 2008 to June 2008, the

questionnaires were handed over personally or sent by post or e-mail to the UG medical students of various medical colleges in India. We included only those students who had been introduced to their clinical postings (i.e., MBBS 3rd year onwards). No strict criteria were followed while selecting the medical college for sending the questionnaires. For example, we did not take into consideration whether there were RT facilities in the college. A total of 400 questionnaires were distributed, keeping in mind

the various factors like the expected non-response rate, the statistical yield, etc. In order to enhance the response rate, we also attempted to contact individuals over the telephone and by e-mail. The respondents were asked to send the completed forms back to the authors by e-mail, post, or by hand. A time limit of 6 months (January-June 2008) was decided upon to collect the responses.

The data provided by the respondents was analyzed statistically.

RESULTS

During the period from January 2008 to June 2008, a total of 155 respondents out of 400 (39%) sent their responses. Twenty-eight of them (18%) stated that RT was not a part of MBBS curriculum at their institute. About 84% respondents thought that not more than 10 theory lectures/practical classes were assigned to RT during their entire UG period [Figure 1]. About one-third of respondents replied that there are no separate

clinical postings for RT, since this posting is merged with the posting in radiodiagnosis. Eighty-three (54%) respondents replied that there is no assessment conducted for RT during the UG period [Figure 2]. Only 14% respondents were aware that the RT posting is mandatory during internship. As shown in Figure 3, 54% responders feel that RT is still a low priority subject in the postgraduate setting. The majority (70%) thought that inadequate exposure at the UG level and lack of awareness about the current prospects of RT are the main reasons for this. When asked about the choice of PG subject, only 6 out of 155 (3.8%) opted for RT as the first choice [Figure 4]. Approximately 54% responders opined that increasing awareness at the UG level would improve the priority given to RT.

DISCUSSION

India produces larger numbers of doctors than anywhere else in the world. About 30, 408 doctors graduate every year from 271 medical colleges in India.^[3] Despite the rapid proliferation of medical colleges in the last two decades, the population

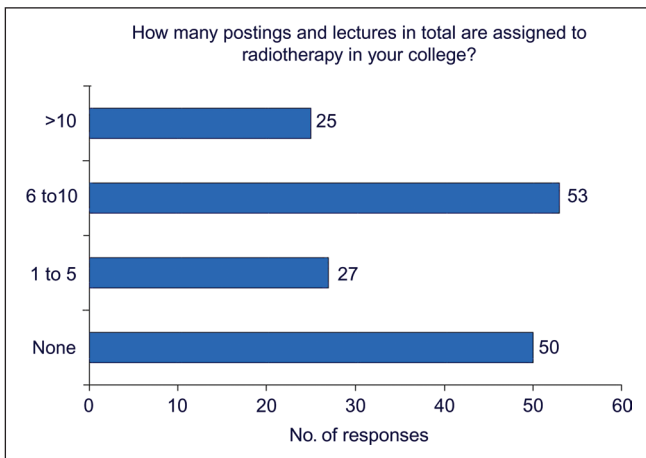


Figure 1: Number of responders showing their view on number of clinical posting/lectures assigned to radiotherapy in their institutes

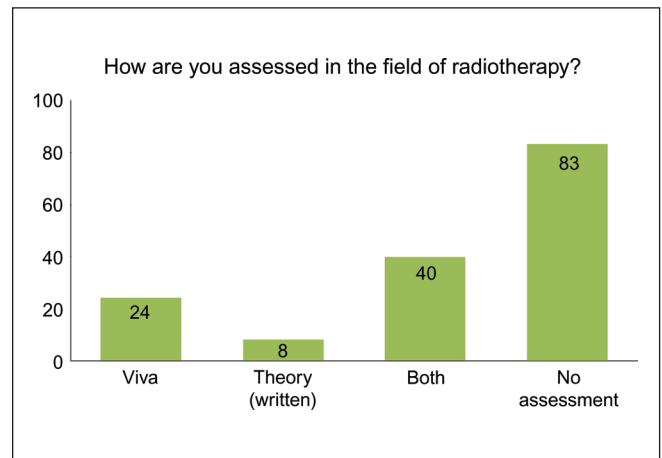


Figure 2: Number of responder revealing method of assessment for radiotherapy during the undergraduate period in their institutes

