A systematic review and metaethnography to identify how effective, cost-effective, accessible and acceptable self-management support interventions are for men with long-term conditions (SELF-MAN)

Paul Galdas,[1]* Zoe Darwin,[2] Jennifer Fell,[1] Lisa Kidd,[3] Peter Bower,[4] Christian Blickem,[5] Kerri McPherson,[3] Kate Hunt,[6] Simon Gilbody[1] and Gerry Richardson[7]

[1]Department of Health Sciences, University of York, York, UK
[2]School of Healthcare, Faculty of Medicine, University of Leeds, Leeds, UK
[3]School of Health and Life Sciences/Institute for Applied Health Research, Glasgow Caledonian University, Glasgow, UK
[4]National Institute for Health Research School for Primary Care Research, Manchester Academic Health Science Centre, University of Manchester, Manchester, UK
[5]National Institute for Health Research Collaboration for Leadership in Applied Health Research and Care (CLAHRC) Greater Manchester, Centre for Primary Care, Institute of Population Health, University of Manchester, Manchester, UK
[6]Medical Research Council/Chief Scientist Office Social and Public Health Sciences Unit, University of Glasgow, Glasgow, UK
[7]Centre for Health Economics, University of York, York, UK

*Corresponding author

Declared competing interests of authors: none

Disclaimer: This report contains language that may offend some readers.

Published August 2015
DOI: 10.3310/hsdr03340

Scientific summary

Self-management support interventions for men

Health Services and Delivery Research 2015; Vol. 3: No. 34
DOI: 10.3310/hsdr03340

NIHR Journals Library www.journalslibrary.nihr.ac.uk

Scientific summary

Background

Improving the treatment and management of long-term conditions (LTCs) is currently one of the most significant challenges facing the NHS. Self-management support interventions – those designed to help develop the abilities of patients to undertake management of LTCs through education, training or support to develop patient knowledge, skills or psychological and social resources – have the potential to improve health outcomes, help patients make better use of available health care support, and avoid interventions that are burdensome for patients and their families or carers, and inefficient for the NHS.

Despite a developing evidence base, the impact of self-management support interventions is limited by the numbers of patients able or willing to access and engage with them. Men's attendance at existing support services is suboptimal despite their increased risk of developing the most serious and disabling LTCs. Major knowledge gaps remain, especially around 'what works, for whom, and why?'

Men's increased risk of serious and disabling LTCs, combined with their poorer knowledge and awareness of health, have led to calls for interventions to be specifically tailored and targeted at men. However, existing data on self-management support cannot justify evidence-based decisions specifically around commissioning and designing services to meet the specific needs of men with LTCs.

Objectives

To assess the effectiveness, cost-effectiveness, accessibility and acceptability of self-management support interventions in men with LTCs.

Methods

Two parallel reviews were conducted: (1) a quantitative systematic review with meta-analysis (PROSPERO database registration number: CRD42013005394); and (2) a qualitative metaethnography.

Quantitative review

Screening criteria

The systematic review used the following inclusion criteria:

- *Population and setting*: adults, 18 years of age or older, diagnosed with a LTC. We limited the review to studies of patients with 14 'exemplar' LTCs: asthma, diabetes, depression, hypertension, heart failure, chronic obstructive pulmonary disease (COPD), arthritis, chronic kidney disease, chronic pain, human immunodeficiency virus (HIV), testicular cancer, prostate cancer, prostate hyperplasia and chronic skin conditions. Inclusion was unrestricted by setting, with the exception of studies including inpatients with depression, which were excluded. Studies including patients with multimorbidity were considered.
- *Intervention*: a self-management support intervention, defined as one primarily aimed at helping people with LTCs to develop their abilities to undertake management of health conditions through education, training or support to help develop patient knowledge, skills or psychological and social resources.
- *Comparison*: usual care or any other intervention.
- *Outcomes*: effectiveness and cost-effectiveness.
- *Study design*: randomised controlled trials (RCTs).

Data sources

A comprehensive search of the Cochrane Database of Systematic Reviews was conducted, using a strategy developed in conjunction with an information specialist from the Centre for Reviews and Dissemination, University of York.

Study selection

Relevant Cochrane systematic reviews of self-management interventions were identified and screened to identify individual RCTs of self-management support interventions (as defined above) that were conducted in men alone, or that analysed the effectiveness of interventions by sex.

Study characteristics

A total of 116 relevant Cochrane reviews of self-management interventions were identified. Screening of these reviews resulted in the inclusion of 40 RCTs on self-management support interventions conducted in male-only samples, and 20 RCTs where an effect of sex had been reported for intervention and control groups.

