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A Review of Social Isolation

An Important but Underassessed Condition in Older Adults

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Abstract and Introduction

Abstract

Social isolation is a major and prevalent health problem among community-dwelling older adults, leading to numerous detrimental health conditions. With a high prevalence, and an increasing number of older persons, social isolation will impact the health, well-being, and quality of life of numerous older adults now and in the foreseeable future. For this review, a series of literature searches of the CINAHL, PsycINFO, and Medline databases were conducted, using the key words "social isolation," "social networks," "older adults," "elderly," "belonging," "perceived isolation," "social engagement," "social contacts," and "social integration," for the period of 1995–2010. The results show that there is an overabundance of evidence demonstrating numerous negative health outcomes and potential risk factors related to social isolation. However, there is scarce evidence that public health professionals are assessing social isolation in older persons, despite their unique access to very socially isolated, homebound older adults. Additionally, few viable interventions were found; therefore, it is advisable to focus on the prevention of social isolation in older adults. Public health professionals can take steps toward increasing the early assessment of social isolation and referring at-risk individuals to available community resources in order to prevent social isolation or further isolation, which would serve to reduce the numerous negative health outcomes associated with this condition.

Introduction

Social isolation is a major health problem for older adults living in the community, leading to numerous detrimental health conditions. Social isolation is defined as "a state in which the individual lacks a sense of belonging socially, lacks engagement with others, has a minimal number of social contacts and they are deficient in fulfilling and quality relationships" (Nicholson, 2009, p. 1346). Current estimates of the prevalence of social isolation in community-dwelling older adults indicate that it is as high as 43 %, ranging from 10 to 43 % (Nicholson, Molony, Fennie, Shellman, & McCorkle, 2010; Smith & Hirdes, 2009). Social isolation has been demonstrated to lead to numerous detrimental health effects in older adults including increased risk for all-cause mortality (Eng, Rimm, Fitzmaurice, & Kawachi, 2002), dementia (Fratiglioni, Paillard-Borg, & Winblad, 2004), increased risk for re-hospitalization (Mistry et al., 2001), and an increased number of falls (Faulkner, Cauley, Zmuda, Griffin, & Nevitt, 2003). If social isolation is detected early, future morbidity and mortality could be avoided through prevention and mitigation efforts. However, social isolation is not routinely assessed in primary care settings, and therefore often goes undetected.

The number of adults aged 65 years and older is expected to more than double within the next 25 years (He et al., 2005). By then, older adults will represent 20 % of the US population, which translates into a total of 71.5 million people (Centers for Disease Control and Prevention & The Merck Company Foundation, 2007), and this segment of the population will continue to grow quickly. Currently, the majority (90 %) of older adults live in the community (He et al., 2005). With a prevalence of over 40 %, and the sheer number of older persons projected to increase exponentially in the near future, social isolation will likely impact the health, well-being, and quality of life (Lim & Zebrack, 2006) of numerous older persons now and in the foreseeable future.

Patient care efforts should be focused on assessing and improving not only an older person's physical well-being, but also their social well-being. According to the World Health Organization (WHO), health is defined as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (WHO, 2003). Holistic care is an important component of nursing; therefore, it is important to take the available evidence and use it in practice to improve the care of older adults. In community health settings, the opportunity for primary care including the prevention of social isolation in at-risk groups has the potential to make the biggest difference through early assessment. This practice includes administration of a risk profile. For example, when older adults are admitted to a visiting nurse service, community health nurses are tasked with addressing a specific diagnosis or diagnoses with their skilled nursing care. However, during these visits, the nurses have a unique opportunity to provide primary care prevention of social isolation.

The specific factors encompassed in this review represent the essential aspects of social isolation that were deemed most useful and practical for public health professionals in everyday situations. This important knowledge is needed for public health professionals to have a basic overview and understanding of social isolation and its assessment. An astute public health professional with knowledge of social isolation can assess and identify it early, leading to the prevention of the various adverse health outcomes associated with it. A review of the known negative health consequences of social isolation will allow public health professionals to understand the importance of assessing social isolation as a first step toward secondary prevention and mitigation.

This review of the variables associated with and specific risk factors for social isolation outlines important potential signs that public health professionals should look for during their interactions with clients. These signs could provide important insight into which older adults may be at risk for social isolation. The variables and risk factors identified in this study can be used to construct a risk profile that is useful for public health professionals to assess social isolation.

Negative health exchange is an important factor of social isolation that is typically not assessed. Older adults who are burdened with relationships that provide negative health exchanges may need special consideration during the assessment phase. In these individuals, a greater number of social relationships is not necessarily better. Rather, the overall quality of these relationships is critically important. Inquiring about these types of relationships during an interaction with clients is an important step in determining the potential impact of negative health exchanges.

Suggestions about specific assessments indicating social isolation are also presented to provide public health professionals with clinically relevant screening tools. Quick screening instruments may provide useful information regarding social isolation status given the reality of time-limited clinical interactions between public health professionals and their clients. An older adult with a positive screen for social isolation would require additional assessment to determine the severity of social isolation. Currently, there is no specific, focused assessment formula available for older adults with a positive screen for social isolation. Because of this deficit, public health professionals may want to concentrate their focused assessment on the provided specific risk factors and associated variables. By focusing on these provided risk factors, public health professionals will be able to judge the severity of social isolation in their clients and the potential immediate and long-term health risks posed by it. Time and effort for follow-up assessments should be considered when planning for the care of clients who are deemed to be socially isolated.

Public health professionals who have assessed older adults as being socially isolated may benefit from a brief review of interventions that have been shown to be effective in this population. Public health professionals should refer such clients to available resources, such as group settings in which social connections can be made, in an effort to mitigate social isolation. Additionally, public health professionals who are responsible for or are interested in developing programs for their community with the goal of reducing social isolation may find the suggestions here useful as a starting point.

