

## ANXIETY DISORDERS IN ADOLESCENCE

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### SUMMARY

**Background:** The epidemiology of anxiety disorders in adolescence is different from that of adults. Furthermore, some clinical disorders seem to be linked to the specific adolescence period. This article intends to make a literature review.

**Subjects and methods:** Besides the Diagnostic and Statistical Manual DSM-5 (DSM IV-TR) and the French reference books, we chose to conduct our research on PubMed, Medline, PsycINFO and PsycARTICLES.

**Results:** It seems obvious in the literature that the prevalence and the epidemiology of different anxiety disorders in adolescence is different from that in adulthood. Anxiety disorders most frequently encountered in adolescence are social phobia and generalized anxiety disorder, as compared to adulthood where most viewed clinical disorders concern specific phobias. Moreover, a large proportion of patients with body dysmorphic disorder (BDD) are teenagers and there is a high comorbidity of BDD with anxiety disorders, particularly with social phobia and obsessive-compulsive disorder, and with depressive disorders. However, literature still does not show clear epidemiological or prognostic data about anxiety disorders in the specific period of adolescence. Finally, there seems to exist in the identified categories, clinical sub-entities that require specific nosology to this age group.

**Conclusions:** If a specific classification of teenage anxiety disorders is well and truly necessary, its organizational principle would have to reflect the fundamental question of this age: the prognosis of these different clinical presentations. More extensive research on the impact of different identifiable characteristics of these disorders, biological and environmental factors, associated comorbidities and possible significant functional impairment, would be very useful for the improvement of diagnostic sensitivity and prognostic predictions in psychiatric clinical practice of the anxiety disorders in adolescent patients.

**Key words:** anxiety disorder – adolescence – epidemiology – nosology - prognosis

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### INTRODUCTION

In the daily practice of clinical psychiatry, it is commonly observed that anxiety disorders in patients at the age of adolescence reveal aspects, present epidemiology and require a therapeutic approach which is very different from those of adults. Furthermore, the relative prevalence of some anxiety disorders appears to be specific to the adolescence period. Therefore, this review aims to focus on specific aspects and possible clinical syndromes of anxiety that can be linked with this particular period of life. Indeed, adolescence is characterized by some reshuffles at both somatic and psychic levels, these modifications being unavoidable for the transition between childhood and the adult state. We can thus hypothesize that some anxiety affects or clinical presentations could be directly related to these rearrangements, and consequently linked to the specific context and issues of this particular period. Finally, if the prevalence, aspects and issues of anxiety disorders of adolescents are different from those of adults, it seems necessary to consider elements related to their prognosis as well as any specific considerations that may be relevant to their therapeutic management. This article intends to make a literature review.

### SUBJECTS AND METHODS

Besides the Diagnostic and Statistical Manual DSM-5 (DSM IV-TR) and the French reference books, we

chose to conduct our research on PubMed, Medline, PsycINFO and PsycARTICLES. We focused our research on studies covering epidemiology, nosology and prognosis of anxiety disorders in the specific period of adolescence. The used keywords were essentially: anxiety disorder; adolescence; epidemiology; nosology and prognosis. Our interest was focused on publications which concern the possible relationship between body dysmorphic disorder (BDD) and anxiety disorders. We have thus included in a second step BDD in our investigations of the literature. Studies and reference books that have caught our attention were published for the most part between 2005 and 2014.

