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Research report

Personality and social support as predictors of first and recurrent episodes of depression

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ABSTRACT

Background: Depression is a prevalent psychiatric disorder with high personal and public health consequences, partly due to a high risk of recurrence. This longitudinal study examines personality traits, structural and subjective social support dimensions as predictors of first and recurrent episodes of depression in initially non-depressed subjects.

Methods: Data were obtained from the Netherlands Study of Depression and Anxiety (NESDA). 1085 respondents without a current depression or anxiety diagnosis were included. *437 respondents had a prior history of depression, 648 did not*. Personality dimensions were measured with the NEO-FFI, network size, partner-status, negative and positive emotional support were measured with the Close Person Questionnaire. Logistic regression analyses (*unadjusted and adjusted for clinical variables and socio-demographic variables*) examined whether these psychosocial variables predict a new episode of depression at two year follow up and whether this differed among persons with or without a history of depression.

Results: In the unadjusted analyses high extraversion (OR:.93, 95% CI (.91–.96), $P<.001$), agreeableness (OR:.94, 95% CI (.90–.97), $P<.001$), conscientiousness (OR:.93, 95% CI (.90–.96), $P<.001$) and a larger network size (OR:.76, 95% CI (.64–.90), $P=.001$) significantly reduced the risk of a new episode of depression. Only neuroticism predicted a new episode of depression in both the unadjusted (OR:1.13, 95% CI (1.10–1.15), $P<.001$) and adjusted analyses (OR:1.06, 95% CI (1.03–1.10), $P<.001$). None of the predictors predicted first or recurrent episodes of depression differently.

Limitations: we used a relatively short follow up period and broad personality dimensions.

Conclusions: Neuroticism seems to predict both first and recurrent episodes of depression and may be suitable for screening for preventive interventions.

1. Introduction

Depression is one of the most prevalent psychiatric disorders. In a World Mental Health survey initiative in 18 countries Bromet et al. (2011) found that the average lifetime prevalence of depression ranged from 11.1% to 14.6% and the twelve month prevalence ranged from 5.5% to 5.9%. Depression is highly recurrent: at least 50% of those who recover from a first episode of depression have one or more episodes in their lifetime and approximately 80% of those with a history of two episodes have another recurrence (American Psychiatric Association, 2000). Depression has major personal and public health consequences (Judd et al., 2000; Greden, 2001). It is therefore important to identify the factors that predict onset and recurrence so at-risk individuals can be identified at an early stage and prevention steps can be taken.

Much is yet to be learned about factors that influence the course of depression, but there is growing evidence that different risk factors are associated with onset and recurrence (Lewinsohn et al., 1999). Onset of depression seems to be associated with demographic variables like gender (with a twofold increased risk for women), marital status, age (Weissman et al., 1996; Wittchen et al., 2000; Andrade et al., 2003; Van de Velde et al., 2010), the presence of other psychiatric disorders (especially anxiety disorders), family history of depression and stressful life events (Birmaher et al., 2004). Subclinical residual symptoms and the number of previous episodes are the most important predictors of recurrence (Burcusa and Iacono, 2007; Hardeveld et al., 2010).

Personality and social support dimensions have also been identified as relevant risk factors for depression. The Five Factor

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Model is among the most popular models of personality (McCrae and Costa, 1990). This model includes five important domains of personality: neuroticism, extraversion, agreeableness, conscientiousness and openness to experience and can be seen as the basic organizing framework for both normal and abnormal personality (Markon et al., 2005). Most research on personality and depression has focused on the relationship between depression and neuroticism or extraversion. Many studies have documented the relationship between neuroticism and onset of depression (Kendler et al., 2006; Fanous et al., 2007, Bagdy et al., 2008; Griffith et al., 2010). Neuroticism also seems to be related to recurrence of depression (Burcusa and Lacono, 2007; Hill et al., 2011), but evidence is still inconclusive (Hardeveld et al., 2010). Prospective studies have found no evidence that extraversion can predict future depressive episodes (Kendler et al., 2006). The association of the other personality traits with onset or recurrence of depression has largely been unexamined.

