Journal of Affective Disorders 167 (2014) 187–191

Contents lists available at ScienceDirect

Journal of Affective Disorders

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

Brief report

Depression, disability and somatic diseases among elderly

P.F.M. Verhaak [a,b,*], J.H. Dekker [a], M.W.M. de Waal [c], H.W.J. van Marwijk [d], H.C. Comijs [e]

[a] Groningen University, University Medical Center Groningen, Department of General Practice, Groningen, The Netherlands
[b] Netherlands Institute of Health Services Research, PO Box 1568, 3500 BN Utrecht, The Netherlands
[c] Leiden University Medical Center, Department of Public Health and Primary Care, Leiden, The Netherlands
[d] VU University Medical Center, Department of General Practice and EMGO Institute for Health Care Research, The Netherlands
[e] VU University Medical Center/GGZinGeest, Department of Psychiatry and EMGO Institute for Health Care Research, The Netherlands

ARTICLE INFO

Article history:
Received 15 January 2014
Received in revised form
24 May 2014
Accepted 27 May 2014
Available online 18 June 2014

Keywords:
Depression
Aged
Chronic disease
Disability

ABSTRACT

Objective: Depression among older adults is associated with both disability and somatic disease. We aimed to further understand this complicated relationship and to study the possible modifying effect of increasing age.
Design: Cross sectional survey.
Setting: Outpatient and inpatient clinics of regional facilities for mental health care and primary care.
Participants: Elderly people, 60 years and older, 378 persons meeting DSM-IV criteria for a depressive disorder and 132 non-depressed comparisons.
Measurements: Depression diagnoses were assessed with the CIDI version 2.1. Disability was assessed with the WHO Disability Assessment Schedule (WHODAS). Social-demographic information and somatic diseases were assessed by self-report measurements.
Results: Disability, in general and on all its subscales, was strongly related to depression. Presence of somatic disease did not contribute independently to variance in depression. The relationship was stronger for people of 60–69 years old than for those older than 70 years. Important aspects of disability that contributed to depression were disability in participation, self-care and social activities.
Limitations: Results are based on cross sectional data. No inferences about causal relationships can be drawn.
Conclusion: Disability, especially disability regarding participation, self-care, or social activities is strongly related to late-life depression. Somatic diseases in itself are less of a risk for depression, except that somatic diseases are related to disability.

1. Introduction

Depression is a frequently occurring condition among older patients (Alexopoulos, 2005; Djernes, 2006; Licht-Strunk et al., 2009; Unutzer, 2007). Late life depression may be different from depression among younger adults in several respects (Serby and Yu, 2003). Important predictors for onset and persistence of late-life depression are female gender, low education, loss of partner, cognitive decline, somatic diseases, and functional impairment or disability (Djernes, 2006). Risk factors may cluster and the interaction of the latter two is particularly intriguing and often problematic in general practice.

The association between depression and disability is reported by many authors (Barry et al., 2009; Chen et al., 2012; Diefenbach et al., 2012; Garber et al., 2010; Pagan-Rodriguez and Perez, 2013; Penninx et al., 1998; Russo et al., 2007; Schillerstrom et al., 2008; Vink et al., 2008; Yanagita et al., 2006). The same goes for depression and somatic disease, (Evans et al., 2005; Nuijen et al., 2006; Patten et al., 2005; Vink et al., 2008).

Disability, somatic diseases and age all appear interrelated. Disability and somatic diseases become more frequent as people get older. It is unclear whether specific somatic disease and depression are related because of an etiological cause or whether somatic disease contributes to disability and disability causes depression (Schillerstrom et al., 2008). With growing age, relationships change as well: Mehta et al. (2008) concluded that among young-old (65–80) resilience, apathy and disability all equally contributed to the variance in depression score, whereas among the old–old (>80) apathy alone had the greatest contribution to depression.

With an aging population, this entanglement of disability (both physical as psychosocial), somatic diseases, age and depression poses an important problem for focused health care delivery.

* Corresponding author at: Netherlands Institute of Health Services Research, PO Box 1568, 3500 BN Utrecht, The Netherlands. Tel.: +31 30 27 29 735; fax: +31 30 27 29 729.
E-mail address: p.verhaak@nivel.nl (P.F.M. Verhaak).

http://dx.doi.org/10.1016/j.jad.2014.05.057
0165-0327/

This brings forward the following research questions:

1. Is somatic disease independently related to depression or is disability, associated with somatic disease, an explanatory factor?
2. Are the relationships in question 1 moderated by age?

