

Child and adolescent psychosis: A review of characteristics and treatment

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Summary

A revision of the characteristics of psychotic symptoms in children and adolescents such as hallucinations, delusions and thought disorders is presented. Assessment of a psychotic child or adolescent must include a complete physical examination and interviews with family and collaborative sources. Differential diagnoses of psychosis in this age include schizophrenia, mood, dissociative and pervasive developmental disorders. Psychotic manifestations in young patients are influenced by developmental stage, and their treatment involves interventions in all spheres. Studies with typical and atypical antipsychotics for the treatment of different conditions are revisited.

Key words: Children, adolescents, psychosis, diagnoses, treatment.

Resumen

En este artículo se presenta una revisión de las características de los síntomas psicóticos en niños y adolescentes, tales como: alucinaciones, delirios y los trastornos del pensamiento. La evaluación de un niño o adolescente psicótico debe incluir un examen físico completo y una entrevista con la familia u otras fuentes de información. El diagnóstico diferencial de psicosis a esta edad incluye: esquizofrenia, trastornos del estado del ánimo, trastornos disociativos y trastornos del desarrollo. Las manifestaciones psicóticas en los pacientes jóvenes están influenciadas por el neurodesarrollo, y en su tratamiento debe abarcarse todas las esferas. Se exponen, también, los estudios con antipsicóticos típicos y atípicos para el tratamiento de las diferentes condiciones.

Palabras clave: Niños, adolescentes, psicosis, diagnóstico, tratamiento.

Definition of psychosis

In children and adolescents, as well as in adults, psychosis is not defined as a precise disease. Many pe-

diatric patients with symptoms of psychosis were historically classified as schizophrenics, but now it is becoming apparent that a variety of illnesses may underlie to this syndrome. Common manifestations of psychosis include hallucinations, delusions, and severe disturbances of thinking and behavior, with significant impairment in reality testing. The prevalence of psychosis in community samples of children and adolescents is around 1% (42).

Clinical manifestations of psychosis

Hallucinations

The hallucinatory experience has been defined as a "false sensory perception not associated with real external stimuli" (33). Hallucinations may involve any of the senses and must be distinguished from vivid imagery, fantasy productions and imaginary companions.

Hallucinations in children can resemble hallucinations in adults: Auditory hallucinations can be insulting or ordering voices, or be many voices talking about the subject. The context of the visual hallucinations comprised people, but most children reported seeing monsters (12). Age affects appearance and content of hallucinations: they seem to be rare in children younger than 6 or 7 years of age (22,35,37).

In young children, the sources of the auditory hallucinations are often animals (49). If a voice is identified, children younger than 11 years old usually identify it as a relative's voice (35). Adolescents present hallucinations with similar contents to those of adults'. Developmental issues could also be related to the localization of hallucinations in space, emphasizing the shift from an internal to an external location of voices with age.

The presence of visual or tactile hallucination without corresponding auditory hallucinations is a strong indicator of organicity (42). Although schizophrenic children report visual hallucinations in 30% of the cases and tactile hallucinations in 17%, usually they accompany auditory hallucinations (49).

Hallucinations may result from electrical discharges in the temporal cortex, amygdala, or hippocampus, or

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may be caused by medications, like pseudoephedrine and methylphenidate (56).

In order to be sure that the phenomenon is really an hallucination, while examining a child, it is convenient to ask if he is certain that whatever he perceives is actually present, if the origin of the hallucinations is outside of his internal world and if he cannot make the voices or the images come and go at will (44).

Hallucinations are the positive symptoms most commonly seen in schizophrenia. Auditory hallucinations are consistently described in about 80% of schizophrenic children (28,37,49).

As for mood disorders, it has been observed that nearly 45% of prepubertal children with major depression report hallucinations (17,51) and 81% of the diagnosed auditory hallucinations are mood congruent (17) hallucinations often present in prepubertal children with major depressive disorder.

Delusions

A delusion is the belief in something that appears quite false (and sometimes bizarre) to others of the same cultural, social, and religious group, for which there is no logical argument or evidence against it.

Few studies have objectively studied delusions in children. They are occasionally mentioned as concomitant to hallucinations (8), and it has been found that their prevalence is relatively low in childhood and early adolescence (approximately half the recorded rate of hallucinations).

