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ORIGINAL ARTICLE

What is the effect of a low literacy talking book on patient knowledge, anxiety and communication before radiation therapy starts? A pilot study

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Abstract

Introduction: Radiation therapy is a common cancer treatment, requiring timely information to help patients prepare for treatment. We pilot tested a low literacy, psycho-educational talking book (written booklet, with accompanying audio recording) to examine (i) the effect of the tool on knowledge, anxiety and communication; (ii) acceptability, and (iii) how it was used in appointments. **Methods:** A pre-post design was employed. Patients scheduled to receive radiation therapy for any cancer were recruited from two hospitals in Sydney, Australia. Participants were sent the talking book before treatment planning and completed baseline and follow-up surveys, before and after the intervention. **Results:** Forty participants were recruited, and 39 completed all study assessments. Overall, knowledge increased after receiving the talking book by 3.8 points from 13.9 to 17.7/20 (95% confidence interval (CI) 2.7, 4.8, $P < 0.001$). Anxiety and concerns were significantly lower after receiving the talking book ($P = 0.015$ and $P = 0.004$, respectively). Nearly half of participants ($n = 17$, 48%) reported using the book during appointments. Most reported finding it easier to communicate ($n = 31$, 89%) and to ask more questions ($n = 21$, 62%). **Conclusion:** The talking book shows promise in improving knowledge, reducing anxiety and enhancing communication. Strategies to support the implementation of the talking book are required. Further studies to translate the book into different languages are also planned.

Introduction

Radiation therapy is one of the most common treatments for cancer. Currently, it is recommended that 50% of all patients should receive radiation therapy to reduce morbidity and increase survival.¹ Psychological distress is prevalent among patients before starting radiation therapy, with nearly half experiencing anxiety.^{2,3} Yet evidence suggests psychosocial, and information needs are not fully addressed, and patients may not feel prepared for treatment and know what to expect.^{4,5} Patients are often uncertain about why radiation therapy is recommended and how it works to treat cancer.⁶ Misunderstanding could reduce treatment adherence, resulting in difficulties managing physical symptoms and compromised quality of life and survival.⁷

Providing patients with clear and timely information before starting treatment is critical to enhancing understanding and alleviating anxiety.⁷ Radiation therapists play an important role in planning and delivering treatment and providing support and information throughout treatment – educating patients about radiation therapy, organising appointments, operating the treatment machines and providing advice about managing side effects.⁵ Radiation oncology nurses also provide practical, social and emotional support to patients and their families, such as assisting with procedures, and monitoring and managing side effects.^{8,9}

Communication skill training has been shown to be an effective way to help radiation oncology health professionals better prepare patients for treatment.¹⁰ Such training enables health professionals to reflect on their communication with patients and enhances their skills in eliciting and responding to emotional cues.¹¹ Although verbal communication is important, patients may have difficulty remembering what was said and struggle to understand technical language.¹² Written information, which patients can take home and read in their own time, complements and reinforces the verbal information.¹³ When designing written materials, the concept of health literacy – ‘the knowledge, motivation and competence to access, understand and apply health information’,¹⁴ needs to be considered to ensure they are accessible and easily understood by people of differing education, literacy and health literacy levels.¹⁵ While there are patient education resources for people undergoing radiation therapy,^{16–19} very few have been developed using low literacy design principles.²⁰

To address this gap, we developed a low literacy, psycho-educational talking book (written information booklet with accompanying audio recording) for patients and their families to use prior to commencing radiation

therapy. We used an iterative design process to develop the talking book, with input from cancer consumer representatives, health literacy experts and radiation oncology healthcare professionals. Acceptability of the talking book was explored in a qualitative study with patients and caregivers.²¹

The current study piloted the radiation therapy talking book with patients undergoing radiation therapy for cancer. We aimed to (1) examine the effect of the book on patient knowledge, anxiety, radiation therapy concerns, patient preparedness for radiation planning and treatment and communication with the radiation therapists and nurses and (2) obtain feedback on the acceptability and usability of the resource.

