

Decreasing loneliness and social isolation among the older people: systematic search and narrative review

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ABSTRACT

Introduction: The aim of this study is to sum up the current knowledge on the effectiveness of the existing interventions for alleviating loneliness and social isolation among older persons.

Methods: We used a systematic approach and performed a literature search of MEDLINE, ISI Web of science, SCOPUS, The Cochrane Library, and CINAHL databases. After identifying 13 eligible reviews addressing interventions of our interest, we proceeded with a narrative description of the study findings.

Results: The initiatives largely encompassed one-to-one interventions, group activities or community engagement approaches. In particular, technology interventions were recently given much attention. Overall, the studies showed non-satisfying methodological quality and their results were often inconclusive.

Conclusions: Although there is a growing body of evidence referring to implementation of interventions targeting social isolation and loneliness among the older populations, future well-designed interventions are necessary in order to draw firm conclusions.

Key words: social isolation, loneliness, older individuals, review, effectiveness.

INTRODUCTION

The concepts of loneliness and social isolation have been often linked together across the literature and, in spite the interchangeable use, the scientific literature suggests these are two distinct concepts (1–4). Loneliness is a subjective condition which is related to the way people perceive,

experience, and evaluate lack of communication with other people. Furthermore, social and emotional loneliness can also be identified (3,5). Social loneliness is meant to identify the absence of a meaningful friendship, while emotional loneliness refers to the absence of an enduring intimate attachment to another. Dickens et al. (2) underlined that these two forms of loneliness differ in potential duration.

Social loneliness takes less time to be resolved and it can be affected by gaining new acquaintances. On the other hand, emotional loneliness can be influenced only by forming intimate bonds, which may take longer time. One thing is clear though, loneliness comes always as an involuntary negative feeling related to lack of social networks (6). On the other hand, social isolation usually refers to an objective, often imposed, situation where a lack of meaningful and sustained communication is present, with minimal contact with family or the wider community. This one-dimensional concept is widely mentioned in the literature. Expanding the definition further, social isolation may incorporate both 'structural' and 'functional' social support. The former refers to an objective assessment of size and frequency and gives a quantitative dimension of the definition of social support. The latter refers to a subjective judgment of the quality of emotional, instrumental and informational support provided by others (2).

Although loneliness may occur in people of all ages, it is believed to be a more common problem of the older populations, especially among non-married women. Socio-economic factors (such as poor income or lower educational level) were significantly associated with loneliness. Furthermore, cross-sectional data indicated that living arrangements and quality of social relationships highly affected the state of loneliness. Besides poor health status, some psychological conditions might be related to loneliness, including poor mental health, low self-efficacy beliefs, negative life events, and cognitive deficits (7,8). The literature also suggested that social isolation, together with demographic, physical, psychological and economic risk factors that can contribute to its development, take part in a cascade of interactions where these factors act together in development of negative health outcomes (4,9).

One recent review and meta-analysis investigated the influence of social relationships on the risk of death and demonstrated that they are comparable with well-established risk factors for mortality such as smoking and alcohol consumption and even exceed the influence of other risk factors such as physical inactivity and obesity (10). This just points out the relevance of encouraging seniors in participation in mental, physical, or social activity (11).

Different reviews dealt with health promotion interventions for reducing loneliness and diminishing social isolation in the aging population. We used a systematic approach to synthesize the current knowledge on the effectiveness of the existing interventions for alleviating loneliness and social isolation among older populations.

METHODS

We performed a systematic search of MEDLINE, ISI Web of science, SCOPUS, The Cochrane Library, and CINAHL databases in order to identify potentially eligible papers. This process was followed by a narrative

description of study findings.

