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**QUESTION**

**Question:** Are social networks associated with reduced incidence of dementia in elderly women?  
**People:** 2249 women aged ≥77 years without a diagnosis of dementia at baseline (see outcomes for how dementia status was determined).  
**Setting:** Kaiser Permanente Southern California health maintenance group, USA; 2001–2005.  
**Risk factors:** Participants' social network size assessed using the Lubben Social Network Scale-6 (LSNS-6). The scale measured the size of the social network (people heard from or seen at least once a month), perceived support network (people who could be called on for help) and perceived confidant network (people who could be talked to about private matters). The scale provides a total score between 0 and 30; higher scores indicate a larger network. Frequency of contact with family and friends was also assessed (less than 1, 1–2, 3–6 times/week and once a day). Analyses were adjusted for potential confounding factors, such as baseline cognitive status, age, education, hormone use and the presence of selected health conditions.  
**Outcomes:** Presence of dementia, determined using a three stage process. At each stage, if no dementia or minimal impairment was determined, the interview was stopped and the participant assigned to the no dementia category. The Telephone Interview for Cognitive Status–modified (TICS-m) was administered to the participant and if test score <28 (ie, some indication of cognitive decline), the Telephone Dementia Questionnaire (TDQ) was administered to participant identified informant. Dementia was diagnosed if the TDQ identified memory deficits, two or more other domains of cognitive impairment and functional impairment in the participant. If the diagnosis was uncertain or TDQ data were not available, medical records were examined. If a dementia diagnosis had been recorded, the participant was considered to have dementia, while if only cognitive impairment was recorded, cognitive impairment but not dementia was assigned. If no mention of either cognitive impairment or dementia was found in the records, but TDQ data had been collected, cognitive impairment was assigned.  

**METHODS**

**Design:** Prospective cohort study.  
**Follow-up period:** 4 years (yearly interviews until diagnosis of dementia or death).  

**MAIN RESULTS**

Overall, 12% of the study population developed dementia, 9% died and 19% did not continue with the study. After adjustment for confounding factors, having a larger social network was associated with a reduced risk of dementia compared with having a smaller social network (HR 0.74, 95% CI 0.57 to 0.97; a larger network was defined as LSNS-6 score ≥12, smaller network was defined as score <11). Women who had contact with their friends and family at least once a week were also less likely to develop dementia than those who had less contact (HR 0.57, 95% CI 0.38 to 0.87). No interaction was seen between cognitive function (TICS-m) and social network size (LSNS-6) at baseline (p = 0.41) but there was an association between poorer cognitive function (low TICS-m scores) at baseline and development of dementia and smaller social network at follow-up.  

**CONCLUSIONS**

In elderly women larger social networks are associated with a reduced risk of developing dementia.

**ABSTRACTED FROM**


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Recent longitudinal research suggests that social and emotional isolation in old age increase the risk of cognitive decline and dementia. The study by Crooks and colleagues showing an association between one’s social network and subsequent risk of developing dementia is a good example of this work. Importantly, social network was measured with two questions about its size (ie, number of friends, relatives seen or heard from at least monthly) and four questions about perceived supportiveness and trustworthiness of others. Studies that have defined social networks solely by their size have had inconsistent results whereas studies, such as the present one, that have included data about perceived quality of relationships have generally found an association with dementia. Thus it is not simply the number of people with whom we maintain regular contact but also (and perhaps more so) the quality of the underlying relationships that is critical.

A novel feature of this study is that almost all data collection was done by telephone, including cognitive testing and structured informant interview in the event of cognitive impairment. The results provide further evidence that clinical assessment by telephone is a valid and cost effective alternative to in person assessment.

The basis of the association between social network size and dementia is uncertain. A recent clinical–pathological study found that network size was not related to measures of Alzheimer’s disease pathology but modified the relation of pathology, especially neurofibrillary tangles, to cognition. Thus the processes involved in developing and maintaining a large social network may somehow help the brain to better tolerate the accumulation of age related neurodegenerative changes. Understanding the neurobiological mechanisms linking factors such as social network size to risk of dementia may suggest novel strategies for delaying age related loss of cognition function.

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