The purpose of this review article is to provide public health professionals with pertinent knowledge of social isolation in older persons and to offer practical suggestions for assessing social isolation in this population in order to prevent the numerous negative health outcomes associated with this condition. This is accomplished through an extensive review of the published literature and a presentation of clinical applications for the assessment and identification of social isolation in community-based primary care settings. Public health professionals, such as visiting community health nurses, have a unique opportunity to reach the most socially isolated (homebound) clients in their homes. Clients at high risk of extreme social isolation may not otherwise be seen by health care professionals. Socially isolated older adults may lack the necessary resources or knowledge of their condition to actively seek out assessment from outpatient community-based primary care providers. Therefore, a simple, quick screening process initiated by public health professionals who are empowered with knowledge of the significance of social isolation can help identify at-risk clients. By assessing and identifying social isolation, public health professionals may be able to prevent or reverse many of the negative health outcomes associated with this condition.

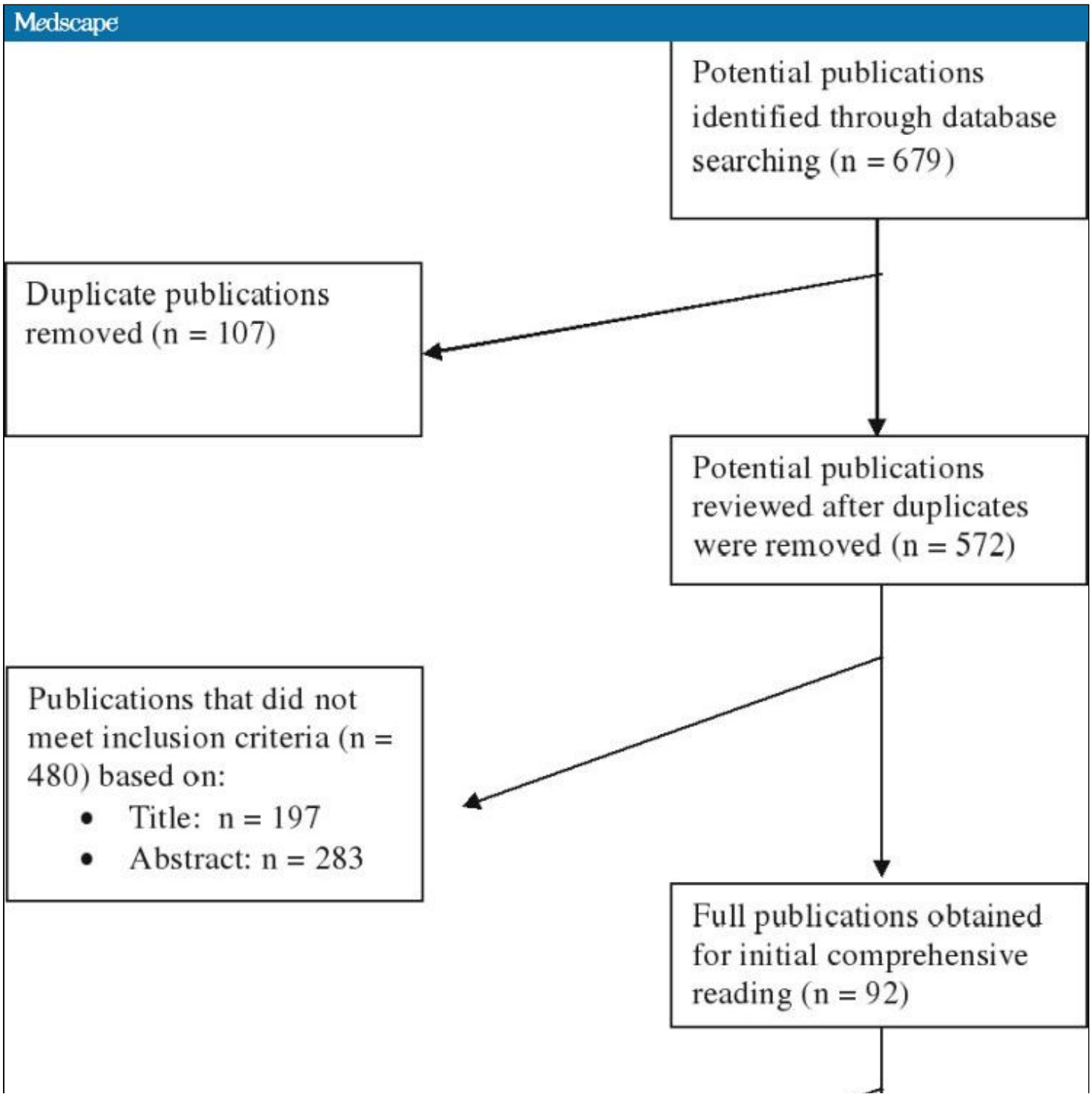
Methods

A series of literature searches of the CINAHL, PsycINFO, and Medline databases were conducted, using the key words "social isolation," "social networks," "older adults," "elderly," "belonging," "perceived isolation," "social engagement," "social contacts," and "social integration." Only materials written in English and published in the literature between 1995 and 2010 were included. The decision to focus on only the most recent publications was based on the rapidly changing cultural and societal norms related to social isolation over the past 15 years, which, in turn, have altered the meaning, operationalization, and assessment of social isolation during this time period. Thus, a review of the most current literature is needed to inform the clinical assessment of social isolation. Articles reporting original research focused on older adults, aged 65 years or older, were included. Books, book

chapters, and review articles that discussed older adults were also included. In order to be consistent with the definition of social isolation used by Nicholson, (2009), only publications that discussed the following key attributes of social isolation were included: (1) belonging, (2) social contacts, (3) quality of relationships, (4) fulfilling relationships, and/or (5) engagement. Doctoral dissertations, Master's theses, and newspapers were excluded from this literature review, as well as any publications that discussed social isolation in populations other than older adults.