Two independent investigators were involved in the search process. Our search terms derived from the terminology used in the scoping review of Prohealth 65+ Project (12), which involved a broad initial search for health promotion, prevention, and related interventions addressed to the elderly. The search terminology was designed according to the PICO model and it combined all possible alternatives of following keywords: *social isolation, loneliness, older individuals, review and effectiveness*. The example of Medline search terms is highlighted below:

("social isolation" OR solitude OR aloneness OR loneliness OR "emotional isolation") AND (older OR elder OR senior* OR geriatric OR aged OR ageing OR aging OR "Old age" OR "Old people") AND ("social participation" OR "social support" OR "social involvement" OR promotion OR program OR programme OR plan OR intervention OR "Health promotion" OR prevention OR Campaign* OR "Health programme" OR "Health program" OR "Health prevention" OR "Social care" OR "Social intervention" OR Screening OR "Health education" OR "Health literacy" OR "Health communication" OR "Health advocacy" OR "Community advocacy" OR "Social campaign" OR "Social campaigns" OR "Health coaching" OR "Environmental change strategies" OR "Healthy environment" OR "Community mobilization" OR "Behavior modification" OR Screening OR "Primary prevention" OR "Health screening" OR "Support groups" OR "Social network" OR "Social gathering" OR "Health changes" OR "Legislation" OR "Regulation") AND ("Systematic review" OR Review OR "Meta analysis" OR "Meta-analysis" OR Metaanalysis) AND (Effectiveness OR Efficacy OR Efficiency OR Impact OR Evidence OR Outcomes)*

Furthermore, we restricted our analyses on English or Italian language reviews that regarded topics of loneliness/social isolation among the senior populations published between January 2000 and February 2016. The reviews needed to incorporate studies that evaluated the effectiveness of the interventions, regardless of the study design. All the reviews were read and discussed in detail and this process was followed by a classification and description of each review using pre-defined set of criteria that regarded year of publication, study objectives, topic of interventions and study findings. In addition, we determined the time frames of all the reviews and evaluated whether or not the reviews implemented a systematic approach.

RESULTS

Study selection

Our initial search yielded 1429 articles (Figure 1). After the screening process, we identified 25 full texts of

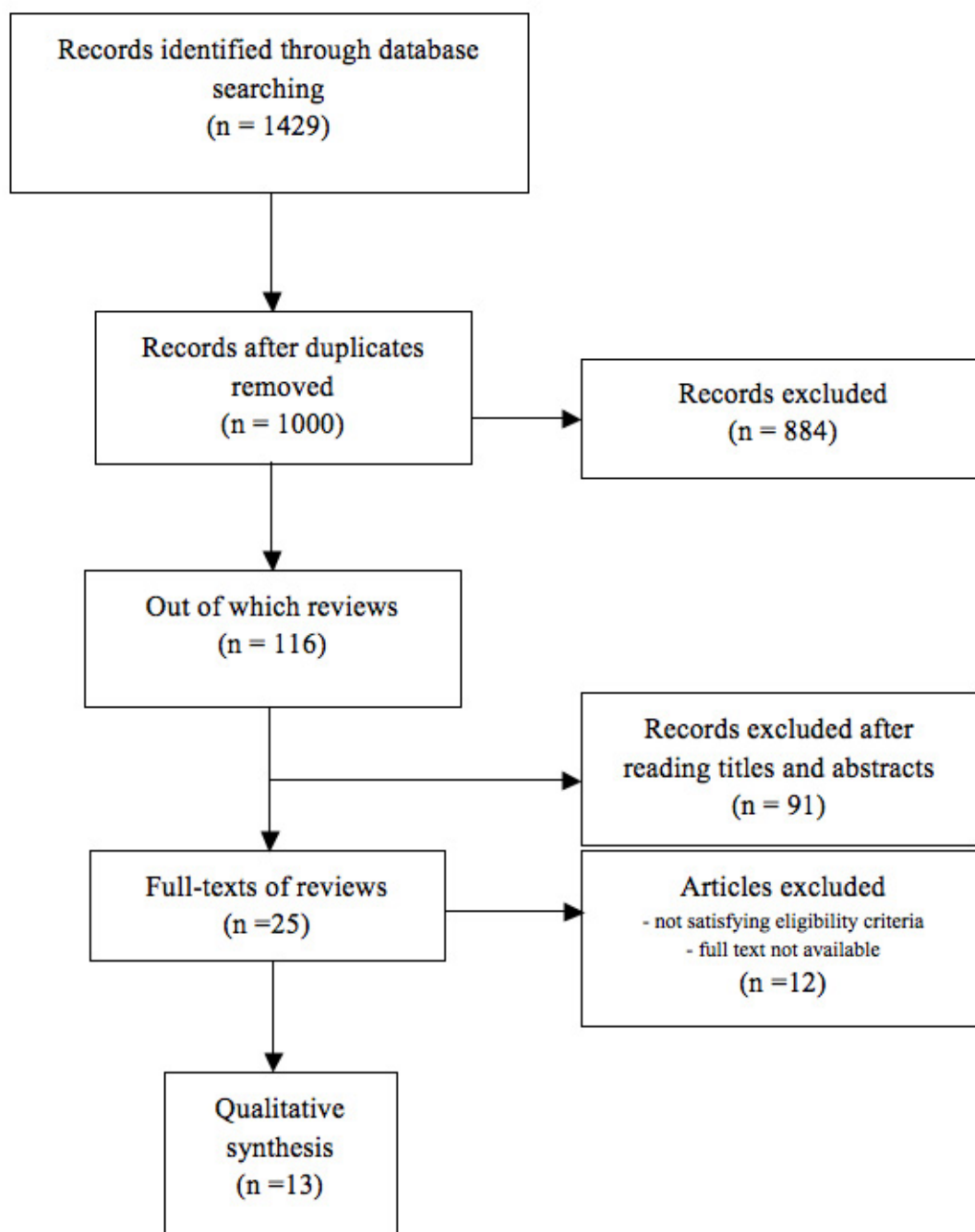
reviews related to social isolation and loneliness among the older populations and finally included 13 in the qualitative synthesis (1,2,6,13–22).

