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Supporting and preparing patients for radiotherapy: patients' and radiation therapists' perspectives on their one-to-one consultations

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Abstract

Purpose When patients present for radiotherapy they are often anxious and lack information. Evidence-based interventions to support patients prior to commencing radiotherapy are needed. The aim of this study was to explore the perceptions of patients and radiation therapists (RTs) about one-to-one consultations provided to patients as part of the 'RT Prepare' intervention, a study examining the impact of RT-delivered education and support on reducing patient anxiety and distress.

Methods Semi-structured interviews were conducted with patients and RTs to elicit their perspectives on the RT Prepare intervention. Thematic analysis was used to analyse the data.

Results Telephone interviews were conducted with 21 patients who had received the intervention and 15 RTs who had delivered the intervention. Patients and RTs described the intervention positively and highlighted that it was beneficial for preparing patients for treatment planning and treatment. The overarching themes were: communication skills; preparation; skills required to deliver patient education and support; respecting privacy, dedicated space and time, number of consultations, and reinforcing verbal information and additional education.

Conclusion RT Prepare was well received by patients and RTs. Based on the results of this study and our quantitative findings implementation of the intervention would be beneficial for both patients and RTs.

Keywords: radiotherapy, radiation therapy, communication, education, anxiety, qualitative

Background

Evidence suggests that a cancer diagnosis and subsequent treatments can have a negative psychological impact on patients^{1, 2}; however, this psychological morbidity is under-recognised and under-managed throughout cancer care^{3, 4}. Approximately 50% of patients receiving radiotherapy are anxious and fearful, often due to unmet information needs⁵⁻⁸, and many patients have information needs, such as, what treatment involves, possible treatment-related side-effects and how treatment would impact on day-to-day activities⁹. Information needs are highest prior to treatment planning and commencing treatment⁸.

Previous studies have tested radiotherapy educational resources (videos)¹⁰⁻¹³ and trialed group education in radiotherapy^{14, 15}. However, these studies did not seek to address patients' individual education and support needs at specific time points. A lack of information, usually arising from poor communication; psychosocial support not being provided; and information being provided at the wrong time, result in increased patient anxiety, a loss of trust in health professionals, and a reduced sense of control^{16, 17}. It may also lead patients to decline treatment¹⁸. Radiation therapists (RTs) are well positioned to provide patients with education and support prior to treatment planning and treatment. In current practice, information provision varies between radiotherapy centres, and is inconsistent¹⁹. Furthermore, RTs may be time-poor, and not have received appropriate training to prepare patients for treatment and determine whether they require emotional support^{20, 21}.

RT Prepare Trial

This study is part of a larger project examining the effectiveness of an innovative preparatory intervention 'RT Prepare', to reduce patient psychological distress prior to treatment commencement among patients diagnosed with breast cancer^{22, 23}.

The RT Prepare Intervention

The intervention consisted of RTs providing two dedicated one-to-one consultations at the planning appointment and the patient's first day of treatment to prepare patients for treatment and elicit and respond to emotional cues. RTs were trained to provide sensory information to indicate to patients how they were likely to feel, before, during and after the procedure, and procedural information to describe what they would be doing, what measurements would be taken and how the patient would be positioned²⁴⁻²⁶.

Aim

This qualitative study explored patients' and RTs' perceptions about the 'RT Prepare' intervention and was conducted to assist with refinement of the intervention for future implementation.

Methods

This study adopted a qualitative descriptive design²⁷ using semi-structured interviews.

Ethics approval was gained from the Human Research Ethics Committee at Curtin University and participating tertiary public hospitals.

Participants

Patients were eligible for this study if they had been enrolled in the intervention arm of the RT prepare study. Ten percent of consented intervention patients were randomly selected using a computer generated list of random numbers from each of the three sites, and invited to participate in a semi-structured interview. All RTs who participated in the communication skills training workshops, and were involved with the delivery of the intervention, were also invited to participate in an interview.

