

FUNCTIONAL DECLINE AND RESILIENCE IN OLDER ADULTS OVER THE AGE OF 70 RECEIVING RADIOTHERAPY FOR BREAST CANCER: A PILOT STUDY

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Background

- Radiotherapy (RT) as an adjuvant, post-lumpectomy treatment has been shown to improve local control and survival in people with breast cancer
- While adverse events because of cancer treatments are common, many older adults have demonstrated the ability to return to their baseline levels of physical functioning
- There are limited reports on the functional decline and recovery of older patients undergoing RT
- Older age is defined 70 or more years old

Objective

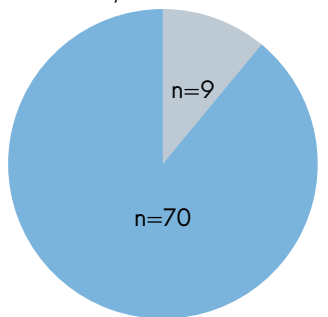
To investigate physical function at various time points during RT in people with breast cancer over age 70 and their ability to recover post-decline

Results

Table 1: EORTC QLQ-C30 Physical Function Scores at Various Time Points

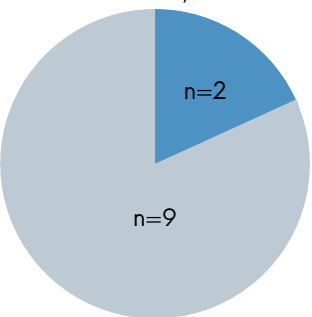
Time Point	Mean	Std Dev	Median	Min	Max	N
Baseline	82.22	20.15	86.67	13.33	100	78
Last RT	84.68	19.90	93.33	13.33	100	67
6-month	84.89	20.09	93.33	26.67	100	60

Figure 1: Frequency of Post-RT Decline in Physical Function



Experienced post-RT decline in physical function
Did not experience post-RT decline in physical function

Figure 2: Frequency of Resilience Following Post-RT Decline in Physical Function



Displayed resilience following post-RT decline in physical function
Did not display resilience within 6 months following post-RT decline in physical function

- Nine patients (11%) **experienced physical decline** following their last RT (Figure 1)
- Two of the patients who experienced decline (22%) **displayed resilience** within six months (Figure 2)
- No demographic or symptom variables were significantly associated with functional decline from the baseline to post-RT, nor with resilience
- Nausea, pain, and diarrhea post-RT were associated with functional decline at six months post-RT ($P = 0.0185$, $P = 0.0449$, $P = 0.0007$, respectively)
- Nausea and diarrhea at baseline were associated with resistance to decline ($P = 0.0055$, $P = 0.019$, respectively)
- Nausea and diarrhea at baseline were associated with decline at the six-month follow-up ($P \leq 0.0001$, $P = 0.0235$, respectively)

Table 2: Symptoms Assessed Using the EORTC QLQ-C30

Symptoms Assessed (Scale: 0–100)	Mean Score (Standard deviation)
Fatigue	26.64 (23.03)
Nausea	3.42 (9.82)
Pain	20.09 (24.52)
Dyspnoea	10.68 (19.73)
Insomnia	31.2 (34.54)
Appetite	10.68 (22.47)
Constipation	14.72 (26.76)
Diarrhea	5.19 (15.36)
Financial status	4.71 (14.93)

Methodology

- Participants completed the EORTC QLQ-C30 quality of life questionnaire before their first RT, after their final RT, and at three- and six-months post-RT to assess changes in physical function
- Demographic information was collected (right)
- A higher score was indicative of poorer physical function

Demographic Factors Collected

- | | |
|------------------------------|--|
| • Age | • Diagnosis |
| • Ethnicity | • Boost (past or present) |
| • Marital status | • Chemotherapy status (past or presence) |
| • Employment status | • Trastuzumab (past or presence) |
| • Highest education achieved | • Number of medications currently taken |
| • Surgery type | |
| • Hormonal treatment | |
| • Radiotherapy dose | |

Definitions

Physical decline: 10+ point increase in EORTC QLQ-C30 score from baseline to the last RT

Resilience: return to <10 points from the baseline score within six months post-RT

Resistance: post-RT change from the baseline score by fewer than 10 points

Conclusions

- Future research is warranted to better understand functional decline and resilience in this patient population, including:
 - Larger sample size
 - Longer follow-up period
 - Incorporation of geriatric assessment prior to RT
- This study identified risk factors for decline, such as nausea and diarrhea

Acknowledgements

We thank the help of Irene Karam, Danny Vesprini, Eileen Rakovitch, Eric Leung, Hany Soliman, Gregory Czarnota, Edward Chow, and all the nurses in the review clinics at the Odette Cancer Centre.