Study characteristics

Tables 1 and 2 report characteristics and findings of the included studies, according to criteria explained in the methodology section. Interestingly, none of the reviews

performed on the topics of social isolation and loneliness among the older was conducted in European area. The majority of the reviews was based in Australia and UK, followed by Canada, Israel, USA and China. More than half of the reviews implemented a systematic approach (70%, nine in total) and the oldest one was published in year 2005. When topic of the reviews is concerned, seven of them addressed general issues, such as interventions aimed at alleviating loneliness or reducing social isolation among the older people. The rest of them applied some

FIGURE 1. Process of study selection



sort of restriction in the methodology, dealing with specific interventions or populations (for example-reviews evaluating the effects of smart technologies in decreasing social isolation or examining effects of Men's Sheds on social health of the male seniors).

Synthesis of results collected from individual reviews

After performing a comprehensive analyses of the retrieved reviews, we summed up the collected evidence in order to highlight the most important findings. Suggestions

TABLE 1. Description of the systematic reviews retrieved in the initial search.

AUTHORS	YEAR OF PUBLICATION	COUNTRY	AIM	TIME FRAME	TOPIC*	SR**
Findlay et al.	2003	Australia	<i>To review effectiveness of interventions that target social isolation amongst older people.</i>	1982-2002	G	-
Cattan et al.	2005	UK	<i>To review the effectiveness of health promotion interventions that target social isolation and loneliness among older people.</i>	1970-2002	G	+
Medical Advisory Secretariat	2008	Canada	<i>To review published literature focusing on interventions for social isolation and loneliness in community-dwelling seniors.</i>	Jan 1980 - Feb 2008	G	+
Dickens et al.	2011	UK	<i>To review the effectiveness of interventions designed to alleviate social isolation and loneliness in older people.</i>	up to May 2009	G	+
Choi et al.	2012	Korea	<i>To examine the effectiveness of computer and Internet training interventions aimed to reduce loneliness and depression in the older population.</i>	January 2001 - July 2012	S	+
Raymond et al.	2013	Canada	<i>To examine 32 programs aimed at fostering the social participation of seniors and propose a typology of social programs.</i>	Jan 1970- Aug 2011	G	-
Wilson et al.	2013	Australia	<i>To determine the state of the science about the potential for Men's Sheds to promote male health and well-being.</i>	Oct 2011 - Feb 2012	S	-
Hagan et al.	2014	UK (Northern Ireland)	<i>To review the effectiveness of recent social therapeutic interventions for reducing loneliness in older people.</i>	2000-2012	G	-
Morris et al.	2014	Australia	<i>To examine the effectiveness of smart technologies in improving or maintaining the social connectedness of older people living at home</i>	Jan 2000 - Feb 2013	S	+
Cohen-Mansfield et al.	2015	Israel	<i>To review the utility of loneliness interventions among older persons.</i>	1996-2011	G	+
Elias et al.	2015	Australia	<i>To explore the effectiveness of interventions incorporating group reminiscence therapy for older adults with loneliness, anxiety and depression in long term care.</i>	2002-2014	S	+
Franck et al.	2015	Australia	<i>To review interventions for reducing social isolation and depression in older people receiving aged care services (community or residential).</i>	Jan 2009 – Dec 2013	S	+
Chen et al.	2016	China	<i>To review the effects of Information Communication Technology interventions on reducing social isolation of the seniors.</i>	2002-2015	S	+

*S-Specific; G-General; **SR + (Yes) – (No)

TABLE 2. Summary of key finding from the reviews assessed

AUTHOR, YEAR	STUDY FINDINGS
Findlay et al, 2003	Successful interventions targeting social isolation among older people should include *: <ul style="list-style-type: none"> -High quality approaches to the selection, training and support of the facilitators; -Involvement of older people in the planning, implementation and evaluation stages; -Utilization of existing community resources, preferably with the aim to build community capacity; -Evaluation of interventions built at inception and a wide dissemination of research findings.*
Cattan et al, 2005	Effective health promotion interventions aiming at loneliness/social isolation of the older populations have in common several characteristics: <ul style="list-style-type: none"> -Group interventions with an educational input or support activities -Target specific groups, such as women, care-givers, the widowed, the physically inactive, or people with serious mental health problems -Enable some level of participant and/or facilitator control or consulted with the intended target group before the intervention -Participants identified through agency lists (GPs, social services, service waiting lists), obituaries, or through mass-media solicitation -Developed and conducted within an existing service -The studies included some form of process evaluation *
