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RTT activities

Clinician and therapist perceptions on radiation therapist-led treatment reviews in radiation oncology practice

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Abstract

***Background and purpose*: To determine whether radiation therapists (RTTs) and radiation oncologists (ROs) believe RTTs can lead patient treatment reviews.**

***Materials and methods*: Phase 1 involved the construction of a checklist of the procedures followed during RO treatment reviews. Phase 2 employed the checklist to monitor the frequency of review procedures. From these data, questionnaires regarding RTTs' ability to carry out these procedures to be used in Phase 3 were developed. The questionnaires were distributed to RTTs and ROs at two large public cancer centres.**

***Results*: The majority of RTTs and ROs believed that RTTs could provide assurance and answer questions about side effects, treatment techniques, cancer, nutrition and logistics. ROs and RTTs agreed that RTTs were not capable of recommending medication or answering medical questions. Most RTTs thought they could decide if a patient should take a break from treatment if a standard protocol existed, but the ROs disagreed ($P < 0.01$). ROs believed that RTTs were capable of using the Common Toxicity Criteria system to grade side effects, but RTTs disagreed ($P < 0.01$). Concerns were raised about training, legalities, workloads, logistics, cost, patients' perspectives and remuneration.**

***Conclusion*: RTTs and ROs believed RTTs could lead treatment reviews with training, and support this role development.**

Keywords: Treatment review; Role development; Radiation therapist; Radiation oncologist

Weekly treatment reviews for patients undergoing radiotherapy treatment are routinely carried out in many radiation oncology units by radiation oncologists (ROs). During the review sessions, radiation side effects are explained and assessed to ensure that the patient is tolerating radiation therapy well. Medication may be prescribed to treat these radiation side effects, and psycho-social issues are often addressed. Treatment reviews also have a quality assurance role to ensure that treatment is progressing as planned.

Recently, in various radiation oncology departments in the United Kingdom, some radiation therapists (RTTs) have assumed the role of weekly treatment reviewers [1,2] with the RTTs involved in this role development usually employed in more senior positions. The job scope of RTT treatment reviewers as described in these studies generally includes clinical examination of treatment sites for side effects, advising patients, documenting treatment decisions and addressing psycho-social issues [1,2]. However, there is very little detail available about these positions, the review abilities of RTTs, and the acceptability of RTTs in this role. Thus the purpose of this study is to survey the perceptions of ROs and RTTs working in the National Cancer Centre and the National University Hospital in Singapore on the capabilities of RTTs in leading treatment reviews, and the level of support for this role development.

Materials and methods

This study was approved by the Institutional Ethics Committees of the National Healthcare Group of Singapore and the University of Sydney, and undertaken in the Radiation Oncology departments at the two aforementioned public cancer centres in Singapore. These two centres are the main public teaching hospitals in the country, employing about 80% of the total number of radiation therapists and radiation oncologists working in Singapore.

The study was conducted in three phases. Phase 1 consisted of preliminary observations of weekly treatment re-

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views. Procedures such as treatment assessment, medical intervention, psycho-social support, nutritional advice and decision-making were recorded for the purpose of constructing a checklist that was used in Phase 2. In the initial phase, 80 treatment reviews were observed over a period of two weeks. A total of six oncologists with varying educational backgrounds (United States, Australia, China and Singapore) were observed.

Phase 2 involved data collection that employed the checklist generated in Phase 1 and the construction of the questionnaires for phase 3. One hundred and sixty treatment reviews were observed over a period of four weeks. These were randomly selected by drawing sealed envelopes containing the names of different ROs. The treatment review led by the RO whose name was drawn would be observed. Only adult patients over the age of 21 whose informed consent had been obtained were observed. Actual data collection followed the preliminary observations in Phase 1 immediately without announcing its commencement in order to reduce the 'start up effect'. This effect occurs where subjects are very conscious of being observed, usually at the beginning of the study. Procedures that took place in each treatment review were recorded. Data on the frequency of occurrence of each procedure were obtained. This was analysed using SPSS version 11.0 for Windows and differences in frequencies for each treatment site were analysed using the Pearson's chi-square test. These data aided the construction of the questionnaires which were distributed to the ROs and RTTs in Phase 3. No names were recorded throughout data collection.

