


ORIGINAL ARTICLE

Radiation therapist-led telephone follow-up: identifying patients who require post-treatment care

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Abstract

Introduction: Radiation therapists implemented telephone follow-up (TFU) in 2015 as an additional point of care post-treatment. The purpose of this study was to determine whether TFU identified patients who required additional post-treatment care before the next scheduled review. **Methods:** Between January 2015 and July 2016, all patients who were prescribed curative intent treatment aged 18 years or over were called 10 days post-radiation therapy (RT). Eight questions were developed and included asking patients how they were coping, if their side effects were improving, if they needed to contact the hospital and if more dressings were required. Patients who could not be contacted after two attempts were excluded from the study. Microsoft Excel and Statistical Package for Social Sciences (SPSS) were used to analyse the responses. **Results:** Data were collected from 850 patients. A total of 28/846 (3%) of patients reported they were not coping after RT, with 26/830 (3%) reporting their side effects were getting worse. A total of 97/826 (12%) of patients felt they needed to contact the hospital because they were unwell. This study identified 104/677 (15%) of patients who responded required more dressings, with 67/104 (65.7%) and 10/104 (9.8%) of this cohort identified in the breast, and head and neck groups, respectively. **Conclusion:** Radiation therapist-led TFU has shown to be beneficial in identifying a small cohort of breast and head and neck cancer patients who required additional care post-radiation treatment.

Introduction

Radiation Therapists care for patients on a daily basis and have the unique ability to monitor side effects closely throughout the entire treatment.¹ During treatment, side effects are managed by regular medical and nursing reviews, and other allied health professionals such as dietitians, physiotherapist and speech pathologists when required.² However, the acute side effects of radiation therapy (RT) often reach their peak in the first one to two weeks after treatment. Most commonly cutaneous reactions require additional medical attention and intervention before the scheduled follow-up appointment.³

Aside from physical effects, there is an increased risk of depression and anxiety in patients with cancer compared

to the general population.⁴ The end of treatment may see anxiety and depression increase due to loss of daily treatment as a coping mechanism, lack of support and fear of recurrence.⁵ In this setting, coping was defined as the 'cognitive and behavioural effort to manage specific external or internal demands and conflicts that are appraised as taxing or exceeding the resources of a person'.⁶ Identification of psychosocial problems soon after treatment may lead to further improvement of medical management.⁷

Telephone follow-up (TFU) has been found to be an effective method of monitoring patients outside of the clinical setting resulting in a high level of patient satisfaction. Such a practice can identify medical, practical and logistical issues prior to routine clinic follow-up.⁸⁻¹⁴

A single-institution study has found radiation therapist-led (RT-led) TFU was successful in the setting of palliative bone metastases. They received positive feedback from patients, oncologists and nurses, however, was limited to a small patient cohort.¹⁵

Previous studies have shown patients can develop a strong bond with radiation therapists,^{13,16} allowing radiation therapists to collect accurate and timely data during and after their treatment as well as being able to provide a more personable level of care.^{10,13,16-18} Consequently, TFU by familiar treatment radiation therapists can encourage patients to discuss post-treatment complications or difficulties that may otherwise have gone unreported.¹³ No other studies have evaluated RT-led TFU for radical intent patients within the first two weeks following RT completion.

RT-led TFU was introduced to provide patients with additional support and a continuum of care.¹⁹ The purpose of this study was to identify patients who required post-treatment care before their next scheduled review using the TFU questionnaire.

Methods

This was a retrospective quality assurance study that collected quantitative data using an electronic questionnaire linked into the patients' oncology information record (ARIA, Varian Medical Systems, Palo Alto, USA). All patients over the age of 18 years who were prescribed curative RT and who spoke English were included in the study. Patients who could not be contacted after two attempts were excluded from the study.

Ethics approval was obtained from the Human Research Ethics Committee at The Crown Princess Mary Cancer Centre Westmead: ref (4615) QA.

Follow-up method

The TFU questionnaire was developed in a departmental focus group by radiation therapists who were interested in improving patient care. A previous in-house patient satisfaction survey identified 59% of responders would find a follow-up call beneficial. A pilot study of the TFU was first conducted in 2012 on 48 patients. The calls received positive feedback from patients and most calls did not take longer than 5 minutes, making it a reasonable addition to treatment work load. The questionnaire contained a total of eight questions (Fig. 1). The first six questions assessed the patients' well-being, side effects and any required appointments. The final two questions assessed the satisfaction of the service and additional comments. All radiation therapists who were responsible for treating patients received in-house training by members of the RT-led TFU interest group on the use of the TFU and the questions to be asked.