Few hypotheses have been held to explain the neurobiological origin of delusions. These ideas are almost always based on the positive symptoms of schizophrenia which have been attributed by some authors to frontal cortex, limbic and diencephalic pathology (57).

Delusions are found in about 60% of the children with schizophrenia. The content of delusions in children and adolescents is similar to that found in adults (28,38,50). Delusions, as well as hallucinations, become more elaborate and complex with age. Children below age 10 present delusions concerning loss of identity (they identify themselves as other persons, animals, or objects) and irrational diffuse fears, often involving cosmic threats. In children of 10 to 14 years, delusions become more systematized and resemble those of adults, with the appearance of paranoid, somatic, and religious themes (21,22). Chambers (17) reported delusions of control, persecution or sin in children suffering from major depressive disorder.

Delusions can also be found in many types of metabolic disorders, deficiency states and drug intoxications (56).

Thought disorders

Formal thought disorder is the clinical manifestation of a disturbance in the way in which patients present the content, organization or processing of their thoughts to the clinician. Thought disorders are manifested as illogical thinking, incoherence, loose associations, digressive speech, clanging, neologisms, poverty of

speech content, echolalia and others (4). The term "thought disorder" was recently changed to "disorganized speech" in DSM-IV (2).

The explanations for the origin of thought disorder include developmental, linguistic/pragmatic, cognitive and biological perspectives.

The findings that children with complex partial seizure disorder and EEG evidence for frontotemporal involvement have significantly higher illogical thinking than those without frontal involvement, suggest that illogical thinking in childhood may reflect frontal lobe dysfunction (15).

Formal thought disorder in children occurs in three main nosological categories: psychotic disorders (schizophrenia, mania, psychotic depression, organic psychosis and psychotic disorders not otherwise specified), personality disorders and developmental disorder.

Affective disturbances

Affective disturbances accompany psychotic symptoms in many disorders. For example: a flat or blunted affect is a negative symptom of schizophrenia (3,42). Also, a depressed child may present sad affect, poor eye contact, psychomotor retardation, and irritability (42).

Table 1 shows the main psychotic symptoms seen in psychotic children.

Assessment of a psychotic child

A complete evaluation and assessment of a child or adolescent presenting psychotic symptoms is essential (table 2). The patient's complete personal and family history should be considered as well as the onset and course of any symptoms documented by family members, friends, caregivers, teachers and others. Also, a complete physical examination including extensive laboratory tests is needed in order to consider the broad range of medical concerns in children and adolescents.

Several structured or semistructured interviews have been designed for assessing the symptoms and making diagnoses of the different psychotic disorders. The three best known and most suitable are the Schedule for Affective Disorders and Schizophrenia for School Age Children (K-SADS) (34); the Diagnostic Interview for

TABLE 1 Frequent symptoms in psychotic children	
1.	Speech disturbances
2.	Inability to distinguish dreams from reality
3.	Visual and auditory hallucinations
4.	Bizarre thoughts and ideas
5.	Diminished interests, confused thinking
6.	Extreme moodiness
7.	Odd behavior, stereotypy, disinhibition
8.	Paranoid ideas
9.	Similar behavior to that of a younger child
10.	Severe anxiety and fearfulness
11.	Confusion of television stories with reality
12.	Severe problems for making and keeping friends
Data from Tolbert (53)	

Children and Adolescents (DICA) (30) and the Interview Schedule for Children (ISC) (38).

The Adolescent Semistructured Interview (ASI) (20), a Spanish instrument based on DSM-IV criteria (2), was created for the assessment of the different psychiatric diagnoses, including psychotic disorders. Furthermore, there are specific instruments for evaluating the symptoms of a particular disorder, such as the Kiddie Formal Thought Disorder Rating Scale (13,14) and the Kiddie-Positive and Negative Symptoms of Schizophrenia Scale (K-PANSS) (24).

The assessment should be focused in three main symptoms, which are: conduct abnormalities, thought disorders and hallucinations.

Conduct abnormalities. Children often present bizarre behaviors, therefore the clinician should ask their parents if they have shown recent behavioral changes different from isolation in social phobia or other chronic anxiety disorders. It is important to consider in adolescents if the bizarre behaviors are due to substance use. Parents, teachers and peers must be interviewed in order to have a clear picture of their behavioral abnormalities. It is also important to remember that adolescents are quite sensitive to criticism, therefore the interview must be friendly and respectfully made, using the same language or even slang of the patient.