Materials and Method

Radiation therapy talking book

The resource contained sensory and procedural information related to treatment planning, daily treatment, side effects, post-treatment phase, psychosocial health, a question prompt list and a glossary ([Supporting information S1](#)). A female voice, in accordance with participant preference, was used to narrate the book.²¹

Design

A pre-post intervention design was used to examine the effect of the resource on key outcomes. Ethics approval was granted by the South Eastern Sydney Local Health District Human Research Ethics Committee.

Patient recruitment

Participants were recruited from publicly funded outpatient radiation oncology departments from two metropolitan hospitals in New South Wales, Australia. Patients with any type and stage of cancer were eligible to participate if they were: 18 years or older, scheduled to receive external beam radiation therapy for the first time (new diagnosis or cancer recurrence and previously received radiation therapy more than 5 years ago), referred to the study at least three days before their planning appointment; and had sufficient English. Patients were not eligible if they were too unwell or had a serious cognitive or psychiatric impairment. Agreement was reached with the study team regarding the application of sufficient English language skills requirement. Exclusion of patients too unwell to participate was at their request or the discretion of clinical and study staff.

Procedure

Radiation oncologists invited eligible patients to take part during their first consultation (Supporting information S1). Those who expressed interest were provided with a participant information sheet and contacted by the project officer to inform them about the study, obtain consent and complete a baseline survey. All participants were sent a cover letter and the talking book with audio recording (either USB or CD format). The follow-up survey was administered immediately before the first day of treatment, either via telephone or face to face.

Training workshop for radiation therapists and radiation oncology nurses

The talking book is designed to support communication between patients and staff during appointments (e.g. treatment planning simulation and first day of treatment). Prior to recruitment, we conducted a 3-hour communication skills training workshop with 10 radiation therapists and four radiation oncology nurses to prepare patients for treatment.¹⁰ It involved (1) increasing understanding and awareness of health literacy, (2) developing skills on eliciting and responding to emotional cues and (3) using role play to simulate how to incorporate the talking book into appointments.

Measures

At baseline, socio-demographic and cancer-related information was collected. Functional health literacy was measured using the Newest Vital Sign (NVS), a 6-item measure that involves interpreting information on a nutrition label.²² The following measures were assessed before and after participants had received the resource.

Radiation therapy knowledge

Twenty statements, adapted from Knowledge of RT scale²³ were developed to determine core knowledge about radiation therapy that could be acquired from the book.^{6,21} The measure assessed six knowledge domains – what is radiation therapy, treatment team, treatment planning, having radiation therapy, side effects and management and what happens after treatment. A marking scheme was developed, with responses identified as correct or incorrect. Marks were summed for each participant, with total scores ranging from 0 to 20 (supporting information A3).

Treatment preparation

Participants were asked five questions regarding how prepared and anxious they felt about radiation therapy

and starting treatment. Response options varied for each item, but a 5-point Likert scale from 1 to 5 was used for all items.^{23,24}

Anxiety

Anxiety was assessed using the 6-item State Trait Anxiety Inventory (STAI), to assess state anxiety using a four-point Likert scale, from ‘not at all’ to ‘very much’, and total scores from 20 (no anxiety) to 80 (high anxiety) points.²⁵

Concerns about radiation therapy

The nine-item ‘Concerns about Radiation Therapy’ scale was used to measure concerns about radiation therapy using a nine-point scale (options ‘Not concerned’ to ‘Very concerned’).^{23,24} It is shown to have high internal consistency (Cronbach’s alpha of 0.91) and sufficient reliability over time (mean inter-item correlation = 0.52) (SD = 0.15; range of 0.17 to 0.82).

Perceived efficacy in communication

The 10-item Perceived Efficacy in Patient-Physician Interactions (PEPPI) measure assessed perceived confidence in healthcare interactions, with higher scores indicating higher confidence (range 10–50) and high reliability (Cronbach’s alpha = 0.91).²⁶

The following measures were administered at follow-up:

Perceived usefulness of the talking book

The nine-item Usefulness Scale for Patient Information Material (USE) (three subscales, cognitive, emotional and behavioural) was used to examine perceived usefulness.²⁷ Participants indicated the extent to which they agree with the statements using response options: ‘Yes’, ‘No’ or ‘Unsure’. This scale has previously shown to be reliable – Cronbach’s alpha for overall scale (0.94) and subscales: cognitive (0.84), emotional (0.94), and behavioural (0.91).²⁷

Acceptability of the talking book

Likert response scales examined the acceptability of the talking book, with regard to its length, clarity and relevance. We also sought open-ended comments on the illustrations and design/layout preferences.

