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The diagnostic threshold of generalized anxiety disorder in the community: A developmental perspective

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ABSTRACT

Discussion surrounds the question as to whether criteria for generalized anxiety disorder (GAD) should change, particularly in youth. This study examines the effects of possible criteria changes on GAD prevalence and clinical correlates. DSM-IV GAD was assessed using the M-CIDI in a community sample of adolescents and young adults. Diagnostic thresholds were modified in two age spans (9–20 and 21–34 years) using a person-by-year data file ($N = 38{,}534$ cases). Relaxing the duration or excessiveness criteria led to the most pronounced changes in GAD prevalence, while relaxing frequency, uncontrollability, or associated-symptom criteria had smaller effects. A lower duration requirement increased rates more in older than younger age spans. Opposite effects occurred for changes in associated-symptoms or clinical-significance criteria. Broader GAD definitions identified cases in both age spans that appeared mostly milder than DSM-IV cases but that still differed from non-GAD cases in various clinical factors and validators. Developmental aspects require stronger consideration in future diagnostic systems.

1. Introduction

The diagnosis of generalized anxiety disorder (GAD) has been surrounded by controversy. Diagnostic criteria have evolved with each DSM revision, based on efforts to distinguish GAD from normal stress reactions and other disorders as well as to improve reliability (Brown et al., 1994; Brown et al., 2001).

DSM-III (APA, 1980) defined GAD as "generalized, persistent anxiety of at least 1 month duration" accompanied by an unspecified number of various other symptoms. In DSM-III-R (APA, 1987) "unrealistic and excessive anxiety and worry (apprehensive expectation) about two or more life circumstances" was defined as the core feature of the disorder. The required duration was increased to 6 months, and the number of associated symptoms was specified (six out of 18 from motor tension, autonomic and/or vigilance clusters). DSM-IV (APA, 1994) made further changes by requiring anxiety and worry (apprehensive expectation) about a number of events or activities to be "excessive" and "difficult to control". Autonomic symptoms were deleted from the criteria leaving six hypervigilance/tension symptoms of which at least three were required for diagnosis (one for youth). As for other disorders in DSM-IV, the GAD diagnosis required clinical significance as demonstrated by impairment or distress.

Recent epidemiological research suggests that the DSM-IV GAD definition may fail to identify a number of patients with clinically significant anxiety and worry. This suggestion is based on analyses varying the threshold for GAD 'caseness' as defined by the DSM diagnostic criteria. In individuals with high levels of anxiety and worry, failure to meet the 6-month duration criterion is the most frequent reason for not reaching the DSM-IV diagnostic threshold (Carter et al., 2001; Hoyer et al., 2002; Ruscio et al., 2007). Compared to individuals with six-month duration of symptoms, those with shorter duration are similar in terms of many clinical features such as associated symptoms, age-of-onset, or impairment (Bienvenu et al., 1998; Kessler et al., 2005b; Lee et al., 2009; Wittchen et al., 2002b). This is relevant given findings that unreliability in the determination of the duration criterion largely compromises overall retest-reliability for GAD (Wittchen et al., 1998a).

The 'excessiveness' criterion is controversial due to imprecision in the definition (Ruscio et al., 2005), which also seems to contribute to diminished reliability (Wittchen et al., 1995). However, the excessiveness criterion identifies a unique group of patients in terms of age-of-onset, persistence, and comorbidity (Ruscio et al., 2005).

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There is little data on the 'uncontrollability' criterion (Andrews et al., 2010). Some research has shown specificity of this criterion in GAD (Hoyer et al., 2002; Hoyer et al., 2001) with some indication for a GAD gradient as evidenced by fairly high rates of uncontrollability in high trait worriers or subthreshold GAD cases (Hoyer et al., 2002; Ruscio, 2002). While retaining the associated hypervigilance/tension symptoms from DSM-III-R in DSM-IV had some empirical support (Marten et al., 1993), the range and required number of associated symptoms had not been evaluated systematically. Recent research suggests that GAD is usually associated with more than just three out of the six DSM-IV symptoms (Beesdo, 2006; Brown et al., 1995; Carter et al., 2001).

In preparation for DSM-5, GAD criteria are in need of scrutiny. As part of such an examination, it might be particularly helpful to compare characteristics among individuals meeting the current DSM-IV GAD definition, relative to other definitions, in terms of various clinical factors. Indications for a GAD continuum (e.g. Ruscio et al., 2001) justify the search for different diagnostic thresholds by considering the impact of different criteria on prevalence and key correlates (Ruscio, 2009). Consideration of a range of 'validators' has been promoted (Regier et al., 2009).