Interviews

Semi-structured interviews were conducted with patients and RTs to explore their perspectives on the RT Prepare intervention. Patients were asked questions about their experiences in meeting with an RT at the two different time-points (Box 1). RTs were asked questions about the communication skills workshops and delivering the intervention (Box 2). Each interview was digitally audio-recorded and the interviewee was de-identified and assigned a code using Pt for patient, RT for radiation therapist, S for site number and an individual identifier number (e.g. PtS1.1; RTS1.1).

Data Analysis

Braun and Clarke's²⁸ six phases for thematic analysis were used to derive the themes. These steps include: familiarising with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the final manuscript. Four researchers (SM, GH, SS and MO) analysed the data individually prior to discussing the

themes and coming to a consensus about the themes and content. Data for patients and radiation therapists was analysed separately to determine themes for each participant group prior to developing this manuscript. Input on the themes was also sought from the wider authorship team after the initial analysis. These processes helped to minimise researcher bias and promoted rigour in the development of themes²⁹.

Results

Telephone interviews were conducted with 21 patients who had received the intervention (Table 1). This randomly selected sub-group were similar in characteristics to characteristics of participants in the main study³⁰.

Fifteen RTs were interviewed (female n=13; male n=2). The average age of RTs was 35.9 years (S.D. = 10.9, range 25-46), and average years of experience was 11.8 (S.D. 9.3, range 2-21). Each RT delivered an average of 8.4 interventions (S.D. = 6.0, range 2-14).

Themes

Seven overarching themes were identified: communication skills; preparation; skills required to deliver patient education and support; respecting privacy; dedicated space and time; number of consultations; and reinforcing verbal information and additional education.

Communication skills

Two sub-themes emerged relating to communication skills: developing rapport and reducing isolation and providing emotional support.

Developing rapport

The intervention provided an opportunity for patients and RTs to develop a rapport in which they could share and communicate openly with each other:

“I find that you develop a rapport with the patient...” **RTS2.2**

“I thought they were very good... very personable...” **PtS3.1**

Some patients highlighted the importance of being treated like an individual and not just a number:

“A smile, they called you by your first name, they were just really pleasant.” **PtS3.3**

RTs involved in these sessions talked about how this communication made them more aware of the patient as a person:

“Gave me a chance to speak to them as a person more, rather than just as a patient”

RTS1.2

Building a relationship with patients enabled RTs to have a better understanding of how the patient was feeling and identify their concerns at different points of their treatment.

“... you understand where they are emotionally for that appointment” **RTS2.2**

Reducing isolation and providing emotional support

Patients found that they were able to receive emotional support from RTs during the consultations, which reduced their sense of isolation and feelings of loneliness as they progressed through treatment.

“I just found them good to have, to be able to talk to someone, to feel like you’re not alone in this journey.” **PtS2.3**

“There’s a danger that you could feel very isolated and, you know, possibly some would feel anxious.” **PtS2.5**

Patients highlighted the importance of familiarity and how building a rapport with staff enabled patients to achieve a sense of familiarity when they were preparing for treatment and unsure of what to expect:

“The whole process is quite emotionally draining and daunting. I think anything that you can do with familiarity and that means that you’ve already built a rapport.”

PtS2.2

Preparation

Three sub-themes arose around preparing patients for treatment: emotional preparation; cognitive preparation; and practical preparation (Supplement 1). Information helped patients to feel less stressed and anxious, more in control, and better able to understand radiotherapy.

Emotional preparation

Patients indicated that it was a psychologically challenging time for them; their lack of understanding about radiotherapy added to their stress levels. Emotional support helped them to prepare for treatment (Supplement 1). Patients described feeling overwhelmed by the experience and sometimes found it challenging to take on board the information communicated by RTs, particularly in the first appointments. Patients described the opportunity of sitting down with an RT before their planning and/or treatment appointments as useful and reassuring, and it enabled them to connect with the RTs and express their concerns.

