

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

Authors: Georgia Halkett¹, Susan Merchant^{1,2}, Sian K Smith-Lickess^{3,4}, Moira O'Connor⁵, Michael Jefford^{6,7}, Sanchia Aranda^{8,7,9}, Penelope Schofield^{10,6,7}, on behalf of the RT Prepare project team

1 – School of Nursing and Midwifery, Faculty of Health Sciences, Curtin University, Perth, Western Australia

2-Department of Radiation Oncology, Royal Adelaide Hospital, Adelaide, South Australia

3- Psychosocial Research Group, Prince of Wales Clinical School, Faculty of Medicine, UNSW Sydney, NSW, Australia

4- Bath Centre for Healthcare Innovation and Improvement, Information, Decisions and Operations, School of Management, University of Bath, Claverton Down, UK

5 - School of Psychology and Speech Pathology, Faculty of Health Sciences, Curtin University, Perth, Western Australia

6 - Department of Cancer Experiences Research, Peter MacCallum Cancer Centre, Melbourne, Victoria

7- Sir Peter MacCallum Department of Oncology, The University of Melbourne, Melbourne, Victoria

8 – Cancer Council Australia, NSW.

9 – Department of Nursing, The University of Melbourne, Melbourne, Victoria.

10- Department of Psychology, Swinburne University of Technology, Hawthorn, Victoria, Australia

***Corresponding author**

Associate Professor Georgia Halkett PhD, FIR, GAICD, BMedRad(Hons)

School of Nursing and Midwifery, Faculty of Health Sciences

Curtin University, Western Australia

GPO Box U1987

Perth WA, 6845

Ph: (618) 9266 1762 Mobile: 041 8838 914

This is the author manuscript accepted for publication and has undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process, which may lead to differences between this version and the [Version of Record](#). Please cite this article as [doi: 10.1111/ECC.13284](https://doi.org/10.1111/ECC.13284)

This article is protected by copyright. All rights reserved

Email: g.halkett@curtin.edu.au

Additional authors

Dr Susan Merchant PhD, FASMIRT, Radiation Therapist

Mail address c/o: Curtin University GPO Box U1987, Perth, WA, 6845

email: sue.merchant@gmail.com

Dr Sian K Smith-Lickess PhD, BSc Psych (Hons)

Mail address c/o: Psychosocial Research Group, Prince of Wales Clinical School, Faculty of Medicine, UNSW Sydney Corner High and Botany St, Kensington, Sydney New South Wales, 2033, Australia. Email: sian.smith@unsw.edu.au.

A/Prof Moira O'Connor PhD, Masters of Psychology

Mail address c/o: Curtin University GPO Box U1987, Perth, WA, 6845 Email:

m.oconnor@curtin.edu.au

Professor Michael Jefford MBBS, MPH, MHIthServMt Monash, PhD, GCertUniTeach Melb, GAICD, FRACP, Medical Oncologist

Mail Address: Peter MacCallum Cancer centre, 305 Grattan Street, Melbourne, Victoria, Australia 3000 email: Michael.jefford@petermac.org

Professor Sanchia Aranda, PhD, Master of Nursing, Bachelor of Applied Science, AM, CEO Cancer Council Australia Mail address: GPO Box 4708, Sydney, NSW, 2001

Email: sanchia.aranda@cancer.org.au

Professor Penelope Schofield, PhD, BSc(Hons)

Mail address: Faculty of Health, Arts and Design Mail H31 PO Box 218 Hawthorn, Victoria, 3122, Australia. Email: pshofield@swin.edu.au

Acknowledgements

This project was funded by a project grant from Cancer Australia and Beyond Blue. We thank the patients who participated in the trial, the radiation therapists who delivered the intervention and the three participating sites. Associate Professor Georgia Halkett is currently supported by a Cancer Council Western Australia Research Fellowship.