It is particularly important to perform such examinations in youth given that DSM-IV applies different definitions of GAD in youth and adults. This difference reflects the fact that DSM-III-R had labeled youth with persistent worries or concerns and associated symptoms as suffering from Overanxious Disorder (OAD). In clinical samples, excellent overlap between DSM-III-R OAD and DSM-IV GAD was found (Kendall and Warman, 1996; Tracey et al., 1997). Moreover, evidence supported the decision in DSM-IV to use lower symptom thresholds for youth relative to adult GAD (Tracey et al., 1997). Nevertheless, epidemiologic data raise questions about applications of DSM-IV GAD definition for youth based on findings on prevalence (lower for GAD than OAD), onset (later for GAD than OAD), and longitudinal course (lack of associations between OAD and later GAD) (Beesdo et al., 2009; Beesdo et al., 2010; Bittner et al., 2007; Cohen et al., 1993; Kessler et al., 2005a; Pine et al., 1998; Velez et al., 1989). Specifically, it remains unclear the degree to which changes to the current DSM-IV GAD definition would uniquely affect diagnosis among youth and adults. The current study addresses these issues in a prospective-longitudinal community study among adolescents and young adults.

2. Methods

2.1. Sample

The prospective-longitudinal Early Developmental Stages of Psychopathology (EDSP) study assessed mental disorders and risk factors in a representative population sample of adolescents and young adults (Lieb et al., 2000; Wittchen et al., 1998c). The sample was randomly drawn from government registries in Munich, Germany. The study emphasized development by sampling 14–15-year-old individuals at twice the probability and 22–24-year-old individuals at half the probability of 16–21-year-old individuals. Sample weights account for this in the subsequent analyses.

$N = 3021$ interviews were conducted at baseline (age range 14–24 years); the response rate (RR) was 70.9%. At T1 (1.2–2.1 years after baseline), $N = 1228$ interviews were conducted among subjects aged 14–17 at baseline (RR = 88.0%). At T2, $N = 2548$ of the total baseline sample were interviewed (84.3%, 2.8–4.1 years after baseline); $N = 2210$ at T3 (RR = 73.2%; 7.3–10.6 years after baseline). There was no evidence for selective attrition from baseline to 10-year follow-up for GAD (OR = 0.9, 95% CI: 0.5–1.9, $p = .81$).

The investigation was carried out in accordance with the Declaration of Helsinki. All participants provided written informed consent (for respondents aged 18 years and younger parental consent was provided) after the nature of the procedures had been fully explained. The EDSP program has been approved by the Ethics Committee of the Medical Faculty of the Technische Universitaet Dresden (No: EK-13811).

2.2. Diagnostic assessment

Face-to-face interviews were conducted by trained clinical interviewers using the computer-assisted Munich-Composite International Diagnostic Interview (DIA-X/M-CIDI) (Wittchen and Pfister, 1997). The DIA-X/M-CIDI allows the assessment of symptoms, syndromes, and diagnoses of 48 mental disorders according to the DSM-IV criteria and the collection of data on onset, duration, severity, and psychosocial impairment. At baseline, the lifetime version of the DIA-X/M-CIDI was used; at each follow-up the interval version.

Test-retest reliability and validity of the DIA-X/M-CIDI diagnoses have been previously reported to range from fair to good (Reed et al., 1998; Wittchen et al., 1998b). The test-retest reliability for GAD was $\kappa = 0.45$ (Wittchen et al., 1998a). Inconsistencies in GAD were mainly due to different responses in regard to the 6-month time duration; retest-reliability of the GAD stem question asking for anxiety/worry of one month or more, however, was good and in the range of other disorders ($\kappa = 0.70$). Concordant validity of any M-CIDI anxiety diagnosis including GAD compared to independent clinical consensus diagnoses by treating physicians was estimated with $\kappa = 0.79$ (Reed et al., 1998). Age-of-onset reliability is also established with an intra class correlation of 0.97 for GAD (Wittchen et al., 1998a; Wittchen et al., 1999).

2.2.1. Assessment of GAD

The M-CIDI/GAD section starts with a screening question: "Now I want to ask you about longer periods of feeling worried, tense or anxious. Have you ever had a period of a month or more when most of the time you felt worried, tense, or anxious about everyday problems?" The entire section was skipped if the respondent answered no; else the respondents were asked to report the longest period that they felt worried followed by questions assessing all DSM-IV criteria for GAD (at baseline among those with at least three months of worrying only). Onset was assessed at the end of the section by asking when the first time was that they were anxious and worried over several months. Recency was assessed by asking "When was the last time you felt anxious, tense or worried often or most of the time for a period of 4 weeks or more?" For respondents reporting that onset/recency occurred "within the past 2 weeks" to "within the past 6–12 months", the age at interview was used; respondents reporting onset/recency "more than 12 months ago" were asked how old they were then.

For the present analysis, the exclusion criteria for GAD were not applied, following procedures in prior studies (Beesdo et al., 2010; Carter et al., 2001; Ruscio et al., 2007). To examine effects of each criterion change, each specific criterion was systematically varied to create unique definitions. Cases meeting criteria for these alternative definitions then were compared to cases meeting DSM-IV criteria, while applying the same GAD criteria at all ages, including 3 associated symptoms, and to non-cases (no DSM-IV or subthreshold GAD). Specifically, the duration (criterion A-1) was relaxed from six to three months (1- or 2-month GAD was not considered because it was not assessed at baseline). Associated symptoms (criterion C) were eased from at least three to at least one symptom (following the DSM-IV rule for GAD in children). Worrying more days than not (criterion A-2), excessiveness (criterion A-3), uncontrollable worries (criterion B), and clinical significance (criterion E) were relaxed by skipping them.