“The young person was most reassuring, they answered all my questions, they gave me as much information as I wanted. I found that really helpful. I’d read all the books but just to sit down with somebody and voice a couple of concerns, was most helpful.” Pts3.4

Several patients indicated that the opportunity to talk openly and ask questions reduced feelings of uneasiness and relieved some of their anxiety prior to appointments:

“It was a time where I was able to ask questions and kind of put my mind at ease. I’m someone who wants to know. I like to know what I’m doing and then that way I can condition my mind and accept what’s going on, so I think that helped when I had that conversation with the therapist.” PtS1.2

Some patients described having confidence in their RT’s expertise and abilities, and felt that the RTs could be relied upon to support them throughout treatment. Patients felt in good hands, enabling them to mentally and physically prepare for treatment:

“It sort of gave me an opportunity not to put too much pressure on yourself, and what to expect during the next six to eight weeks, so yes, that was good to have that so I

knew and I could prepare myself. That was the hardest struggle, yes it was, preparing your body and your mind for what you were about to go through.” PtS1.3

“It prepared me for the best case scenario and the worst case scenario. I had a lot of confidence and faith in them.” PtS1.2

Several RTs reflected on how they delivered information to patients prior to participating in the RT Prepare study and stated that the intervention was more tailored to the patients’ needs and afforded them the opportunity to discuss their needs and concerns:

“I think it was very important, especially when patients did open up...you found that there were greater needs. You were able to provide support for the patient that may have not otherwise been brought to your attention.” RTS1.2

Cognitive preparation

On the whole, patients reported that they knew little about radiotherapy before they started treatment, and valued being informed by RTs of what might happen prior to treatment. Patients varied in terms of how much information they wanted to receive. Cognitive readiness or preparedness gave patients the opportunity to gain knowledge and mentally prepare for the challenges of treatment (Table 2).

Patients valued RTs devoting time and attention to respond to their questions and concerns with genuine compassion. This seemed to mitigate the negative emotions and anxieties experienced as they prepared for treatment, and reinforce their trust in RTs.

“I think it just allayed fears...you didn’t walk in cold to the treatment... I felt a little bit more prepared.” PtS3.1

Another patient discussed the importance of understanding the treatment regime and reasons why her treatment was a different length of time:

“One of my main concerns I suppose was the fact that I had been told I would have six weeks of radiotherapy and then they reduced it down to five and that was a huge concern as to was I getting less treatment than I should have, or what was the latest

research and why and whatever, so that was good for them to be able to explain that the latest research out is that they can increase the dose but decrease the time.”

PtS3.3

Practical preparation

This sub-theme encompasses procedural preparation (familiarising themselves with the practicalities of treatment and what that entails), as well as organising the logistics / practicalities of treatment in the context of their lives and commitments and responsibilities. For many patients, the treatment environment (treatment rooms, machines and procedures) felt strange and unfamiliar, and impacted on the patient’s treatment experience. For some patients, the treatment machines (linear accelerators) were particularly intimidating. Having the opportunity to better understand how the technology worked and what the machines looked like and did before they started treatment seemed to be helpful and alleviate patients’ fears:

“It was better to know what it does and what it looks like... before you go in there...even when you go in there...see it for the first time... it’s a pretty eerie feeling...” PtS1.1

Another patient wanted to know everything to increase her understanding and reduce her anxiety. She highlighted the importance of being shown the treatment room to reduce her fear:

“You possibly know more than you should but don’t understand all of it, so you get a bit anxious with that so I just had lots of questions that I would ask them and things like that which was good so when I went and actually went into the room and ... I’d got shown the room before I even had my first treatment but it just made it a lot more I suppose understanding and less scary.” PtS3.3

For some patients, it was also about preparing practically for treatment, and organising the logistics of how the treatment would fit around their other commitments and responsibilities.

“It was more about preparing myself for what I was going through and I guess it was letting my work know of a schedule, so that was nice, to have a schedule so I could at least prepare the work life balance with the treatment.” PtS1.3

Being informed about the specific aspects of the treatment procedure (e.g. tattoos) and what would happen on a daily basis seemed to provide patients with a sense of relief (Table 2).

RTs felt that sitting down with patients, face-to-face, facilitated information delivery and patient understanding before they entered the CT and/or treatment rooms for the first time.