### RESULTS

#### Epidemiology and nosology

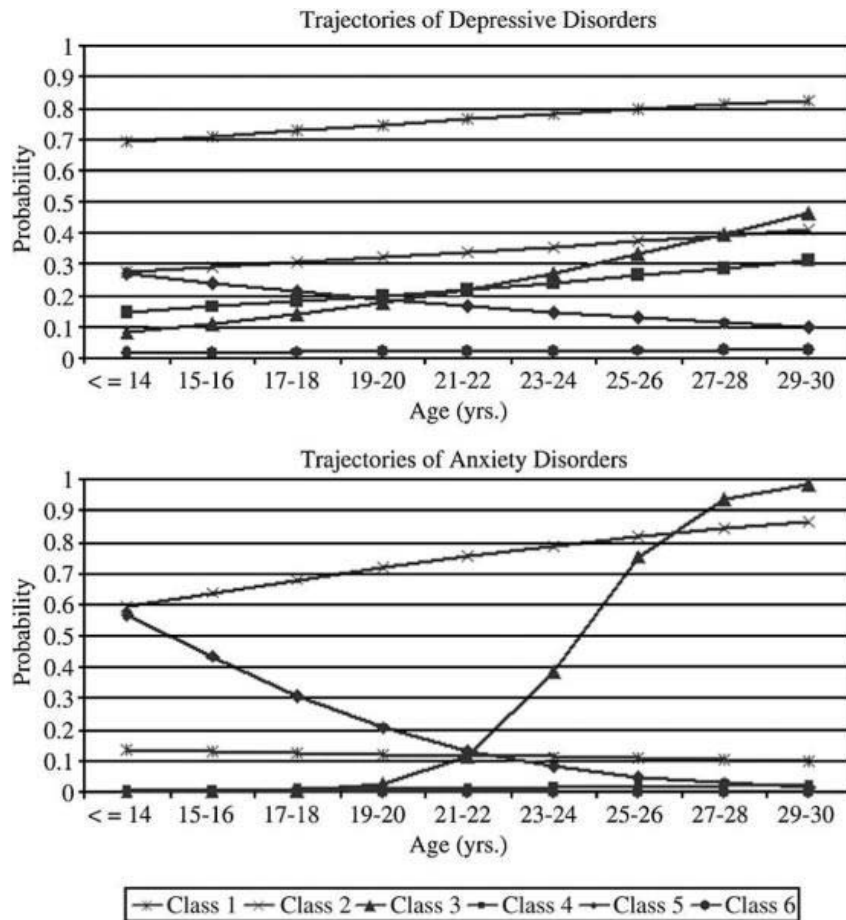
According to the literature, the prevalence, epidemiology and nosology of anxiety disorders appears different in the adolescent population as compared to the adult population. A first observation is that anxiety disorders are the most frequently encountered mental disorders in adolescence (Beesdo et al. 2009), with a global prevalence that may be, depending on the study, from 15% to over 30%; as compared to the adult state where this prevalence is between 10% and 20%. Furthermore, studies have shown that anxiety disorders with the highest burden are found in both males and females adolescents and young adults (Baxter et al.

2014). Moreover, the most frequent anxiety disorders during adolescence are social phobia and generalized anxiety disorder, as compared to adulthood where the most common clinical disorders concern specific phobias. Concerning social phobia, studies indicate that this trouble is highly prevalent, persistent and impairing psychiatric disorder among adolescent patients (Burstein et al. 2011). In addition, the first physical, cognitive and behavioral manifestations of social anxiety disorder often occur during adolescence. Studies even suggest further consideration for sub-types of this disorder in adolescents, given the heterogeneity of social phobia in this age group (Burstein et al. 2011). Similarly, as regards to generalized anxiety disorder, findings demonstrate age-related differences in the associated symptoms and clinical course as well as in clinical significance of the subthreshold forms among young adolescents (Burstein et al. 2014). About specific nosology, there seem to exist in the identified categories, clinical sub-entities that require specific nosology to this age group. Moreover, some studies

support the reintroduction of DSM-III-R overanxious disorder (Copeland et al. 2014).

### Relationship with body dysmorphic disorder

During our research, we were interested in publications highlighting the possible relationship between body dysmorphic disorder (BDD) and anxiety disorders, particularly in the adolescent period. Indeed, during this period, a great part of the concerns involve body modifications which are inherent to this age group. Therefore, a large proportion of patients with BDD are teenagers and a high comorbidity of BDD with anxiety disorders is observed, particularly with social phobia and obsessive-compulsive disorder, as with depressive disorders (Hollander & Aronowitz 1999, Vinkers et al. 2008, Fang & Hofmann 2010, Van der Meer et al. 2012, Mufaddel et al. 2013). According to the literature, it was shown that body esteem is significantly correlated with self-esteem and depressive, anxiety, social phobic and obsessive-compulsive symptoms (Bohne 2002).



The top panel displays estimated probabilities of depressive disorder as a function of class membership. The bottom panel displays estimated probabilities of anxiety disorder as a function of class membership. Class 1 includes individuals with persistent depression (1.3%); Class 2 includes individuals with persistent anxiety (2.1%); Class 3 includes individuals with later onset of anxiety with increasing depression (3.7%); Class 4 includes individuals with increasing depression (22.8%); Class 5 includes individuals with anxiety with early recovery (5.0%); and Class 6 includes individuals without anxiety/depression (65.1%).