Because of cognitive immaturity, children are not able to describe their delusions as well as adolescents do,

so it would be useful to let them use drawings or game activities in order to know their thoughts. It is useful to ask adolescents to write down their experiences. Clinical investigators have observed that children with normal or high average IQ's display indistinguishable symptoms and clinical pictures from those of adults (10).

Patients should be told that hallucinations are important components of their illness and encourage them to inform the clinician about them.

Psychotic disorders

While evaluating children and adolescents with psychotic disorders a variety of disorders should be taken in to account (Table 3).

Schizophrenia

The DSM-III put an end to the historical debate on the relationship between infantile autism and schizophrenia by providing well-defined criteria for schizophrenia, which is currently the most studied psychotic disorder in children and adolescents (60).

Schizophrenia is rare in childhood with 1 in 10,000 children developing a schizophrenic disorder. Only 0.1% of all schizophrenic disorders manifest in children before 10 years of age, and 4% before 15 years of age. This disorder has a whole life prevalence of less than 1%, and an incidence of about one tenth of its prevalence per year (47). Werry divided this disorder into two: early onset schizophrenia (EOS), appearing in 13 years or older children and very early onset schizophrenia (VEOS), appearing in children under 13. VEOS (58) is much more common in the male gender, but since the disease is milder in females it is possible that admission in psychiatric services might be more delayed for them after the first onset (60).

The frequency of schizophrenia has risen steadily to its maximum incidence (about 0.1% per year) from late adolescence to early adulthood (58,60).

A recent work has shown that in childhood-onset schizophrenia, cognitive, linguistic and social development are frequently disrupted before the appearance of evident psychotic symptoms (1). In addition, preliminary data indicate that intellectual deterioration

TABLE 2 Patient Assessment
Complete personal and family history
<ol style="list-style-type: none"> 1. Prenatal history 2. Developmental history 3. School/educational history 4. Cognitive function 5. Social/peer history
Documented symptoms and course
<ol style="list-style-type: none"> 1. Assessment of confounding/associated symptoms (mod, substance abuse, and organic factors)
Complete physical evaluation
<ol style="list-style-type: none"> 2. Pediatric consultation, if needed 3. Neurologic examination
Laboratory studies to include
<ol style="list-style-type: none"> 1. Complete blood count 2. Thyroid function studies, metabolic screen 3. Liver enzyme levels, viral titer 4. Renal function studies 5. Brain imagin 6. Sleep-deprived EEG 7. Heavy metal screen 8. Toxicology screen (when needed) 9. Speech, hearing, vision evaluations 10. HIV testing, if risk factors are present
Data from Tolbert (53)

TABLE 3 Differential diagnosis of psychosis
<ol style="list-style-type: none"> 1. Major depression with psychotic features 2. Schizoaffective disorder 3. Bipolar disorder 4. Dissociative disorders and posttraumatic stress disorder 5. Factitious disorder 6. Obsessive-compulsive disorder 7. Pervasive developmental disorders and schizophrenia 8. Drug-induced toxic psychoses 9. Seizure disorders (psychomotor type, petit mal,) 10. Personality disorders (schizoid, schizotypal, paranoia, borderline)
Data from Tolbert (53)

and brain morphologic changes may progress after the onset of psychosis (45).

The neurodevelopmental theories of schizophrenia suggest that some brain changes at puberty trigger the onset of psychosis (23,57). This model predicts that childhood onset schizophrenia has some physical or endocrine manifestation of early puberty, or the acceleration of developmental brain changes. Genetics play an important role in the etiology of this disorder; genetic influences are shown by the increased risk of children having one or both schizophrenic parents (9%-16% and 40%-68%, respectively) as well as when there is concordance among monozygotic twins (20%-57%) (47). The association of the 22q 11 microdeletions and schizophrenia was found in 1 case out of 30 schizophrenic ones (62). Other genetic studies indicate that trinucleotide repeated expansions are increased in male childhood-onset schizophrenics compared to healthy male controls (52).

Risk factors for childhood schizophrenia include: Male gender (50), however, the equal sex ratio, observed in the NIMH childhood onset schizophrenia sample (52), is consistent with some other samples (60).

