Journal of Affective Disorders 182 (2015) 26–31

Contents lists available at ScienceDirect

Journal of Affective Disorders

journal homepage: www.elsevier.com/locate/jad

Research report

The association between depression and emotional and social loneliness in older persons and the influence of social support, cognitive functioning and personality: A cross-sectional study

L. Peerenboom [a,*], R.M. Collard [b], P. Naarding [c], H.C. Comijs [d]

[a] Department of Psychiatry, Pro Persona, Nijmegen, The Netherlands
[b] Departement of Psychiatry, Radboud University Nijmegen Medical Center, Nijmegen, The Netherlands
[c] Department of Old-age Psychiatry, GGNet, Apeldoon/Zutphen, The Netherlands
[d] GGZinGeest/VU University Medical Center/Department Psychiatry, Amsterdam, The Netherlands

ARTICLE INFO

Article history:
Received 17 December 2014
Received in revised form
7 April 2015
Accepted 18 April 2015
Available online 25 April 2015

Keywords:
Depression
Loneliness
Older persons
Personality

ABSTRACT

Background: We investigated the association between old age depression and emotional and social loneliness.
Methods: A cross-sectional study was performed using data from the Netherlands Study of Depression in Older Persons (NESDO). A total of 341 participants diagnosed with a depressive disorder, and 125 non-depressed participants were included. Depression diagnosis was confirmed with the Composite International Diagnostic Interview. Emotional and social loneliness were assessed using the De Jong Gierveld Loneliness Scale. Socio-demographic variables, social support variables, depression characteristics (Inventory of Depressive Symptoms), cognitive functioning (Mini Mental State Examination) and personality factors (the NEO- Five Factor Inventory and the Pearlin Mastery Scale) were considered as possible explanatory factors or confounders. (Multiple) logistic regression analyses were performed.
Results: Depression was strongly associated with emotional loneliness, but not with social loneliness. A higher sense of neuroticism and lower sense of mastery were the most important explanatory factors. Also, we found several other explanatory and confounding factors in the association of depression and emotional loneliness; a lower sense of extraversion and higher severity of depression.
Limitations: We performed a cross-sectional observational study. Therefore we cannot add evidence in regard to causation; whether depression leads to loneliness or vice versa.
Conclusions: Depression in older persons is strongly associated with emotional loneliness but not with social loneliness. Several personality traits and the severity of depression are important in regard to the association of depression and emotional loneliness. It is important to develop interventions in which both can be treated.

1. Introduction

Multiple studies have revealed that depression and loneliness are strongly associated in older persons and that they can both have serious adverse effects on well-being (Cacioppo et al., 2006; Golden et al., 2009; Prieto-Flores et al., 2011; Theeke, 2010, Tiikkainen and Heikkinen, 2005).

In the Dutch population, one-third of the older people experience some type of lonely feelings, and 1–3% suffer from strong feelings of loneliness (Knipscheer et al., 1998). Studies in other countries report prevalence rates of loneliness that range from 39% to 72% (Knipscheer et al., 1998; Prieto-Flores et al., 2011; Routasalo et al., 2006; Savikko et al., 2005). Dykstra et al. conducted a longitudinal study and found an increase in loneliness only among the very old (Dykstra et al., 2005).

Loneliness is a multi-dimensional, dynamic phenomenon, varying in terms of causes and context. Perlman and Peplau (1981) defined it as the unpleasant experience that occurs when a person's network of social relationships is deficient in some important way either quantitatively or qualitatively. Weiss specified that loneliness comprises two primary dimensions; emotional loneliness and social loneliness (Weiss, 1973). Emotional loneliness refers to a lack of others with whom the individual can form an emotional attachment. Social loneliness occurs when an acceptable social network is lacking. Both social loneliness and a small social network were predictors for a poor outcome of major depression in middle-aged and older adults (George et al., 1989). Emotional and social loneliness were also related to

* Correspondence to: Boterbloem 23, 6663 GJ Lent, The Netherlands. Tel.: +31 6 26090559; fax: +31 24 3436361.
E-mail address: lpeerenboom@gmail.com (L. Peerenboom).

http://dx.doi.org/10.1016/j.jad.2015.04.033
0165-0327/

depression symptoms in nursing-home residents and older persons living in community housing (Drageset et al., 2012; Tiikkainen and Heikkinen, 2005).

It is not likely that the association between depression and loneliness can be explained by age alone. It is more likely that, underlying factors such as decreasing health, functional capacity and social networks also play an important role (Blazer, 2003; Heikkinen and Kauppinen, 2004). For instance, perceived social support will alter in late life as a result of changes in the size and functioning of family and non-kin relationships because of diminishing health and the passing of loved one. Older persons report declines in contact with friends, support satisfaction, and anticipated support (Shaw et al., 2007). Also, older people are at risk for cognitive impairments because of normal or pathological degeneration of the brain that occurs in aging. Even subtle normal cognitive changes can affect an older adult's day-to-day functioning (Harada et al., 2013). Finally, in late life, persons can be more confronted with their personality when adapting to their older age. In reaction to life events or stressors changes in personality may occur. (Agronin, 1998).

