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The perceptions of a home-based blood flow restriction training program during and after treatment for hepatopancreatobiliary cancer

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Purpose

Blood-flow restricted resistance training (BFR-T), which uses low loads, may reduce mechanical stress and support faster muscle recovery compared with heavy-load training. Delivered at home, it may also improve exercise accessibility for cancer survivors, yet limited research has explored their experiences. This study aimed to qualitatively examine participants' perspectives of a home-based BFR-T program, focusing on barriers and facilitators to participation and adherence, and experiences with the activity tracker and protein supplement used in the intervention.

Methods

Individual interviews were conducted with nine participants between October and November 2024. All had completed a two-armed randomized controlled trial evaluating whether BFR-T could preserve skeletal muscle mass and enhance functional capacity and mental health in patients with pancreatic, biliary tract, or liver cancer. Interviews were transcribed verbatim and analyzed using reflexive thematic analysis with an inductive approach.

Results

Three themes were developed: From uncertainty to understanding BFR-T (instructions for BFR-T, adherence to BFR-T, expectations vs experience, willingness to recommend BFR-T, cuff experiences); Feeling the change—in body and beyond (perceived effects of BFR-T and its influence on continued exercise); and Beyond the cuffs—additional components shaping engagement (home-based format, activity tracker, protein supplement).

Conclusions and Implications

Participants progressed from initial uncertainty to growing confidence and acceptance of home-based BFR-T, supported by clear instructions, increasing familiarity, and perceived physical and mental benefits. Early challenges included cuff discomfort and skepticism, while the activity tracker, protein supplement, and home-based delivery offered mixed but generally supportive value. Successful implementation should emphasize clear guidance, comfortable equipment, and flexible use of supplementary elements. With appropriate support, home-based BFR-T appears feasible, acceptable, and potentially helpful in promoting sustained exercise participation among cancer survivors.

Keywords

Blood-flow restricted resistance training, Hepatopancreatobiliary cancer, Reflexive thematic analysis, Patient experience

Conflict of Interest & Ethical Approval

yes

Abstract submitters declaration

yes

Authors: ANANDAVADIVELAN, Poorna (KI); Dr BACKMAN, Malin (Karolinska Institutet, Karolinska University Hospital); KOTTE, Melissa (Karolinska Institutet); Dr SUNDE, Berit (Karolinska Institutet, Karolinska University Hospital); Prof. RAASTAD, Truls (The Norwegian School of Sport Science); MIJWEL, Sara (Karolinska Institutet, Department of Neurobiology, Care Sciences, and Society)

Presenter: MIJWEL, Sara (Karolinska Institutet, Department of Neurobiology, Care Sciences, and Society)

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