Using the talking book

Questions also elicited whether participants had talked about and/or discussed the information with anyone, and how they perceived it influenced their appointment.

Statistical analysis

A sample of 30–40 participants has been suitable to pilot similar interventions.²⁸ Data were analysed using SPSS 25.0 (Statistical Program for the Social Sciences) and Stata version 15.1. Basic descriptive statistics, mean and standard deviation for continuous variables, frequency and percent for categorical variables were generated for socio-demographic variables, health literacy, acceptability and usability. We tested for pre-post intervention changes in knowledge, preparedness, anxiety, concerns and perceived efficacy in communication using paired t-tests, checking distributional assumptions with the Wilcoxon signed-rank test. Three of the knowledge domains (treatment team, treatment planning and what happens after treatment) had two items and were dichotomised into all correct versus none or one correct, and analysed using McNemar’s chi-squared test for paired proportions. Reliability of the knowledge items was assessed at baseline and follow-up using the Kuder–Richardson 20 coefficient,

that is Cronbach’s alpha for dichotomous data. All reported *P*-values are two sided, with *P* < 0.05 considered significant.

Results

Participants were recruited between August and November 2015. A total of 399 new patients (lists provided by the departments) were considered for the study (Fig. 1). A total of 40 participants consented and completed the baseline survey. We were unable to contact one participant at follow-up, so 39 participants completed follow-up questionnaires (Table 1). Their mean age was 64 years (range 47–82). Most were female (*n* = 32, 80%) and spoke English as their first language (*n* = 38, 95%). The majority had high health literacy levels (*n* = 37, 93%), nearly half had completed high school education (*n* = 19, 48%). Most participants had been diagnosed with breast cancer (*n* = 25, 63%).

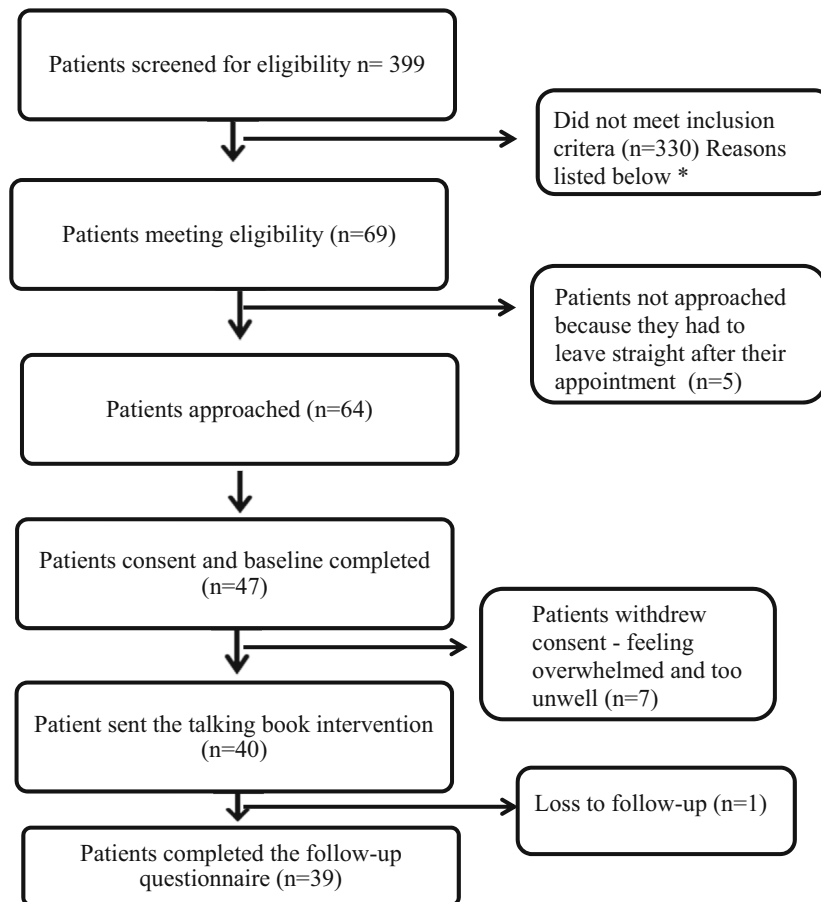


Figure 1. Flow diagram of participant screening and selection process.

