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Clinical presentation of Attenuated Psychosis Syndrome in children and adolescents: Is there an age effect?

Michele Ribolsi[a,1], Ashleigh Lin[b,1], Klaas J. Wardenaar[c], Maria Pontillo[a], Luigi Mazzone[a], Stefano Vicari[a,2], Marco Armando[*,a,d,2]

[a] Child and Adolescence Neuropsychiatry Unit, Department of Neuroscience, Children Hospital Bambino Gesù, Piazza Sant'Onofrio 4, 00165 Rome, Italy
[b] Telethon Kids Institute, The University of Western Australia, 100 Roberts Road, Subiaco, 6008 Western Australia, Australia
[c] Department of Psychiatry, Interdisciplinary Center Psychopathology and Emotion Regulation (ICPE), University of Groningen, University Medical Center Groningen, The Netherlands
[d] Developmental Imaging and Psychopathology Laboratory, University of Geneva School of Medicine, Geneva, Switzerland

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ABSTRACT

There is limited research on clinical features related to age of presentation of the Attenuated Psychosis Syndrome in children and adolescents (CAD). Based on findings in CAD with psychosis, we hypothesized that an older age at presentation of Attenuated Psychosis Syndrome would be associated with less severe symptoms and better psychosocial functioning than presentation in childhood or younger adolescence. Ninety-four CAD (age 9–18) meeting Attenuated Psychosis Syndrome criteria participated in the study. The sample was divided and compared according to the age of presentation of Attenuated Psychosis Syndrome (9–14 vs 15–18 years). The predictive value of age of Attenuated Psychosis Syndrome presentation was investigated using receiver operating characteristic (ROC)-curve calculations. The two Attenuated Psychosis Syndrome groups were homogeneous in terms of gender distribution, IQ scores and comorbid diagnoses. Older Attenuated Psychosis Syndrome patients showed better functioning and lower depressive scores. ROC curves revealed that severity of functional impairment was best predicted using an age of presentation cut-off of 14.9 years for social functioning and 15.9 years for role functioning. This study partially confirmed our hypothesis; older age at presentation of Attenuated Psychosis Syndrome was associated with less functional impairment, but age was not associated with psychotic symptoms.

1. Introduction

For the first time, the Diagnostic and Statistical Manual of Mental Disorders version 5 (DSM -5) has introduced the Attenuated Psychosis Syndrome in Section III under "Conditions for further study" (APA, 2013). The diagnostic structure of Attenuated Psychosis Syndrome is based primarily on risk criteria from the Structured Interview for Psychosis Risk Syndromes (SIPS; Miller et al., 1999) and the Comprehensive Assessment of At-Risk Mental States (CAARMS; Yung et al., 2005) which relate to attenuated/subthreshold psychotic symptoms and the prodromal states of schizophrenia. The diagnosis of Attenuated Psychosis Syndrome requires the presence of delusions, hallucinations, or disorganised speech in an attenuated form that are present at least once per week for the past month, not better explained by another diagnosis, and which have never been severe enough for the patient to meet diagnostic criteria for a psychotic disorder (APA, 2013).

Several issues have been raised with the introduction of this new category. For example, it is well recognized that attenuated psychotic symptoms are associated with comorbid non-psychotic disorders in individuals who may never develop psychosis (Cannon et al., 2008; Gaudiano and Zimmerman, 2013; Lin et al., 2015). There are also concerns over the treatment implications of ascribing a diagnosis of Attenuated Psychosis Syndrome (Singh et al., 2012). It also remains unclear whether the threshold for psychosis may be lower and/or transient in younger patients (Arango, 2011). Indeed, some studies of adolescent samples have reported that attenuated positive symptoms may be non-specific and/or transient in this population (Gerstenberg et al., 2016) and that the ultra-high risk (UHR) criteria may fail to

* Correspondence to: Developmental Imaging and Psychopathology Laboratory, University of Geneva School of Medicine, 1 David Dufour, CP 50, 1211 Geneva 8, Geneva, Switzerland.
E-mail address: marco.armando@opbg.net (M. Armando).
[1] Shared first authorship.
[2] Shared last authorship.

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predict conversion to psychosis (Welsh and Tiffin, 2014; Lindgren et al., 2014; Armando et al., 2015). The validity of screening instruments for children has also been questioned (Schimmelmann and Schultze-Lutter, 2012), and new instruments have been developed specifically for younger children (e.g., The Schizophrenia Proneness Instrument, Child and Youth Version (SPI-CY); Fux et al. (2013)).

Despite these concerns, others have expressed confidence that the development of the Attenuated Psychosis Syndrome diagnosis will encourage the recognition of individuals at UHR or clinical high risk (CHR) for psychosis, particularly in child and adolescent populations (Schiffman and Carpenter, 2015). It has recently been reported that at least 11% of individuals with a first episode of psychosis and 23% of individuals at heightened risk for psychosis reported unusual or delusional ideas, suspiciousness or perceptual abnormalities during childhood (Woodberry et al., 2014).

A relatively small number of studies have specifically investigated the clinical presentation of Attenuated Psychosis Syndrome in children and adolescents. These studies, all in general population samples, reported variability in attenuated psychotic symptoms at different ages of presentation (Schimmelman et al., 2013), with a tendency to decrease and remit from childhood through to adolescence (Bartels-Velthuis et al., 2011; Kelleher et al., 2012; Brandizzi et al., 2014; Schimmelmann et al., 2015). In particular, two studies examined the prevalence of attenuated psychotic symptoms in community samples of children and adolescents and both found an age effect. Kelleher and colleagues (2012) showed that younger adolescents had a higher prevalence of psychotic symptoms (21–23%) than older adolescents (7%). Similarly, findings from the BEARS-Kid Study indicated the important role played by age in both the prevalence and clinical presentation of Attenuated Psychosis Syndrome (Schimmelmann et al., 2015). In particular, younger participants more frequently exhibited perceptive symptoms than older participants. Together, these results indicate a significant shift in the presentation Attenuated Psychosis Syndrome from early to late adolescence, at approximately 16 years of age, in young people in the community.