Pubertal development (36)

Medical conditions, such as seizure disorders. (One follow-up study found that from 100 children with temporal lobe epilepsy, 10% developed schizophrenia in adulthood) (41).

Neurologic signs, such as movement disorders, poor sensory integration and impaired coordination (32). These signs decreased with age in controls but not in children with schizophrenia, thus suggesting that there is a delay or failure in normal brain maturation.

Obstetrical complications. There is no striking evidence of higher frequency of these complications in schizophrenic children (32).

The difference between the clinical presentation of schizophrenia in children and in adults in the relative frequency of hallucinations and delusions, was 80% and 40% respectively (28,37). Thought disorder has been reported from 40% to 60% (15).

In adolescents, schizophrenia resembles more closely the adult disease, with up to 38% meeting the diagnosis of paranoid schizophrenia with systematized delusions (42).

Apart from core symptomatology, a wide range of other symptoms has been reported. Mood symptoms are especially common (59). Disruptive symptoms are also frequent (50,58), particularly in prodromal stages. In addition, there is a large group of children called "multidimensionally impaired". These children have brief, transient psychotic symptoms, emotional lability, poor interpersonal skills and multiple deficits in information processing. It has been suggested that they could be included among the schizophrenia spectrum disorders (32). The symptoms of schizophrenia share some features with multiplex developmental disorder describes by Towbin and colleagues (54). However, the most characteristic associated feature is the decline in all areas of functioning, specially in the personal-social and academic ones.

Schizophrenia can be associated with other diagnoses. In a study performed by using DSM III criteria, the most frequently found were behavior disorders and atypical depression (49). However, the test-retest reliability or stability of the diagnosis is not as good, as it has frequent changes from schizophrenia to bipolar disorder, schizoaffective disorder, and even personality disorders several years on (59).

Major depression with psychosis

The main expression of psychosis in youngsters is an affective disorder; typically major depression with psychotic features. If mood symptoms precede depression, the diagnosis of mood disorder with psychotic features is more suitable. A family history of affective disorders also is more likely to produce affective disorders in children (53).

The prevalence of MDD in children has been reported as 0.4%-2.5% and 0.4%-8.3% in adolescents among the general population (9), and about one third of prepubertal depressed children reported psychotic symptoms (17). Psychotic symptoms in depression have been reported more frequently in patients with endogenous depression (MDD with melancholic features) (17,26). The most common hallucinations reported were auditory hallucinations coming from outside their heads and visual and tactile hallucinations. Hallucinations are moodcongruent most of the time. There are clinical differences according to age: Hallucinations were more common in depressed prepubertal children than in depressed adolescents and adults (16). Psychotic prepubertal children have more depressed mood and less diurnal variation than nonpsychotically depressed prepubertal children (26). Adolescents with psychotic depression had more depressed mood, more guilt, and used more alcohol and illicit drugs than depressed adolescents without psychosis (51).

The differential diagnosis of depression with psychotic symptoms include anxiety disorders, physical or sexual abuse, adjustment disorders, schizoaffective disorders, ADHD, behavior disorder and substance abuse.

Mania with psychotic symptoms

Psychotic depression is particularly important because it could be part of a bipolar illness. The course of psychotic depression often lead to the development of bipolar disorder. Carlson described that 20% of sixty adolescents hospitalized for major depression, and followed prospectively from 3 to 4 years, had a bipolar outcome. Factors predicting this included the presence of mood-congruent psychotic features, rapid onset of depression, psychomotor retardation, family history of bipolar illness and pharmacologically induced mania or hypomania. Kovacs reported that 30% of dysthymic children developed bipolar illness (38).

Epidemiological data support that the prevalence of child and adolescent manic-depressive illness is between 0.6% and 1%, and is increasing (27,46).

Psychotic symptoms occurring in childhood mania were reported by Graves in 1884. Manic children have

high activity levels in bedroom prior to sleep, pressured speech, racinct thoughts, distractibility, increased motor activity and goal-directed behaviors. Involvement in pleasurable activities with a high level of danger are frequently describes. Psychotic features are more common in adolescents, resulting in a tendency to diagnose them as schizophrenics (7).

The differential diagnosis between childhood bipolar disorder and schizophrenia is difficult. More than 50% of bipolar affective disorder patients are diagnosed as schizophrenics at index episode (59). In DSM-IV the psychotic symptoms of mood disorders and schizophrenia may be distinguished based on their mood congruency. Bizarre delusions with thought control or other disturbances of thought content may be more characteristic of schizophrenia than affective psychosis (42).