Medical Advisory Secretariat, 2008	Effective interventions for social isolation and loneliness in community dwelling seniors were directed at specifically targeted groups and involved only a few of the many potential causes of social isolation; Technology-assisted interventions need to be further explored, since the evidence on efficacy is limited. *
Dickens et al, 2011	Alleviation of social isolation and loneliness in older people was achieved through effective interventions that were : <ul style="list-style-type: none"> -developed within the context of a theoretical basis, -offering social activity and/ or support within a group format, -engaged older people as active participants. *
Choi et al, 2012	The authors concluded that computer and Internet interventions were significantly effective in decreasing loneliness among older adults (meta-analysis provided the overall mean weighted effect of 0.546 with a 95% CI of 0.033-1.059 (Z =2.085, p = 0.037) and was based on data from 353 older adults. *
Raymond et al, 2012	The typology of social programs proposed for promoting social participation of seniors includes five categories: (a) social interaction in an individual context; (b) social interaction in a group context; (c) collective projects; (d) volunteering and informal support; (e) socio-political involvement and activism. It is meant to be used as a convenient and practical tool, with dynamic characteristics, and overlapping of the categories is desirable. Three uses for the typology are suggested: as a policy-making support, as an evaluative framework, and as an experimental space for community practice.
Wilson et al, 2013	The benefits of Men's Sheds on health and well-being have not yet been adequately conceptualized, measured, tested or understood. Future research should incorporate social determinants of health and well-being within the study designs, otherwise Men's Sheds, although potentially effective, will not be incorporated into male health policy and practice. *
Hagan et al, 2014	Reducing loneliness amongst older people was found to be effective mostly when introducing interventions with new technologies (one-to-one Nintendo Wii intervention; introduction of either a living or robotic dog; videoconferencing intervention). Small numbers reported indicate a low generalizability. *
Morris et al, 2014	The range of smart technologies under investigation included web-based information, intervention and communication programs. Ongoing evidence is supporting the implementation of technology for improving some dimensions of social connectedness: social support, empowerment and self-efficacy, loneliness, and social networks. The risk of bias in the individual studies is potentially limiting the generalization of the findings. *
Cohen-Mansfield et al, 2015	Multiple approaches showed promise in combating loneliness among the seniors. The accent is placed on educational interventions focused on social networks maintenance and enhancement and a wide range of interventions (technology interventions, shared activities etc). However, flawed design often prevents proper evaluation of efficacy. The value of using specific therapy techniques in institutionalized populations is underlined, as well as the need to identify the most beneficial interventions for persons with different levels of cognitive decline. *
Elias et al, 2015	There is limited evidence suggesting the clinical efficacy of reminiscence therapy on loneliness in older adults. Significant findings in one retrieved study that investigated this issue are not enough to reach definite conclusions. Further research should be backed up with qualitative study designs that could encompass older peoples' perspectives in order to have a complete picture of these promising interventions. *
Franck et al, 2015	Since studies conducted in a rural context were not of sufficient methodological quality, interventions set in urban areas were evaluated. Only one group-based reminiscence intervention showed success in reducing social isolation and depression in older people within an urban aged care setting. It remains unclear how interventions from urban settings would need to be modified for rural settings. *
Chen et al, 2016	ICT use was consistently found to affect social support, social connectedness, and social isolation in a positive manner. The results for loneliness were inconclusive. Four domains of ICT effect were identified: connecting to the outside world, gaining social support, engaging in activities of interests, and boosting self-confidence. ICT is a promising tool, but it is not for every senior- identifying which senior can benefit from ICT use the most and how the training/implementation should be tailored to maximize its effect, would provide great value for clinical practice. *

