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Review article

Promoting men's knowledge of cancer risk reduction: A systematic review of interventions

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ABSTRACT

Objective: To critically appraise and discuss evidence from interventions designed to increase men's knowledge about cancer risk reduction.
Methods: A systematic review was conducted. Six electronic databases were searched for interventions published between January 1st 2006 and May 30th 2016 in English. Studies were included if they used an experimental design, included adult males (≥18 years), and had a primary focus on the acquisition and utilisation of information on cancer risk reduction. The methodological quality of the included studies was appraised.
Results: A total of 25 studies met the inclusion criteria, 23 of which involved prostate cancer risk reduction. Twenty-one studies reported knowledge gain among the men. Three studies found that knowledge gain was associated with health literacy.
Conclusions: Interventions aiming to improve men's knowledge about cancer risk reduction require a multimodal approach. Findings highlight the need to design and measure the impact of interventions for men on wider cancer risk reduction topics, while accounting for different socio-demographic and ethnic groups, literacy and health literacy levels.
Practice implications: More research is warranted into the development and evaluation of theoretically-driven multimodal community-based approaches to information dissemination for men taking into account their daily information spheres such as workplaces and community environs.

Contents

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1. Introduction

Cancer incidence and mortality among men is higher than women for non-gender specific cancers [1–6]. In 2012, the estimated incidence rates were almost one quarter higher among men than women [7]. Cancer accounts for 33% of deaths among men compared to approximately 20% among women [7,8]. Reasons for these trends are not fully understood [3]. Inequities in population health status are related to inequalities in absolute income and social status, often referred to as the social gradient in health. Notably, the social gradient in health is linked to worsened health outcomes, especially among men in lower socio-economic groups [9]. Social determinants of cancer risk among men include socio-economic status, educational attainment, living, and working conditions. [3,4,7,10].

Two in 5 cancer deaths in men, compared to just over 1 in 4 cancer deaths in women, can be attributed to potentially modifiable risk factors such as lifestyle factors and less frequent health services use [11]. More than one third of the cancer burden could be reduced by modifying key lifestyle risk factors such as tobacco use, obesity, unhealthy diet, inadequate physical inactivity, alcohol consumption, and exposure to infections [11,12], in addition to adhering to the "European Code Against Cancer" recommendations [13]. Men's higher cancer incidence and mortality are also influenced by poor cancer awareness, lower screening uptake, delays in seeking health information, and lower healthcare utilisation [1,10,14–18].

Improving knowledge about cancer risk reduction is a key aim of public health campaigns, including those from the World Health Organisation, Cancer Research UK, and the Irish Cancer Society [19–21]. However, men are less likely to engage with information than women [22,23]. Our aim was to systematically review the effectiveness of interventions designed to increase knowledge about cancer risk reduction among men. To our knowledge, this is the first systematic review on this theme.

2. Methods

2.1. Data sources and searches

The Cochrane Handbook for Systematic Reviews was used as the methodological framework to guide the systematic review [24]. MEDLINE, CINAHL, PsycINFO, PsycARTICLES, Psychology and Behavioural Sciences Collection, and ERIC databases were systematically searched for interventions about cancer risk reduction information targeted towards men using the Boolean terms "OR" and "AND," Medical Subject Headings (MeSH), and truncation "*"(Table 1).

2.2. Study selection and inclusion criteria

Studies were included if they had a primary focus on (i) adult men (aged ≥18 years), (ii) involved interventions supporting the acquisition of knowledge from cancer risk reduction information **as** primary and/or secondary outcomes, and (iii) were published in English between 1st January 2006 and 30th May 2016. Studies involving exclusively women or where findings from men and women were indistinguishable were excluded, as were studies

Table 1
Search Terms.

Men OR Males OR MAN OR Males	AND	inform* OR advice OR advis* OR educat*	AND	cancer* OR neoplas* OR oncolog* OR tumour* OR tumor*	AND	need* OR necessit* OR require* OR seek* OR look* OR search* OR acquir* OR learn* OR "engag* with" OR use OR using OR utilis* OR utiliz*)	AND	Prevent* OR "reduc* risk" OR minimis* OR minimiz* OR "health promot*" OR Screen*

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