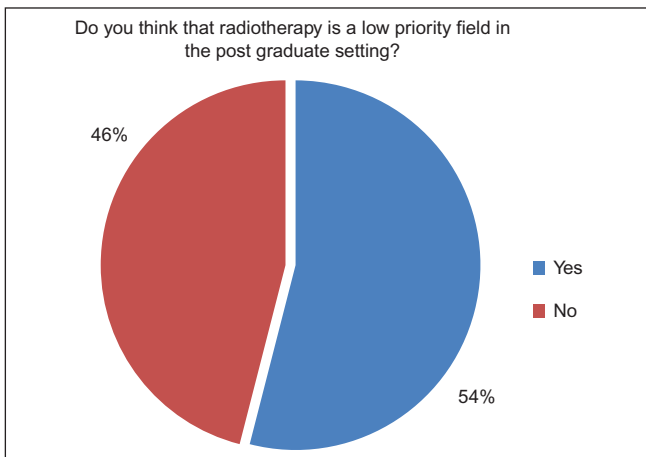


Figure 3: Number of responders showing their view on the priority of radiotherapy as a medical discipline

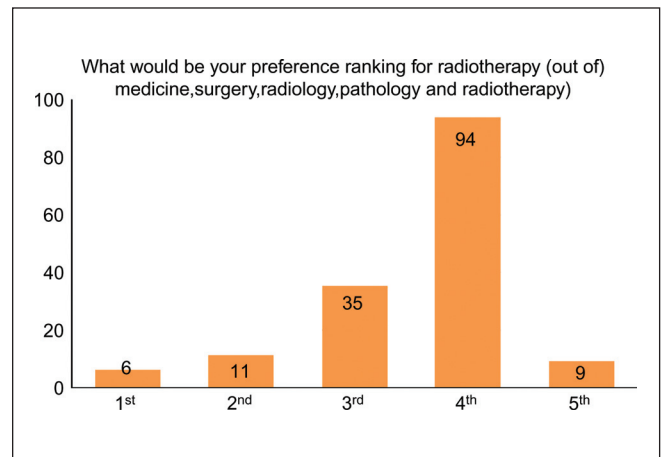


Figure 4: Number of responders revealing their preference for radiotherapy as first choice for postgraduate course

of radiotherapists is much lower than what is required.^[4,5] Approximately, there is one radiotherapist per 715 cancer patients per year in India,^[6] whereas in developed nations there is one radiotherapist per 250 patients.^[2] This low ratio in India is due to many factors; for example, few institutes offer PG courses in RT, low interest of medical graduates in RT as a career choice, uncertain job prospects, etc. There are only 38 institutes in India having a Medical Council of India (MCI)-recognized PG course in RT (total number of seats: 70).^[7] Lack of awareness due to inadequate exposure to this subject during UG teaching is also a possible factor and a matter of concern.

Our survey of medical UGs has revealed many important facts. During the UG period of medical education, teaching and training in the subject of RT is negligible. In our study, the majority (52%) of the respondents replied that the total number of theory/practical classes are 10 or less than 10. Due to this, there is poor understanding and awareness about RT amongst the UGs. Very often these classes are part of the teaching of radiology in general and there is no separate teaching for RT. MCI guidelines on UG medical (MBBS) curriculum are not specific and therefore medical colleges do not ensure inclusion of RT classes. Lack of assessment for RT during the UG medical teaching is also responsible for the poor knowledge and awareness of this subject as UG students lay emphasis on the subjects for which there is assessment via both theory and practical examination. Though inclusion of RT as an essential subject for passing the examination might burden the students, some form of separate assessment in this subject should be made mandatory as this will enhance the learning of this subject. The absence of a mandatory RT posting during the 1-year period of rotating internship may be one of the reasons for the low interest in doing postgraduate training in RT. MCI has no guidelines for RT posting during internship period and therefore majority of medical colleges have no mandatory RT posting. The internship period, which comes just before the joining PG course, has significant impact on the career choice. We suggest that the MCI should make a posting in RT (of about 15-30 days) mandatory during internship.

A similar survey was carried out by Wong *et al.*^[8] in Canadian medical schools. A questionnaire was sent to 214 medical students and 59% of them sent their responses. Only 18%

respondents chose RT as their possible choice for residency; 75% opted for subjects having better job opportunities. The authors suggested that better provision of information to medical students about the RT training would generate interest in the subject. Though our results cannot be compared with Wong's study^[8] due to the differences in the health care systems and infrastructure in India and Canada, the lack of awareness about RT amongst medical UGs appears to be a common factor.

The majority of UGs consider RT as a low priority subject. Only 4% of the respondents chose RT as their first choice for PG training. The reasons for the low priority given to RT, as evident from our survey, are lack of proper exposure and awareness during the UG period. Therefore, the MCI should direct medical colleges/institutes to include the subject of RT in the UG teaching curriculum in the form of theory lectures and clinical postings with proper assessment in order to increase the knowledge and awareness about this subject. This, in turn, will encourage medical students to opt for RT as a career choice and thereby the shortage of manpower in RT in our country can be overcome soon.

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