Subthreshold Depressive Disorder in Adolescents: Predictors of Escalation to Full-Syndrome Depressive Disorders

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ABSTRACT

Objectives: Subthreshold depressive disorder is one of the best established risk factors for the onset of full-syndrome depressive disorders. However, many youths with subthreshold depressive disorder do not develop full-syndrome depression. We examined predictors of escalation to full-syndrome depressive disorders in a community sample of 225 adolescents with subthreshold depressive disorder. **Method:** Criteria for subthreshold depressive disorder were an episode of depressed mood or loss of interest or pleasure lasting at least 1 week and at least two of the seven other *DSM-IV*–associated symptoms for major depression. Participants were assessed four times from mid-adolescence to age 30 years using semistructured diagnostic interviews. **Results:** The estimated risk for escalation to full-syndrome depressive disorders was 67%. Five variables accounted for unique variance in predicting escalation: severity of depressive symptoms, medical conditions/symptoms, history of suicidal ideation, history of anxiety disorder, and familial loading for depression. Adolescents with three or more risk factors had an estimated 90% chance of escalating to full-syndrome depressive disorder, compared with 47% of adolescents with fewer than three risk factors. **Conclusions:** These data may be useful in identifying a subgroup of youths with subthreshold depressive disorder who are at especially high risk for escalating to full-syndrome depressive disorders. *J. Am. Acad. Child Adolesc. Pyschiatry,* 2009;48(7):703–710.
Key Words: subthreshold depressive disorder, minor depression, escalation, predictors.

There is growing recognition of the significance of subthreshold depressive disorders in children, adolescents, and adults.[1–3] These conditions have been referred to using a variety of terms (e.g., subthreshold depression, minor depression, recurrent brief depression, subsyndromal symptomatic depression) and defined in a variety of ways (e.g., minimum number of symptoms range from 2 to 4; minimum durations range from several days to 2 weeks).[3,4]

Despite the lack of consensus regarding terminology and criteria, subthreshold depressive disorders seem to be common in children and adolescents; the 12-month prevalence ranges from 3% to 7%,[1,5,6] and the lifetime prevalence through late adolescence is as high as 26%.[7] Subthreshold depressive disorder in youths is associated with substantial functional impairment[2,5,8] and a twofold to fourfold increase in the risk for developing full threshold depressive disorders.[1,6,8–10]

In light of these findings, prevention and early intervention programs often target youths with subthreshold depressive disorders.[11,12] Although intervention may be indicated for youngsters with subthreshold depression who experience significant impairment regardless of their risk for escalation, the major goal of most such programs is to prevent the development of

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full-syndrome depression. However, many youths with subthreshold depression do not develop full-syndrome depressive disorders even after years of follow-up.[1,2,6] Hence, it may be useful to identify factors that predict the escalation from subthreshold to full-syndrome depressive disorders to refine the selection of candidates for targeted early intervention.[12] In addition, information about predictors of escalation in youths with subthreshold depressive disorder could provide clues regarding protective factors that might inform new interventions and suggest hypotheses about neurobiological and psychosocial processes involved in the transition between subthreshold and full-syndrome depressive states.

To our knowledge, only two studies have examined predictors of escalation from subthreshold to full-syndrome depressive disorders, both focusing on adults. Cuijpers et al.[13] explored this issue in a 1-year follow-up of a sample of adults in primary care. *Subthreshold depression* was defined as endorsing at least one core and three depressive symptoms in a screening interview but failing to meet criteria for a mood disorder in a structured diagnostic interview. Severity of depressive symptoms, family history of depression, and having a chronic general medical illness predicted the subsequent onset of major depressive disorder (MDD). Cuijpers et al.[14] examined a community sample of older adults with elevated scores on a self-report screening inventory who did not meet criteria for MDD or dysthymia. They found that low appetite and trouble sleeping predicted the onset of MDD or dysthymic disorder within the next 6 years.

The present study examines predictors of escalation from subthreshold depressive disorder in mid- to late adolescence to full-syndrome depressive disorders in young adulthood in a large community sample. We selected predictors that were associated with escalation in previous studies with adults[13,14] and/or are likely to be included in routine clinical evaluations or screening programs. *Subthreshold depressive disorder* was defined as an episode of depressed mood or loss of interest or pleasure lasting at least 1 week, and at least two of the seven other *DSM-IV*–associated[15] MDD symptoms, yielding a total of at least three depressive symptoms.[7] A previous history of full-syndrome mood disorder was an exclusion criterion. Given the lack of an accepted definition of subthreshold depressive disorder, these criteria were chosen to strike a balance between the broad and narrow definitions in the literature with respect to both the number and duration of symptoms.[3,4]

METHOD

Participants

We used data from the Oregon Adolescent Depression Project,[16] a longitudinal study of high school students who were assessed twice during adolescence, a third time at approximately age 24 years, and a fourth time at approximately age 30 years. Participants were randomly selected for the initial assessment from nine senior high schools representative of urban and rural districts in Western Oregon. A total of 1,709 adolescents (mean age 16.6, SD 1.2) completed the initial (T_1) assessment between 1987 and 1989. The participation rate at T_1 was 61% (details provided in Lewinsohn et al.[16]).

Approximately 1 year later, 1,507 of the adolescents (88%) returned for a second evaluation (T_2). Differences between the sample and the larger population from which it was selected, and between participants and those who declined to participate at T_2, were small.[16]

All the adolescents with a history of psychopathology by T_2 (n = 644) and a random sample of adolescents with no history of psychopathology by T_2 (n = 457) were invited to participate in a third (T_3) evaluation. All nonwhite T_2 participants were retained to maximize ethnic diversity. Of the 1,101 T_2 participants selected for a T_3 interview, 941 (85%) completed the evaluation at age 24 years. T_2 diagnosis was not associated with participation at T_3. At age 30 years, all the T_3 participants were asked to complete the T_4 assessment. Of the 941 who participated in the T_3 evaluation, 816 (87%) completed the T_4 assessment. T_1 subthreshold depressive disorder was not associated with completion of one or more follow-up assessments.

During the T_3 evaluation, we also assessed lifetime psychopathology in first-degree relatives. Of the 941 probands with T_3 data, diagnostic data for relatives were available for 803 (85%). Diagnostic data were also obtained for the relatives of 37 probands who were selected for, but did not complete, the T_3 evaluation. Written informed consent was obtained from each participating proband and relative (and guardian when the participant was younger than 18 years).

The present sample includes the 225 Oregon Adolescent Depression Project participants with a lifetime history of subthreshold depressive disorder (and no full-threshold MDD or dysthymic disorder) by the T_1 assessment who completed at least one follow-up assessment, had diagnostic data on relatives, and had no lifetime diagnosis of a psychotic or bipolar disorder through their last follow-up. The participants were drawn from both the psychopathology and no psychopathology groups selected for the T_3 follow-up. Two hundred sixteen adolescents who met criteria for lifetime subthreshold depressive disorder by T_1 were excluded from the present report: 48 did not complete any of the follow-up assessments; 166 lacked family history data because they were not selected for, or declined to participate in, the T_3 assessment; and 2 developed bipolar disorder during the follow-up. The participants with T_1 subthreshold depressive disorder who were and were not included in this report differed significantly on only two of the 24 predictors in Table 1. Compared with the 216 participants who were not included, the 225 participants included in this report were more likely to be female (63.1% versus 52.3%, $\chi^2_1 = 5.27$, $p < .05$) and less likely