



BACKGROUND

Breast cancer is among the most common of cancer sites representing 3.6 million cancer survivors. Radiation treatment for breast cancer is recommended as part of a multi-modality treatment.



Patients preparing for radiation therapy have reported high information needs and anxiety. Contributing to this anxiety is a lack of knowledge or understanding of the benefits and side effects of radiotherapy, as well as fear of the radiation treatment planning process and delivery of radiation treatment. Moreover, anxiety about radiation is typically highest prior to the initial consult.

Previous educational efforts have had limitations regarding modality and timing of delivery. Most radiation educational programs are delivered after the first radiation oncology visit, thereby perpetuating anxiety until after the first visit.

Purpose: To determine the acceptability, appropriateness, and feasibility of a radiotherapy educational video delivered to patients with breast cancer DURING the radiation therapy consultation visit.

METHODS

This study was a single arm interventional, pre- and post-test design.

Patients were recruited from the University of Florida Health Proton Therapy Institute (UFHPTI) and University of Florida Radiation Oncology Department, in Jacksonville, Florida.

Feasibility was measured using Acceptability of Intervention Measure (AIM), Intervention Appropriateness Measure (IAM), Feasibility of Intervention Measure (FIM).

Preliminary outcomes measured patient reported anxiety, distress, and radiation concerns using the RT Concerns Needs Scale, PROMIS Emotional Anxiety Scale, and Distress Thermometer.

Study Participants

DEMOGRAPHICS (n=20 females)	N (%)
Race (all non-Hispanic)	
White	10 (50%)
Black, Other	10 (50%)
Age at appointment	
≤ 50	6 (30%)
50-59	3 (15%)
60 +	11 (55%)
Type of appointment	
Consult	13 (65%)
Re-Evaluation	7 (35%)
Cancer Stage at appointment	
0 - I (DCIS)	9 (45%)
II - III	11 (55%)
Surgery Type	
Biopsy only	8 (40%)
Lumpectomy	7 (35%)
Unilateral mastectomy	5 (25%)
Previous Systemic Therapy	
None	7 (35%)
Chemotherapy	8 (40%)
Endocrine Therapy	4 (20%)
Both	1 (5%)
History of Anxiety/Depression	
Anxiety	6 (30%)
Depression	1 (5%)
Both	1 (5%)
Neither	12 (60%)

Video Intervention

- Created using video creator program Powtoon (<https://www.powtoon.com>) and the voice over program Audacity® (Audacity Team, 2019).
- Lasted 7.5 minutes and developed at the 7th grade level according to Flesch-Kincaide Grade Level Readability Test.
- The 5 questions were informed by literature, previous first author qualitative study, and professional experiences of two authors.



RESULTS

Feasibility Outcomes

- All patients approached enrolled in the study.
- Both radiation oncologists scored the AIM, IAM, and FIM with the greatest score of 20.
- Physicians commented on an increase of baseline knowledge of radiation therapy for each participant.
- Showing the video did not lengthen the consultation visit.
- Patients reported very high levels of satisfaction with the design and content contained in the video:

"Spoken in terms I could understand. Real life photos."

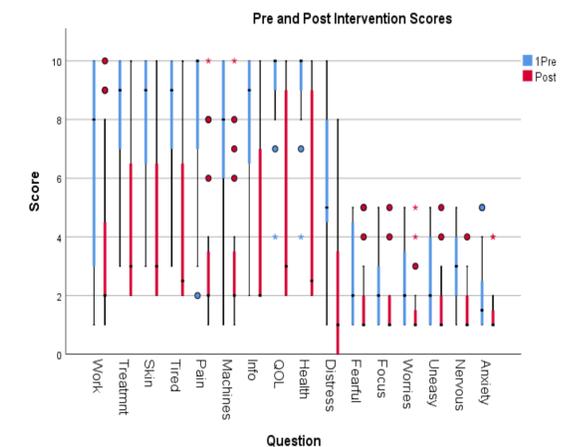
"Gave some information I didn't know beforehand."

"The video was very informative; it left no questions unanswered."

- One minor technical issue occurred related to internet connectivity.
- All participants viewed the entire video.
- Three participants stated more information was needed regarding radiation therapy side effects:
 - "Some visual aides (like picture of a patient before, after & during treatment)."*
 - "Pictures of body before and after treatment."*
- Recruitment and retention goals were met, and the study was implemented as designed.

Patient Reported Outcomes

	Pre-intervention (n=20)	Post-intervention (n=20)	Difference in Means	95% Confidence Interval
RT Concerns Needs Scale				
Total Score	64.2 ± 15.7 68, 18-81	28 ± 24 12, 8-76	36.2 ± 23.5	25.2; 47
Distress Thermometer				
Total Score	5.6 ± 2.7 5, 1-10*	2.3 ± 2.5 1, 0-8	3.3 ± 3.3	1.7; 4.8
PROMIS Emotional Distress-Anxiety Short Form 6a				
Total Score	57.2 ± 12.4 56, 39-82	47.7 ± 11.5 39, 39-74	9.5 ± 4.8	7.4; 11.6



PROMIS Anxiety:

- Greatest difference in mean scores: "I felt nervous" (1.2 ± 1.3, 95% CI 0.6; 1.8).
- Least difference in mean scores: "I felt like I needed help for my anxiety" (0.6 ± 0.8, 95% CI 0.2; 0.9).

RT Concerns:

- Greatest difference in mean scores: "The possibility of experiencing pain as a result of treatment" (5.0 ± 3.0, 95% CI 3.5; 6.4).
- Least difference in mean scores was "Maintaining work activity during treatment" (2.8 ± 3.1, 95% CI 1.3; 4.3).

DISCUSSION/CONCLUSION

The decrease in total mean scores suggests the video may have a positive effect on reducing patient distress, anxiety, and radiation concerns. Next steps would include a randomized controlled trial to adequately determine video effectiveness.