2. Method

2.1. Recruitment

Data are derived from the baseline measurement of the Netherlands Study of Depression in Older persons (NESDO; http://nesdo.amstad.nl; Comijs et al., 2011). In this study respondents of 60 years and older have been recruited from mental health care and general practices in five different regions in the Netherlands. From the 378 depressed patients, 326 were included from outpatient and inpatient clinics for mental health care; 52 depressed patients were included from primary care. In addition, a comparison group of 132 non-depressed patients (not matched on any criterion) was included from primary care with a negative score on the GDS and no life-time diagnosis of depression. Inclusion criteria for the depressed group were a primary 6-month diagnosis of major depressive disorder, dysthymia or minor depression according to DSM-IV criteria (APA, 1994). Exclusion criteria for both groups were a primary clinical diagnosis of dementia, a Mini Mental State Examination-score (MMSE) below 18 (out of 30 points), and insufficient command of the Dutch language.

2.2. Assessments

Depression diagnoses were assessed with the Composite International Diagnostic Interview (CIDI; WHO version, *2.1; lifetime version.*

Severity of depression was measured as a continuous measure with the Inventory of Depressive Symptoms (IDS; Rush et al., 1996) *Disability* was assessed with the WHO Disability Assessment Schedule (Chwastiak and von Korff, 2003), with 6 subscales (see Table 4). Higher scores indicate more disability. The presence of *somatic diseases* was assessed by means of a self-report questionnaire, previously used in the Longitudinal Aging Study Amsterdam (Kriegsman et al., 1996). Participants were asked whether they were under treatment of a medical doctor for a range of somatic diseases, including a category "other". The number of these somatic diseases, as far as patients were under treatment of a medical doctor, was used in the analyses. *Socio-demographic characteristics*. Of each participant, age, gender, educational level, partner status (*y*/*n*), and household income was assessed.

2.3. Analysis

We first compared the group of depressed patients with the non-depressed comparison group by means of descriptive

Table 1
Characteristics of depressed and non-depressed elderly.

	Non-depressed ($N=132$)	Depressed ($N=378$)	Statistical test
Gender (*N* (%))			$\chi^2=0.98$; $df=1$(n.s.)
Male	51 (39%)	128 (34%)	
Female	81 (61%)	250 (66%)	
Age (mean)	70,1	70,7	$t=-0.89$; $df=508$ (n.s.)
Marital status (*N* (%))			$\chi^2=8.73$; $df=1$; ($p=0.003$)
No partner	46 (35%)	188 (50%)	
Partner	86 (65%)	190 (50%)	
Educational level			$\chi^2=24.35$; $df=2$; ($p<0.001$)
Basic	9 (7%)	78 (21%	
Intermediate	71 (54%)	221 (58%)	
High	52 (39%)	79 (21%)	
Income			$\chi^2=18.47$; $df=1$ ($p=0.001$)
< 1600 €/month	24 (19%)	148 (41%)	
> 1600 €/month	102 (81%)	215 (59%)	
Psychopathology past 6 months N (%)			
Only Minor depression		13 (3%)	
Dysthymia		100 (26%)	
Single MDD, mild		61 (16%)	
Single MDD, moderate		57 (15%)	
Single MDD, severe		62 (16%)	
Recurrent MDD, mild		75 (20%)	
Recurrent MDD, moderate		43 (11%)	
Recurrent MDD, severe		62 (16%)	
Disability (Mean (sd))			
Total disability score	6.5 (6.7)	25.7 (12.4)	$t=-16.6$; $df=490$ ($p<0.001$)
Understanding and communicating	7.4 (10.9)	29.0 (18.3)	$t=-12.7$; $df=501$ ($p<0.001$)
Getting around	7.8 (13.4)	25.4 (22.1)	$t=-8.5$; $df=500$ ($p<0.001$)
Self-Care	2.3 (6.7)	13.5 (14.5)	$t=-8.5$; $df=500$ ($p<0.001$)
Social activities	8.0 (9.0)	24.8 (14.3)	$t=-12.5$; $df=494$ ($p<0.001$)
Daily life activities	9.4 (14.2)	28.4 (20.4)	$t=-9.8$; $df=497$ ($p<0.001$)
Participation in society	5.6 (8.4)	28.4 (15.2)	$t=-16.2$; $df=498$($p<0.001$)
Somatic diseases			
N of somatic diseases (mean; sd)	1.23 (1.1)	1.3 (1.3)	$t=-0.80$; $df=508$ (n.s.)
Heart disease (%)	16%	17%	$t=0.34$; $df=508$ (n.s.)
Diabetes (%)	10%	12%	$t=0.66$; $df=508$ (n.s.)
Arthritis (%)	14%	11%	$t=-0.77$; $df=508$ (n.s.)
Cancer (%)	8%	12%	$t=1.34$; $df=508$ (n.s.)