In Phase 3, the questionnaires constructed in Phase 2 were distributed to ROs and RTTs at both cancer centres. All RTTs and ROs working in both centres were invited to participate. A total of 65 questionnaires were given out to RTTs and 29 questionnaires to ROs across both centres. The questionnaires sought opinions of RTTs and ROs on the RTTs' potential abilities to carry out treatment reviews. Perceptions of RTTs' potential abilities were measured by asking questions focused on tasks carried out during treatment reviews. The tasks included providing assurance, using the common toxicity criteria to grade side effects, recommending drugs, deciding whether to continue and break treatment, and answering questions about side effects, treatment techniques, general medicine, cancer, nutrition and logistics. Each question was phrased negatively or positively, determined by the flip of a coin. This eliminated the acquiescence response set, which is a tendency to agree with all the statements [3]. There were 17 closed ended questions on a four-point Likert scale, ranging from 'strongly agree' to 'strongly disagree', and three open ended questions. A four-point scale was used to prevent participants from choosing the 'neither agree nor disagree' category that is present in a five-point scale. However, therein lies its limitation: some respondents really do not have an opinion on the statement asked but this would not be reflected in the results [4]. The Likert scale was chosen as results could be easily tabulated by assigning scores 1—4 — from 'strongly disagree' to 'strongly agree' — and the scores were reverse coded when a negative question was asked [3]. The closed ended questions focused on the procedures observed in Phase 2 and were related to tasks such as providing assurance, giving information on side effects and nutrition, and answering questions. Pearson's chi-square analysis was used to evaluate differences in responses between the two groups. The open ended questions gave respondents the opportunity to express themselves and explored related concerns, feasibility issues and suggestions for implementation.

Results

Frequency of procedures during treatment reviews

The frequency of procedures carried out during the 160 treatment reviews observed in Phase 2 is shown in Fig. 1. A toxicity assessment was carried out in almost all consultations, followed by advice on side effects, emotional support (largely in the form of assurance), medical intervention and nutritional advice. Unrelated medical problems were raised in about 15% of reviews. The pain score and discussion about complementary and alternative medicine were carried out occasionally.

Medical intervention rate during treatment reviews

Thirty five percent (56 of 160) of treatment reviews observed in Phase 2 of the study involved some form of medical intervention. Medical intervention as discussed in this study consists of wound dressing, drug prescription, modification of drug dosage and referrals. As shown in Table I, there was a significant difference in medical intervention rates for different sites of treatment ($P = 0.001$). The greatest intervention rate was for patients receiving pelvic irradiation (65.2%), followed by brain irradiation (54.5%).

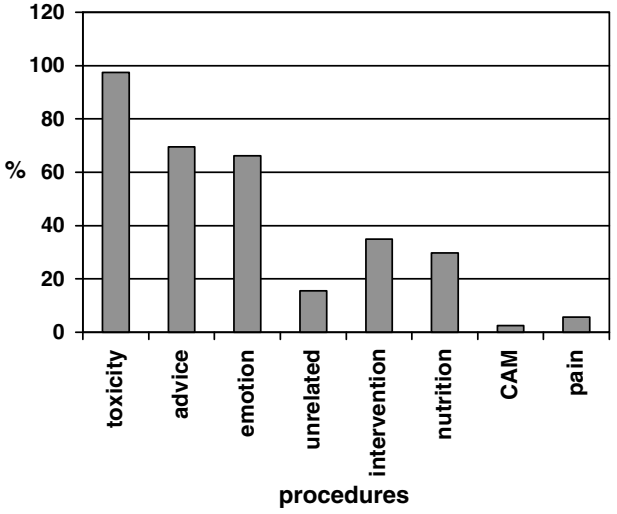

Fig. 1. Frequency of procedures observed during treatment reviews. Toxicity, toxicity scoring indicated; Advice, advice on side effects; Emotion, emotional support given in terms of assurance and information given; Unrelated, unrelated medical problems addressed; Intervention, medical intervention given in the form of drug prescription, liaison with other physicians, ordering of wound dressing, or any other investigations; Nutrition, nutritional advice given; CAM, complementary and alternative medicine addressed; Pain, pain score taken.