Technology supported self-guided physical activity interventions in adults with cancer: a systematic review

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Background

• Nutrition & physical activity are important components of cancer care
• Increasing demand for health services creates a need for flexible, easily accessible and tailored models of care whilst maintaining optimal outcomes
• Aim: To describes and appraises the efficacy of technology supported self-guided nutrition and physical activity interventions for people with cancer.

Methods

• Multiple databases searched through to July 2018 for randomised and non-randomised trials
• Risk of bias assessed using Cochrane risk of bias tool

Results

• 16 randomised trials representing 2,684 participants were included
• Interventions involved physical activity alone (n= 9), diet alone (n = 1) and combined physical activity and diet (n= 6)

• Technology platforms:
  - Web-based n=9
  - App-based n=3
  - Device-based n=3
  - DVD-based n=1

• Behavioural outcomes:
  - 2 of 7 studies found significant benefit to diet quality
  - 8 of 15 studies found significant improvement in muscle strength and/or moderate to vigorous physical activity

• Clinical outcomes:
  - Inconsistent findings for weight, BMI, body composition

• Health-related outcomes:
  - 4 of 9 studies found significant improvement in health-related QoL
  - 4 of 6 studies found significant improvement in fatigue
  - No studies examined health service usage or financial outcomes

Issues

• 10 of 16 studies did not specifically recruit participants with poor diet or physical activity behaviours
• Sub-analysis in 2 studies of participants with baseline poor diet and physical activity behaviours revealed the intervention was more effective in those not meeting current guidelines

Conclusions

• Short-term benefit of technology supported self-guided interventions on physical activity behaviour and fatigue
• Some benefit in the short-term on dietary behaviour and health-related QoL
• Considerable potential of these types of interventions but currently a lack of evidence regarding long-term benefits

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Full paper: JMIR mHealth and uHealth 2019; 7(2): e12281