The majority of male-only studies were conducted in the USA ($n = 23$), with the remainder conducted in the UK ($n = 6$), Canada ($n = 5$), Spain ($n = 3$), Sweden ($n = 1$), Poland ($n = 1$) and Greece ($n = 1$). Males with prostate cancer were the most frequently studied male-only population ($n = 15$) included in the review. Other disease areas included hypertension ($n = 6$), COPD ($n = 6$), heart failure ($n = 4$), type 2 diabetes ($n = 3$), diabetes of unspecified type ($n = 1$), arthritis ($n = 1$) and testicular cancer ($n = 1$).

A total of 51 distinct self-management support interventions were reported across the 40 male-only studies. Physical activity ($n = 16$), education ($n = 36$), peer support ($n = 17$) and health-care professional (HCP) monitoring and feedback ($n = 25$) were the most frequently reported components of these interventions. Three interventions with a psychological component, two interventions containing a financial incentive component and one study containing an action plan component were also identified.

Data extraction and quality assessment

Data were extracted on study and population characteristics, intervention details (setting, duration, frequency, individual/group, type of professional providing support) and outcome measures (health status, clinical measures, health behaviour, health-care use, self-efficacy, knowledge and understanding, communication with HCPs). Items for economic evaluations (hospital admission, service use, health-related quality of life, incremental cost-effectiveness ratios) were also extracted.

Quality appraisal was conducted independently by two reviewers using the Cochrane risk of bias tool, and disagreements were resolved through discussion. Additional quality assessment criteria were used to appraise studies which analysed the effects of interventions by sex.

Data synthesis

Meta-analysis was conducted using four approaches:

- 'within-Cochrane review analysis' comparing male, female and mixed-sex groups within interventions included in a single Cochrane review
- 'across-Cochrane review analysis' comparing male, female and mixed-sex groups pooled across Cochrane reviews by intervention type
- 'male-only intervention type analysis' comparing the effects of intervention components to determine if certain components are effective in men
- 'within-trial sex group analysis' comparing the effects of interventions on males and females within individual trials.

Data were presented as a standardised mean difference (SMD) using a random-effects model.

Qualitative review

Data sources

The databases Cumulative Index to Nursing and Allied Health Literature, EMBASE, Medical Literature Analysis and Retrieval System Online, PsycINFO and Social Science Citation Index were searched in July 2013 using an electronic strategy developed in conjunction with an information specialist from the Centre for Reviews and Dissemination that sought to identify all available studies from inception to July 2013. The electronic search was complemented by checking for any additional relevant articles from reference lists.

Screening criteria and study selection

Studies that explored the experiences or perceptions of interventions/activities aimed at supporting self-management in men with LTCs, or provided a clear and explicit comparison between men and women with LTCs, were included in the review. Studies which focused on self-management experiences and needs of people with LTCs more generally (i.e. did not consider a support intervention or activity) were excluded.

Titles/abstracts were initially screened by one reviewer. All articles identified as potentially relevant were obtained in full text. Attempts were also made to identify and obtain unpublished literature that was otherwise eligible, for example doctoral theses or conference proceedings.

The full-text literature was screened independently by two reviewers. The approach to screening was inclusive; for example, studies were still retained where the qualitative findings were limited, as were mixed-sex studies with limited findings on gender comparisons.

Quality assessment

Quality appraisal was conducted independently by two reviewers using the Critical Appraisal Skills Programme (CASP) tool, and aimed to provide descriptive information on the quality of included studies rather than a basis for inclusion. The CASP tool was modified to incorporate additional questions, informed by other metaethnography studies, to facilitate a more detailed summary of the main methodological strengths and limitations of each study.

Study characteristics

The electronic search strategy identified 6330 unique references. Screening based on titles/abstracts identified 149 articles for full-text screening. Dual screening of these full-text articles identified 34 studies (reported in 38 articles) to be included in the review. An additional four studies were identified through the checking of reference lists, giving a total of 38 studies (reported in 44 articles) which were included in the final review. Twenty-six of the studies comprised male-only samples; 12 studies were of mixed-sex samples and included explicit comparisons between men and women.

The majority of the studies were conducted in the USA ($n = 13$ studies) and the UK ($n = 11$), with the remainder in Australia ($n = 5$) and Canada ($n = 5$) and one each in Denmark, France, South Africa and Sweden.