This article is protected by copyright. All rights reserved

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

Author Manuscript

Article type : Original Article

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

Abstract

Objective Patients are often anxious and lack knowledge of radiotherapy prior to commencing treatment. Evidence-based interventions are required to reduce patient anxiety and increase patient preparation before treatment. 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 for breast cancer. This study aimed to explore patients' and RTs' perceptions about the 'RT Prepare' intervention and was conducted to assist with refinement of the intervention for future implementation.

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; information provision and dedicated space and time.

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

Keywords: radiation therapists, cancer communication, communication skills training, radiotherapy education, patient preparation for radiotherapy, patient perspective, patient anxiety

Background

Evidence suggests that a cancer diagnosis and subsequent treatments can have a negative psychological impact on patients (Newell et al., 2002; Sanson-Fisher et al., 2000); however, this psychological morbidity is under-recognised and under-managed throughout cancer care (Jacobsen et al., 2005; Steinberg et al., 2009). Approximately 50% of patients receiving radiotherapy are anxious and fearful, often due to unmet information needs (Halkett et al., 2012a; Halkett et al., 2008; Holmes & Williamson, 2008; Mitchell & Lozano, 2012). Information needs are highest prior to treatment planning and commencing treatment (Halkett G et al., 2010; Halkett et al., 2012a).

Previous studies have tested radiotherapy educational resources (videos) (Dunn et al., 2004; Haggmark et al., 2001; Jahraus et al., 2002; Thomas et al., 2000) and trialed group education in radiotherapy (Canil et al., 2012; Miller, 2009). 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 (Schofield et al., 2003). It may also lead patients to decline treatment (Jefford & Tattersall, 2002). 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 inconsistent (Halkett et al., 2009). Furthermore, RTs may be time-poor, and not have received appropriate training to prepare patients for treatment and determine whether they require emotional support (Elsner et al., 2017; Halkett et al., 2010).

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 (author refs). (Halkett et al., 2016; Halkett et al., 2018).

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 positioned (author refs) (Halkett et al., 2013; Halkett et al., 2014; Halkett et al., 2012).

Aim

This 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 design (Sandelowski, 2010) using semi-structured interviews.

Ethics approval was gained from the lead University and three participating tertiary hospitals.

Participants

Patients were eligible to participate if they were enrolled in the intervention arm of the RT Prepare study. Ten percent of consented intervention patients at each site were randomly selected using a computer generated list of random numbers and invited to participate in a semi-structured interview. All RTs who participated in the communication skills training workshops, and were involved in delivering the intervention (n=30), 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 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

An inductive approach was used. Braun and Clarke's (2006) 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 manuscript.

Four researchers (authors 1, 2, 3, 4) analysed the data individually to identify themes from the patient interviews and subsequently radiation therapists' interviews. The team then discussed the themes for each group before coming to a consensus. The team decided that the most comprehensive way of presenting the data would be to describe common themes and represent both patients and radiation therapists' perspectives in the same manuscript. This provided an overall understanding of both perspectives of the RT Prepare intervention and feedback received.

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 themes (Breen et al., 2011).

Results

Telephone interviews were conducted with 21 patients who received the intervention (Table 1). This randomly selected sub-group were similar in characteristics to characteristics of participants in the main study (author ref) (Halkett et al., 2018).

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). RTs delivered an average of 8 interventions (S.D.=6.0, range 2-14).

Themes

The overarching themes were: communication skills; preparation; information provision and dedicated space and time.

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:

“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

“... 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 found them good, 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 possibly some would feel anxious.” **PtS2.5**

Radiation therapists identified the benefit of learning about how to respond to patient emotional cues. One radiation therapist suggested that reminders about the different emotional cues would improve RTs delivery of the intervention:

“I don’t have the documentation that we took away from the training with us about the emotional cues and all that kind of thing so maybe if we had on our clipboard a piece of paper with just a few little things about that to maybe jog your memory on the actual emotional response...A tick box on what you have to cover.. I think I just needed to go over the actual emotional response side of things...” **RTS2.5**

Preparation

Three sub-themes arose around preparing patients for treatment: emotional preparation; cognitive preparation; and practical preparation (Additional exemplars for each sub-theme relating to preparation are provided in 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. Patients felt overwhelmed by the experience and sometimes found it challenging to take on board information communicated by RTs, particularly in the first appointments. Patients described the opportunity of sitting down with an RT before their appointments as useful and reassuring, and it enabled them to connect with the RTs and express their concerns.