Table 1. Participant characteristics at baseline ($n = 40$).

Variable	Category	N (%) ¹
Mean age		62 years, range - 47–82
Sex	Female	32 (80)
	Male	8 (20)
Marital status	Married/Defacto	29 (72)
	Other	11 (28)
Highest level of education	Higher School Certificate	19 (48)
	TAFE/Diploma	10 (25)
	University degree	11 (28)
Functional health literacy ² Mean (SD)	Low health literacy	5.37 (1.6)
	High health literacy	3 (7)
Employment status	Full time	37 (93)
	Other	16 (40)
Country of birth	Australia	24 (60)
	Other	13 (32)
Main language spoken at home	English	38 (95)
	Other	2 (5)
Children	Yes	29 (72)
	No	11 (28)
Primary cancer site	Breast	25 (63)
	Non-Hodgkin Lymphoma	5 (13)
	Sarcoma	2 (5)
	Gynaecological	2 (5)
	Stomach	2 (5)
	Lung	1 (3)
	Liver	1 (3)
	Kidney	1 (3)
	Melanoma	1 (3)
Previous Surgery	Yes	29 (72)
	No	11 (28)
Previous Endocrine Therapy	Yes	2 (5)
	No	38 (95)
Current or previous chemotherapy	Not receiving chemotherapy	31 (78)
	Completed chemotherapy	7 (18)
	Currently receiving	2 (5)
Using complementary therapies	Yes	6 (15)
	No	34 (85)
Support person attending appointments	Yes	34 (85)
	No	6 (15)
Relationship of support person to patient ³	Spouse	24 (73)
	Friend	4 (12)
	Child /Sibling	5 (15)

¹Percentages may not add up to 100% due to rounding.

²Newest vital sign (NVS). Maximum score 6; <4 lower health literacy; ≥ 4 higher health literacy.

³Data missing for 1 participant.

Radiation therapy knowledge

There was evidence of a difference in participants' knowledge about radiation therapy before and after

exposure to the talking book, with mean scores increasing by 3.8 points from 13.9 to 17.7/20 (95% Confidence interval (CI) 2.7–4.8, $P < 0.001$) (Table 2). Knowledge scores increased significantly across all knowledge domains and had higher reliability at baseline ($\alpha = 0.76$) than at follow-up ($\alpha = 0.49$) (Table 3).

Treatment preparation

There was evidence of improvements in participants' perceived understanding of radiation therapy and knowing what was going to happen during treatment before and after receiving the book, with scores improving significantly ($P < 0.001$) (Table 2).

Anxiety

Participants' state anxiety levels decreased by 5 mean points from baseline to follow-up, from 37.4 to 32.4 out of 80, respectively (95% CI -0.9, -1.0, $P = 0.015$).

Concerns about radiation therapy

Concerns about radiation therapy reduced significantly after exposure to the talking book, from 3.47 (out of 9) at baseline to 2.92 at follow-up (difference - 0.5, 95% CI: -0.9, -0.2, $P = 0.004$).

Perceived efficacy in patient healthcare professional interactions

Participants' perceived confidence in interacting with healthcare professionals was high at baseline, but did increase slightly at follow-up from 44.4 to 45.7/ 50 (difference 1.3, 95% CI: 0.0, 2.6, $P = 0.046$).

Usefulness scale for patient information material (USE)

Overall, the total mean score for participants' perceptions regarding the usefulness of the information was 68.8 (SD = 20.1), with a scale of 0–90. The mean scores were higher for the cognitive subscale (27.6, SD = 4.1, 95% CI: 26.3, 29.0), than the behavioural (22.8, SD = 9.7, 95% CI: 19.6, 26.1) ($P = 0.006$) and emotional (17.6, SD = 11.7, 95% CI: 13.8, 21.5) ($P < 0.001$) subscales (scale range 0–30).

Acceptability of the talking book

Participants responded positively towards the talking book (Table 4). The majority said they read the entire book ($n = 35$, 92%). Less than half reported listening to

Table 2. Difference in mean scores for outcome measures before and after exposure to the talking book ($n = 39$).

