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Survivorship and quality of life

Characteristics and components of self-management interventions for improving quality of life in cancer survivors: a systematic review

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Part of the Ways Ahead study

Ways Ahead was funded by... THE BRAIN TUMOUR CHARITY

Self-Management

“ An individual’s ability to manage the symptoms, treatment, physical and psychological consequences and lifestyle changes inherent in living with a chronic condition”

An ideological shift in healthcare

patients as passive recipients of care

empowered partners in managing their own health

Barlow et al., 2002; Boger et al., 2015

Benefits of self-management

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In patients with chronic diseases, a range of benefits of self-management have been shown:

- reduction in disease symptoms
- improved psychological wellbeing
- improved quality-of-life (QoL)
- reduced (unnecessary) healthcare resource utilisation

Panagioti et al., 2014; Allegrante et al., 2019

Self-management in cancer

- Most survivors engage in multiple self-management behaviour(s)*
- Self-management part of cancer strategy in several countries
- Range of self-management interventions have been developed and tested in cancer survivors

Australian Government
Cancer Australia

EdCaN - learning resources for nurses

EdCaN learning resources > Supporting resources > Supporti

Promoting self-management

Cancer Care Ontario

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GUIDELINES & ADVICE

Self-Management in Cancer Toolkit

But gaps in evidence remain, which hinder wider implementation into routine care.
e.g. *which intervention characteristics and components are beneficial?*

* e.g. Dunne et al., 2017; Brown et al., 2021; Rimmer et al., 2023

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Aim: To systematically identify and review studies reporting self-management interventions in adult cancer survivors for:
(i) description of intervention characteristics and components, and
(ii) associations with quality-of-life (QoL)

Methods

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Search

- MEDLINE, EMBASE, CINAHL, PsychInfo, Cochrane CENTRAL and Scopus
- Reference lists of published reviews & eligible papers
- Consultation with topic experts

Extraction, syntheis & appraisal

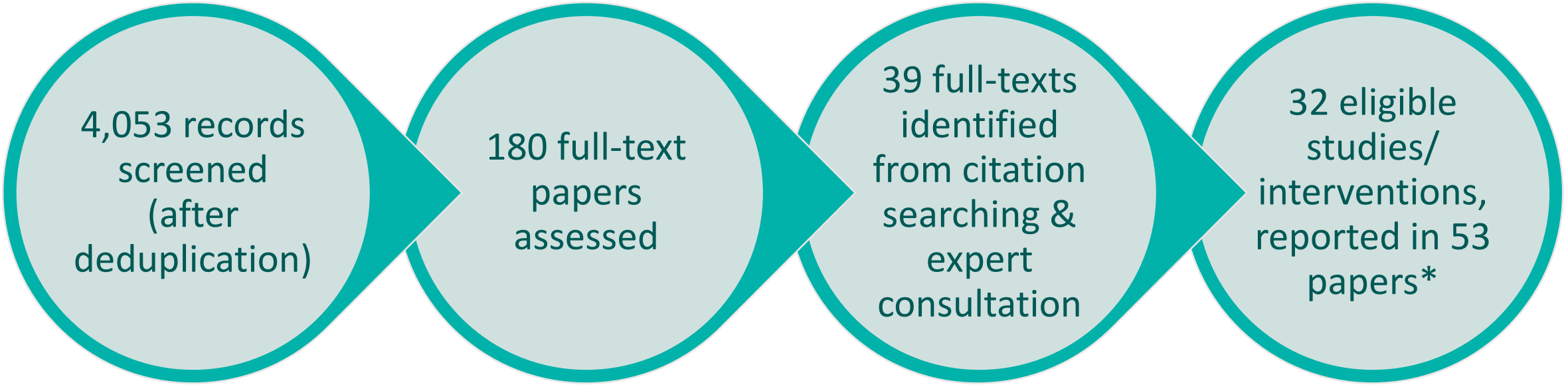
- Intervention characteristics: TIDieR framework*
- Self-management support components: PRISMS taxonomy **
- Narrative synthesis
- Quality appraisal: CASP (RCTs); JBI (before & after)

Eligibility

- Intervention described as involving self-management or building self-management skills
- Evaluated in study with comparison group (e.g. trial, before-and-after study); if trial, comparator arm must not involve self-management
- Target population must have completed hospital-based cancer treatment
- QoL reported outcome

* Hoffman et al., 2014; ** Taylor et al., 2015; Pearce et al., 2016

Search Results



* including protocol papers, intervention development papers, papers reporting different outcomes (eg health economics) or follow-up periods, etc