“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:

“It was a time where I was able to ask questions and put my mind at ease. I like to know what I’m doing and then that way I can condition my mind and accept what’s going on...” **PtS1.2**

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 preparedness gave patients the opportunity to gain knowledge and mentally prepare for the challenges of treatment.

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 bit more prepared.” **PtS3.1**

Practical preparation

This sub-theme encompasses procedural preparation (familiarising themselves with the practicalities of treatment), as well as organising the logistics 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 their treatment experience. For some patients, the treatment machines 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 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**

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...” **PtS1.3**

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 what's going to happen, these are the expected side-effects... talking to them actually relieves most of the stress.” **RTS3.1**

Information provision

Three sub-themes were derived relating to information provision: information consistency; number of consultations and reinforcing verbal information.

Information consistency

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. 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 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 it didn’t worry me.” PtS1.1

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

“As long as the person is considerate, informative, respectful, and treats you well and gives you the information you want, it doesn’t matter. To me everyone comes with the same training and 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.*

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 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... I had 26 rounds and I really didn’t start to experience any symptoms until round 17. I think it would be beneficial at that point to schedule in a review to explain what you can expect...”

PtS2.2

“I think probably once would have been enough.” PtS2.7

Reinforcing verbal information

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

“A little pamphlet that actually gives you some idea of skin care... We recommend QV soap and paraffin ointment, don't use deodorant. If that was written down in a little note for people then I think if they have it in their purse when they first go home.”

PtS3.2

This was also identified as a potential area for improvement by several of the RTs:

“If we were able to give them out a booklet about what's going to happen in CT, what's going to happen in treatment a bit more specific to say, breast patients.

Having something there to read over and over again so they can understand everything might be helpful as well, because obviously when you're talking and doing the consultation with a patient, they don't take in 100% of everything that you say.”

RTS2.4

Dedicated space and time

Dedicated space and time were important to patients as the two sub-themes below demonstrate.

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 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 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 whatever 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 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**

Discussion and Conclusion

Discussion

This study was conducted to gain an understanding of patients' and RTs' perceptions about the 'RT Prepare' intervention and assist with refinement of the intervention for future implementation. Themes focused on communication; preparation: information provision; and space and time. Communication was essential with RTs focusing on developing rapport; reducing patient isolation and providing emotional support. These findings resonate with previous research which demonstrate that RTs have a supportive role to play throughout a patient's treatment (Halkett & Kristjanson 2007). However, the introduction of this intervention prior to treatment commencement enabled RTs to develop rapport with patients and assist patients to gain an understanding of radiotherapy and prepare themselves for treatment.

Preparing for radiotherapy centred on emotional, cognitive and practical preparation. Previous literature has identified the need to provide patients with sensory and procedural information prior to medical procedures (Halkett et al., 2013; Halkett et al., 2014; Halkett et al., 2012). 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 cues (Butow et al., 2008) and providing patients with sensory and procedural information (Halkett et al., 2013; Halkett et al., 2014; Halkett et al., 2012).

Learning to elicit and respond to patients emotional cues is a new skill that RTs needed to develop to deliver the intervention. Follow-up workshops were held with RTs to provide an opportunity to discuss these skills and how best to manage different patient emotions (author reference). The current study identified that RTs would also benefit from a reminder checklist about emotional cues to prompt them during the consultations.