The TFU was scheduled 10 days after the last RT treatment. Prior to each TFU, the radiation therapist making the call reviewed the treatment site, delivered dose and clinical notes and confirmed details of the next scheduled follow-up appointment. The TFU was conducted as an informal semi-structured interview. The questions did not have to be asked in any particular order. The free-text responses were written in the comments section based on the radiation therapist's

- Q1: How are you coping after finishing your radiation treatment?**
Well
Reasonably Well
Not well at all
- Q2: How are you coping with your side effects after finishing radiation treatment? Are they:**
Getting better
Getting Worse
Still the same
- Q3: Have you contacted the hospital because you are not feeling well?**
No/Yes
- Q4: Do you need any dressing supplies for your side effects?**
No/Yes
- Q5: Are you aware of your follow-up appointment with your radiation oncologist?**
No/Yes
- Q6: Are you aware that you can contact the hospital with any concerns regarding your radiation treatment?**
No/Yes
- Q7: Were you happy to hear from us today?**
No/Yes
- Q8: Any other comments?**
Free Text

Figure 1. Sample of the questionnaire and corresponding answer selections used by radiation therapist's for telephone follow-up.

discussion with the patient. Questionnaires that were partially completed were still included in the study for analysis. For patients who required assistance, the radiation therapists conducting the TFU would encourage the patient to come into the department to see the nurses for assessment and if needed they would be triaged to see their oncologists. The TFU was stored electronically in the ARIA care path.

A report was created within ARIA to export all the data from the questionnaire into Microsoft Excel (2013). Data collected included age, sex and site treated and date of TFU. Descriptive statistics were captured using Statistical Package for Social Sciences SPSS (SPSS statistics for windows, version 22.0. Armonk, NY: IBM Corp 2013). Responses to the questionnaire were grouped into site treated and assessed if gender may have affected outcomes. For the purpose of this study, questions 1-7 were analysed. Question 8 asked if there were any other comments and was not analysed in this study.

Results

Demographics

The TFU was available to a total of 881 patients, of which 31 patients were not able to be contacted and hence excluded from this study. Data were collected from a total of 850 patients between January 2015 and July 2016; demographic data are displayed in Table 1. The median age was 65 years (range 18–99 years). Among the 850 patients who received a TFU, 41 patients had incomplete responses to the questionnaire giving an overall response rate of 94%. The cohort included a total of 11 separate disease groups; of these, the four most common were breast ($n = 359$), GU including prostate ($n = 117$), skin ($n = 110$) and head and neck ($n = 74$).

Response to telephone follow-up questions

A total of 28 patients from 846 respondents reported their response to coping after treatment was 'not well at all' (Fig. 2). Of these 28 patients, there was a higher proportion of males (19/28, 68%) than females (9/28, 32%). For the females, the most frequent site was breast (6/9, 67%), and for males, the most frequent site was head and neck (5/19, 26%).

A total of 26/830 patients reported that their side effects were 'getting worse' after treatment and a further 118 patients were 'still the same' (Fig. 3). In the female group, the highest frequency of this complaint was breast cancer treatment related, with a total of 11/26 patients (44%). For males, the highest frequency came from skin cancer-related treatment, with a total of 7/26 patients (27%).

Table 1. Demographic data for patients receiving telephone follow-up ($N = 850$)

	Total	(%)
Gender		
Female	493	58
Male	357	42
Age group		
18–30	17	2.0
31–40	29	3.4
41–50	109	12.8
51–60	173	20.4
61–70	262	30.8
71–80	195	23
>80	65	7.6
Disease Group		
Breast	359	42.2
GU	117	13.8
Skin	110	12.9
H & N	74	8.7
Lung	48	5.7
Brain	43	5.1
LGI	25	2.9
Chest	25	2.9
UGI	23	2.7
Sarcoma	14	1.7
Gynaecological	12	1.4

Note: GU: genitourinary, H&N: head and neck, LGI: lower gastrointestinal and UGI: upper gastrointestinal.

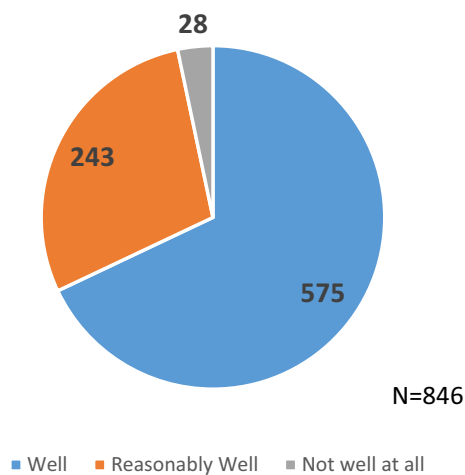


Figure 2. Responses collected for Question 1: How are you coping after finishing your radiation treatment? Total number of responses collected was 846.