“I think it also made them feel more comfortable being on the bed knowing what was going to happen.” **RTS3.3**

“Most of the patients actually come with high stress levels... once you start explaining to them this is what’s going to happen, these are the expected side-effects... talking to them actually relieves most of the stress.” **RTS3.1**

Respecting privacy and dedicated space and time

Respecting privacy

Patients also wanted to know how they should prepare for treatment. One patient felt embarrassed that they had to ask how to prepare and suggested that the education provided should include this information:

“I wasn’t shown where you put your clothes or all that sort of stuff until... I remember it wasn’t until I started treatment that I had to ask someone where do you get baskets and this and that. I think you could probably be taken through, you come in, you do this, this room’s for that.. Actually physically shown the different things you do.” **PtS3.1**

Patients highlighted that it was necessary to prepare them for having a photo taken as well as being undressed for treatment delivery:

“The only one tiny thing that troubles me was one day I was told to get changed and I was waiting for a changing room, prior to being measured up, and the guy that was taking me through into the room to be measured up... he sort of jumped from around the corner and said, “Oh, I forgot to tell you, we have to take a photo of you” and he

shoved a camera in my face and took a photo of me... it was certainly weird and I got a little bit upset about it... I just think everybody needs to be told about the photo and the reason for the photo.” PtS2.6

Another patient reported that she needed help getting off the couch and wanted her privacy to be maintained:

“When they finish with the treatment and they help you to sit up, I needed a lot of help because I’ve got the neuropathy, but you’re in a hospital gown and that’s off you, I guess in a way it would be nice for them to automatically just go and get the sheet. So that bit of privacy is immediate as soon as you sit up and you don’t have to walk across and get it yourself.” PtS3.2

Dedicated space

The space where the intervention was delivered and the atmosphere and room environment had an impact on how patients felt:

“The first meeting was in a more of a closed off room... the second meeting had a window. It made it feel lighter rather than the first one... I felt more reassured in the second one.” PtS3.1

Similarly, RTs stated that an allocated place to undertake the intervention and adequate time were required to ensure it was carried out privately and effectively: *You need a dedicated room.” RTS3.2*. Some RTs found it difficult to access a space that was conducive to conducting the intervention and thought that the availability of a specific room was necessary:

“Sometimes the interventions had to take place in the corridor/waiting area which isn’t really ideal.” RTS1.4

Time

Both patients and RTs considered it important that dedicated time was given and patients did not feel rushed during the consultation so their concerns and questions could be fully addressed:

“I think the fact that they dedicated that time just for that...whatever the questions I needed to ask or they needed to clarify, it was done there... not done at a time when you had to see the doctor and it was rushed.” PtS1.2

“It doesn’t cost. It’s not like you’re having to go to your surgeon or your oncologist, and if you’re in the private it always costs money. At least you’ve got somebody there and it might be just a minor question but you’re not then having to pay through the nose for having something answered. PtS2.7

RTs reported that the time devoted for the intervention (compared to usual care) enabled them to be better prepared prior to consulting with the patient and helped patients understand the information provided. Without such allocated time, finding enough time was a challenge in their regular day-to-day activities:

“...I wouldn’t have had the time to sit down and necessarily go through in as much detail.” RTS1.2

“I always had enough opportunity to go and read the patient history which I feel makes a big difference.” RTS2.1

Skills required to deliver patient education and support

This theme focuses on describing the communication skills RTs required to deliver patient education and support. RTs needed to be able to define their role and provide patients with consistent information at both the planning and pre-treatment appointments. Patients who did not have the same RT thought that the information delivery was not compromised nor was the care they received. Several patients indicated that they felt more confident and supported because the information delivery was consistent between RTs:

“Even if three or four different people did it, it was the same thing that was being conveyed to me which meant to me that they were all on top of it... that gave me confidence.” PtS1.2

Another patient highlighted that RTs gave similar explanations:

“Because all the answers were very similar, well virtually the same, it didn’t worry me.” **PtS1.1**

This was further articulated by a patient who highlighted the importance of receiving consistent information:

“I think just as long as the person is considerate, informative, respectful, you know, and just treats you well and gives you the information you want, it doesn’t matter. To me everyone comes with the same training and the same information but it’s how they deliver that information that’s most important.” PtS2.7

However, some patients noted that it was good to have interactions with different RTs and obtain different information: *“I got different perspectives.”* PtS3.1 and *“I think sometimes people give different perspectives and I think that’s not so bad.”* PtS3.5.