A number of skills were required by RTs to deliver patient education and support including: defining their role, providing consistent information, confirming patient understanding and communicating effectively with the patient. Schnitzler et al. (2019) analysed RT delivery of patient education using tape recordings (n=58) highlighting that RTs routinely cover topics relating to treatment schedule, procedural information, side effects and who will be involved in treatment provision. Additional research by Schnitzler et al. (2017) 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 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. Furthermore, future training for RTs needs to focus on assisting RTs to address relevant topics and provide education effectively (without using medical jargon (Schnitzler et al., 2017) 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 regularly (Halkett & Kristjanson 2007). The RT Prepare intervention offered structure and consistency of information regardless of which RT provided the intervention. 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. This was facilitated by intervention RTs participating in communication skills training, discussing what information needs to be provided and checklists provided to assist with each of the consultations.

Overall the intervention was very well received by both patients and health professionals. Table 2 highlights way that RT Prepare might be refined in the future. 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. The structure of the intervention and decision to deliver two one-on-one consultations was based on our previous qualitative and quantitative research which ascertained that the key time points for information delivery were prior to treatment planning and prior to treatment (author references). Further research is required to determine whether reducing the intensity of the intervention reduces the likelihood of reducing patient anxiety. Patients are likely to benefit most from tailored information based on their individual needs which can be assessed by radiation therapists at each of the consultations.

Additional written information was also suggested as a method of improving patient education. Written information is useful because it helps to reinforce the verbal information that patients receive, particularly if patients forget what they have been told or have

difficulties understanding medical information (Clerehan et al., 2005). 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. 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-asking (author ref). 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 psychological distress prior to treatment. 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.

RTs highlighted the importance of having time and space and thought the opportunity to sit down with patients was essential to deliver the intervention. Sitting down with patients allowed 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 professionals who take time to sit down with patients (rather than standing) positively influences patients' perceptions of the interaction and increases patient satisfaction and adherence (Lidgett, 2016; Swayden et al., 2012). RTs who were interviewed indicated that they sometimes found it difficult to have time to interact at length with their patients. This was exacerbated by the lack of spaces where these interactions could occur. This reflects findings from previous research that found time and space were factors that impacted on the interactions between patients and RTs (Merchant et al., 2017). 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 did not feel rushed and had the opportunity to discuss their concerns.

Limitations

Although these findings are from a small sample, 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 during consultations. Additionally, patients and RTs were asked to recollect their experiences after treatment completion rather than immediately after receiving (or delivering) 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 tailor the refined intervention to other cancer groups.

Practice Implications

Implementation of communication skills training for radiation therapists and the RT Prepare intervention is likely to be beneficial for radiation therapists and patients. Radiation therapists can play an active role in preparing patients for radiotherapy and reducing anxiety by providing cognitive and practical information and emotional support. Allocating time and space to deliver patient education and support will ensure effective delivery of the RT Prepare intervention prior to treatment commencement.

Conflict of Interest

The authors have no conflicts of interest to declare. The team has full control of all primary data and will allow the journal to review data if requested.

References

- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qual Res Psychol*, *3*, 77-101.
- Breen, L., Wildy, H., & Sagers, S. (2011). Challenges in implementing wellness approaches in childhood disability services: Views from the field. *Int J Disabil Dev Ed*, *58*, 137-153. doi:10.1080/1034912X.2011.570500.
- Butow, P., Cockburn, J., Girgis, A., Bowman, D., Schofield, P., D'Este, C., Stojanovski, E., Tattersall, M., & CUES Team. (2008). Increasing oncologists' skills in eliciting and responding to emotional cues: evaluation of a communication skills training program. *Psycho-Oncology*, *17*, 209-218.