Results

Initially, 679 publications were retrieved, including books and book chapters. Duplicate publications among the three databases were removed, which left 572 potentially relevant publications. After reviewing the title and abstracts for relevance based on the inclusion criteria, the number of publications was reduced to 92. These publications were then read in their entirety, and 18 were eliminated. After comprehensively re-reading the remaining 74 publications, 4 were removed because they did not yield data relevant to the concept of social isolation; thus, 70 publications were retained for final review (Fig. 1).



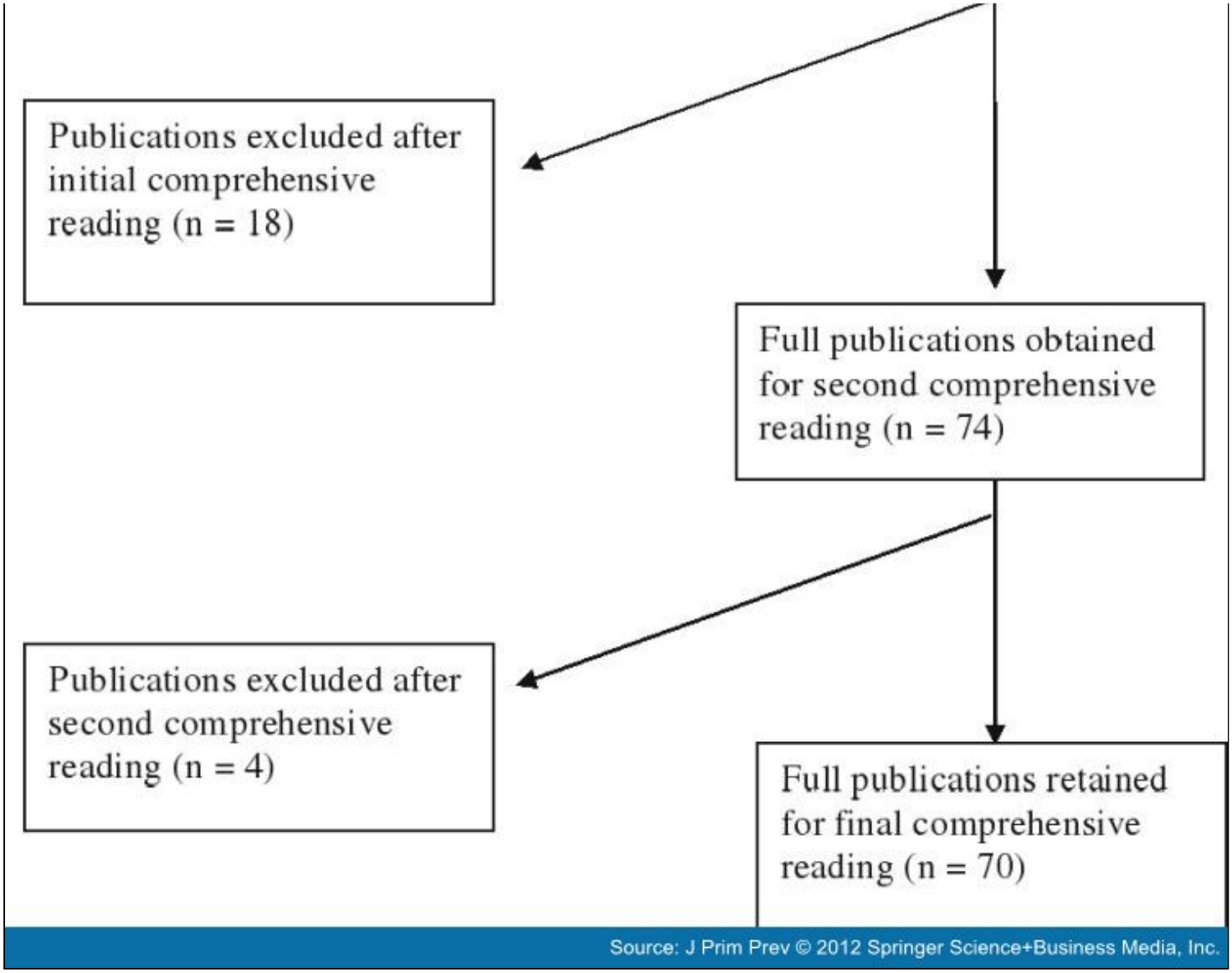


Figure 1.

Flowchart of bibliographic search

Results will be organized by reviewing the negative health aspects of social isolation guided by the ubiquitous conceptual framework developed by Berkman, Glass, Brissette, and Seeman, (2000), which includes health behavioral, psychological, and physiological categories. Known negative health aspects of social isolation that did not fit into the Berkman et al. framework are presented subsequently. Next, variables associated with social isolation are summarized according to categories outlined by Howat, Iredell, Grenade, Nedwetzky, and Collins (2004). The categories include: (1) physical; (2) psychological; (3) economic; (4) work/family changes; and (5) environmental. A demographic category was also included as an overview of negative health exchanges. Finally, an overview of assessment of social isolation is presented followed by a brief review of interventions.

Known Negative Health Consequences of Social Isolation

There is a wealth of evidence regarding the negative health outcomes predicted by social isolation. According to the Berkman et al. (2000) framework, limited social networks impact health downstream through three pathways: (1) health behavioral, (2) psychological, and (3) physiological. In this review article, these pathways were used to organize negative health outcomes related to limited social networks, or social isolation. There were certain negative health outcomes of social isolation that did not fit into the Berkman et al. framework, including all-cause mortality, falls, re-hospitalization, and institutionalization; these outcomes are described separately. Most topics related to social isolation fit into one of the three categories of the Berkman et al. framework, but those that did not will be placed in the *Other Outcomes* category.

Health Behavioral

Social isolation impacts the health and behavioral habits of older adults. An older adult's social network can impact health positively through encouragement to adhere to medical treatment or to refrain from negative or risky behaviors (Berkman et al., 2000). Without the positive influence of social network members, older adults who are socially isolated are at risk for many negative behaviors such as heavy drinking (Hanson, 1994), smoking, and being sedentary (Eng et al., 2002). Older adults who are socially isolated also have an increased nutritional risk (Locher et al., 2005).