Another skill required by RTs was to confirm patients understood and whether they had any questions. One patient highlighted that RTs needed to further check their understanding:

I think maybe even asking “Is there anything you want me to explain again?” the first time or second time especially if people have problems with English or not familiar. I mean working in a hospital in ICU, I see a lot of that stuff so I wasn’t as nervous or ... except that I was on the other side.” PtS3.2

RTs thought that the communication skills workshops and structure of the intervention were useful when putting the intervention into practice because it equipped them with the skills and self-confidence to deliver the information effectively:

“It gave me more confidence to do the intervention...gave me direction on how to do it in a manner that made the patient open up to me.” **RTS1.2**

“I wouldn’t have been able to deliver the intervention effectively...without the workshops.” **RTS2.2**

Number of consultations

Patients varied in how many sessions they preferred to have with RTs. Some patients highlighted that having an opportunity to talk again to RTs before treatment was important, especially if they had forgotten something:

“We just revised everything that we’d gone through before so it was just good to get the same answers, not two different conflicting answers like my surgeons were doing so it was good to get the same answers.” **PtS1.1**

Some felt that it would be useful to have a session during the course of treatment, as they started to experience side-effects, whereas others were satisfied with one session.

“It probably wouldn’t hurt to have an intermediary session. So, for example, you have your two sessions at the beginning, or some people might have more, I’m not sure, but I think it would also help... Like, I had 26 rounds and I really didn’t start to experience any true symptoms until about round 17 say. And I think it would probably be beneficial at that point to schedule in a review to go, okay so now you’re right in the middle of your treatment and you can expect over the next few days...”
PTs2.2

“Personally for me I think probably once would have been enough.” **PTs2.7**

Reinforcing verbal information and additional education

One patient identified that they wanted written information to reinforce the verbal information and support them with self-care and managing side effects:

“In some respects, a little pamphlet that actually gives you some idea, just a handwritten one, to make sure you don’t use the soap. Because they tell you all that. We recommend QV soap for instance and we recommend paraffin or paraffin ointment to help and we say don’t put any moisturiser, don’t use deodorant. All of that sort of stuff, if that was written down in just a little note for people then I think if they have it in their wallet or in their purse when they first go home, they go” **PtS3.2**

A second patient highlighted that they did not feel adequately prepared for how damaged their skin would be:

“I suppose in a very small way it might have been helpful to be a little more specific about what would happen towards the end of the treatment. I found that I was surprised at how much skin damage I was getting.” PtS2.5

Discussion

This study provides an understanding of patients and RTs perspectives on participating in ‘RT Prepare’ consultations, to identify how the intervention could be improved for future implementation. Seven overarching themes were identified: communication skills; preparation; standard competencies and skills; respecting privacy, dedicated space and time, the number of consultations, and reinforcing verbal information and providing additional education. Communication was essential with RTs focusing on developing rapport; reducing the patients’ sense of isolation and providing emotional support. Preparation (emotional, cognitive and procedural) was a key component of the consultations. These themes resonate with previous research which demonstrate that RTs have a supportive role to play throughout a patient’s treatment³¹. However, the introduction of this intervention prior to treatment commencement enabled RTs to develop rapport with patients and assisted patients to gain an understanding of radiotherapy and prepare themselves for treatment. The intervention also enabled RTs to tailor information and support to meet the patients’ information and emotional needs, and reinforce and clarify information to patients.