- Canil, T., Cashell, A., Papadakos, J., Abdelmutti, N., & Friedman, A. (2012). Evaluation of the effects of pre-treatment education on self-efficacy and anxiety in patients receiving radiotherapy: A pilot study. *J Med Imaging Radiat Sci*, *43*(4), 221-227.
- Clerehan, R., Buchbinder, R., & Moodie, J. (2005). A linguistic framework for assessing the quality of written patient information: its use in assessing methotrexate information for rheumatoid arthritis. *Health Education Research*, *20*(3), 334-344. doi:10.1093/her/cyg123
- Dunn, J., Steginga, S., Rose, P., Scott, J., & Allison, R. (2004). Evaluating patient education materials about radiation therapy. *Patient Education and Counseling*, *52*(3), 325-332.
- Elsner, K., Naehrig, D., Halkett, G., & Dhillon, H. (2017). Reduced patient anxiety as a result of radiation therapist- led psychosocial support: a systematic review. *J Med Radiat Sci*, *64*, 220-231. doi:10.1002/jmrs.208
- Haggmark, C., Bohman, L., Ilmoni-Brandt, K., Naslund, I., Sjoden, P.-O., & Nilsson, B. (2001). Effects of information supply on satisfaction with information and quality of life in cancer patients receiving radiation therapy. *Patient Education and Counseling*, *45*, 173-179.
- Halkett G, Kristjanson L, Lobb E, O'Driscoll C, Taylor M, & Spry N. (2010). Meeting breast cancer patients' information needs during radiotherapy: what can we do to improve the information and support that is currently provided? . *European Journal of Cancer Care (English Language Edition)*, *19*, 538-547.
- Halkett, G., Kristjanson, L., Lobb, E., Little, J., Shaw, T., Taylor, M., & Spry, N. (2012a). Information needs and preferences of women as they proceed through radiotherapy for breast cancer. *Patient Education and Counseling*, *86*, 393-404.
- Halkett, G., Merchant, S., Jiwa, M., Short, M., Arnet, H., Richardson, S., Kearvell, R., Carson, S., Spry, N., Taylor, M., & Kristjanson, L. (2010). Effective communication and information provision in radiotherapy—the role of radiation therapists. *Journal of Radiotherapy in Practice*, *9*(1), 3-16. doi:10.1017/S1460396909990173
- Halkett, G., O'Connor, M., Aranda, S., Jefford, M., Merchant, S., York, D., Lisa, M., & Schofield, P. (2016). Communication skills training for radiation therapists: preparing patients for radiation therapy. . *J Med Radiat Sci*, *63*, 232-241.
- Halkett, G., O'Connor, M., Aranda, S., Jefford, M., Shaw, T., York, D., Spry, N., Taylor, M., & Schofield, P. (2013). Pilot randomised controlled trial of a radiation therapist-led educational intervention for breast cancer patients prior to commencing radiotherapy. *Support Care in Cancer*, *21*, 1725-1733.
- Halkett, G., O'Connor, M., Aranda, S., Jefford, M., Spry, N., & Shaw, T. (2014). Protocol for the RT Prepare Trial: a multiple-baseline study of radiation therapists delivering education and