Summary of studies

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n=32

- **Country of study:** USA (n=10), UK (n=5), Netherlands (n=4), Republic of Korea (n=4), Australia (n=3), Iran (n=2), and one each in Belgium, Canada, Germany, Israel

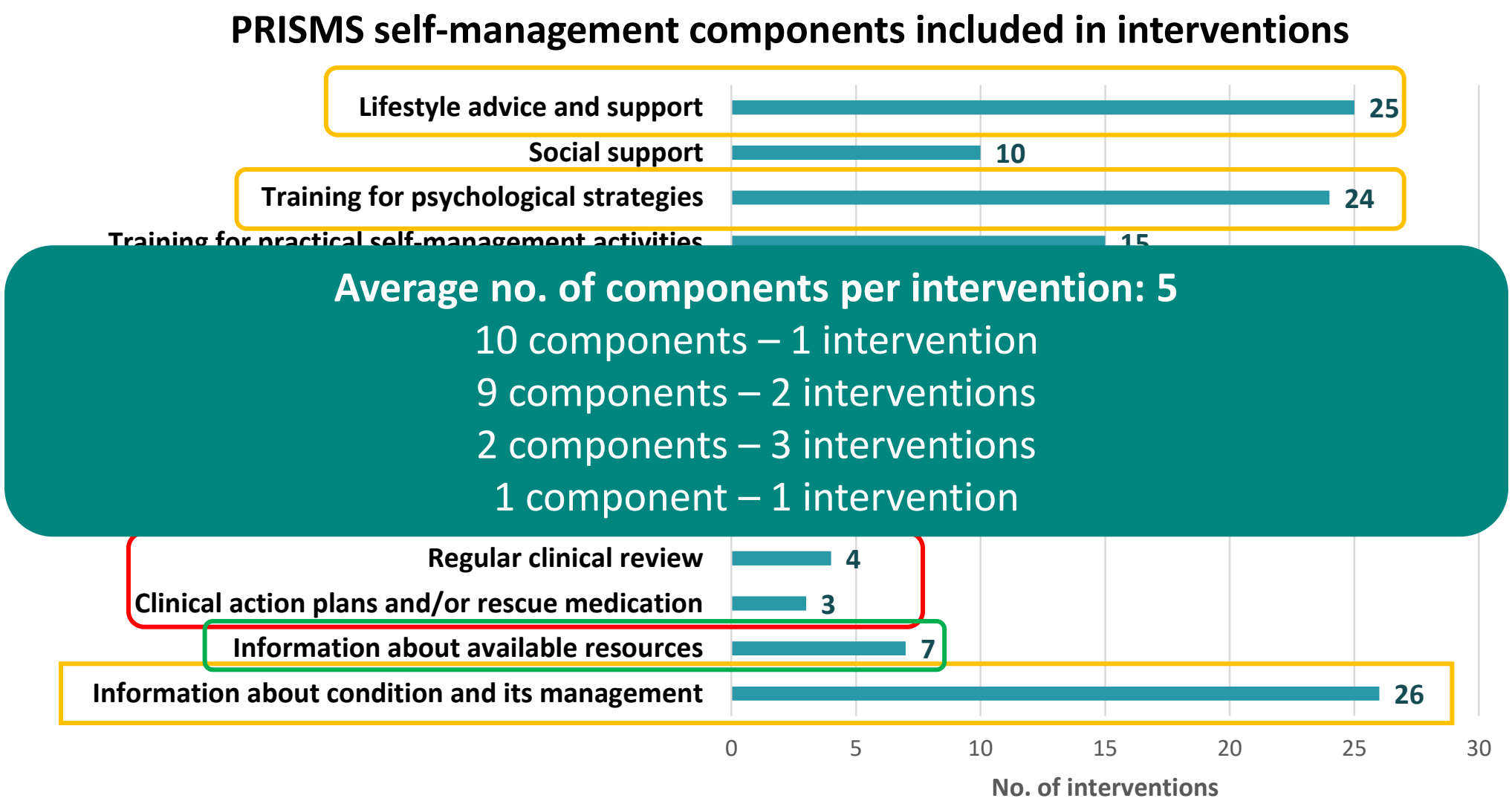
- **Cancer(s) included**: mixed cancers (n=11, though 6 had majority breast cancers), breast (n-10), prostate (n=7), head & neck (n=2), gastric (n=1), not reported (n=1)

- **Time since treatment:** 2 months -10.5 years (18 studies); not reported in remainder

