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Review

Understanding causal associations between self-rated health and personal relationships in older adults: A review of evidence from longitudinal studies

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ABSTRACT

Background: As we age we experience many life changes in our health, personal relationships, work, or home life which can impact on other aspects of our life. There is compelling evidence that how we feel about our health influences, or is influenced by, the personal relationships we experience with friends and relatives. Currently the direction this association takes is unclear.
Aim: To assess the level of published evidence available on causal links between self-rated health and personal relationships in older adults.
Methods: MEDLINE, CINAHL, and PsycINFO searches from inception to June 2012 and hand searches of publication lists, reference lists and citations were used to identify primary studies utilizing longitudinal data to investigate self-rated health and personal relationships in older adults.
Results: Thirty-one articles were identified. Only three articles employed methods suitable to explore causal associations between changes in self-rated health and changes in personal relationships. Two of these articles suggested that widowhood leads to a reduction in self-rated health in the short term, while the remaining article suggested a causal relationship between self-rated health and negative emotional support from family or friends, but this was complex and mediated by self-esteem and sense of control.
Conclusion: While there is an abundance of longitudinal aging cohorts available which can be used to investigate self-rated health and personal relationships over time the potential for these databases to be used to investigate causal associations is currently not being recognized.

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1. Introduction

1.1. Increasing longevity

People are generally living longer (WHO, 2002). To a large extent this reflects advances in medical interventions and health promotion initiatives which have improved the management of chronic conditions and the control of infectious diseases (National Institute on Aging, 2006). As a consequence more people are living with age related health conditions and people can expect to live with health problems for a longer period of time (Christensen, Doblhammer, Rau, & Vaupel, 2009; Westendorp & Kirkwood, 2007). In an attempt to reduce the burden of disease and disability associated with aging there has been an increased interest in health in later life, and the factors associated with healthy aging. National and international strategies (DoH, 2001; U.S. Department of Health and Human Services, 2010; WHO, 2002) introduced to optimize the potential for a healthy old age all acknowledge that healthy aging is linked to social and environmental factors. Research shows that factors such as participation in social activities (Adams, Leibbrandt, & Moon, 2011; Chiao, Weng, & Botticello, 2011; Glass, Seeman, Herzog, Kahn, & Berkman, 1995; Golden, Conroy, & Lawlor, 2009); perceived loneliness or isolation (Cornwell & Waite, 2009; Stephens, Alpass, Towers, & Stevenson, 2011); and the quantity (Miller & McFall, 1991; Van Tilburg & Van Groenou, 2002; Wilson, 2009), frequency (van Tilburg, Aartsen, & Knipscheer, 2000), or quality of personal relationships (Fiorillo & Sabatini, 2011; Michael, Colditz, Coakley, & Kawachi, 1999; Pinquart & Sorensen, 2000; Strawbridge, Cohen, Shema, & Kaplan, 1996); where personal relationships refers to any interaction with other people where there exists an emotional bond; are all associated with health outcomes.

1.2. Measuring health

Health measures can incorporate a number of health outcomes, including physiological, functional, cognitive, and psychological health. One simple health measure is the single item self-rated health question which is used to illicit an understanding of how individuals perceive their own health generally (Bowling, 2005; DeSalvo, Bloser, Reynolds, He, & Muntner, 2006). Self-rated health is a globally accepted measure of health which is simple to administer and captures multiple dimensions of health and well-being, including past health experiences and future health expectations (Simon, De Boer, Joung, Bosma, & Mackenbach, 2005). It is used widely within gerontology as responses appear to be predictive of mortality (DeSalvo et al., 2006; Idler & Benyamini, 1997), functional decline (Idler & Kasl, 1995; Lee, 2000), health service utilization (Miilunpalo, Vuori, Oja, Pasanen, & Urponen, 1997; Weinberger et al., 1986), and functional and psychological health outcomes (Ferraro, 1980; French, Sargent-Cox, & Luszcz, 2012).

1.3. Health and personal relationships

Evidence from studies assessing self-rated health and personal relationships in older people suggest a link between self-rated health and marital status (Goldstein & Hurwicz, 1989; Liang et al., 1999; Haron, Sharpe, Masud, & Abdel-Ghany, 2010), network size (Thanakwang, 2009), living arrangements (Rahman, Menken, & Kuhn, 2004), level of support received (Minkler, Satariano, & Langhauser, 1983; Okamoto & Harasawa, 2009; Ongaro & Salvini, 1995; Thanakwang, 2009; Wang, 1998; White, Philogene, Fine, & Sinha, 2009; Zunzunegui, Beland, & Otero, 2001) or provided from family or friends (Mui, 1995), and positive or negative interactions with family or friends (Bookwala, 2011).

1.4. Changes in health and personal relationships over time

Perceptions of health and personal relationships are not constant but change over time. Research in this area is commonly based on cross-sectional analyses but changes in self-rated health and personal relationships over time, and the direction these associations take cannot be inferred from cross sectional data. Understanding the causal dynamics between self-rated health and personal relationships requires, as a minimum, the following well established criteria to be present (Menard, 1991; Popper, 1959): (a) there is an association between the two factors, (b) one factor (cause) precedes the other factor (effect) and (c) no other factor can account for the association. While cross-sectional data can be used to establish (a) and (c), longitudinal data is needed to establish (b) so that the sequence of change in both self-rated health and personal relationships can be assessed over time (Allison, 2005; House, 2002; Schwarzer & Leppin, 1991). In this way the basic assumption that the cause must precede the effect can be explored to identify if a change in self-rated health or personal relationships causes a later change in personal relationships or self-rated health respectively. Therefore, to understand directional associations between self-rated health and personal relationships it is necessary to use longitudinal data.