- support to women with breast cancer who are referred for radiotherapy. . *BMJ Open*, 4. doi:10.1136/bmjopen-2014-006116.
- Halkett, G., O'Connor, M., Jefford, M., Aranda, S., Merchant, S., Spry, N., Kane, R., Shaw, T., Youens, D., Moorin, R., Schofield, P., & RT Prepare project team. (2018). RT Prepare: a radiation therapist-delivered intervention reduces psychological distress in women with breast cancer referred for radiotherapy. *British Journal of Cancer*, 118(12), 1549-1558. doi:10.1038/s41416-018-0112-z
- Halkett, G. K., Schofield, P., O'Connor, M., York, D., Jefford, M., Jiwa, M., Spry, N., Taylor, M., & Aranda, S. (2012). Development and pilot testing of a radiation therapist-led educational intervention for breast cancer patients prior to commencing radiotherapy. *Asia-Pac J Clin Oncol*, 8(3), e1-8. doi:10.1111/j.1743-7563.2012.01520.x
- Halkett, G. K. B., & Kristjanson, L. J. (2007). Patients' perspectives on the role of radiation therapists. *Patient Education and Counseling*, 69(1-3), 76-83.
- Halkett, G. K. B., Kristjanson, L. J., & Lobb, E. A. (2008). 'If we get too close to your bones they'll go brittle': women's initial fears about radiotherapy for early breast cancer. *Psycho-Oncology*, 17(9), 877-884. doi:10.1002/pon.1298
- Halkett, G. K. B., Short, M., & Kristjanson, L. J. (2009). How do radiation oncology health professionals inform breast cancer patients about the medical and technical aspects of their treatment? *Radiotherapy and Oncology*, 90(1), 153-159.
- Holmes, N., & Williamson, K. (2008). A survey of cancer patients undergoing a radical course of radiotherapy, to establish levels of anxiety and depression. *Journal of Radiotherapy in Practice*, 7, 89-98.
- Jacobsen, P. B., Donavon, K. A., Trask, P. C., Fleishman, S. B., Zabora, J., Baker, F., & Holland, J. C. (2005). Screening for psychologic distress in ambulatory cancer patients. *Cancer*, 103(7), 1494-1502.
- Jahraus, D., Sokolosky, S., Thurston, N., & Guo, D. (2002). Evaluation of an education program for patients with breast cancer receiving radiation therapy. *Cancer Nursing*, 25(4), 266-275.
- Jefford, M., & Tattersall, M. (2002). Informing and involving cancer patients in their own care. *Lancet*, 3, 629-637.
- Lidgett, C. (2016). Improving the patient experience through a commit to sit service excellence initiative. *Patient Experience Journal*, 3(2, Article 11).
- Merchant, S., O'Connor, M., & Halkett, G. (2017). Time, space and technology in radiotherapy departments: how do these factors impact on patients' experiences of radiotherapy? *European Journal of Cancer Care (English Language Edition)*, 26(2). doi:10.1111/ecc.12354
- Miller, C. (2009). An Irish Hospital's approach to supporting patients. *Radiography*, 15, 202-225.

- Mitchell, D., & Lozano, R. (2012). Understanding Patient Psychosocial Issues. *Rad Therapist*, 21(1), 96-99.
- Newell, S. A., Sanson-Fisher, R. W., & Savolainen, N. J. (2002). Systematic review of psychological therapies for cancer patients: Overview and recommendations for future research. *Journal of the National Cancer Institute*, 94(8), 558-584.
- Sandelowski, M. (2010). What's in a name? Qualitative description revisited. *Research in Nursing and Health*, 33(1), 77-84. doi:10.1002/nur.20362
- Sanson-Fisher, R., Girgis, A., Boyes, A., Bonevski, B., Burton, L., & Cook, P. (2000). The unmet supportive care needs of patients with cancer. *Cancer*, 88(1), 226-237.
- Schnitzler, L., Smith, S. K., Shepherd, H. L., Shaw, J., Dong, S., Carpenter, D. M., Nguyen, F., & Dhillon, H. M. (2017). Communication during radiation therapy education sessions: The role of medical jargon and emotional support in clarifying patient confusion. *Patient Education and Counseling*, 100(1), 112-120. doi:10.1016/j.pec.2016.08.006
- Schnitzler, L., Smith, S. K., Shepherd, H. L., Shaw, J. M., Dong, S., Turner, R. M., Sorensen, K., & Dhillon, H. M. (2019). What information is communicated by radiation therapists to patients during education sessions on the first day of treatment? *Eur J Cancer Care (Engl)*, 28(1), e12911. doi:10.1111/ecc.12911
- Schofield, P., Butow, P., Thompson, J., Tattersall, M., Beene, L., & Dunn, S. (2003). Psychological responses of patients receiving a diagnosis of cancer. *Annals Oncol*, 14(1), 48-56.
- Steinberg, T., Roseman, M., Kasymjanova, G., Dobson, S., Lajeunesse, L., Dajczman, E., Kreisman, H., MacDonald, N., Agulnik, J., Cohen, V., Rosberger, Z., Chasen, M., & Small, D. (2009). Prevalence of emotional distress in newly diagnosed lung cancer patients. *Supportive Care in Cancer*, 17(12), 1493. doi:10.1007/s00520-009-0614-6
- Swayden, K. J., Anderson, K. K., Connelly, L. M., Moran, J. S., McMahon, J. K., & Arnold, P. M. (2012). Effect of sitting vs. standing on perception of provider time at bedside: A pilot study. *Patient Education and Counseling*, 86(2), 166-171. doi:10.1016/j.pec.2011.05.024
- Thomas, R., Daly, M., Perryman, B., & Stockton, D. (2000). Forewarned is forearmed - benefits of preparatory information on video cassette for patients receiving chemotherapy or radiotherapy. *European Journal of Cancer*, 36, 1536-1543.