Other psychiatric conditions

Symptoms of psychosis may be present in dissociative disorders. In general, higher rates of affective and anxiety symptoms, more rapid mood swings and irritability, inappropriate sexual behavior and interruptions of the functions of memory, identity, and consciousness should allow to distinguish between these dissociative disorders and psychosis (42). However, it is important to distinguish these features from the symptoms of the affective disorders (55). Teenagers with obsessive-compulsive disorders may also seem delusional when describing their symptoms. In addition, differential diagnosis of psychosis in young patients must rule-out drug intoxication, organic psychosis, seizures and personality disorders. Finally, there is a large group of pervasive developmental disorders, such as autistic disorder, Asperger's and Rett's disorder, and childhood disintegrative disorder, which could appear with psychotic symptoms (53).

Treatment of psychosis

The major goal of treatment is to ameliorate symptoms, prevent relapses, reduce long-term morbidity and promote normal growth and development. This can be done by a comprehensive therapy combining medication with supportive psychotherapeutic intervention, paying attention to the family situation and the special needs of the patient.

Psychoeducation programs, accompanied by individual psychotherapy when indicated (47) are essential for the patient and his family.

Antipsychotics have been used in youngsters for treating many psychiatric disorders, including schizophrenia, mood disorders, autism, mental retardation and conduct disorders. When compared to studies in adults, the number of studies made in young patients with schizophrenia is very short. From these studies it appears that typical antipsychotics are effective for ameliorating symptoms and improving functioning in youngsters with psychotic illness, but high degrees of side effects have been reported associated with neuroleptic treatment. However, there are differences within the therapeutic dose range according to age. For

example: Parkinsonism is rare in preschool-age children and more common in school-age and adolescent patients. Acute dystonias are more common when administering high-potency antipsychotics, and many clinicians have noted that adolescents seem especially prone to dystonia, which can have a long-term impact on treatment compliance (11,25). The development of atypical antipsychotic agents, such as clozapine, risperidone or olanzapine, is an important advance; but their side effects, such as neutropenia, seizures and hepatotoxicity (11), sometimes lead to their discontinuation.

Several open-label reports have describe clozapine as an effective treatment for neuroleptic-resistant psychosis in youngsters with schizophrenia (25). The first double-blind controlled trial to examine the efficacy and safety of clozapine for children and adolescents with onset of psychosis by age 12, has been completed at the National Institutes of Mental Health (NIMH). Twenty-one patients with DSM-III-R defined diagnosis of schizophrenia, who were non responders to at least two different neuroleptics (age 14 ± 2.3 years, male 11, female 10) participated in this study. Patients were randomized to a 6 week double-blind parallel comparison of clozapine (final dose 176 ± 149 mg/day) or haloperdol (16 ± 8 mg/day). Clozapine was better than haloperidol in all measures of psychosis. However, neutropenia and seizures were major concerns. To this date, one third of the group has discontinued clozapine. Clozapine has striking superiority for positive and negative symptoms in treatment-refractory childhood onset schizophrenia. However, due to possibly increased toxic effects in this pediatric population, close monitoring for adverse events is essential (40).

In a retrospective study, risperidone has shown good response in a range dose of 2/10 mg/day in 15 of the 16 children and adolescents with schizophrenia, schizophreniform and schizoaffective disorder, with mild side effects, like sedation and EPS (29); but is has been associated with high rate extrapyramidal untoward effects (5).

Olanzapine, a recently introduces atypical neuroleptic, has been tested in open-label trials. In one trial conducted in five preadolescent children with bipolar disorder, psychosis not otherwise specified, schizophrenia and attention deficit-hyperactivity disorder, in a dose range 2.5-10 mg/day, three patients showed little improvement in psychotic symptoms, but the drug had to be discontinued after about 32 days due to adverse effects, including sedation, weigh gain and akathisia (39).

In the treatment of mood disorders, lithium and anticonvulsants (carbamazepine and valproate) have been found to be useful and effective, specially in acute states of mania. This also applies to some typical (haloperidol) and atypical neuroleptics (risperidone, clozapine) (47).

