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Age of onset of social anxiety disorder in depressed outpatients

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ABSTRACT

Onset of social anxiety disorder (SAD) often precedes that of major depressive disorder (MDD) in patients with this comorbidity pattern. The current study examined the association between three SAD onset groups (childhood, adolescent, adulthood) and clinical characteristics of 412 psychiatric outpatients diagnosed with MDD and SAD based on a semi-structured diagnostic interview. Childhood and adolescent SAD onset groups were more likely to report an onset of MDD prior to age 18 and have made at least one prior suicide attempt compared to the adulthood onset group. The childhood SAD onset group also was more likely to have chronic MDD, poorer past social functioning, and an increased hazard of MDD onset compared to the adulthood onset group. Findings suggest that patients with an onset of SAD in childhood or adolescence may be particularly at risk for a more severe and chronic course of depressive illness.

Social anxiety disorder (SAD) is the fourth most common psychiatric disorder in the United States (Kessler et al., 2005), and the most common comorbid anxiety disorder in patients with major depressive disorder (MDD; Belzer & Schneier, 2004). Despite high occurrence of SAD with MDD, SAD often goes under-recognized and under-treated in depressed outpatients (Zimmerman & Chelminski, 2003). Patients with SAD rarely seek treatment primarily for it and instead seek treatment for another, more acute disorder such as MDD (Lecrubier, 1998). However, when directly asked, approximately 75% of people diagnosed with SAD desire treatment for it in addition to treatment for MDD (Dalrymple & Zimmerman, 2007).

Several studies have found that age of onset of SAD often precedes age of onset of MDD (Beesdo et al., 2007; Brown, Campbell, Lehman, Grisham, & Mancill, 2001; Dalrymple & Zimmerman, 2007; Kessler, Stang, Wittchen, Stein, & Walters, 1999; Parker et al., 1999), with a typical onset of SAD around mid-adolescence (Schneier, Johnson, Hornig, Liebowitz, & Weissman, 1992). However, re-analysis of epidemiological studies has found two peaks of onset of SAD, with some patients reporting an onset before the age of 5 and others reporting an onset in mid-adolescence (Juster, Brown, & Heimberg, 1996; Juster & Heimberg, 1995; Stein, Chavira, & Jang, 2001). In contrast, the average age of onset of MDD ranges from 25 to 35 years of age (Parker et al., 1999; Weissman et al., 1999; Zisook et al., 2007).

Research has shown an association between an early onset of SAD and greater severity, such as the generalized subtype (Wittchen, Stein, & Kessler, 1999). In addition, a childhood onset of SAD has been associated with greater severity of SAD symptoms throughout childhood and adolescence compared to an adolescent or adulthood onset (Dalrymple, Herbert, & Gaudiano, 2007), and those with a childhood onset reported greater severity of SAD after 12 weeks of cognitive behavior therapy compared to those with an adolescent or adulthood onset despite similar pretreatment scores (Dalrymple et al., 2007). For MDD, the following factors have been associated with an early onset: increased familial loading for depression (Klein, Lewinsohn, Seeley, & Rohde, 2001); female gender (Kornstein et al., 2000); higher rates of alcohol use and other substance use disorders (Klein et al., 1999); elevated rates of subsequent depressive episodes in early adulthood (Weissman et al., 1999); more suicidality (Kovacs, Goldston, & Gatsonis, 1993); greater chronicity and disability (Parker, Roy, Hadzi-Pavlovic, Mitchell, & Wilhelm, 2003); higher numbers of medical and psychiatric hospitalizations (Klein et al., 1999); and greater work, family, and social impairment (Rao et al., 1995). An early onset of MDD also is associated with higher rates of anxiety disorders (Biederman, Faraone, Mick, & Lelon, 1995; Parker et al., 2003), particularly SAD and specific phobia (Alpert et al., 1999).

Although prior research has examined an early onset of SAD and MDD separately, few studies have examined the effect of an early versus late onset of comorbid SAD on the severity, course of illness, and functional impairment of MDD. In a prospective, epidemiological study on the subsequent risk of depression in patients with comorbid depression and SAD (Beesdo et al., 2007), the risk of subsequent depression increased by twofold in individuals with comorbid depression and SAD compared to depression alone. This

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Table 1
Demographic characteristics of depressed outpatients with a childhood, adolescent, or adulthood onset of comorbid social anxiety disorder.