*Further research is suggested.

for successful initiatives encompassed group interventions offering educational, support or social activities, usually facilitating the development, maintenance and enhancement of social support networks (1,2,6). Programs targeted at specific populations showed greater success, such as women, care-givers, the widowed, the physically inactive, or people with serious mental health problems (1,18). Moreover, it was suggested that interventions should engage older people as active participants (2) and they should involve older people in the process of planning, implementation and evaluation stages (14).

Ongoing evidence is supporting the implementation of technology for improving some dimensions of social connectedness (13,17,22). Information and Communication Technologies (ICT) interventions have contributed to improvements in connecting to the outside world, gaining social support, engaging in activities of interests and boosting self-confidence of older people and ultimately reducing loneliness (13,22). Recent reviews provide emerging quantitative and qualitative evidence to support the function of ICT in alleviating social isolation among seniors, but a small number of participants included in these studies impedes the generalizability of findings. Choi et al. (22) meta-analyzed the data deriving from five intervention studies (359 participants) in order to determine the effectiveness of computer and Internet interventions in decreasing loneliness among the older people. The overall mean weighted effect size was 0.546 (95% CI of 0.033-1.059; $Z = 2.085$, $p = 0.037$), which lead the authors to conclude that these interventions have a positive effect on decreasing loneliness. The success of technology in combating social isolation and loneliness is related to improvement of older peoples' communication with family and friends, as well as the possibility to easily access the news and other useful information. It was also noted that computer-mediated social support increased with previous knowledge and time spent using the technology. Lower age group, female sex and fewer physical barriers are some of the factors noted to influence the success and they should be taken in consideration when applying these interventions to older persons (23). Identification of seniors that could benefit the most and tailoring the implementation of ICT would surely maximize its effect (13,24).

