

## **Social isolation in older adults and its impact on health**

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### **Introduction**

Social isolation is a complex phenomenon that is increasingly being compared to high risk health behaviours such as smoking and obesity<sup>1,2</sup>. Over recent years, increasing amounts of studies consider how social isolation can affect health<sup>2,3,4,5,6</sup>. Older adults who express feelings of social isolation or loneliness experience higher rates of cognitive decline<sup>3,4</sup>, clinical depression<sup>4</sup>, cardiovascular disease<sup>5,6</sup> all leading to an increased risk of morbidity and mortality<sup>5,6,7</sup>.

### **Background**

In the UK, 10 million people are over 65 years old which is predicted to rise by over 50% in 20 years time and the number will have nearly doubled to around 19 million by 2050. Included within this total is 3 million people aged 80 years and over, and this is projected to double by 2030 reaching 8 million by 2050<sup>8</sup>. Given the predicted rise in the population of older adults and increasing longevity alongside the increasing numbers of older adults without spouses or children, it is forecast that social isolation will escalate<sup>9,10</sup>.

Social isolation impacts on quality of life and wellbeing with demonstrable negative health effects<sup>1,2,3,4,5,6,7,9,10,11</sup>. Loneliness is associated with being either a cause or consequence of depression and has higher rates of mortality<sup>12</sup>. This negative impact on individuals' health can lead to increased health and social care service use, while lonely and socially isolated individuals are more likely to have early admission to residential or nursing care<sup>12,13</sup>.

### **Literature Search**

A search for relevant literature accessed three library databases Summon, CINAHL and Medline to gain understanding of what factors cause social isolation and how this impacts on health. Five published research studies were analysed to enable illustration of the key factors that lead to social isolation and loneliness and the resultant impact on health.

To differentiate between social isolation and loneliness the following definitions enable clarification: social isolation is described as the objective lack of relationships and social interaction whereas loneliness is expressed as a subjective, distressing feeling<sup>9</sup>. There is an important distinction between objective isolation and perceived isolation with some arguing that loneliness is the colloquial term for perceived social isolation whereas objective isolation is due to social disconnectedness<sup>7,9</sup>.

### **Review**

The first study by Coyle and Dugan<sup>11</sup> examined social isolation and loneliness and their relationship to health outcomes. With a sample of 11,825 they used data from the Leave Behind Questionnaire of the Health and Retirement Study. They examined self-related health and mental health conditions using logistic regression. The results showed that social isolation and loneliness did not correlate, and indicated that social isolation led to self-reporting physical health as fair to poor whereas loneliness led to an increased probability of experiencing mental health problems. The study suggests that global measures of social isolation that do not distinguish between social isolation and loneliness may not reveal the impact on physical and mental health.

These findings relate to the second study by Cornwell and Waite<sup>9</sup> who used population-based data from the National Social Life, Health and Aging Project. They interviewed 3005 individuals aged between 57-85 yrs old and received 2910 questionnaires. They combined multiple indicators of social isolation into scales assessing social disconnectedness (social network characteristics, number of friends and social participation) and perceived isolation (loneliness and perceived social support). On examining the extent to which social disconnectedness and perceived isolation are experienced they considered associations with physical and mental health among older adults<sup>9</sup>. Results indicated that social disconnectedness and perceived isolation are independently associated with lower levels of self-rated physical health. The findings indicate that social disconnectedness and perceived isolation have separate and distinct links with mental and physical health suggesting they are not interchangeable indicators<sup>9</sup>.

The third study by Shankar et al<sup>2</sup> considered the impact of social isolation and loneliness individually concurrent with health-related behaviour (e.g. smoking and physical activity) and biological factors. They analysed data from over 5,000 participants who were eligible for a nurse visit and blood sampling including data such as blood pressure, cholesterol and inflammatory markers. They measured loneliness using the short form of the revised UCLA scale and an index of social isolation was calculated combining marital status; frequency of contact with friends, family and children and participation in social activities<sup>2</sup>.

Their findings indicated that fewer than 2% of participants reported being lonely all the time, while nearly 7% had the highest possible scores on social isolation<sup>2</sup>. Both social isolation and loneliness were associated with a greater risk of being inactive as well as reporting multiple health-risk behaviours, including smoking. Social isolation was also positively associated with blood pressure, C-reactive protein and fibrinogen levels<sup>2</sup>. In their discussion they recognise that loneliness and social isolation may affect health due to the impact these factors can have on health behaviour. Also, social isolation may be linked to biological processes that are associated with the development of cardiovascular disease.

The fourth study by Cacioppa et al<sup>7</sup> was selected as Cacioppa and Hawkley are known authors in the field. Whilst this paper is not an empirical study it considers experimental, cross-sectional and longitudinal studies and discusses the various ways social isolation is related to, and in some cases affects, human neural, hormonal, cellular and genetic processes. The study gives a biological rationale for the human reaction to social isolation. They argue that humans are a social species so naturally form societies that extend beyond the individual. These social processes developed to ensure survival and genetic legacy and involved the development of behavioural, neural, hormonal, cellular and genetic mechanisms to support them.