Variable	Total sample (n = 412)	Child onset (n = 272)	Adol. onset (n = 74)	Adult onset (n = 66)	Statistic	p
Age, M (*SD*)	*38.0 (11.0)*	*38.3 (11.1)*	*34.7 (10.8)*	*40.2 (11.5)*	*F = 4.64*	*0.01*[a,b]
Gender, *n* (%)					χ^2 = 0.41	0.82
Female	280 (68.0)	187 (68.8)	48 (64.9)	45 (68.2)		
Male	132 (32.0)	85 (31.2)	26 (35.1)	21 (31.8)		
Race, *n* (%)					χ^2 = 6.46	0.78
Caucasian	346 (84.0)	231 (84.9)	61 (82.4)	54 (81.8)		
African Amer.	27 (6.6)	15 (5.5)	7 (9.5)	5 (7.6)		
Hispanic	15 (3.6)	12 (4.4)	2 (2.7)	1 (1.5)		
Asian	4 (1.0)	3 (1.1)	0 (0)	1 (1.5)		
Portuguese	11 (2.7)	7 (2.6)	2 (2.7)	2 (3.0)		
Other	9 (2.2)	4 (1.5)	2 (2.7)	3 (4.5)		
Marital status, *n* (%)					χ^2 = 5.31	0.87
Married	157 (38.1)	111 (40.8)	24 (32.4)	22 (33.3)		
Living together	31 (7.5)	19 (7.0)	7 (9.5)	5 (7.6)		
Widowed	6 (1.5)	5 (1.8)	0 (0)	1 (1.5)		
Separated	14 (3.4)	10 (3.7)	2 (2.7)	2 (3.0)		
Divorced	67 (16.3)	42 (15.4)	12 (16.2)	13 (19.7)		
Never married	137 (33.3)	85 (31.2)	29 (39.2)	23 (34.8)		
Education, *n* (%)					χ^2 = 15.25	0.51
Less than HS	53 (12.9)	39 (14.3)	7 (9.5)	7 (10.6)		
HS/GED	242 (58.7)	155 (57.0)	48 (64.9)	39 (59.1)		
College	98 (23.8)	66 (24.3)	17 (22.9)	15 (22.7)		
Graduate	19 (4.6)	12 (4.4)	2 (2.7)	5 (7.6)		

Note: College = 2- or 4-year college degree.
Variables with significant findings are italicized.
[a] Significant difference on post hoc comparison between childhood and adolescent onset groups.
[b] Significant difference on post hoc comparison between adolescent and adulthood onset groups.

was most pronounced for individuals who experienced an onset of SAD prior to ages 11 and 16 rather than at later ages, which suggests that the earlier that SAD begins the more likely the individual will experience future depression.

Further research needs to be conducted on onset of SAD and subsequent onset of MDD, given that prior research has found high comorbidity rates between SAD and MDD (Belzer & Schneier, 2004), an age of onset of SAD often preceding that of MDD (Beesdo et al., 2007; Belzer & Schneier, 2004; Brown et al., 2001; Kessler et al., 1999; Parker et al., 1999), and an association between the presence of comorbid SAD and greater severity (Dalrymple & Zimmerman, 2007; Kessler et al., 1994; Schneier, Martin, Liebowitz, Gorman, & Fyer, 1989; Stein, Fuetsch, et al., 2001) and functional impairment of MDD (Alpert et al., 1997; Dalrymple & Zimmerman, 2007; Katzelnick et al., 2001; Lecrubier, 1998, 2001). In particular, patients with an early rather than late onset of SAD may be more likely to develop greater severity of MDD, perhaps making them more resistant to treatment. A previous report from the Rhode Island Methods to Improve Diagnostic Assessment and Services (MIDAS) Project found that the age of onset of MDD was earlier in patients with comorbid MDD and SAD compared to patients with MDD alone, even when controlling for additional comorbidity (Dalrymple & Zimmerman, 2007). The current study is a follow-up to that report and examined differences between a childhood, adolescent, and adulthood onset of SAD in patients with comorbid MDD and SAD, by examining variables related to depression and social anxiety severity, impairment in work and social functioning, and comorbidity. It was hypothesized that an onset of SAD in childhood or adolescence would be associated with greater MDD and SAD severity, impairment in functioning, and comorbidity compared to patients with an onset of SAD in adulthood.

1. Methods

1.1. Participants

Participants were drawn from a larger sample of 3000 psychiatric outpatients at the Rhode Island Hospital Department of Psychiatry. Of these patients, 412 (13.7%) met current *DSM-IV* criteria for non-psychotic MDD (single episode or recurrent) and SAD. Within this sub-sample, the majority were female, Caucasian, married or never married, and had a high school degree or equivalency (Table 1). Additional comorbidity was high in this sample, with patients on average having at least two other current Axis I diagnoses in addition to MDD and SAD (Table 3).

1.2. Procedure

Individuals presenting for treatment were asked to participate in a diagnostic evaluation prior to meeting with their treating clinician, using the *Structured Clinical Interview for DSM-IV for Axis I Disorders* (SCID; First, Spitzer, Gibbon, & Williams, 1996). Procedures for the study were approved by the institutional review committee at Rhode Island Hospital, and informed consent was obtained before administering the SCID. Diagnosticians were research assistants with bachelor's degrees in social or biological sciences and doctoral-level clinical psychologists. Information regarding the training of diagnosticians has been presented elsewhere (Zimmerman & Mattia, 1999). Forty-eight joint-interview reliability evaluations conducted over the entire course of the project have demonstrated excellent reliability for mood and anxiety disorders (Dalrymple & Zimmerman, 2007).

1.3. Measures

Depression severity was rated by diagnosticians using the Clinical Global Impressions Scale (CGI; National Institute of Mental Health, 1985), and overall impairment was rated using the Global Assessment of Functioning Scale (GAF). Interrater reliability for CGI and GAF scores was high (intraclass correlation coefficient [ICC] = 0.79 and 0.80, $ps < 0.001$, respectively). Adolescent and current social functioning and time out of work due to psychopathology were measured using items from the *Schedule for Affective Disorders and Schizophrenia* (SADS; Spitzer & Endicott, 1977). Adolescent and current social functioning were rated by diagnosticians on Likert scales ranging from 1 (superior) to 7