There is little knowledge about the relationship between depression and emotional and social loneliness. Thus far, research on the association between depression and loneliness provides very little insight into factors that explain this association. By investigating these associations and their possible explanatory factors we add a deeper and more comprehensive approach to most previous studies on this topic.

Based on previous findings, we hypothesize that (1) depression is associated with emotional and social loneliness; (2) more social support and better cognitive functioning positively influences the relationship between depression and emotional and social loneliness and; (3) increased neuroticism and low self-esteem negatively influence the relationship between depression and emotional and social loneliness, whereas higher scores on openness, extraversion, agreeableness and conscientiousness have a positive influence on the relationship.

2. Methods

Data from the Netherlands Study on Depression in Older persons (NESDO; http://nesdo.amstad.nl/) were used. NESDO is a multi-site naturalistic cohort study that investigated 378 depressed subjects and 132 healthy persons 60 years and older (Comijs et al., 2011). The depressed older persons were recruited in five regions in the Netherlands from both mental health care institutes and general practitioners, in order to include persons with late-life depression in various developmental and severity stages. The depressed older persons had a diagnosis of a depressive disorder or dysthymia according to DSM-IV-R criteria (American Psychiatric Association, 2000). Persons with a primary diagnosis of dementia, a Mini Mental State Examination-score (MMSE) under 18 (out of 30 points), and insufficient command of the Dutch language were excluded. Non-depressed controls were recruited from 14 general practices. Exclusion criteria for non-depressed controls were: a lifetime diagnosis of depression or dementia, and insufficient command of the Dutch language.

Data collection of the first measurement started in 2007 and was finished in September 2010. The study protocol was approved by the Ethical Review Board of the VU University Medical Centre and subsequently by the local ethical review boards of each participating centre. Written informed consent was obtained from all eligible participants.

In our group of depressed older persons, there was some missing data concerning the emotional and social loneliness scale, $N=38$ and $N=37$ respectively. In the control group there was missing data for 7 persons concerning the emotional loneliness scale and for 8 persons concerning the social loneliness scale. We compared the persons with missing data on the loneliness scale with the study sample on socio-demographic variables, social support, cognitive functioning, personality, mastery and severity of depression. We did not find any differences between the two groups, with the exception of the severity of depression scale, with higher depression scores in the missing data group (mean 30.0, SD 15.4) compared to the study group (mean 24.1, SD 15.2, $p=0.041$).

2.1. Independent variable

2.1.1. Depression diagnoses

Diagnoses were assessed with the Composite International Diagnostic Interview (CIDI;WHO version 2.1; lifetime version). The CIDI is a structured clinical interview that is designed for use in research settings and has high validity for depressive and anxiety disorders (Kessler et al., 2010; Wittchen et al., 1991).

2.2. Outcome measure

2.2.1. Loneliness

The Loneliness Scale encompasses 11 items with response categories; “no (0)”, “more or less (1)” and “yes (2)” (De Jong Gierveld and Kamphuis, 1985; De Jong Gierveld and Van Tilburg, 2006; 2010). A total score was computed ranging from 0 to 11 points. Two subscales were distinguished according to De Jong Gierveld (De Jong Gierveld and Van Tilburg, 2006). The emotional loneliness score was computed from items 2, 3, 5, 6, 9 and 10, ranging from 0 (no emotional loneliness) to 6 (severe emotional loneliness). The social loneliness score was computed from items 1, 4, 7, 8 and 11, ranging from 0 to 5 (severe social loneliness). The loneliness subscales were not normally distributed. These findings did not change after we performed log transformations. Therefore, we decided to dichotomize the subscales. There are no validated cut-off points for the subscales. Therefore we determined the cut off points by calculating the mean+1SD for all participants for both subscales (Nunes et al., 2010). The mean of the emotional loneliness subscale were 2.8 and the SD 2.30 leading to a sum score of 5.1. We made a downward adjustment and depicted a cut-off point 5 on the emotional loneliness scale. The mean and SD of the social loneliness subscale were respectively 2.5 and 1.91. This led to a cut-off point of 4 on the social loneliness scale.

2.3. Covariates

Socio-demographics including age, sex and education were assessed using standard questions. Age, sex and education were considered as possible confounding variables.

2.3.1. Social support

Social support was operationalised in two ways. Firstly, we asked the respondents if they had a partner. Secondly, we used the item referring to the respondents' network size by means of the Close Person Inventory, a valid questionnaire for measuring social support (Stansfield and Marmot, 1992). The respondents were asked to count relatives and friends who they frequently had contact with, and which they considered meaningful to them. These persons had to be older than 18 and persons that were currently living with the respondent had to be excluded. Two groups were computed; a group with a network of 0 to 5 persons, and a group who had a network of more than 6 persons.