Measure (range of scores)	Pre-talking book (baseline) Mean (95% CI)	Post-talking book (follow-up) Mean (95% CI)	Mean difference (post – pre) (95% CI)	<i>P</i>
Knowledge (range of score 0 to 20)	13.9 (12.8, 15.0)	17.7 (17.1, 18.2)	3.8 (2.7, 4.8)	<0.001
Perceived knowledge regarding treatment preparation and anxiety (range of score 0 to 5)				
How much understanding do you currently have of RT?	2.9 (2.6, 3.2)	4.1 (3.8, 4.3)	1.2 (0.8, 1.5)	<0.001
How prepared do you currently feel to receive RT?	4.1 (3.8, 4.4)	4.5 (4.2, 4.8)	0.4 (0.1, 0.7)	0.009
How anxious do you feel about receiving RT?	2.2 (1.8, 2.6)	2.0 (1.7, 2.4)	–0.2 (–0.5, 0.1)	0.197
I know what is going to happen during my treatment	3.4 (3.0, 3.8)	4.6 (4.3, 4.8)	1.2 (0.8, 1.6)	<0.001
Did the information to date meet your expectations?	4.4 (4.0, 4.7)	4.6 (4.4, 4.8)	0.2 (–0.1, 0.5)	0.118
State Anxiety – STAI (range of score 20 to 80)	37.4 (33.2, 41.6)	32.4 (28.6, 36.1)	–5.0 (–9.0, –1.0)	0.015
Concerns (total = 9) (range of score 0 to 9)	3.4 (2.9, 4.0)	2.9 (2.4, 3.5)	–0.5 (–0.9, –0.2)	0.004
Perceived efficacy in communication (range 10 to 50)	44.4 (42.9, 46.0)	45.7 (44.3, 47.2)	1.3 (0.0, 2.6)	0.046
Usefulness Scale for Patient Information Material (USE) ¹ Scale (range of score 0–90)	N/A	68.8 (SD = 20.1)	N/A	N/A
Usefulness – cognitive (range of score 0–30)	N/A	27.6 (SD = 4.1)	N/A	N/A
Usefulness – behavioural (range of score 0–30)	N/A	22.8 (SD = 9.7)	N/A	N/A
Usefulness- emotional (range of score 0–30)	N/A	17.6 (SD = 11.7)	N/A	N/A

¹Usefulness Scale for Patient Information Material (USE) (range 0–90). Usefulness is measured on a global scale over three subscales which assess cognitive, emotional and behavioural subdimensions. The global score ranges from 0 to 90, and each subscale score ranges from 0 to 30. High scores indicate high usefulness of patient information. For overall USE scale and cognitive subscale, data are missing for 1 participant; for USE emotional and behavioural subscale data are missing for 2 participants.

some or all of the audio recording ($n = 16$, 42%). A high proportion of participants described the tool as the *right amount of information* ($n = 33$, 87%), *very clearly presented* ($n = 35$, 92%), *very easy to read* ($n = 38$, 100%), *useful in preparing for treatment* ($n = 36$, 95%) and *would recommend it to others* ($n = 37$, 97%).

Using the talking book

Most participants had discussed the information with someone ($n = 31$, 82%) (Table 5). Nearly half of participants ($n = 17$, 48%) reported using it with a radiation therapist or nurse. Nearly half said it helped them to start conversations about important issues ($n = 16$, 46%) and sensitive topics ($n = 16$, 46%).

Discussion

This pilot study describes the effect of a talking book intervention on key outcomes. To our knowledge, this is one of the first studies to design a talking book about radiation therapy using low literacy strategies. Participants' knowledge increased and most felt more prepared for treatment. There was also a reduction in anxiety and concerns, and most described the book as

very clearly presented, easy to read, with an appropriate amount of information. It was also perceived to facilitate communication with radiation therapists and nurses, enabling them to ask more questions.