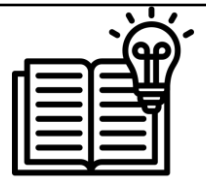
- **Design**: RCTs (n=20); historical controlled trial (n=1); prospective non-randomised trial (n=1); pre-post design (n=10). Most common external comparators were: usual care (n=10), usual care plus (n=7), wait list (n=6)

- **Sample size**: intervention group 6-320; <50 (n=18), 50-99 (n=6), 100+ (n=7), not reported (n=1)

Intervention components



Intervention characteristics



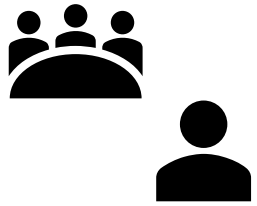
Theoretically informed: 24 interventions

How delivered:

face-to-face only: 7
face-to-face & phone: 7
face-to-face & online: 1
phone only: 4
online only: 11
unclear: 2

By whom:

health professional: 10
other professional: 6
self-administered: 11
multiple modes: 4
unclear: 1



To whom:

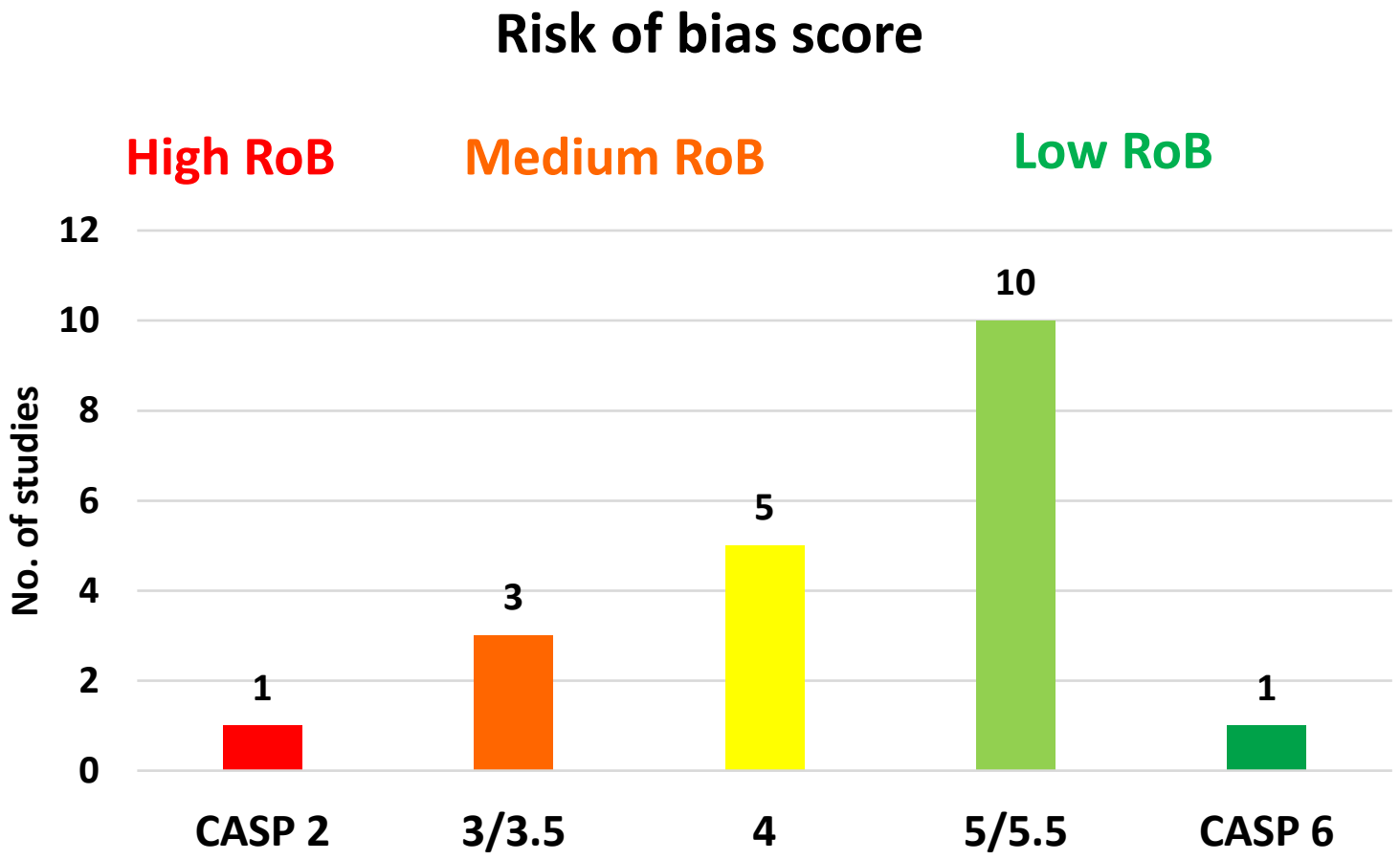
individual only: 12
group-based: 11
mix of individual & group: 8
unclear: 1

