Research report

Life stressors and resources and the 23-year course of depression

Ruth C. Cronkite [a,b,c], Erin L. Woodhead [d,*], Andrea Finlay [a], Christine Timko [a,e], Kirsten Unger Hu [a], Rudolf H. Moos [a,e]

[a] VA Palo Alto Center for Health Care Evaluation, Menlo Park, CA, United States
[b] Department of Sociology, Stanford University, Stanford, CA, United States
[c] Center for Primary Care Outcomes Research, Stanford University, Stanford, CA, United States
[d] San Jose State University, San Jose, CA, United States
[e] Department of Psychiatry and Behavioral Sciences, Stanford University, Stanford, CA, United States

ARTICLE INFO

ABSTRACT

Background: Life stressors and personal and social resources are associated with depression in the short-term, but little is known about their associations with the long-term course of depression. The current paper presents results of a 23-year study of community adults who were receiving treatment for depression at baseline ($N = 382$).
Methods: Semi-parametric group-based modeling was used to identify depression trajectories and determine baseline predictors of belonging to each trajectory group.
Results: There were three distinct courses of depression: high severity at baseline with slow decline, moderate severity at baseline with rapid decline, and low severity at baseline with rapid decline. At baseline, individuals in the high-severity group had less education than those in the moderate-severity group, and more medical conditions than those in the moderate- and low-severity groups. Individuals in the high- and moderate-severity groups evidenced less psychological flexibility, and relied more on avoidance coping than individuals in the low-severity group.
Limitations: Results are limited by use of self-report and lack of information about depression status and life events in the periods between follow-ups.
Conclusions: These results assist in identifying groups at high risk for a long-term course of depression, and will help in selecting appropriate interventions that target depression severity, coping skills and management of stressors.

1. Introduction

The clinical course of depression may be characterized by slow or incomplete recovery and recurrences of major depressive episodes (Riihimäki et al., 2011). Even among individuals who receive treatment, a chronic course of depression is associated with poorer functioning in multiple domains (Pettit et al., 2009). There is limited literature on the long-term course of depression in adult clinical samples, with the majority of studies terminating in participants' early adulthood (Côté et al., 2009; Galambos et al., 2006) or following a non-clinical sample (Colman et al., 2007). Longitudinal studies that have followed clinical samples have not followed participants beyond 10 years (Klein et al., 2006; Rhebergen et al., 2011). Additionally, there

is virtually no information about the psychosocial risk factors associated with the long-term course of depression.

In light of this, research is needed to identify the course of depression over the adult lifespan, subgroups of individuals with high levels of depressive symptoms that persist over time, and appropriate targets for intervention. The current study sought to identify depression course among individuals who received treatment for depression at baseline and were followed over a 23-year period. A secondary aim was to identify baseline life stressors and personal and social resources associated with depression course. To our knowledge, our study is the first to examine trajectories representing the course of depression in an adult clinical sample over this long of a follow-up period.

2. Longitudinal course of depression

Existing studies of the longitudinal course of depression have followed individuals up to 10 years after their diagnosis. In a 10-year

* Correspondence to: Psychology Department, 1 Washington Square San Jose State University, San Jose, CA 95192-0120. Tel.: +1 408 924 5654; fax: +1 408 924 5605.
E-mail address: erin.woodhead@sjsu.edu (E.L. Woodhead).

study of the naturalistic course of depression, three distinct courses were identified, with the most common involving remission of the episode within the first three years (Klein et al., 2006). Using a similar sample of adults with depression, a 3-year longitudinal study indicated that the majority of participants (60.8%) experienced a course of remission within the first year (Rhebergen et al., 2009). In a 7-year longitudinal study of adults with depression, the majority of participants experienced remission by 7 years (71.6%), though many of these participants continued to report subthreshold depression, defined as having at least one of the core depression symptoms in the past month (Rhebergen et al., 2011). These studies suggest that early remission (within the first year) is relatively common among a clinical sample, with some participants experiencing significant residual symptoms. There is limited information, however, about the course of depression over a longer follow-up period, and what the symptom trajectory is for individuals who do not experience early remission.

3. Baseline predictors of depression course

Personal and social factors influencing depression have been examined extensively in the past decade (Hammen, 2005; Paykel, 2003; Spinhoven et al., 2011; Tennant, 2002). Variables such as life stressors (Hammen, 2005; Paykel, 2003; Tennant, 2002), personal resources such as personality characteristics and coping strategies (Holahan et al., 2005; Spinhoven et al., 2011), and social support (Pettit et al., 2009) have been studied in relation to depression. In general, studies have focused on predictors of the onset of depression, used cross-sectional designs, or considered short-term outcomes of individuals treated for depression. Few studies have considered life stressors and personal and social resources as predictors of the long-term course of depression, particularly whether variation in these factors is associated with different long-term courses of depression.