We note the audio component of the book was not listened to by over half of participants. Reasons included, not having enough time, limited access to technology and preferring to read information. Nevertheless, participants seemed to like having the choice of audio, and perceived it to be useful for people with limited English language skills. When developing interventions, it is important to consider people's learning styles – the optimal way in which people process information, and the extent to which they are visual, auditory or kinaesthetic learners.^{29,30} Our findings indicate participants may have used the talking book in accordance with their learning style preference, with some preferring to read and look at the illustrations (visual learners), others listening to the recording (auditory learners) and some sharing the information (kinaesthetic learners).

There are some limitations to note. Most participants were women being treated for breast cancer in metropolitan hospitals and spoke English as their first language. This limits the generalisability of the findings as the sample may not be representative of people diagnosed

Table 3. Difference in knowledge scores pre-post intervention across the 6 knowledge domains (n = 39).

Knowledge domains of radiation therapy	Pre-talking book Mean scores or percent (95% CI)	Post-talking book Mean scores or percent (95% CI)	Difference (post – pre) Mean or percent (95% CI)	P
1. What is radiation therapy? (4 items, out of 4)	2.1 (1.8, 2.4)	3.0 (2.7, 3.3)	0.9 (0.6, 1.3)	<0.001
2. Treatment team ¹ (2 items, proportion both items correct)	5% (1%, 19%)	23% (12%, 39%)	18% (3%, 33%)	0.02
3. Treatment planning* (2 items, proportion both items correct)	64% (48%, 78%)	97% (83%, 100%)	33% (14%, 52%)	<0.001
4. Having radiation therapy (6 items, out of 6)	4.6 (4.0, 5.1)	5.7 (5.6, 5.9)	1.2 (0.7, 1.7)	<0.001
5. Side effects and management (4 items, out of 4)	2.9 (2.6, 3.3)	3.8 (3.6, 3.9)	0.8 (0.5, 1.1)	<0.001
6. What happens after treatment?* (2 items, proportion both items correct)	77% (61%, 88%)	97% (83%, 100%)	21% (3%, 38%)	0.02

¹Proportion of participants who answered both questions correctly, difference shown is the difference in proportion with the P-value from McNemar's test.

with other types of cancer, or those living in rural or remote areas. This is not unusual in oncology research, with lower socio-economic groups, and some tumour groups typically under-represented, creating inequalities in participation.³¹

Data from the UK's National Cancer Patient Experience Survey (NCPES) involving over 65,000 people with cancer found that 30.4% of respondents recalled having discussions about participating in cancer research since their diagnosis, and 18.9% reported taking part in cancer-related research.³¹ Interestingly, more women reported being informed about cancer research and patients with breast cancer were more likely to engage in discussions about research participation compared to patients with other tumours. These findings echo the current study's recruitment and suggest some patient groups do not have the opportunities to discuss or participate in research. Researchers and healthcare professionals may make assumptions about a patient's ability or willingness to take part in research in relation to their socioeconomic circumstance.³²

Although our sample included a mix of higher and lower education groups, the majority of participants had higher health literacy. Despite this, the majority reported the talking book as acceptable and useful. These results suggest that those with higher education levels may benefit from simplified materials, particularly if they are not familiar with the terminology. Throughout this pilot study, we experienced difficulties recruiting people with lower health literacy. Research participation of individuals with lower literacy may be hampered by the recruitment and informed consent processes, requiring high literacy levels. Beyond this pilot study, a more targeted approach to recruitment is required to fully establish the benefits of the talking book on lower literacy and health literacy populations.

Lastly, the pre-post intervention study design meant we were unable to compare the effects of the talking book with a control group. Although the talking book was designed to be used in conjunction with information communicated by the radiation therapists and nurses, it is difficult to dissect the effect of the talking book with other verbal or written information received. However, the increase in knowledge scores across all domains suggests participants understood most of the information.

We acknowledge up to half of participants looked for information elsewhere, mainly on the Internet. This is not surprising given Internet usage in Australia is over 85%.³³ Participants may have felt the need to seek information to confirm the content or

Table 4. Acceptability of the talking book and how it was used during consultations.