Tailoring:

Yes: 20
No/unclear: 12

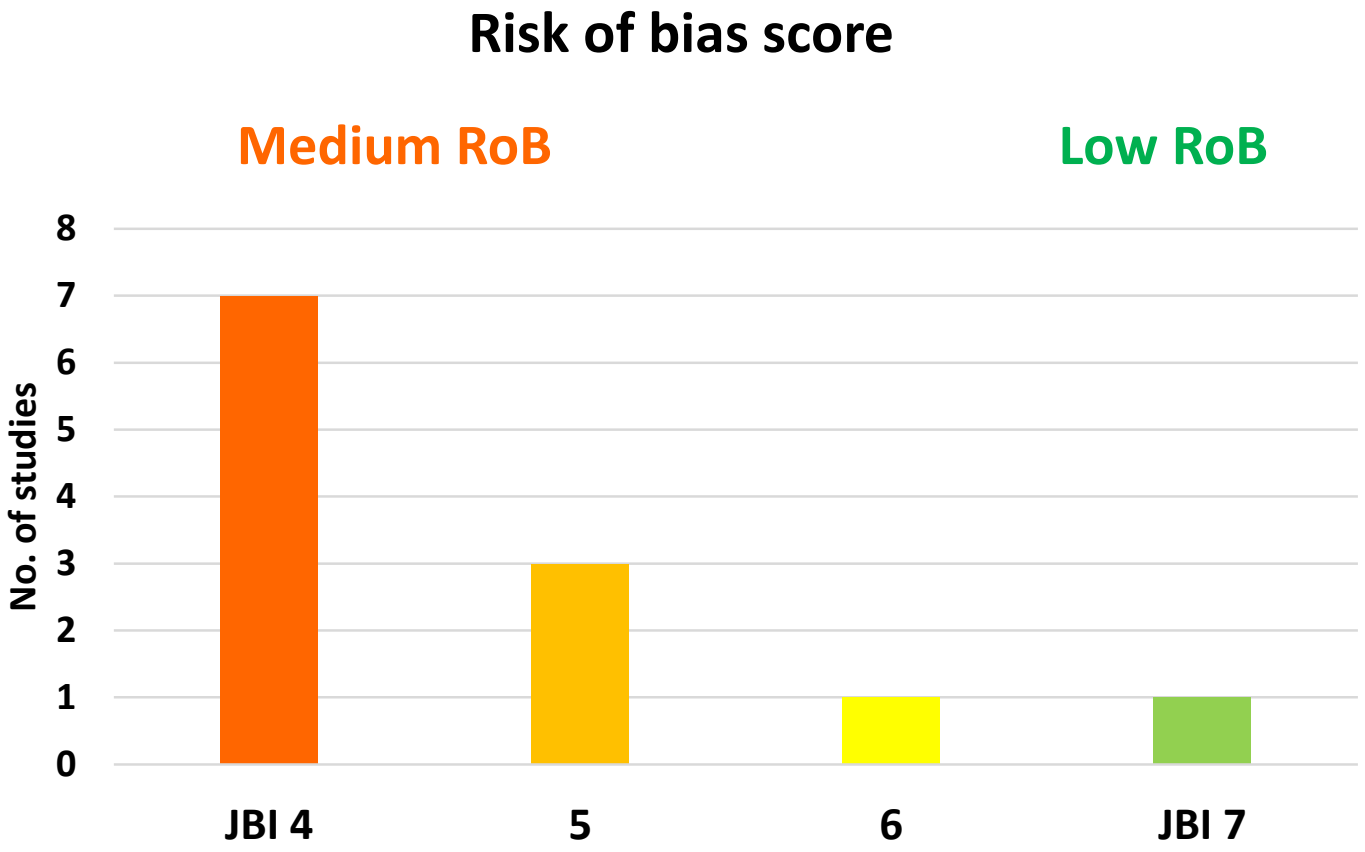
Risk of bias

- 20 RCTs were appraised using 6-item modified CASP RCT checklist



Risk of bias

- 12 non-RCTs were appraised using 9-item JBI checklist for quasi-experimental studies