Social support can be defined as a person's perceived belief that help or empathy can be obtained when needed and the satisfaction with this available support (Sarason et al., 1987). The subjective dimension of social support-perceived support-has been more consistently linked to depression than structural aspects of support like network size (Finch et al., 1999; Haber et al., 2007). A low level of perceived social support seems clearly linked with depression in different patient groups (Stice et al., 2004; Travis et al., 2004). However, the exact nature of this relationship is quite unclear. There is evidence that greater social support protects against the onset of depression (Kendler et al., 2005); although other studies have failed to find this effect (Burton et al., 2004; Wade and Kendler, 2000). Several studies reported no relationship between social support and recurrence of depression (Hardeveld et al., 2010). A less investigated aspect of social support, the negative aspects of interactions, seems to be a risk factor for onset of depression (Finch et al., 1999; Lincoln, 2008). To our knowledge there are no studies examining the relationship between negative aspects of interactions and the prediction of recurrence.

Personality plays an important role in the ability to develop and maintain interpersonal relationships and in both the appraisal and effectiveness of supportive interactions that take place in the context of these relationships (Kendler et al., 2003; Lincoln, 2008). Therefore this study aims to assess the predictive value of the personality dimensions of the five factor model and different social support dimensions for depression, both uniquely and in concert. We aim to examine whether personality and social support are differently associated with the prediction of onset or recurrence of depression. Based on the literature, we hypothesize that high neuroticism, low perceived support and a high level of negative aspects of support will predict first and potentially also recurrent episodes of depression. Since there is some evidence that social support may erode as a consequence of depression (Coyne, 1976) and given the high comorbidity between depression and anxiety we will statistically control the analyses for depression severity at baseline and prior anxiety disorders.

2. Methods

2.1. Sample

Data for the present study were obtained from the Netherlands Study of Depression and Anxiety (NESDA), an ongoing naturalistic longitudinal cohort study examining the long-term course of depressive and anxiety disorders. NESDA has been designed to be representative of those with depressive and anxiety disorders in different health care settings and stages of the developmental history. A total of 2981 respondents were recruited from different health care settings (community, primary care and specialised mental health care), including healthy controls and those with a history or current diagnosis of a depressive and/or anxiety disorder. All respondents underwent a four-hour baseline assessment that included an assessment of psychopathology, demographic and personal characteristics, psychosocial functioning and biomarkers. Respondents were 18 through 65 years of age. The study protocol was approved centrally by the Ethics Review Board of the VU University Medical Centre Amsterdam and subsequently by the local review boards of each participating centre. After full verbal and written information about the study was provided, written informed consent was obtained from all respondents. A detailed description of the NESDA study has been published elsewhere (Penninx et al., 2008). The present study drew on data from the baseline and two-year follow-up assessments. We only included respondents without a current diagnosis (defined as having no depressive or anxiety disorder diagnosis in the prior six months) at baseline ($N=1244$). Subsequently, we excluded respondents with missing information on social network ($N=11$), personality ($N=1$) or on one of the social support dimensions ($N=57$). Finally, we excluded respondents without a two-year follow up measurement ($N=90$), leaving a sample of 1085 respondents. 648 respondents had no prior history of depression. 437 respondents did have a history of depression. Excluded persons ($n=159$) did not differ on sex, age or education compared to included persons.

3. Measurements

3.1. Depressive disorder diagnosis

Diagnoses of depressive disorders (dysthymia and major depressive disorder) were assessed at baseline and two-year follow up and were defined according to the DSM-IV criteria. Depressive disorder diagnoses were established by specially trained clinical research staff with the Composite International Diagnostic Interview (CIDI, WHO version 2.1. Dutch version, ter Smitten et al., 1997).The CIDI is a structured diagnostic interview with a high inter-rater reliability (Wittchen et al., 1991), high test–retest reliability (Wacker et al., 2006) and high validity for depressive and anxiety disorders (Wittchen, 1994). The primary outcome variable was the occurrence of an episode of depression between baseline and the two-year follow-up. Based on the baseline CIDI interview persons were categorized as those with or without a prior history of depression.

3.2. Personality dimensions

We used the Dutch 60-item self-report NEO five-factor inventory (NEO-FFI) to measure the five personality dimensions, neuroticism, extraversion, openness to experience, agreeableness and conscientiousness, of the Five Factor Model (Hoekstra et al., 1996). The NEO-FFI is a short version of the Revised NEO Personality Inventory (NEOPI-R, Costa and McCrae, 1995). The reliability, internal structure and construct validity of the NEO-FFI are satisfactory (Hoekstra et al., 1996). The Cronbach's alpha for the different subscales was good (N:.95; E:.87; O:.78; A:.87; C:.83). The dimension sum score of each subscale was used for the statistical analyses.

3.3. Social support

We used the Close Person Questionnaire (CPQ, Stansfeld and Marmot, 1992) as a measure for two types of perceived support: confiding/emotional support and negative aspects of support. The CPQ has been positively validated using the Self Evaluation and