Psychological

Social isolation has been demonstrated to impact the psychological and cognitive well-being of older adults. Those who have poor social connections and do not participate in social activities are at an increased risk of cognitive decline (Beland, Zunzunegui, Alvarado, Otero, & Del Ser, 2005). Less socially connected men are at a significantly increased risk of death from suicide, as well as from other causes (Eng et al., 2002). Conversely, older adults who have an extensive social network are more protected against dementia (Fratiglioni et al., 2004; Wang, Karp, Winblad, & Fratiglioni, 2002).

Physiological

The physiological effects of social isolation in the geriatric population are well documented. It is striking how much evidence exists on social isolation as a predictor of mortality from coronary heart disease/stroke (Boden-Albala, Litwak, Elkind, Rundek, & Sacco, 2005). Other physiological afflictions resulting from social isolation, such as contracting common colds (Cohen, Doyle, Skoner, Rabin, & Gwaltney, 1997), have also been documented.

Other Outcomes

There are many aspects of an older adult's physical and psychosocial life affected by social isolation that do not fit into the three categories of the Berkman et al. framework. These include all-cause mortality, falls, re-hospitalization, and institutionalization. Socially isolated individuals are at an increased risk for all-cause mortality (Berkman, 1984; Eng et al., 2002), which is defined as "the annual death rate or mortality rate from all causes" (Gordis, 2009, p. 62). Conversely, it has been suggested that social networks with greater numbers of friends are protective against mortality (Giles, Glonek, Luszcz, & Andrews, 2005). Social isolation among older adults has also been associated with an increased number of falls (Faulkner et al., 2003). Those older individuals who are socially isolated are also four to five times more likely to be re-hospitalized within one year of original admittance (Mistry et al., 2001). In addition, social isolation is a major predictor of institutionalization (Brock & O'Sullivan 1985); conversely, larger social networks are associated with a lower risk of institutionalization (Colantonio, Kasl, Osfeld, & Berkman, 1993). The overwhelming majority of data collected as part of this literature review focuses on outcomes related to social isolation, rather than risk factors for or predictors of this condition. A graphic representation of how these variables fit together is shown in Fig. 2.

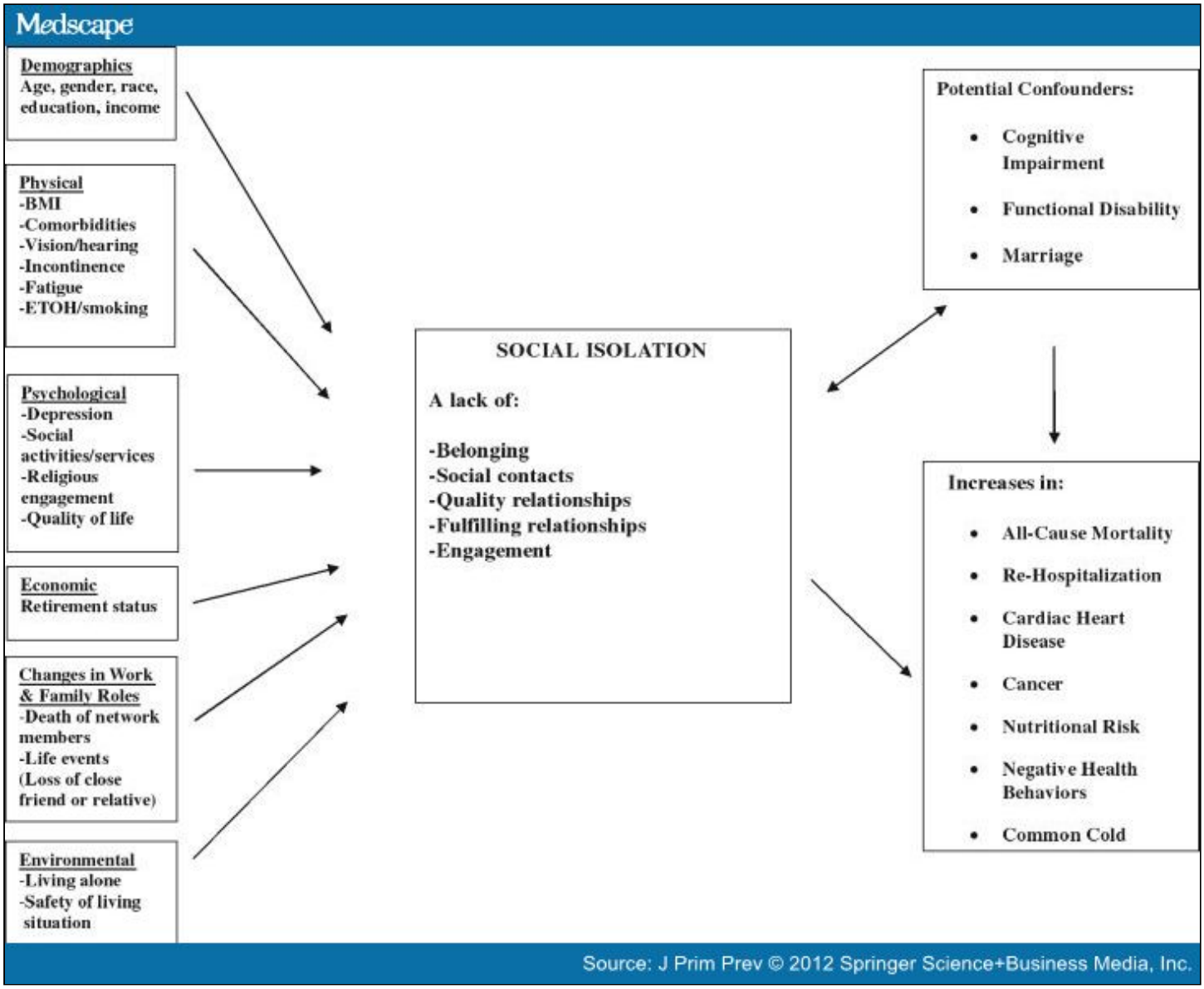


Figure 2.