Since the traditional antipsychotic medications are widely used in children and adolescents, the possibility of studying new antipsychotic agents in youngsters is an exciting path for potential research (25). The number of pharmacological studies that have been performed in child and adolescent psychiatry has been quite small.

New atypical agents have fewer short and long-term side effects, thus, significant improvements in treatment for youngsters with a variety of psychiatric disorders may become available (25).

Electroconvulsive therapy (ECT)

The APA identifies major depressive disorder, bipolar affective disorder, schizophrenia and related psychotic disorders as diagnoses for which "compelling data are present for efficacy of ECT". Despite this, literature on the use of ECT in young people is limited (18). There have been no controlled studies with reliably applied diagnostic and outcome criteria involving children, and only a few in adolescents. There are reports of a good response to ECT in schizophreniform disorder, depression and mania with psychotic symptoms (61).

In 1990, the American Psychiatric Association Task Force on ECT issued the following guidelines, which are also practice standard for the use of ECT in children:

1. The use of ECT in children must be limited to the diagnostic indications used for adults.
2. ECT should be reserved for instances when other viable treatments have been ineffective or cannot be safely administered.
3. Two psychiatrists experienced in the treatment of children must agree that ECT is needed.
4. The anesthetist should have experience in the treatment of children.
5. The facility must have policies covering consent for ECT.

Psychosocial treatment

Although the literature contains rich clinical descriptions of psychosocial treatment strategies for children with psychosis, recent search revealed no controlled trials of psychosocial interventions. While medications may control psychotic symptoms, the need to supplement pharmacological treatment with special school programs, social skills training, family treatment, case management and rehabilitation services is generally recognized in clinical practice. Recent advances in psychosocial treatments for adults with psychosis may also be applicable for children and adolescents. Behavioral family treatment, emphasizing training in communication and problem solving skills, and social skills training instructions, such as maintaining appropriate eye contact and initiating conversations, seem to be a particular promise.

Systematic evaluation of alternative psychosocial treatment strategies is clearly needed (6).

Partial hospitalization programs

From a programmatic standpoint, evaluation to determine appropriateness for partial hospitalization includes: level of impulse control, level of social impairment, parental support and physical health. Level of impulse control can be viewed along a continuum with some patients demonstrating no problems and other patients requiring a more structured, locked treatment environ-

ment due to problems with behavioral control. Regarding family functioning (support and commitment to treatment), it is expected that families will work with the partial hospital program to encourage their child to comply with program limits.

Therapeutic activities in the partial hospital include individual, group and family therapies, medical management and therapeutic activities such as recreation, movement, art, occupational and milieu therapies, as well as community field trips. They are useful to teach patients constructive ways to use their leisure time.

As for the limitations of the partial hospital, it seems that they were created for the management of patients whose behavioral symptoms and impulsivity have reached the point for which special treatment procedures are indicated. Special treatment procedures designed to be used in child and adolescent partial hospitalization programs must adequately address the issue of safety, involvement of the family and the community, and yet maintain the patient in the least-restrictive environment. Another important limitation is that, due to the intensity of programming, the developmental level and the severity of the illness of the patients treated, and the lack of restrictiveness, most programs operate with very small staff-to-patient ratios, which may result in staff stress and burnout. The advantages and disadvantages of partial hospitalization for youngsters are shown in table 4 (31).

Residential treatment programs

Residential treatments are another modality of psychosocial treatments. They are defined by means of the following criteria: Its organization; not to be licensed as a psychiatric hospital; whose primary purpose is the provision of individually planned programs of mental health treatment services, together with residential care for its residents.

It should have a clinical program within its organization directed by either a psychiatrist, psychologist, social worker or psychiatric nurse with a master and/or doctoral degree. It should attend children and youths, primarily under 18, and the primary reason for the admission of 50% or more of the children and youth should be their mental illness.

The professional staff of a residential treatment center includes child-care workers, teachers, social workers, psychiatrists, pediatricians, nurses and psychologists.