3.1. Life stressors

Life stressors often precede the onset of depression and are associated with depression course (Hammen, 2005; Paykel, 2003; Spinhoven et al., 2011; Tennant, 2002). They have been defined as the number of major life events (positive and negative; Pettit et al., 2009; Spinhoven et al., 2011), as life stressors including chronic medical conditions (Hammen, 2005; Katon, 2003; Tennant, 2002), and as the number of daily hassles (Pettit et al., 2009). More negative life events over 2 years (Spinhoven et al., 2011) and more major life events over 11 years (Pettit et al., 2009) were associated with a more severe course of depression, but positive life events and daily hassles showed no association with depression course (Pettit et al., 2009; Spinhoven et al., 2011).

3.2. Personal resources

Personal resources, such as personality characteristics and coping strategies, also affect the course of depression. For example, individuals who have a low sense of mastery and of optimism tend to remain depressed over time (Colman et al., 2011; Pettit et al., 2009). Individuals with higher levels of psychological flexibility, characterized by having a positive self-image and a calm, happy, and low-key temperament (Holahan and Moos, 1986), may be more likely to engage in coping strategies that decrease the risk of depression (Kirsch et al., 1990). There is limited research, however, on whether such personal characteristics are directly associated with depression course in the long-term. In this regard, individuals low on extroversion may have a delayed first remission of depression (Spinhoven et al., 2011).

Coping can be broadly defined as efforts to manage psychological stress (Folkman et al., 1986; Lazarus, 1993). Avoidance coping, such as denying a problem, resigning oneself to it, or venting one's emotions, is generally associated with negative psychological outcomes (Ben-Zur, 2009; Nagase et al., 2009), including increased depressive symptoms (Penley et al., 2002). Avoidance coping may increase the likelihood of long-term depressive symptoms by creating new problems for the individual, which serve to worsen the depression or contribute to ongoing distress (Holahan et al., 2005).

3.3. Social resources

Compared to non-depressed individuals, those with depression report more days of limited social activity and less social support (Strine et al., 2009). Cross-sectional studies found that less social support was associated with more depression symptoms in both clinically depressed and community samples (Ibarra-Rovillard and Kuiper, 2011). Longitudinal studies suggest that support from family members and friends can protect against the onset of major depression (Kendler et al., 2005) and facilitate recovery from a major depressive episode (Hendryx et al., 2009; Keitner et al., 1992). Less social integration, more negative social interactions, and worse relationships with family members were associated with a long-term course of depression (Hölzel et al., 2011; Pettit et al., 2009).

4. Prior results with the present cohort

Previously published studies examined outcomes at 4- and 10-year follow-ups from earlier and concurrent assessments of the same cohort of patients presented here. At the 10-year follow-up, three courses of depression were identified: full remission, partial remission, and nonremission of depressive symptoms. The majority of participants experienced partial remission, indicating that they were still fluctuating between remission and depression, or were consistently experiencing symptoms of depression that did not meet full criteria for a depression diagnosis.

In terms of psychosocial predictors of depression course, more negative life events and medical conditions experienced during the 1-year and 4-year follow-ups predicted a worse course of depression over the first 4 years of follow-up (Billings and Moos, 1985; Swindle et al., 1989). Regarding personal resources, individuals who had a less easygoing disposition at baseline, and those who relied more on avoidance coping at the 4-year and 10-year assessments, were more likely to have a 4-year and 10-year non- or partially-remitted depression course (Cronkite et al., 1998; Swindle et al., 1989). In addition, fewer close relationships at baseline and during the 4- and 10-year follow-up intervals were associated with a greater likelihood of a non-remitted course at 10 years (Cronkite et al., 1998).

5. Overview of the present study

The current study employed a 23-year longitudinal design to characterize the course of depression experienced by community adults who were receiving treatment for depression at baseline. Depression was assessed at baseline and at each follow-up (1, 4, 10, and 23 years later). We also sought to determine baseline risk factors that characterized groups of individuals in each of the identified courses of depression. Risk factors examined were life stressors and personal and social resources. Based on the research presented above, we hypothesized that three broad courses of depression would emerge: a long-term course characterized by little remittance of symptoms, a partially remitted course, and a course indicative of full remission. We also hypothesized that a long-term course of depression would be characterized by more