A total of 97 patients from 826 respondents to question 3 (11.7%) indicated the need to contact the hospital due to feeling unwell (Fig. 4). The majority of patients contacting the hospital were females who

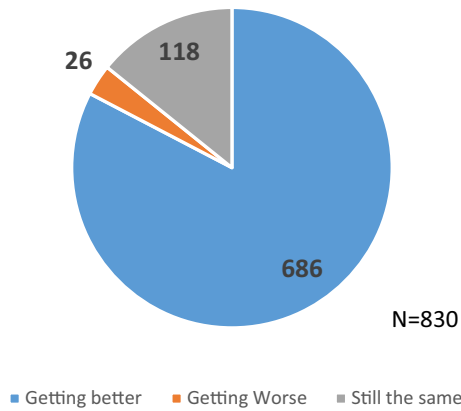


Figure 3. Responses collected for Question 2: How are you coping with your side effects after finishing radiation therapy? Total number of responses collected for this question was 830.

received treatment for breast cancer (39/97, 40%). The second highest group was patients who received head and neck treatment (14/97, 14%).

A total of 104 patients from 677 respondents to question 4 (15%) stated they needed more dressings (Fig. 5). As not all treatment required dressings, this question was skipped for 167 patients. A total of 67/104 (64.4%) patients who required extra dressing supplies were identified in the breast cancer group. A further 14/104 (13.5%) patients from the skin cancer group and 10/104 (9.6%) patients from the head and neck group.

Responses to questions 5-7 indicated most patients (810/827, 98%) were aware of their follow-up appointment, and similarly, 797/833 (96%) patients were aware they were able to contact the hospital if necessary. An overwhelming majority of patients (835/837, 99.7%) were happy to receive the TFU (Fig. 4).

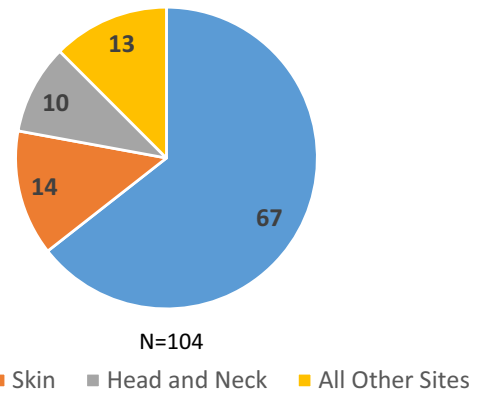


Figure 5. Total number of patients requiring additional dressings after completion of treatment. Most frequent sites include breast, skin and head and neck. Total number of responses collected for this question was 104.

Discussion

This study has shown that the RT-led TFU was successful in identifying patients who required additional care after RT treatment. While only a small proportion of patients required additional care, the call was an effective communication tool necessary to address patient’s specific needs. The TFU allowed for adequate monitoring of patients post-treatment, which was important to ensure that the side effects were well managed with early intervention if required.

Patients who reported they were not coping made up only a small proportion of all patients, however, was an important finding from the TFU. In most cases, the nurses were able to provide additional care. In a few cases, the radiation oncologist was required for further medical advice or intervention such as additional medications.

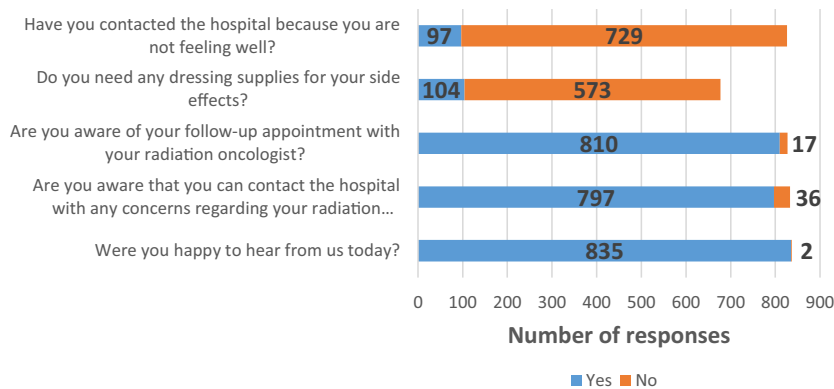


Figure 4. Responses collected for Questions 3 to 7. Number of collected responses were different for each question.