The educational process is the most important component of these programs. The educational process includes:

1. Preentry assessment: It deals with the nature of conflicts and learning difficulties.
2. Intervention program planning. It includes an educational skills development (remedial reading, basic skill development, perceptual-motor and impulse control teaching, arts and crafts skills, musical skills, total group projects and academic skills) and an anxiety reduction program (supportive adult relationships; stable, trusted models; life-space interviewing; individual psychotherapy;

TABLE 4
Advantages and disadvantages of partial hospitalization programs

ADVANTAGES
<ol style="list-style-type: none"> 1. Allows the patient to remain with his/her family 2. Encourages the family to be responsible for the patient while providing opportunities to learn new patterns of interaction 3. Provides partial care for the patient, thus removing that burden from the parents during part of the day 4. May provide the patient with a break from a dysfunctional family system and a chaotic environment 5. Avoids the iatrogenic effects of inpatient treatment, such as dependency and deshumanization 6. Provides freedom for patients to continue involvement in extracurricular activities, such as part-time work, social affairs, etc. 7. Less social stigma is attached to partial hospitalization than to inpatient services 8. Transition from either less intensive or more intensive treatments 9. Allows more flexibility in scheduling the frequency and intensity of treatment than inpatient hospitalization 10. Comprehensive psychiatric evaluations can be accomplished without totally disrupting the child's or adolescent's environment 11. Typically, partial hospitalization is able to offer a greater variety of therapeutic experiences than do most hospital units
DISADVANTAGES
<ol style="list-style-type: none"> 1. Sometimes it is necessary to temporarily remove a child or adolescent from his/her home environment 2. The openness of partial hospitalization results in a higher level of risk involved in treating some patients with disorders of impulse control 3. It is more stressful for staff because of the increased risks and the necessity of dealing with everyday life problems 4. Makes it easier for children and families to drop out of treatment than do inpatient programs 5. Problems of transportation and living arrangements are frequently encountered 6. Interferes with normal daily activities, such as school, athletics, etc. 7. The cost to parents may be substantially higher than inpatient services
Data from Heston (31)

- removal from classroom area; guidance standardized room; and quiet safety room in unit).
3. Evaluation and reevaluation. It includes weekly staff meetings, interdisciplinary meetings and conferences, daily teacher reports, psychological testing, continuous criterion testing and semi-annual educational testing, semiannual total staff evaluation.
 4. Educational placement. Regular school, special class, private school, state institution.
 5. Follow-up

Traditional modes of psychotherapy have a definite place in residential treatment. These modes include intensive individual psychotherapy to the child, group therapy, individual or group therapy or both for parents, and family therapy (43).

Social skills training for children

The current interest in social skills development in children is the result of the contributions of several researchers and theorists. H.S. Sullivan emphasized the importance of friendship in early childhood in his writings on personality development, and in the interpersonal theory of psychiatry. Among other things, Sullivan suggested that the development of friends of the child's same sex during middle childhood is important for the development of intimacy. These same-sex friends provide an important context for the later development of heterosexual relationships during adolescence. In addition, Sullivan focused on the importance of early competence in children, with warnings about the

implications of failed social skills development for functioning during both childhood and later adult life. Twenty years later, researchers began to report that children with problems in peer relationships during the early elemental school years had a higher incidence of later emotional disturbance than did children with satisfactory peer relationships.

The assumption of the need of social skills training in children suggests that a causal link connects social skillfulness and peer acceptance and popularity. Social skills can be trained in controlled settings and generalized to informal, uncontrolled, real-world situations. It is possible to identify and teach the required social skills for children of different developmental levels with different handicapping conditions, and that social competence deficits in children result from the lack of knowledge of appropriate behaviors or of a behavioral skill for producing these behaviors.

The definition of social skills refers to social competence, which is defined as the ability to relate with others in a mutually reinforcing and reciprocal fashion, and to adapt social skills to the varying demands of interpersonal contexts.

The goals of social skills training are usually determined by the nature and extents of the handicapping conditions of the children.

Some targets of the social skills training are conflict resolution, social initiation, group entering skills, assertiveness skill development, conversational skills, joint attention skills, sensitivity training skills, compliance to authority training and communication requested skill training (19).

Conclusions

Psychosis in children and adolescents involves different conditions that the clinician must take into account when evaluating a youngster with hallucinations or delusions. Assessment of a psychotic child must include a complete clinical examination as well as laboratory and imaging studies when needed. Treatment must be

individualized according to a clear diagnosis, and taking into account the family, environment and special needs of the patient. Typical and atypical antipsychotics have shown their efficacy; however, there is lack of information about the dosing and the long term safety of these agents in children and adolescents, as well as about controlled trials with different psychosocial treatments.

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