Previous studies have shown the need for communication skills training in oncology and demonstrated its benefits^{22, 24}. Furthermore, Dong et al.³² analysed RTs ability to provide patient-centred care, concluding that RTs may benefit from training focusing on communication skills and delivering patient-centred care. RTs in the current study recognised the need for training and the opportunity to practice delivering the intervention. Participating RTs found that the workshop training, which consisted of the steps in a consultation process and the eliciting of emotional cues, was integral to the delivery of the intervention. The intervention offered structure and consistency of information, a skill set for information giving and providing emotional support for the patient.

A number of skills were required by RTs to deliver patient education and support as part of the RT Prepare intervention. These areas included defining their role, providing consistent information, confirming patient understanding and communicating effectively with the patient. Schnitzler et al.³³ analysed RT delivery of patient education using tape recordings

(n=58) highlighting that RTs routinely cover topics relating to (a) treatment schedule, (b) procedural information, (c) treatment-related side effects and (d) who will be involved in treatment provision. By contrast, little information was given to patients about the effect of radiation treatment on the body, and who would be involved in delivering the treatment and the different roles of the cancer care team. Additional research by Schnitzler et al.³⁴ also identified the different types of medical jargon used in RT patient education sessions. Contextual jargon (common everyday words with a different meaning in radiation therapy, e.g. beam, couch, gown) was most frequently used type of language that RTs communicated to patients during sessions. To help patients to understand information, RTs explained technical terms, substituted jargon with simpler words, used analogies and plain language, repeated information, and used visual tools. Having identified key skills and information patients require these now need to be introduced as standard competencies for all practising RTs and adapted into professional body role descriptions for RTs. Furthermore, future training for RTs needs to focus on assisting RTs to address relevant topics and provide education effectively (without using medical jargon³⁴) in order to improve patient understanding of radiotherapy.

Our previous work highlighted the importance of patients forming a relationship with RTs and consistency provided by radiation therapists they saw regularly³⁵. Patients in the current study who did not have the same RT reported that the information delivery was not compromised nor was the care they received. However, the advantage of having the same RT was recognised as providing consistency and confidence as the RTs knew their individual case and treatment protocol.

RTs highlighted the importance of having time and space and thought the opportunity to sit down with patients was essential to deliver the intervention. The act of sitting down with patients seemed to be a way for RTs to foster their relationship with patients and demonstrate that they were available to listen and answer questions. Similarly, other studies have found that health care professionals who take the time to sit down with patients (rather than standing) positively influences patients' perceptions of the interaction and increases patient satisfaction and adherence^{36, 37}. Most RTs who were interviewed indicated that they sometimes found it difficult to have time to interact at length with their patients. This was often exacerbated by the lack of spaces where these interactions could occur. This reflects the findings from previous research that found time and space were factors that impacted on the

interactions between patients and RTs³⁸. The atmosphere, room environment and room features were important to patients and some highlighted a preference for a setting which is less clinical for delivery of the intervention. It was also important for patients that they still had a sense of privacy, did not feel rushed and had the opportunity to discuss their concerns.

Data analysis identified that preparing for radiotherapy centred on emotional, cognitive and practical preparation. Patients gained information to reduce their anxiety, gain knowledge about radiotherapy and understand what daily treatment would involve. Previous literature has identified the need to provide patients with sensory and procedural information prior to medical procedures²⁴⁻²⁶. Consistent with training provided for RT Prepare, future communication skills training for RTs needs to address all three areas of preparation by providing training that assists in eliciting and responding to emotional cues³⁹ and providing patients with sensory and procedural information²⁴⁻²⁶.

Patients varied in terms of how much information they wanted to receive and had varying needs around preparing themselves for treatment. Some participants felt that two consultations addressed their needs, whereas others were satisfied with one session or indicated that a third session during treatment would be beneficial. Some patients also indicated that they wanted additional written information. Written information is useful because it helps to reinforce the verbal information that patients receive during consultations, particularly if patients forget what they have been told or have difficulties understanding medical information⁴⁰. To complement the current study, we have developed and pilot-tested a low literacy, psycho-educational talking book about radiation therapy (a written booklet with accompanying audio-recording) for patients and their families to receive prior to treatment planning. Results from our development phase are promising, patients and caregivers state that the talking book improves communication with the cancer care team and prompts question-asking⁴¹. Further research needs to be conducted to determine the effectiveness of providing different levels of information and support to patients in order to prepare them for radiotherapy and reduce their psychological distress prior to treatment commencement. The level of support and preparation required is also likely to vary for patients with other cancer diagnoses who are receiving different treatment regimes. The team is currently exploring opportunities for refining the RT Prepare intervention for other cancers and opportunities to providing patients with both the RT Prepare intervention and the RT talking book.

