

TRANSFORMING HOME-BASED CANCER CARE: COLLABORATIVE VIRTUAL REALITY FOR AYA'S AND THEIR CAREGIVERS A QUALITATIVE FOCUS GROUP STUDY

AUTHORS

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INTRODUCTION

Adolescents and Young Adults (AYAs) with cancer face unique psychosocial and emotional challenges, particularly during home-based treatment. Feelings of isolation, anxiety, and disrupted routines are common, while caregivers often experience stress, emotional fatigue, and limited support.

Virtual Reality (VR) is gaining attention as a supportive care tool that can reduce distress, enhance relaxation, and promote connection. However, most existing tools are not tailored to the specific needs of AYAs or their caregivers.

This study explores how AYAs, caregivers, and healthcare professionals envision the use of VR to support well-being at home, aiming to inform the design of **personalized, accessible, and meaningful** virtual environments in cancer care.

AIMS

To explore the needs, expectations, and challenges of AYAs with cancer, their caregivers, and healthcare professionals regarding supportive care during home-based treatment. To identify how Virtual Reality (VR) environments can be designed to support emotional well-being, symptom relief, and caregiver-patient connection at home.

RESULTS



Healthcare Professionals Highlighted: social isolation, lack of structure, emotional exhaustion.

Recommended VR for **relaxation, distraction, and emotional support**.

Barriers: **technical literacy, equipment cost, integration into care**



Caregivers reported **emotional fatigue, lack of guidance, and minimal support systems**

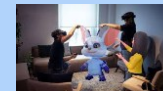
Valued VR for **stress reduction, virtual peer support, and practical caregiving education**

Concerns: **time to learn, cost, digital unfamiliarity**

AYA Patients - desire for autonomy and **escape from clinical identity**
Requested immersive environments: nature, music, creativity, meditation



Interest in shared VR spaces with peers or caregivers



METHODS

Study Design: Qualitative exploratory study using 3 focus groups and semi-structured interviews.

Participants: 7 healthcare professionals (nurses, pediatric oncology lecturers, physiotherapists), 7 caregivers (parents, siblings, family members), 7 AYAs with cancer (aged 18–39; data collection ongoing)

Analysis: Inductive thematic analysis was conducted to identify cross-cutting themes.

Audio-recorded discussions were transcribed and coded. Ethical approvals were obtained from two relevant ethics committees.

NEXT STEPS

A pilot randomized controlled trial (RCT) will be conducted to evaluate the feasibility, acceptability, and preliminary impact of the co-designed VR intervention on AYA well-being and caregiver support. Participants will use VR headsets at home over a defined period, with outcomes focused on emotional distress, symptom burden, and user experience.

CONCLUSION

This study confirms that AYAs with cancer and their caregivers face unmet emotional, social, and practical needs during home-based care. Focus group findings indicate that VR can address these needs by offering:

Guided relaxation and stress reduction tools

Virtual social spaces to combat isolation

Interactive modules for caregiver education and support

Participants emphasized that VR must be **simple, low-cost, and emotionally relevant**.

These insights will directly inform the next phase: co-designing VR prototypes tailored to AYA and caregiver feedback for pilot testing in real-world home care settings.