References for authors

- Halkett, G., O'Connor, M., Aranda, S., Jefford, M., Shaw, T., York, D., Spry, N., Taylor, M., & Schofield, P. (2013). Pilot randomised controlled trial of a radiation therapist-led educational

intervention for breast cancer patients prior to commencing radiotherapy. *Support Care in Cancer*, 21, 1725-1733.

Halkett, G., O'Connor, M., Aranda, S., Jefford, M., Spry, N., & Shaw, T. (2014). Protocol for the RT Prepare Trial: a multiple-baseline study of radiation therapists delivering education and support to women with breast cancer who are referred for radiotherapy. . *BMJ Open*, 4. doi:10.1136/bmjopen-2014-006116.

Halkett, G., O'Connor, M., Jefford, M., Aranda, S., Merchant, S., Spry, N., Kane, R., Shaw, T., Youens, D., Moorin, R., Schofield, P., & RT Prepare project team. (2018). RT Prepare: a radiation therapist-delivered intervention reduces psychological distress in women with breast cancer referred for radiotherapy. *British Journal of Cancer*, 118(12), 1549-1558. doi:10.1038/s41416-018-0112-z

Halkett, G. K., Schofield, P., O'Connor, M., York, D., Jefford, M., Jiwa, M., Spry, N., Taylor, M., & Aranda, S. (2012). Development and pilot testing of a radiation therapist-led educational intervention for breast cancer patients prior to commencing radiotherapy. *Asia-Pac J Clin Oncol*, 8(3), e1-8. doi:10.1111/j.1743-7563.2012.01520.x

Smith, S. K., Cabrera-Aguas, M., Shaw, J., Shepherd, H., Naehrig, D., Meiser, B., Jackson, M., Saade, G., Bucci, J., Halkett, G. K. B., Turner, R. M., Milross, C., & Dhillon, H. M. (2019). A low literacy targeted talking book about radiation therapy for cancer: development and acceptability. *Supportive Care in Cancer*, 27(6), 2057-2067. doi:10.1007/s00520-018-4446-0

Author Manuscript

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)

Author Manuscript

Table 2. Potential Refinements to RT Prepare Intervention

Theme and Subtheme	Identified area for improvement	Potential Refinement
<p>Communication Skills</p> <p>Reducing Isolation and Providing Emotional Support</p>	<p>RT recall of emotional cues and how to address these.</p>	<p>Provide RTs with reminders using a specific checklist on emotional cues that they can refer to. This would build on the checklist already provided to RTs to use at each consultation appointment.</p>
<p>Information provision</p> <p>Number of Consultations</p>	<p>Patients varied in number of consultations they felt were necessary.</p>	<p>Review the number of consultations provided to patients and the timing of consultations. Ideally tailor number of consultations to individual patient based on needs identified during first consultation.</p>
<p>Information provision</p> <p>Reinforcing verbal information</p>	<p>Patients and RTs identified that written information would be beneficial and increase patient recall of information.</p>	<p>Provide patients with specific written information related to their disease that they can refer to. This may be addressed by using Talking Book that has been developed.</p>
<p>Dedicated space and time</p> <p>Space</p>	<p>In some departments it was difficult to find private area for intervention delivery.</p>	<p>Ensure RTs have access to private space to deliver the intervention. This needs to be implemented at a Departmental Level.</p>