The most common disease area was cancer ($n = 22$), followed by HIV/acquired immunodeficiency syndrome ($n = 7$), myocardial infarction ($n = 2$), coronary artery disease ($n = 1$), heart failure ($n = 1$), depression ($n = 1$), depression/anxiety ($n = 1$), arthritis ($n = 1$), type 2 diabetes ($n = 1$) and multiple sclerosis ($n = 1$).

Data extraction

All study details (including aim, participant details, methodology, method of data collection and analysis) were extracted by a single reviewer and checked by a second reviewer. Participant quotes and participant observations (first-order constructs) and study authors' themes/concepts and interpretations (second-order constructs) were extracted from each individual study and imported into NVivo version 10 (QSR International, Warrington, UK).

Data synthesis

Data were synthesised using a metaethnography approach. Members of the research team independently derived third-order interpretations/constructs from the extracted data. A lead reviewer then integrated these interpretations to generate a 'line-of-argument' synthesis which captured both similarities and contradictions evident in the data in one overarching interpretation. Interpretations were discussed in depth with the team and a patient and public involvement group.

Public and patient involvement

The research team worked with a specially constituted public and patient advisory group comprising men living with one or more LTC who were involved in either running or attending a LTC support group in the north of England. The overarching aims of the group were to help ensure that the review findings spoke to the self-management needs and priorities of men with LTCs; and ensure the development of appropriate outputs that would have benefit and relevance for service users.

Results

Results from quantitative review

On effectiveness, the evidence is limited, and there was no consistent finding of differential effects to make a definitive statement about whether males show larger, similar or smaller effects in self-management support interventions than females.

We found some evidence to suggest that multicomponent interventions that include physical activity, education or peer support have a positive impact on quality of life in men. Self-management support interventions with a peer support component [SMD –0.24, 95% confidence interval (CI) –0.45 to –0.04], and those *without* an education component (SMD –0.83, 95% CI –1.43 to –0.23), had a significant positive impact on *depression outcomes* in men.

On comparative impact in men, we found some evidence to suggest that interventions with physical activity (SMD 0.54, 95% CI 0.02 to 1.03), education (SMD 0.36, 95% CI 0.06 to 0.67) or peer support (SMD 0.23, 95% CI 0.04 to 0.43) were particularly beneficial for improving quality of life in men compared with women or mixed-sex groups, although there was insufficient robust evidence to draw definitive conclusions in this regard.

We were unable to assess if self-management interventions are cost-effective for males, or if sex affects cost-effectiveness, for lack of evidence. Data on the effect of sex reported in individual trials were considerably limited in relevance to the main analysis and contributed little to the main review findings.

Results from qualitative review

Four interconnected concepts associated with men's experience of, and perceptions of, self-management support were identified: (1) need for purpose; (2) trusted environments; (3) value of peers; and (4) becoming an expert. The 'line-of-argument' synthesis comprising these concepts indicated that men may feel less comfortable participating in support interventions or activities if they are perceived to be incongruous with their identity, and particularly when support is perceived to transgress masculine ideals associated with independence, strength and control. Men may find self-management support interventions more attractive when they are perceived as having a clear purpose, are action-oriented and offer personally meaningful information and practical strategies that can be integrated into daily life.

To overcome barriers to access and be fully engaged with interventions, the metaethnography suggested that some men may need self-management support to be delivered in an environment that offers a sense of shared understanding, connectedness and normality, and involves and/or is facilitated by those considered to be 'peers'.

Implications for health-care practice and service delivery

- Self-management support is likely to be more accessible and acceptable to men when it takes account of valued aspects of masculine identities.
  Findings from the review echo recommendations for support to be tailored to individual preferences and lifestyles; for men with LTCs, this is likely to involve consideration of their masculine identities. Health professionals and service commissioners might usefully consult with male service users about how to make existing support interventions more appealing to, and congruent with, men's identities. Gender-sensitising self-management support in context (e.g. delivered in a trusted environment among peers), content (e.g. action-orientated), delivery style (e.g. a problem-solving/practical approach) and marketing (e.g. emphasis on purpose/tangible results) may yield benefits. However, health professionals need to recognise that men are not a homogeneous group and that there is unlikely to be a 'one-size-fits-all' approach that meets the requirements of all men.
- Gender appears to have an impact on the effectiveness of self-management support.
  Limitations in the data meant that we were unable to provide a definitive answer to the review questions relating to effectiveness. However, health professionals and those involved in designing interventions may wish to consider whether or not certain components and intervention-types are particularly effective in men. Evidence of effects on quality of life point towards men benefiting the most from interventions which incorporate a physical activity, education or peer support component, although more research is needed to fully determine and explore this.