Gender has shown to play an important role when identifying support needs. It was apparent more males (68%) stated they were not coping after treatment compared to females (32%); however, there were slightly more females (54%) contacting the hospital after treatment. The overall higher frequency of males reporting they were not coping well is consistent with previous studies suggesting that males could be at higher risk of requiring medical support post-treatment.²⁰ The higher incidence of females contacting the hospital with side effects may suggest that females are more likely to actively seek help, feel in control of their treatment side effects and have a wider range of support and share their concerns more frequently.^{21,22} However, as women tend to seek additional care, most studies on psychological well-being are skewed to female results, thus muddying the waters on clearly defined gender needs and support systems.²³ A prospective study on cancer patients and distress interviewed and surveyed 149 patients over a three year period found illness-related distress does not mean the same to men and women. Women feel physical impairment interferes with their role of carer, while men find distress due to the loss of self-esteem and hence may be at a greater risk of distress.²³ The understanding of these differences can be used to implement patient-centred care in future.

Furthermore, it is well known that the physical effects of radiation therapy can lead to a range of psychosocial problems such as anxiety, depression and difficulties coping.^{24,25} A recent analysis of head and neck cancer patients' lived experience of RT found patients often felt anxious after treatment and about the side effects.²⁴ It has been suggested that while radiation therapists provide support in the form of physical symptom management, the psychological support may be lacking. This study highlights the fact that patients may need to be triaged to appropriate resources for management of physical side effects and to re-evaluate the questionnaire to encompass more emotional well-being specific questions.²⁴

Physical side effects 10 days post-treatment were still the same or getting worse for a small amount (17%) of the respondents. Dressing supplies were also found to be inadequate at the time of TFU for a small amount of the surveyed patients (15%). As confirmed in the results, it was expected that breast, head and neck and skin treatments would require dressing due to the nature of the treatment planning with high radiation therapy doses to the skin surface. Skin erythema is a common and expected side effect and will vary in severity from patient to patient.²⁶ Patients who experience moderate to severe skin erythema towards the end of treatment typically attend daily appointments with specialist nursing staff. At the end of treatment, patients are given dressing supplies

to take home and are educated on how to apply them, with supplies provided to last the 2 weeks of expected skin irritation. However, 18.7% of patients from the total breast cancer group required additional dressing supplies as well as 15% of the total skin cancer group, suggesting that this may need to be addressed to ensure an adequate supply is provided.

The TFU was found to be a welcomed communication tool for the majority of patients. While there is limited literature on RT-led TFU, this is supported by a recent mixed-study systematic review exploring the impact on nurse-led post-discharge TFU. Although their conclusions were only drawn from two studies, the TFU was found to improve patient satisfaction as well as meeting patient information and communication needs.²⁷

Limitations to this study include the high percentage of patients treated for breast cancer, which may have skewed our results. Inversely, the low number of patients represented within the other treatment sites may not be a true representation of these patients' post-treatment needs.

While an important aim of this study was to examine the coping experience of patients with the physical effects of their treatment, that is the process of recovery after RT, this definition of coping was not specified during the telephone interview. Consequently, it is difficult to determine whether the patients' responses concerning their ability to cope post-treatment were relating to their physical coping, psychological coping or a combination of the two. Therefore, interviewer bias may have been present in this study as the radiation therapist was required to select an appropriate response from a limited list of answers.

The semi-structured interviews were used to conduct the TFU. This was chosen to maintain a friendly and relaxed atmosphere and to encourage patients to talk openly and freely about their post-treatment experience. This was also relayed in the comments that were documented in the questionnaire. However, a previous study found that a more structured approach was appreciated and that patients had more confidence that all necessary questions had been asked and that no errors had been made.⁸ While all radiation therapists performing the TFU received one-on-one training from radiation therapists experienced in making these phone calls, more intensive training may have been required to ensure the questionnaire was completed correctly. The results from the quality assurance study may not have truly represented the wider population. Future research to investigate the use of TFU across different RT departments and the impacts of psychosocial support may also be required.

Taking into account the overall patient satisfaction with the TFU, our department continues to make the TFU a regular component of the patients' carepath.

Further work is required to update the questions to provide a better level of understanding on the patients' well-being after treatment. There is potential to utilise validated questionnaires such as the distress thermometer to be able to effectively assess and respond to a patients' psychosocial health^{7,28} and provide referrals to other allied health professions as an additional resource if needed.

Conclusion

RT-led TFU effectively identified patients who required additional post-treatment care. The information gained identified patients in need of assistance prior to scheduled medical follow-up and allowed for timely support and advice to be given. Additional research is needed to determine the level of psychosocial support required by these patients.

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Conflict of Interest

The author declares no conflict of interest.

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