Reminiscence therapy, a method that involves recalling of the past memories, was investigated in the review of Elias et al. (21). Transmissive, integrative, instrumental reminiscence and spiritual reminiscence therapy are various types of the technique identified by the authors. The focus was placed on long term care individuals and only one study (25) reported the effects of the group reminiscence therapy on loneliness. Hence, no definite conclusions were reached, despite the significant findings. Authors suggested further investigation and expanding the field onto qualitative study designs as well, which would offer a possibility to have insight in participants' perspectives and gain more comprehensive conclusions.

One systematic review aimed to identify effective interventions for reducing social isolation and depression in aged care clients, with a particular interest in interventions in rural areas, retrieved only studies of insufficient methodological quality. The question how interventions from urban settings need to be adapted for rural settings still remains (15). Furthermore, research involving specific groups of altered risk for social isolation, such as persons with different levels of cognitive decline, is also missing. A gap in available evidence indicates that future studies on this issue are needed (6).

DISCUSSION

Our review aimed to summarize the current literature on the interventions for alleviating loneliness and social isolation among older people. The general idea, drawn from the available reviews, was that there is a growing body of evidence referring to the implementation of interventions targeting social isolation and loneliness among the older people. Initiatives largely included one-to-one interventions, group activities or community engagement approaches (26).

One of the first reviews exploring this particular topic was conducted by Cattan and colleagues (1). Out of 30 interventions investigated in the paper, 10 were reported as effective and 9 of them were developed within a group format. Numerous authors afterwards cited the deduction that group interventions, incorporating educational or training input, were more effective. For instance, Dickens et al. (2) underlined the beneficial traits of group interventions, adding that social activity or support may have the highest influence on social isolation. On the other hand, one study suggested alignment with the previous research, but only partially, highlighting that group interventions have great potential, but require design refinements (6). Some authors discussed that this effect could be due to socialization effect of the gathering of a group, rather than therapeutic effect of the intervention itself (16).

In reference to methodological concepts, the authors reported that, pilot or demonstration projects should precede these interventions, where possible. Furthermore, it would be crucial to build evaluations in future programs at inception and the results of the evaluation studies ought to be widely disseminated (1,14). The use of community resources was also highlighted, as it would allow a rational use of existing services. Furthermore, the role of nurses in detecting and preventing social isolation among at-risk older persons was mentioned (27), especially their unique opportunity to reach homebound clients in their homes which would otherwise not be seen by health care professionals (4). Hence, their valuable role in early assessment of social isolation in at-risk groups has the potential to make the biggest difference in terms of the sustainability of the interventions and it should not be underestimated (26).

One of the strengths of our review is related to the fact that we performed a systematic search of the literature, which encompassed various databases and included a comprehensive search strategy. We cannot however rule out the possibility that a bias might have been introduced, since we limited our search on English and Italian language studies. On the other hand, the date range used in our search was rather large (around 15 years), enabling us to capture relevant studies in this rapidly growing field.

It is worth noting that the majority of the studies was weakened by insufficient methodological power and almost all of the authors concluded that future well-designed studies are necessary in order to reach definite conclusions. Different approaches, settings and aims of interventions were analyzed and their results, which were sometimes conflicting and not always conclusive, require further investigations. These facts largely contributed to the difficulty of drawing definitive conclusions on this matter. Nevertheless, various types of interventions were perceived as successful across the literature, from the ones offering educational, support or social activities, to the more specific ones, such as use of technology in the interventions. The literature supported a more "individualized" approach, highlighting that programs targeted at specific populations showed greater success, but on the other hand a lack of evidence in the certain groups was noted, like in people with cognitive impairments, people living in rural areas etc. Withal, methodological issues ought to be tackled in the future studies in order to draw firm conclusions on the efficacy of a certain type of intervention.



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