Graphical representation of social isolation and related variables

Potential Risk Factors of Social Isolation: Associated Variables

Numerous variables have been associated with social isolation. The individual-level variables found to be potential risk factors for social isolation in cross-sectional studies are summarized below in categories outlined by Howat et al. (2004). The categories include: (1) physical; (2) psychological; (3) economic; (4) work/family changes; and (5) environmental. In addition to these categories, pertinent demographic variables were added as a category of risk factors for social isolation.

Physical

It is possible that individuals with a poor body image attributable to being overweight may decrease or cease interactions with their social networks to the point where they could be at risk for social isolation. For example, individuals who are overweight may be self-conscious or embarrassed and, therefore, less likely to engage their social networks. Alternatively, many social engagements may center around food, so individuals who are focused on maintaining a healthy weight may avoid interactions with those who are overweight. It has been demonstrated that weight gain in one person is associated with weight gain in friends, siblings, and spouses (Christakis & Fowler, 2007).

In addition to being overweight, having a higher number of health problems has been associated with social isolation (Havens, Hall, Sylvestre, & Jivan, 2004). Havens et al. (2004) found that older adults who have four or more chronic illnesses were at risk for social isolation ($\chi^2 = 16.46$, $p < .05$). Moreover, Havens and Hall (2001) found that older adults with four or more chronic illnesses were 1.7 times more likely to be socially isolated than those who had fewer than four chronic illnesses. An examination of co-morbidities is necessary, as chronic illness may be a significant risk factor for social isolation in older adults. Knowing the frequency and number of co-morbidities will aid in the assessment of social isolation by adding important information regarding disease severity and burden.

Other health issues such as sensory loss, including impaired vision and hearing, have been associated with communication disruptions in older adults (Heine, Erber, Osborn, & Browning, 2002), which over time could potentially lead to social isolation. Older adults with poor vision may also have limited opportunities for social interactions with others (Jang et al., 2003).

Additionally, older adults with untreated hearing impairment are less likely to be involved in social activity (The National Council on the Aging, 1999). Those with the most severe hearing loss are 24 % less likely to be socially integrated than those without a hearing impairment (The National Council on the Aging, 1999). In an older study examining lack of treatment of hearing loss in relation to social isolation, hearing loss was associated with a decrease in effective social functioning (Weinstein & Ventry, 1982), which was defined as the basic ways of interacting with others, such as speaking or listening. In a more recent study of hearing impairment in old age, individuals with a hearing impairment had a dose–response decrease in social functioning compared to those with no hearing impairment ($p < .01$) (Strawbridge, Wallhagen, Shema, & Kaplan, 2000).

Urinary incontinence has also been found to limit social activities. In a study of urinary incontinence among older adults, incontinence resulting in large volumes of urine loss was 5.6 times more likely to negatively influence their lifestyle (including social activities) than incontinence resulting in small volumes of urine loss (*OR* = 5.61, 95 % CI [2.76, 11.42) (Gavira Iglesias et al., 2000). In a study examining potential social and emotional limitations of urinary incontinence, older adults who were incontinent were more likely to be socially isolated ($\chi^2 = 31.06$, $p < .001$) (Fultz & Herzog, 2001). A literature review found that urinary incontinence had a significant negative impact on social engagement among community-dwelling older adults (Wyman, Harkins, & Fantl, 1990).

In a study examining sleep complaints within the Established Populations for Epidemiologic Studies of the Elderly (EPESE) cohort, 23–34 % of adults had symptoms of insomnia (Foley et al., 1995). If insomnia persists over time, older adults may cease to meet new social network members or even lose those they already have, resulting in social isolation. Aspects of sleep quality and daytime alertness may be impacted by psychosocial variables such as social support (Driscoll et al., 2008) and may impact older adults' ability to engage others socially.

Having fewer social network members has been associated with heavy drinking and having a drinking problem in elderly men (Hanson, 1994). Those individuals who have limited social networks are 2.5 times more likely to be heavy drinkers (*OR* = 2.5, 95 % CI [1.6, 3.8]) (Hanson, 1994). Although excessive alcohol consumption is a complicated problem, it is plausible that those who drink excessively may lose social network members because of the problems associated with binge drinking and alcoholism.

Although no studies examining social isolation and smoking were found, social networks have been suggested as an important aspect of smoking cessation programs (Hanson, Isacsson, Janzon, & Lindell, 1990). Individuals who have robust social networks are three times more likely to succeed in quitting smoking for good (*OR* = 3.1, 95 % CI [1.9, 5.4]) (Hanson et al., 1990). Just as there is a relationship between having a supportive social network and successful smoking cessation, there may be a relationship between smokers and their social desirability. With current bans on smoking in public places and related attitudes, there may be increased social isolation among smokers due to their potential exclusion from some social networks.

Social engagement may influence the functional disability process by preventing decline or facilitating recovery (Mendes de Leon et al., 1999). Consequently, functional disability may impact social networks by preventing older adults from seeking engagement with other social network members. Network size and social interaction are significantly associated with functional disability risk (Mendes de Leon, Gold, Glass, Kaplan, & George, 2001). Older adults who are more socially engaged report less functional disability (*OR* = 0.84, 95 % CI [0.75, 0.95]) (Mendes de Leon, Glass, & Berkman, 2003), and those who are a strong part of a social network have been found to have reduced risk of functional disability ($\beta = -0.009$, $p < .01$) (Mendes de Leon et al., 1999).