They argue that the effects of perceived isolation in humans are comparable to studies conducted that involved experimental control of isolation in non-human social species. These experiments demonstrated increased tonic sympathetic tonus and hypothalamic pituitary adrenocortical (HPA) activation alongside decreased inflammatory control, immunity, sleep and expression of genes regulating glucocorticoid responses. The paper claims these effects contribute to higher rates of morbidity and mortality in older adults.

In the final study selected, by Kobayashi et al<sup>3</sup>, they aimed to develop a profile of socially isolated older adults (SIOA) in British Columbia based on socio-demographic and health characteristics to examine the impact of SIOA on healthcare services. The study sampled 1064 over 65 yrs olds who were identified using the Lubben Social Network Scale which asks questions about contact with family and friends. Data was gathered by telephone interview. The results indicated that 17% of the sample were socially isolated. The study identified that the strongest predictors of social isolation were income, gender, marital status, self-rated health, length of residence and home ownership<sup>3</sup>.

Further analysis indicates that SIOA did not overuse health services. The findings underscore the importance of understanding differential profiles of need and service use for SIOA within broader social contexts, and are discussed in terms of their implications for health care policy and program planning for this vulnerable population.

## Discussion

The articles were selected due to the comprehensive analysis of the multiple factors that impact on social isolation, therefore health. Coyle and Dugan<sup>11</sup> and Cornwell and Waite<sup>9</sup> differentiate between the effects of perceived social isolation or loneliness and social disconnectedness and how they link to health. Older adults who perceive they are socially isolated or lonely experience more mental health problems in comparison to those who are socially disconnected who rate their own physical health as poor<sup>11</sup>. It is recognised that research into social isolation can be blurred by the multiple aspects that contribute to it however, both perceived isolation and social disconnectedness are associated with worse physical and mental health<sup>9</sup>.

Social isolation can be linked to depression although there is a need to recognise that a depressive affect may precede increased social isolation<sup>4</sup>. The health risks associated with loneliness and social disconnectedness are more apparent in the older adult community due to changes in circumstances experienced including retirement, decreases in mobility, low income, increases in illness and disability as well as the loss of spouse and other social network members<sup>9,11</sup>.

Many social factors such as stress, negative life events and poor social support may influence an older adult's perception of social isolation and ability to cope with such events<sup>3</sup>. Loneliness involves the perception of the quality of the individual's social relationships which induces feelings of distress<sup>11</sup>. A key point to raise is the word perception, meaning that individuals can live solitary lives and not feel lonely, contrasting with individuals who have many social relationships and yet still experience feelings of loneliness<sup>11</sup>. This emphasises the importance of the perceived quality of the individuals' relationships. Older adults may experience more impact on their social network due to bereavement however, it is worth noting that many older adults are not lonely and a dwindling social network may contribute to enhanced fulfilment with their social relationships<sup>10</sup>.

However, these impacting factors are believed to affect health behaviours due to changes in social support or social prompts guiding behaviour choices<sup>1,2</sup>. Loneliness is associated with an increased probability of being physically inactive and smoking (or both) however, the effects of social isolation are greater with a 23% increase in odds of being inactive (compared to 13% for loneliness) and a 32% chance of being a smoker (compared to 10% for loneliness)<sup>2</sup>. Social isolation is also associated with increased blood pressure and inflammatory markers<sup>2,7</sup>.

These findings link with models of health behaviours and suggest that those who are isolated are less likely to be influenced by others<sup>2</sup>. This may account for elements of social isolation as less acceptable behaviour becomes socially isolating<sup>14</sup>. An individual who experiences isolation which results from an imbalance between their actual level of connectedness and their perceived level of connectedness can experience distress. It is argued that this distressing psychological process combined with behavioural, neural, hormonal, cellular and genetic evolution impacts on the body's response to stress caused by social isolation which can result in negative health outcomes for older adults<sup>7,9</sup>.

The pain associated with social isolation can be regarded as a biological construct which progresses into an aversive signal that motivates behaviour changes<sup>7</sup>. This signal alerts

social threat, which in turn means the older adult perceives their social environment as threatening<sup>4,7</sup>. As a result, lonely individuals withdraw from society which prompts behaviour perceived as self-preserving but is ultimately destructive<sup>4,7</sup>. The interaction of social isolation leading to social threat can initiate neurobiological mechanisms which increase mental load leading to diminished cognitive abilities<sup>4</sup>.

## Conclusion

The findings suggest that older adults, who can manage changes within their social circumstances and stay connected socially, may experience less physical and mental health issues<sup>9</sup>. However, for those older adults who struggle to cope with changes in their social circumstances, there needs to be a process of identification to recognise those who are reluctant to engage in social activities and illness preventative measures. For healthcare professionals this could mean screening through home visits, hospital discharge planning or annual health screening programmes in primary care clinics<sup>12</sup>. These could be proactive for determining which older persons have health behaviours or coping skills that place them at risk for social isolation<sup>12</sup>.

Research, policy and age friendly actions to address social isolation are already at the forefront of government policy and more needs to be done as the population ages especially in light of the fact social isolation is an everyday yet preventable problem affecting older adults.

## References

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