Limitations

Although these findings are from a small sample of participants, they were from three different settings, and data saturation was achieved for both patient and RT groups. Furthermore, RT Prepare focused on preparing patients diagnosed with breast cancer and did not address the needs of patients with other cancer diagnoses.

We note the data reported is self-report and does not capture how patients and RTs actually communicated (verbally and non-verbally) during consultations. Additionally, patients and RTs were asked to recollect their experiences after treatment was completed rather than immediately after receiving the intervention.

Conclusion

The RT Prepare intervention was perceived positively by both RTs and patients. Several benefits were identified including developing rapport, preparing patients for treatment, reducing stress and anxiety about treatment, and improving the overall treatment experience. Participants also identified potential improvements that could be made to the intervention. Implementation of this intervention into routine practice is likely to be of benefit to both patients and RTs; however, future research is required to refine the intervention and ensure its effectiveness for all cancer patients.

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Interview Guide for Patient Interviews

Treatment Planning

- What was it like to have the opportunity to sit down with the radiation therapist before your treatment planning appointment?
- How useful did you find the information that was provided to you by the radiation therapist prior to your treatment planning appointment?
- What was it about this meeting that you liked and found useful?

Commencing treatment

- What was it like to have the opportunity to sit down with the radiation therapist before your first treatment appointment?
- How useful did you find the information that was provided to you by the radiation therapist prior to your first treatment?
- What was it about this meeting that you liked and found useful?

General

- Has the experience of sitting down with the radiation therapist before your treatment planning appointment and your first treatment led you to do things differently? If so how?
- Was your planning appointment and your first treatment appointment conducted by the same radiation therapist? If so, how do you think this impacted on your experience?
- Was there anything that you did not like about these meetings?
- How could this information be improved?
- Were there any issues that you feel were not addressed by the radiation therapists?

Box 1: Interview Guide for Patients

Box 2: Interview guide for Radiation Therapists

Interview Guide for Radiation Therapists Delivering the RT Prepare Intervention

- Before we discuss your experience of the intervention, how did you find the training you participated in to enable you to deliver the intervention? Was it useful? How has it aided you in delivering the intervention?
- Did you have any issues in relation to delivering the intervention?
- Did you find it advantageous to meet with the patient prior to their planning appointment? Why?
- Did you find it advantageous to meet with the patient prior to their treatment appointment? Why?
- Were you able to spend the amount of time required to address the patient's concerns? If not, why not? What limited your ability to do this? What is your perspective on the importance of the information?
- Was there anything that limited your ability to tailor the information to the patient's individual needs?
- How would you improve your one-on-one meetings with the patients in the future?
- Were there any issues that patients raised that you felt unable to address?
- What would assist you in delivering this information to patients?

Table 1. Patient Demographics

	(N=21)
	M (SD)
Age	57.9 (10.93)
	n (%)
Site	
Site 1	4 (19.0)
Site 2	10 (47.6)
Site 3	7 (33.3)
Marital status	
In a relationship	14 (66.7)
Not in a relationship	7 (33.3)
Education	
High School or lower	6 (28.6)
TAFE (Technical and Further Education)	5 (23.8)
University	10 (47.6)
Employment	
Employed/studying	11 (52.4)
Unemployed/other	10 (47.6)
Type of surgery	
Lumpectomy/Partial Mastectomy	20 (95.0)
Mastectomy and reconstruction	1 (5.0)
Chemotherapy	
Yes	10 (47.6)
No	11 (52.4)

Supplement 1 The different ways in which the intervention prepared patients for treatment