Psychological

There is a close relationship between the concepts of social isolation and depression; however, that relationship is not well understood. Given what is known about depression and social isolation, it makes sense that there is a relationship between the two; however, the nature of that relationship is not clear. Blazer (2005) states that frustration well in stating that depression has a "clear, but not obvious relationship" with social isolation (p. 497). There is no consensus in the research that is available regarding the relationship between depression and social isolation. Some researchers have found strong correlations between social isolation and depression (Dorfman et al., 1995), whereas others have not (Schoevers et al., 2000). In a qualitative study examining social workers' views of depression, almost all of those interviewed perceived depression as a key cause of social isolation in older adults (McCrae et al., 2005). In a quantitative study, Iliffe et al. (2007) found that older adults in a depressed state were at significant risk for social isolation.

There are many studies touting the link between increased levels of social support and increased quality of life (Gallicchio, Hoffman, & Helzlsouer, 2007). However, there are fewer studies examining the relationship between social isolation and quality of life. It has been suggested that being socially isolated impacts quality of life (Lim & Zebrack, 2006). In one study, it was found that the social network structures (including network size and reliance on formal and informal social ties) were associated with quality of life in long-term cancer survivors (Lim & Zebrack, 2006). In another study, women who were socially isolated prior to their cancer diagnosis were more adversely impacted by breast cancer (Michael, Berkman, Colditz, Holmes, & Kawachi, 2002). The authors concluded that prediagnosis level of social integration is an important factor in future health-related quality of life among breast cancer survivors (Michael et al., 2002).

Religious engagement also appears to be an important aspect of the social networks of older persons. In the social network index, church membership was part of the scoring structure used to determine if an individual was socially isolated or not (Berkman & Syme, 1979). Little research has been published in the literature regarding the number of people that an individual knows in their church and its relationship to social networks or social isolation. Most available research pertains to the number of times an individual attended church. An older study found that religious background protected against mortality among older adults with poor health (Zuckerman, Kasl, & Ostfeld, 1984). Those older adults who were not religious were 2.32 times more likely to die (Zuckerman et al., 1984). Conversely, those frequently attending religious services have been found to have lower mortality rates than those with infrequent attendance (Strawbridge, Cohen, Shema, & Kaplan, 1997). In that study, a Cox proportional hazards model showed that those who were frequent attendees of religious services had a lower mortality rate than those who were infrequent attendees (relative hazard = 0.64, 95 % CI [0.53, 0.77]) (Strawbridge et al., 1997).

There are also a number of studies that discuss the relationship between social isolation and cognitive decline in older persons (Bassuk, Glass, & Berkman, 1999; Havens et al., 2004). A decrease in social engagement may have a negative effect on older adults' cognition (Zunzunegui, Alvarado, Del Ser, & Otero, 2003), and not participating in leisure activities has been found to be an antecedent to lower cognition (Wang et al., 2002). Lack of a robust social network is also a significant precursor to cognitive decline (Wang et al., 2002). Conversely, an active and socially integrated lifestyle has been found to protect against dementia (Fratiglioni et al., 2004).

Economic

One study examining a cohort of workers showed that social isolation may predict early retirement (Elovainio et al., 2003). Specifically, women with small social networks were approximately five times more likely to retire early than women with large social networks (*OR* = 5.1, 95 % CI [2.8, 9.2]). Social networks and retirement are clearly related. There is reason to believe that retirement may also lead to a decrease in social networks and social network contact, thus leading to social isolation. Retirement may be a stressful event for older adults, who are used to working and depending on the support of social network members at work.

Changes in Work and Family Roles

It has been demonstrated that the loss of a relative, friend, or close neighbor may lead to an increase in social isolation among older people (Wenger & Burholt, 2004). A stressful negative life event, such as the death of a close friend or relative, may prevent older adults from engaging their social networks, therefore placing them at an increased risk for social isolation.

Environmental

Older adults who live in neighborhoods where safety is a concern may be at an increased risk of becoming socially isolated (Ross & Jang, 2000). There is a significant association between neighborhood disorder and social ties (Ross & Jang, 2000).

Communities with high levels of social disorder are characterized as having poor safety, high levels of vandalism, and increased incivilities (Lewis & Salem, 1986).

A large number of older adults in the United States, about 30 % of the elderly population (or 10.9 million people), lives alone (Fowles & Greenberg, 2009). Living alone has been found to be a risk factor for a decrease in social networks or an increase of social isolation (Berkman, 2000; Havens et al., 2004; Howat et al., 2004; Iliffe et al., 2007; Lubben & Gironda, 2003). A study of older adults living alone in China found that they did not need any help solving problems and they learned to be flexible in order to reduce the need of being dependent on others (Tsai & Tsai, 2007). Thus, older adults who do not depend on others for resources may be more likely to get their social needs met, which is in direct contrast with the majority of research articles found in the literature.

Aging has been found to be a potential risk factor for social isolation (Iliffe et al., 2007). There are few prospective studies examining the relationship between aging and social factors such as social isolation; however, available studies indicate that it is necessary to measure aging in older adults (Mendes de Leon et al., 2003).

It has been suggested that race impacts the characteristics of social networks including size, frequency of contact, and composition (Ajrouch, Antonucci, & Janevic, 2001; Peek & O'Neill, 2001). A number of significant differences in social network characteristics can be attributed to race. These include a higher family composition, as well as more support received and less support given, among African Americans as compared to among Whites (Peek & O'Neill, 2001). Also, African Americans have more frequent contact with smaller networks made up of primarily family members (Ajrouch et al., 2001). In terms of health outcomes, those who are most socially connected are three times more likely to undergo colorectal screening (*OR* = 3.2, 95 % CI [1.7, 6.2]), with this association being stronger in African Americans than in Whites (Kinney, Bloor, Martin, & Sandler, 2005).

Social isolation has been shown to correlate with changes in salary and socioeconomic status. Economic constraints (Iliffe et al., 2007) and low income (Bassuk et al., 1999) are both factors associated with social isolation along with inadequate personal resources (Ackley & Ladwig, 2010). Socioeconomic status has been suggested as a potential risk factor for social isolation (Havens & Hall, 2001; Iliffe et al., 2007).