Acceptability of the talking book	N (%) ¹
How much of the talking book did you read?	
I read all of it	35 (92)
I read part of it	3 (8)
How long did it take you to read?*	
Less than 15 minutes	4 (11)
30 minutes or more	34 (89)
How much of the recording did you listen to?	
I listened to all or part of it	16 (42)
I did not listen to it at all	22 (58)
How much of the information was new?	
All or most	6 (16)
Some	32 (84)
What about the amount of information?	
Not enough	4 (10)
Just right	33 (87)
Too much	1 (3)
How clearly presented was the talking book?	
Very	35 (92)
Somewhat	3 (8)
How informative was the talking book?	
Very	36 (95)
Somewhat	2 (5)
How easy to read was the information?	
Very	38 (100)
Did you find the book nice to look at?	
Very	32 (84)
Somewhat	6 (16)
How useful was the book in preparing you for treatment?	
Very	36 (95)
Somewhat	2 (5)
Would you recommend the book to anyone else?	
Yes	37 (97)
Not sure	1 (3)
How worried or concerned did the book make you feel?	
Not at all	31 (82)
A little/ somewhat	7 (18)

¹Participant data missing for some variables.

search for more specific information, possibly because the information was generic and designed for all tumour types. Future work could focus on transferring the content of the talking book to an Internet-based resource to reach a wider audience and tailor information for specific patient groups to allow the user to select relevant content.³⁴

In more recent years, advances in technology have led to innovative patient education methods such as online resources, videos and virtual reality systems.³⁵⁻³⁷ The Virtual Environment for Radiotherapy Training (VERT) is a virtual reality tool that simulates a virtual environment of a treatment room through visual 3D views and sound.³⁸ Although VERT-based patient education provides an interactive learning experience, the

Table 5. How participants used the talking book.

How participants used the book to talk to radiation therapists and nurses	N (%) ¹
Have you discussed the information with anyone else?	
Yes	31 (82)
No	7 (18)
If Yes, who have you discussed the information with? ²	
Partner	16 (50)
Family member/ Friend	15 (47)
GP	1 (3)
Did you use the book in the treatment planning appointment?	
Yes	17 (49)
No	18 (51)
Did the book make it easier to communicate with the team?	
Very much	21 (60)
Somewhat	10 (29)
Not at all	4 (11)
Did the book help you to ask more questions?	
Yes, I asked more questions	21 (62)
No, I would have asked the same questions	9 (26)
I did not have any questions to ask	4 (12)
Did the book help start conversations about issues important to you?	
Very much	16 (46)
Somewhat	10 (29)
Not at all	9 (25)
Did the book help start conversations about sensitive topics?	
Very much	9 (26)
Somewhat	7 (20)
Not at all	19 (54)
Have you looked anywhere else for information about radiation therapy?	
Yes	18 (46)
No	21 (54)
If yes, where did you look for further information?	
Internet	13 (57)
Materials produced by cancer organisations/ charities	6 (26)
Materials produced by the hospital department (DVD, brochures)	4 (17)

¹Note: participant data missing for some variables.

²Some participants reported discussing the information with more than 1 person.

implementation of this type of tool requires financial resources. More work is needed to assess the acceptability of VERT with different health literacy groups. Our ‘low literacy’ talking book offers a low-cost, practical tool that can be readily implemented.

A larger trial would be more suitable to compare our ‘low literacy’ resource with standard patient education to identify whether improved outcomes can be attributed to the specific intervention components. However, given our

pilot testing study shows promising outcomes (e.g. knowledge and reduced anxiety) across different education groups, we are focusing our efforts on developing strategies to implement the tool in different radiation therapy departments in New South Wales, to inform a larger roll out of the intervention. We are also analysing qualitative data generated from interviews with patients, radiation therapists and nurses to explore how the tool was used in practice and adapting the talking book for the use in Indigenous Australian populations.

Conclusion

This novel pilot study tested a low literacy talking book about radiation therapy. It demonstrated clear benefits to providing patients with simplified information to take home and read before commencing treatment, increasing knowledge and reducing anxiety. Such an intervention has the potential to facilitate question-asking and provides access to clear and understandable information that can be shared with others. It is a simple, relatively inexpensive intervention likely to improve preparation for treatment. Beyond the pilot study, more research is needed to fully establish the benefits of the talking book with lower health literacy populations and other tumour groups.

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Supporting Information

Additional supporting information may be found online in the Supporting Information section at the end of the article.

Supplementary information S1 Topics presented in the talking book (Smith et al. 2019)