**Figure 1.** Estimated probabilities of depressive and anxiety disorders as a function of class membership (Olino et al. 2010)

## Management and treatment

Findings highlight evidence that adolescents with anxiety disorders present an increased risk of consolidation (Copeland et al. 2014) and, inter alia, subsequent anxiety, depression, substance abuse or dependence, as well as educational underachievement in the young adult state (Woodward & Fergusson 2001). Therefore, some studies reveal the importance of early assessment and intervention (Connolly et al. 2007, Beesdo et al. 2009, Merikangas et al. 2010, Patton et al. 2014) and support treatment strategies with psychotherapy, medications and a combination of interventions in a multimodal approach (Connolly et al. 2007). The importance of this multimodal approach is also applied to psychotherapy in recommendations, the literature emphasizing the interest of cognitive-behavioral therapy, psychodynamic approach and systemic (parent-child and family) interventions, with particular emphasis on the importance of comprehensive care (Connolly et al. 2007). About medications, the use of SSRIs is recommended when anxiety disorder symptoms are moderate or severe, when impairment makes participation in psychotherapy difficult, or when psychotherapy results in a partial response (Connolly et al. 2007). The safety and efficiency of medications other than SSRIs still seem to need to be further studied. However, noradrenergic antidepressants, buspirone and benzodiazepines have been suggested as alternatives to be used alone or in combination with the SSRIs (Connolly et al. 2007). Comorbid diagnoses are strongly considered in selection of medication (Connolly et al. 2007).

## Correlates, risk factors and prognosis

Regarding risk factors to develop anxiety disorder in adolescence and vulnerability factors to continue to manifest lifelong problems with anxiety and other mental disorders, studies (Merikangas 2005, Beesdo et al. 2009) have shown the influence of some demographic variables, temperament and personality - in particular behavioral inhibition as a risk for social anxiety into adolescence (Chronis-Tuscano et al. 2009, Rapee 2014) - comorbidities, environmental and developmental factors - including the impact of different events of life or early life stress for example (Carr et al. 2013), and the influence of familial, social and academic environment - neurobiological factors (Peris & Galván 2013), genetic factors and heritability (Franić et al. 2010). Among articles on the developmental trajectories of anxiety symptoms during adolescence (Hale et al. 2008), one study of Olino et al. (2010) caught our attention, using person-oriented analyses to identify subgroups of individuals who exhibit different patterns of depressive and anxiety disorders over the course of adolescence and young adulthood. The findings indicate that several subgroups of adolescents exist with distinct longitudinal trajectories of depressive and anxiety disorders, and these trajectory classes are associated with different risk factors and several correlates of

internalizing psychopathology, including gender, familial loading of psychopathology and childhood abuse (e.g. Figure 1 by Olino et al. 2010).

## DISCUSSION

It seems obvious in the literature that the prevalence and the epidemiology of different anxiety disorders in adolescence are different from that in adulthood. Moreover, anxiety disorders in adolescence are not only highly prevalent but are also associated with significant functional impairment, significant reductions in quality of life and higher rates of comorbidities. Along with this, episodes of adolescent mental disorder often precede mental disorders in young adults and predispose to a risk of consolidation in adulthood. Studies bring out that interventions allowing a reduction of the duration of these episodes could prevent much morbidity later in life. The identification of factors associated with anxiety disorders in adolescent people could enable us to develop intervention strategies for their therapeutic management. However, literature still does not show very clear epidemiological or prognostic data about anxiety disorders in the specific period of adolescence. Further research in this area, particularly on vulnerability factors that may predispose an anxious teenager to a consolidation or the existence of other disorders in adulthood, could be very interesting for the clinical practice of adolescent psychiatry.

## CONCLUSIONS

If a specific classification of teenage anxiety disorders is well and truly necessary, its organizational principle would have to reflect the fundamental question of this age: the prognosis of these different clinical presentations. Moreover, this particular developmental period, characterized by a large number of issues and reshuffles, requires early intervention and a specific, preventive and multimodal approach. More extensive research on the impact of different identifiable characteristics of these disorders, biological and environmental factors, associated comorbidities and possible significant functional impairment, would be very useful for the improvement of diagnostic sensitivity and prognostic predictions in psychiatric clinical practice of the anxiety disorders in adolescent patients.

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