Level of education has also been suggested as a risk factor for social isolation (Iliffe et al., 2007). One study found that older adults with less than 12 years of education were 1.6 times more likely to become socially isolated than those with 12 or more years of education (*OR* = 1.6, 95 % CI [1.3, 1.9]) (Bassuk et al., 1999).

There is a significant amount of literature on the benefits of marriage to an individual's health. A spouse is seen as a special type of social network member who is invaluable to an individual's overall well-being. The loss of an intimate partner or spouse may be a strong factor leading to social isolation (Chipperfield & Havens, 2001) and decreased life expectancy in men (House, Landis, & Umberson, 1988). An association between being unmarried and negative outcomes related to social isolation has been repeatedly found (Boden-Albala et al., 2005; Fratiglioni, Wang, Ericsson, Maytan, & Winblad, 2000).

Summary of Variables Associated With Social Isolation

Numerous variables have been found to be associated with social isolation. Additionally, most research has focused on social isolation as an independent variable that leads to negative health outcomes, but not much has examined social isolation itself as an outcome (Smith & Hirdes, 2009). As a result, there is limited information regarding predictors of social isolation (see below). The literature that is available and has been discussed above provides an overview of the variables associated with social isolation.

Variables That Predict Social Isolation

Only a few studies have specifically examined predictors of social isolation (Havens & Hall, 2001; Havens et al., 2004; Howat et al., 2004; Iliffe et al., 2007; Luggen & Rini, 1995; Smith & Hirdes, 2009; Wenger & Burholt, 2004). provides a summary of the specific risk factors of social isolation based on findings from these studies.

Table 1. Predictors of social isolation from studies examining it as an outcome

Author(s), year	Sample age, years	Sample size	Predictor variables for increased social isolation	Cross-sectional versus longitudinal	Controlled for

Havens and Hall (2001)	72+	n = 1, 868	Female gender Older age	Cross-sectional	Not stated
Havens et al. (2004)	72+ 72–84 = 66 % 85+ = 34 %	n = 1, 868	Living alone Far distance from relatives Low life satisfaction Declining cognition Difficulty with activities of daily living Older age	Cross-sectional	Not stated
Howat et al. (2004)	60+	n = 38 focus groups n = 13 interview n = 8 in-depth interview	Health/disability Transportation Few relatives/none living close by Few friends Loss of partner/friends Financial concerns Fear of being attacked Shyness	Cross-sectional	N/A—qualitative interviews
Iliffe et al. (2007)	65+ Mean age for at risk for Social Isolation (SI) = 76.6 (SD = 6.85) Mean age for not at risk for SI = 74.2 (SD = 6.04)	n = 2, 641	Male gender Living alone Mood or cognition problems	Cross-sectional	Age, gender (female), education and income
Luggen and Rini (1995)	65–72 = 27.4 % 72–78 = 30.6 % 78+ = 41.9 %	n = 62	Increased age Having no children	Cross-sectional	Not stated
Wenger and Burholt (2004)	65+ Mean age = 93	n = 47	Recent death of spouse Death of relatives and friends/close neighbors Deteriorating health Impairment of mobility/vision/hearing At home alone for increasingly longer periods of time	Longitudinal	Not stated
Smith and Hirdes (2009)	65+ Mean age = 75 (range = 65–99)	n = 848	Marital status (NOT married or widowed) Mood disorder (NOT having one) Personality disorder History of institutionalization Early initial admission to a psychiatric hospital for first admission	Cross-sectional	Age

Negative Social Relationships

Some researchers have found that certain social relationships, including marriage, can actually have a negative impact on health (Antonucci, Akiyama, & Lansford, 1998; De Vogli, Chandola, & Marmot, 2007; Pagel, Erdly, & Backer, 1987; Seeman, 2000). These negative social exchanges are harmful and may lead to negative health outcomes rather than positive benefits from having close-knit social network members. Therefore, simply knowing if an individual has numerous social relationships does not

provide enough information to accurately determine whether these relationships are positive and beneficial. Having negative relationships with social network members can be a source of additional demands, responsibilities, conflicts, embarrassment, and disappointment (Seeman, 2000). Thus, measuring the quality of relationships (negative vs. positive) in addition to the quantity of social network members is important to provide insight into potential negative social exchanges.

Social Isolation Assessment

There are several instruments that can be used to assess for social isolation in older adults, one of which is the Lubben Social Network Scale (LSNS). The LSNS has several versions including a revised version (LSNS-R), an extended 18-item version (LSNS-18), and an abbreviated 6-item version (LSNS-6). The LSNS-6 can be used as an extremely quick measure to screen for social isolation in the clinical setting. The LSNS-6 measures the following three aspects of social networks: (1) emotional, (2) tangible, and (3) actual network size. The LSNS-6 assesses these three aspects of social networks relating to the individuals family members and friends to determine if an older adult warrants further social isolation assessment (Lubben & Gironda, 2003). This instrument has been shown to be successful in the clinical setting in identifying those who are at risk for social isolation (Lubben & Gironda, 2000; Lubben et al., 2006). In psychometric testing, the LSNS-6 was found to have a Cronbach's alpha of 0.78 (Lubben & Gironda, 2003).

Review of Interventions on Social Isolation

Although interventions for social isolation are not refined yet, some suggestions can be gleaned from the literature. For example, convening groups of 7–8 members who meet regularly (weekly) is one way to increase number of friends and increase psychological well-being (Routasalo, Tilvis, Kautiainen, & Pitkala, 2009). However, obtaining new friends does not necessarily impact social isolation (Routasalo et al., 2009). A systematic review of interventions of social isolation found that educational and social activity group interventions targeting specific groups can lessen social isolation in older adults (Cattan, White, Bond, & Learmouth, 2005). Therefore, referring older adults to social activity/senior centers in their local area where these types of programs may be ongoing could be helpful. Because the living situation of older adults in long-term care is substantially different from that of those living in the community, interventions for this elderly population may need to be different.