How the intervention prepared patients for treatment	Description	Supporting patient quotes
Emotional preparation	<ul style="list-style-type: none"> • Patients reported having difficulties processing information before their treatment because of the stress they were experiencing following their diagnosis. • The information delivered by RTs helped patients feel less stressed and anxious about treatment. 	<p><i>“It’s a pretty daunting part of your life to suddenly have everything taken out of your control... I found it very useful information.” PtS2.1</i></p> <p><i>“Look, to be honest it probably, to start with went in one ear and out the other because it’s quite a stressful time and you’re really just, your emotions are a bit all over the place. I think once I had time to go home and digest it, it was very useful in the sense that I just knew what I was up for next time I came in.” PtS2.2</i></p> <p><i>“I kind of thought I knew everything I was going through but actually when you really sit down with somebody and they show you the facts... it makes it easier to prepare yourself and lay aside your fears and know that there is support if I need” PtS1.2</i></p> <p><i>“I found it helpful just to go over things really because my mind was probably not as clear.” PtS3.5</i></p>
Cognitive preparation	<ul style="list-style-type: none"> • Patients reported knowing little about radiation therapy. • Cognitive readiness was a construct that 	<p><i>“I found it useful, because before I’d actually had breast cancer, really I knew nothing about it. I felt it made going into [it] a lot easier, because you know what</i></p>

	<p>gave patients the opportunity to gain knowledge and mentally prepare for treatment.</p>	<p><i>was happening... ” PtS2.3</i></p> <p><i>“I think because of the information she gave me, I was a bit concerned about the fatigue and all that stuff that would happen afterwards... because I was aware of that I felt able to cope with the fatigue and everything.” PtS2.1</i></p> <p><i>“I did actually look more into the skincare side of things for when the blistering does start to happen so I was well prepared for that because you guys issued out the Solugel and also the bra thing and so that helped in order to prepare and know that at the moment it was starting to become bad I knew what to expect.” PtS2.2</i></p> <p><i>“You don’t realise the effect it has on your body, and they explained that, that it was normal...it eases your mind.” PtS1.3</i></p> <p><i>“But if my situation was different and I was upset, you need that repetition and a constant reminder and reinforcement of what is about to happen so that you do understand.” PtS2.6</i></p> <p><i>“I do think it’s very important to know what’s happening to your body and what is going to happen to your body.” PtS2.7</i></p> <p><i>“It was probably a good – just memory reminder. Look, I found it helpful just to go over things really because my mind was probably not as clear, you know, around that time and so it was good just to go</i></p>
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		<i>through it again.” PtS3.5</i>
Practical preparation	<ul style="list-style-type: none"> • The treatment environment felt strange and unfamiliar to patients. • Being informed about specific aspects of the treatment procedure gave patients reassurance. • Knowing what procedures were coming up 	<p><i>“I didn’t have, obviously no knowledge of what radiation was like and so for me it provided an understanding of the tattooing process and the measurements, the layout measurement-type process and I guess it just was a bit relieving, if you like.” Pts2.2</i></p> <p><i>“Really just explaining the processes and what would happen each day made it just more comfortable for me to know what was coming up ahead.” PtS3.5</i></p> <p><i>“Knowing what the machine looked like and what it does and yeah... Because it looks rather scary at first. But knowing what it does. But even when you go in there and actually see it for the first time you think oh, you know, it’s a pretty eerie feeling but it wasn’t as bad as just walking in there not knowing exactly what it looks like.” PtS1.1</i></p> <p><i>“It just sort of gave me more encouragement or more confidence really in the processes, that I understood them and it was clear.”</i></p> <p>Pts3.5</p> <p><i>“I mean, because I had no idea, and I’m sure this was going to happen anyway, but it was good to know that when I went in – like that scanning system is fantastic, but you have to go in and get yourself straight into the gown.” Pts3.5</i></p>

		<p><i>“I was the sort of person who was really after concrete information about, you know, what exactly happens, how long it will take and that kind of thing.” PtS2.5</i></p>
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