Measuring QoL

- QoL was assessed in all studies; primary outcome in 8
- Most studies did not clearly state what their primary outcome was

- Measured using 20 different instruments
  - EORTC QLQ-C30 n=10 studies; FACT-G (n=15); SF-36 (n=4); EPIC-26 (n=3)
  - author designed VAS (n=2)
  - multiple instruments (n=8)

- Reported at baseline and 1-3 follow-up time points, ranging from immediately to 12 months post-intervention

Impact on QoL

- ***12 studies*** (8 with low risk of bias) with comparator groups reported ***significant between-group differences*** in QoL

- ***15 studies*** (6 with low risk of bias) reported ***significant improvements over time*** in QoL

- Overall, ***22 studies reported differences/improvements*** in QoL

- Some instruments used had minimally clinically important differences (MCIDs). ***4 of 8 studies*** which used these instruments ***found MCIDs*** in QoL. But these tended to be seen only for some QoL subscales within these studies.

Impact on self-efficacy

- Assessed in 14 studies
- Measured using variety of different instruments
- 7 studies (2 with low risk of bias) found improvement in self-efficacy from baseline (pre-intervention) to follow-up
- 5 of these studies found improvements in self-efficacy over time post-intervention
- 6 of the 7 studies that reported improved self-efficacy also reported improved QoL

Characteristics/components linked to QoL impact

Study and intervention features considered in relation to whether (or not) studies found differences/improvements in QoL

- cancer site
- study design
- TIDieR characteristi
  - int ow, mode of delivery, location, tailoring, type of delivery
- PRISMS components
  - individual components, number of components included

In general, very few clear patterns were seen

Perhaps linked to QoL improvements……

How intervention delivered

- combination of individual & group delivery: 8/8 studies reported improved QoL
- delivered to individuals alone: 12/20 studies reported improved QoL

Practical support with adherence: 9/10 studies reported improved QoL

Economic outcomes

Assessed in 9 studies

Health service resource use

- 2 studies reported fewer hospital visits in intervention group*
- 1 reported shorter duration of hospitalisation**

Cost-utility analysis: assessed in 2 studies

GRHTA
eISSN 2283-5733
Glob Reg Health Technol Assess 2017; 4(1): e165-e174
DOI: 10.5301/grhta.5000269
ORIGINAL RESEARCH ARTICLE

Including health economic analysis in pilot studies: lessons learned from a cost-utility analysis within the PROSPECTIV pilot study

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- PROSPECTIV – intervention in men with prostate cancer
- Cost-effectiveness inconclusive

Journal of Cancer Survivorship (2021) 15:77–86
https://doi.org/10.1007/s11764-020-00912-9

Cost-utility of an eHealth application 'Oncokompas' that supports cancer survivors in self-management: results of a randomised controlled trial

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- Oncokompas – intervention for survivors with range of cancer
- 47% probability that it is more effective and less costly than usual care

* Ahn et al., 2013; Burns et al., 2017; ** Schmidt et al., 2017

Summary

- Self-management support interventions show promise for improving cancer survivors' QoL post-treatment

BUT……..

- Study quality is variable (e.g. design, sample size, risk of bias)
- There is substantial heterogeneity in characteristics and components used (and, often times, poor reporting); this means it's impossible to determine (with confidence) which intervention components or characteristics are associated with effectiveness
- Insufficient knowledge of economic consequences/cost-effectiveness

Take home messages

1. Self-management interventions are hard to systematically identify. Researchers should clearly describe their interventions as being self-management.
2. Most of the evidence still relates to breast cancer in women in high income settings. We need to investigate effectiveness of self-management interventions in other cancers and other settings.
3. We need larger, higher quality studies, in all settings.
4. We need to better describe our interventions and their content/active ingredients, when reporting (to enable replication).
5. Some supported self-management components have been little investigated (e.g. information about available resources). Future interventions might consider these.
6. Health economic evaluation of self-management interventions should be routine. Absence of this data likely hinders implementation.

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Thank you

Ben Rimmer[1], Morven Brown[1], Tumi Sotire[1], Fiona Beyer[1], Iakov Bolnykh[1], Michelle Balla[1], Lizzie Dutton[1], Sophie Williams[2], Vera Araújo-Soares[3], Tracy Finch[4], Pamela Gallagher[5], Joanne Lewis[2], Richéal Burns[6], Linda Sharp[1]

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