Recommendations for research

- Understanding what interventions work in men and why.
  Further primary research is needed to examine which models of service delivery are most effective and cost-effective in providing self-management support to men (and women). Our review findings point towards some key 'active ingredients' that may determine success in promoting self-management in men. Further qualitative research is also needed to test emerging theory and develop our understanding of what makes interventions, and their 'active ingredients', accessible and acceptable for men with LTCs.
- Including gender in the analysis of effectiveness of self-management support.
  Our ability to conduct analyses of effectiveness was limited by a lack of consideration and/or poor reporting of gender as a moderator of outcome data in primary studies. Few studies provided outcome data separately for men and women. There is a need for researchers to consistently consider gender in their analyses and provide consistent and comprehensive reporting of outcomes by gender.
- Clear and consistent reporting of components of self-management interventions.
  Support interventions need to be clearly and consistently described by researchers using a shared language. It is suggested that researchers should clearly report on whether or not an intervention was intended to target a specific behaviour change and report adequate detail to allow for coding with the behaviour change techniques taxonomy, where applicable.
- Consideration of the cost-effectiveness of self-management interventions for men.
  Where funding is awarded for evaluation of self-management interventions, it is suggested that researchers should consider the inclusion of gender as a prespecified group analysis for the economic evaluation.
- Consideration of men of differing age, ethnicity and socioeconomic background.
  The self-management experiences and perceptions of men of differing age, ethnicity and socioeconomic background need to be explored. Men are a heterogeneous group, yet consideration of how these factors intersect with men's gender identities is rarely a focus of empirical research.
- Understanding depression in men with LTCs.
  Depression is a prevalent comorbidity among those living with a chronic physical condition, and the need for screening is recognised in current best-practice guidelines. However, depression as a comorbidity was recognised in only one study included in our qualitative review. Further primary research is indicated to explore this under-recognised comorbidity in men with LTCs.

Trial registration

This study is registered as PROSPERO CRD42013005394.

Funding

This project was funded by the Health Services and Delivery Research programme of the National Institute for Health Research.

Health Services and Delivery Research

ISSN 2050-4349 (Print)

ISSN 2050-4357 (Online)

This journal is a member of and subscribes to the principles of the Committee on Publication Ethics (COPE) (www.publicationethics.org/).

Editorial contact: nihredit@southampton.ac.uk

The full HS&DR archive is freely available to view online at www.journalslibrary.nihr.ac.uk/hsdr. Print-on-demand copies can be purchased from the report pages of the NIHR Journals Library website: www.journalslibrary.nihr.ac.uk

Criteria for inclusion in the *Health Services and Delivery Research* journal

Reports are published in *Health Services and Delivery Research* (HS&DR) if (1) they have resulted from work for the HS&DR programme or programmes which preceded the HS&DR programme, and (2) they are of a sufficiently high scientific quality as assessed by the reviewers and editors.

HS&DR programme

The Health Services and Delivery Research (HS&DR) programme, part of the National Institute for Health Research (NIHR), was established to fund a broad range of research. It combines the strengths and contributions of two previous NIHR research programmes: the Health Services Research (HSR) programme and the Service Delivery and Organisation (SDO) programme, which were merged in January 2012.

The HS&DR programme aims to produce rigorous and relevant evidence on the quality, access and organisation of health services including costs and outcomes, as well as research on implementation. The programme will enhance the strategic focus on research that matters to the NHS and is keen to support ambitious evaluative research to improve health services.

For more information about the HS&DR programme please visit the website: http://www.nets.nihr.ac.uk/programmes/hsdr

This report

The research reported in this issue of the journal was funded by the HS&DR programme or one of its preceding programmes as project number 12/5001/14. The contractual start date was in June 2013. The final report began editorial review in June 2014 and was accepted for publication in December 2014. The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The HS&DR editors and production house have tried to ensure the accuracy of the authors' report and would like to thank the reviewers for their constructive comments on the final report document. However, they do not accept liability for damages or losses arising from material published in this report.

This report presents independent research funded by the National Institute for Health Research (NIHR). The views and opinions expressed by authors in this publication are those of the authors and do not necessarily reflect those of the NHS, the NIHR, NETSCC, the HS&DR programme or the Department of Health. If there are verbatim quotations included in this publication the views and opinions expressed by the interviewees are those of the interviewees and do not necessarily reflect those of the authors, those of the NHS, the NIHR, NETSCC, the HS&DR programme or the Department of Health.

Published by the NIHR Journals Library (www.journalslibrary.nihr.ac.uk), produced by Prepress Projects Ltd, Perth, Scotland (www.prepress-projects.co.uk).