Discussion

Public health professionals are in a unique position to reach those individuals at highest risk of social isolation. The few interventions reported in the literature have shown little effectiveness; however, small regular group meetings with an education focus were among the most effective interventions for decreasing social isolation (Cattan et al., 2005). Given the paucity of effective interventions, assessment and prevention of social isolation should be the focus of the plan of care for public health professionals. As the number of older adults continues to increase, so will the number of those affected by social isolation. Therefore, assessment of social isolation, which has been demonstrated both to be associated with and to lead to numerous negative health outcomes, needs more attention from public health professionals. A specific understanding of risk factors and associated variables of social isolation provides public health professionals with important areas to inquire about during their assessment of older adults. Assessment of older adult communities, such as conducting a needs assessment, is an important aspect of health surveillance by public health professionals. Public health professionals must assess those who make up their communities in a holistic manner, focusing not only on physical factors, but also on psychosocial factors, particularly social isolation.

The literature suggests that social isolation is not simply a condition that leads to health co-morbidities, but rather it is part of a cascade of complex psychosocial factors that interact together to cause negative health outcomes in older adults. The cascade of negative health outcomes in older adults begins to interact with the various factors outlined in this review article, such as living alone (Havens et al., 2004; Iliffe et al., 2007), declining cognition (Havens et al., 2004; Iliffe et al., 2007), and difficulty with activities of daily living (Havens et al., 2004; Iliffe et al., 2007; Wenger & Burholt 2004). Physical factors, in conjunction with subjective factors, such as lack of sense of belonging and feeling deficient in the quality of social relationships, are important attributes of social isolation. Any comprehensive holistic assessment of this condition performed by public health professionals must consider these key attributes. One way to assess for these attributes is to use appropriate measures, such as the LSNS-6. To assess for key attributes of social isolation that are not covered by this measure, specific questions regarding negative health exchanges and subject components should be asked. Assessment of these important areas will open the channels of communication between public health professionals and the communities they serve with the goal of assessing social isolation with the goal of mitigation and secondary prevention.

Implications for Assessment of Social Isolation in Primary Care Setting

Due to the psychosocial nature of social isolation, there is a unique opportunity to complete a social health assessment in conjunction with other common assessments, which may help to offset the additional time needed during a visiting nurse visit. For example, a public health professional could inquire about family and friends and ask other pertinent questions while obtaining routine objective health measures such as vital signs. By asking about family, friends, and neighbors, as well as about feelings of social isolation, public health professionals have the opportunity to increase the clinical bond and to collect important information.

Another opportunity to obtain information related to social isolation is to print out an instrument (i.e., the LSNS-6) and leave it with the client. This can be done while the public health professional is performing other functions. When time permits, for example, during a follow-up visit, the public health professional can return to review and answer questions about it. Having the client answer questions related to the instrument may also promote communication and reflection about specific problems. This information about family and friends could also be an important factor of discharge planning when considering social network members available for caregiving or transportation assistance. Information with dual purposes may be seen as a priority for busy public health professionals.

Identification of clients who are at high risk for social isolation will allow case managers to work with nursing staff to develop care plans aimed at preventing social isolation in these clients. Those clients who are deemed to be socially isolated could benefit from interventions to return to a state of social integration, and future visits could focus on prevention of future occurrences of social isolation.

Directions for the Future

Public health professionals value the preventive benefits of a thorough holistic assessment, which should include an assessment for social isolation in older adults. It is difficult enough for public health professionals to manage the client/case load without adding extra assessments, which are seen to be of little benefit to their clients. Therefore, public health professionals must be completely confident that adding extra assessments is worth the time it takes to complete them in terms of the benefit to their clients. Based on the evidence from the literature reviewed herein, the hope is that public health professionals will see that the benefits of identifying social isolation in their older clients outweigh the cost of time of assessment. This quick assessment could be a part of the discharge planning from hospitals or part of the admission planning for community health nurses. Additionally, public health professionals involved with community outreach programs have an opportunity to assess community members, especially the elderly, for social isolation. Aside from including common risk factors for social isolation, this assessment would include a rapid screening tool such as the LSNS-6, with additional follow-up questions regarding subjective attributes.

Hospitals and community health agencies that incorporate a social isolation assessment into their plans of care will benefit from a healthier population of older adults. Through assessment and identification, at-risk older adults can be referred to community resources aimed at mitigating social isolation.

Hospitals and community health agencies that make identification of social isolation a priority can demonstrate how identification leads to referrals for interventions. If these interventions lead to prevention of numerous negative and costly health problems, such as depression and falls, insurance companies are likely to reimburse for this assessment. The eventual goal is to develop effective interventions that lessen social isolation; however, the first important step it to assess and identify those at risk for this condition.

Conclusion

According to the *Nursing Diagnosis Handbook: An Evidence-Based Guide to Planning Care*, social isolation is an official nursing diagnosis (Ackley & Ladwig, 2010). There are both objective and subjective characteristics of an individual who is socially isolated, many of which are outlined above. These characteristics can be used to holistically assess an older adult for social isolation or risk of social isolation. Social isolation is a diagnosis that nurses are expected to be aware of and to use in their practice.

Nursing practice needs to be supported by evidence from ongoing research efforts. The evidence presented in this review article highlights the significance of the numerous negative health outcomes related to social isolation. There is also evidence to support various factors that could be used to identify which community-dwelling older adults may be at high risk of social isolation. However, despite this substantial evidence, social isolation is rarely assessed in primary care settings, such as during home visits from community health nurses. By knowing these factors, public health professionals have the opportunity to assess and identify

at-risk older adults using the techniques described herein. Once identified, at-risk older adults can be referred to appropriate resources to prevent social isolation. Use of appropriate intervention strategies can be implemented in order to alleviate social isolation and its many associated detrimental health effects, and future plans of care should focus on prevention of future social isolation.

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