Less is known about the relevance of an “age effect” of Attenuated Psychosis Syndrome in clinical populations of children and adolescents. We recently reported the effect of age at presentation in a sample of patients with early (< 18 years of age) and very early (≤12 years of age) onset psychosis (Lin et al., 2016). Applying receiver operating characteristic (ROC)-curve calculations we found that an optimal age cut-off was 14 years for positive symptoms and 14.7 years for psychosocial functioning, with older adolescents showing less severe positive symptoms and better functioning than children and younger adolescents.

The aim of the current paper was to investigate whether this finding would be replicated in a children and adolescents of a similar age presenting to clinical services with Attenuated Psychosis Syndrome. Therefore, based on our previous findings (Lin et al., 2016), we adopted the cut-off of 14 years of age (inclusive) to distinguish between participants with an early vs later presentation of the Attenuated Psychosis Syndrome. We then used ROC-curve calculations to determine the optimal age cut-off for severity of symptoms and psychosocial functioning.

2. Methods

2.1. Participants and procedure

Participants in this study were 94 (45 females, 49 males) children and adolescents consecutively admitted to the Child and Adolescent Neuropsychiatry Unit of the Clinical and Research Hospital Bambino Gesù of Rome with a recent presentation of Attenuated Psychosis Syndrome between 2012 and 2014. Attenuated psychotic symptoms were not present for longer than one year before assessment. None of the eligible children and adolescents refused to participate in the study.

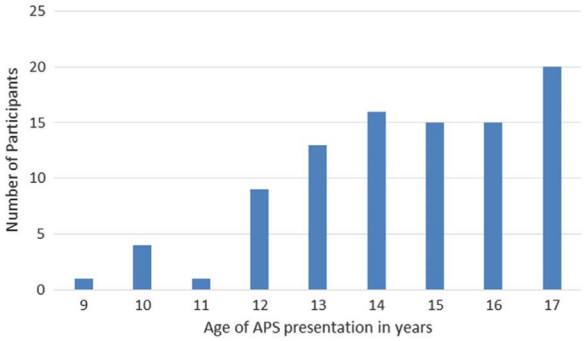

Fig. 1. Distribution of age of APS presentation to clinical services with APS in the sample.

A flow chart with the number of referrals and positive and negative screenings for Attenuated Psychosis Syndrome is shown in Fig. 1. The age at presentation with Attenuated Psychosis Syndrome was between 9.0 and 18.0 years (M=14.56, SD=2.02). Participants had no previous psychiatric drug treatment. Exclusion criteria were a past psychotic episode lasting > 1 week, traumatic brain injury or known neurological disorder, verbal IQ < 70, and current drug or alcohol abuse. None of the patients recruited had severe comorbid medical conditions. The study was approved by the Ethics Committee of the Clinical and Research Hospital Bambino Gesù of Rome. Participants gave written informed assent and written informed consent was given by their parents/legal guardian.

2.2. Measures

The Structured Interview for Prodromal Syndromes (SIPS) and Scale of Prodromal Syndromes (SOPS; Miller et al., 2003) were used to determine whether Attenuated Psychosis Syndrome criteria were satisfied. The SOPS consists of 19 items assessing four symptom domains: positive symptoms (unusual thought content, suspiciousness, grandiosity, perceptual abnormalities, and disorganised communication), negative symptoms (social anhedonia or withdrawal, avolition, decreased expression of emotions, decreased experience of emotions and self, impoverished thinking, deterioration of role functioning), disorganised symptoms (odd appearance and behavior, bizarre thinking, attention and concentration problems, personal hygiene/social skills), and general symptoms (sleep disorders, dysphoric mood, motor disorders, decreased tolerance to normal stress). Each item is rated on a scale of 1–6, with 6 indicating “severe and psychotic” and 3–5 indicating a symptom in the prodromal range. The Attenuated Psychosis Syndrome diagnosis is given if one or more of the five SOPS positive items scores in the prodromal range (Miller et al., 2003). Only patients meeting Attenuated Psychosis Syndrome criteria were included in our study.

Mental disorders were assessed using the Schedule for Affective Disorders and Schizophrenia for School Aged Children Present and Lifetime Version (K-SADS-PL) (Kaufman et al., 1997). All participants were screened for autism-spectrum disorder (ASD) using the Autism Quotient -Child (Auyeung et al., 2008) or Adolescent (Baron-Cohen et al., 2006) version. In the case of positive screening, participants were assessed by a trained clinician on the Autism Diagnostic Observation Schedule-Generic (Lord et al., 2000). Participants also completed the Multidimensional Anxiety Scale for Children (MASC) (March et al., 1997) to obtain an index of the severity of anxiety symptoms, and the Children's Depression Inventory (CDI) (Kovacs, 1988) to obtain a global rating of depressive symptoms. None of the patients had active suicidal ideation or a positive history of suicidal attempts. Functioning was measured on the Global Functioning: Social (Auther et al., 2006) and Global: Functioning Role (Niendam et al., 2006). IQ was assessed with the Wechsler Intelligence Scale for Children (WISC-III)