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Adolescents with Mental Disorders: The Efficacy of a Multiprofessional Approach

Michela Gatta¹, Lara Dal Zotto¹, Lara Del Col¹, Francesca Bosisio²,
Giannino Melotti², Roberta Biolcati² and Pier Antonio Battistella¹

¹*Neuropsychiatric Unit for Children and Adolescents and Pediatrics Department,
ULSS 16 and University of Padua*

²*Psychology Department, University of Bologna
Italy*

1. Introduction

Approaches to mental health problems can historically be grouped into three theoretical-methodological systems, i.e. the psychological, the bio-pharmacological and the socio-environmental. Operators often tend ideologically to support one of these approaches, thereby emphasizing a distinction that originates from an old-fashioned separation between body and mind, and between individual and setting. The therapist with a biological education thus often brings the issue down to choosing the appropriate drug to eliminate the symptom; the therapist with a background in psychology is only interested in giving patients the most fitting interpretation of their symptoms to enable the latter to deal with them; and the educational therapist tends to search for social breakdowns (seen as the reason for the patient's pathological behavior) and suggest more adequate relational models. The different types of therapist remain locked in their own world and often mistrust the other possible approaches, running the risk of misunderstanding the patient's needs and providing only partial or ineffective intervention as a result.

Many studies have focused on and compared the benefits of different treatment settings for different mental disorders (psychoses, eating disorders, mood disorders, behavioral problems, ADHD, etc), and reviewed the various treatment methods that have proved helpful in managing young patients (Bachmann et al., 2008a, 2008b; Connor et al., 2006; MTA, 2004; Velligan et al., 2009). Although different settings and a multimodal treatment approach (including individual psychotherapy, pharmacology and family-based interventions) are described and recommended, evidence-based findings on the effects of the various treatment methods are still limited (Herpertz-Dahlmann & Salbach-Andrae, 2009; Masi et al., 2008; Nützel, Schmid, Goldbeck & Fegert, 2005; Steiner & Remsing, 2007).

2. Theoretical and clinical background

2.1 Clinical assessment and diagnosis in adolescence

Adolescence, more than any other stage in an individual's life cycle, poses the problem of normality and disease; it is a period of development characterized by discontinuity, rupture and existential uncertainty. Though it is difficult to trace a precise boundary between

normality and disease in adolescence because of the complexity of this period of development, with its characteristic multiple behavioral deviations and often contradictory psychological functioning, it is of fundamental importance to arrive at a correct diagnosis in order to plan effective treatment strategies and establish a prognosis. What makes the psychopathological diagnosis of an adolescent's condition so particular is its prognostic aspect, i.e. the risk of a disorder interfering with the adolescent's global developmental process and consequently on their acquisition of a stable identity, which is the premise for an adequate social and relational adaptation (Pissacroia, 1998).

Adolescent disorders are strongly characterized by evolutionary elements and psychological traits specific to this time of life, so efforts to understand and diagnose the disorder cannot avoid considering the broader, more complex dynamics of the individual's development as a whole. The clinical evaluation of mental disorders in adolescents must consequently be intimately correlated with the specificity of the psychological development theory and models of psychic functioning in this age group (Ammaniti & Sergi, 2002). Every psychopathological symptom must be seen as part of the child's development process (Gatta et al., 2005a) and analyzed in relation to the various settings in which the child is involved, be it the family, or peer groups, or society at large; it is essential to consider this expanded relational context, or "enlarged psychic space" (Jeammet, 1980).

For this purpose, clinicians and researchers increasingly use empirical assessment tools that enable them to shed light on the risk factors, the processes and the etiological mechanisms of psychopathology in adolescence, including the fundamental role played by environmental variables, be they interpersonal or contextual, in relation to the specific dynamics of this period of life.

The understanding deriving from individual differences in adaptive and maladaptive functioning, both in normal development processes and in dysfunctional and psychopathological conditions, is useful in the prevention, diagnosis and care of patients in the adolescent age-group.

Given the intrinsic characteristics of adolescence (bodily changes and interest in the self, psychological separation from internalized parental figures and the search for objects outside the family, construction of an identity in its psychological, social and sexual expressions) that make value the boundaries between normality and disease vague, the problem of which criteria or theoretical references to adopt in assessing any pathological conditions - be they transient or at risk of persisting and evolving - becomes particularly difficult.

The psychodynamic approach emphasizes the *clinical assessment* of the case - rather than its psychiatric diagnosis - in which symptoms are placed in relation to desires and fears, defenses, cohesion and stability of the self, types of objective relationships, and quality of affective control. A psychiatric diagnosis restricted to considering these domains seems more like a formal procedure than a method capable of explaining the complex nature of mental suffering. On the other hand, the medical model on which most of current psychiatry relies is characterized by important, closely correlated elements: 1. a study of the etiology, 2. an analysis of the set of signs and symptoms that tend to be associated and significantly repetitive; 3. a diagnosis based on an analysis of the clinical course and the underlying causes; 4. a possible prognosis; 5. a differential diagnosis; 6. a study of the epidemiology; 7. a choice of therapy. Although the etiopathogenetic aspects are unsuited to psychopathologies because the causes of mental disorders are not known, the use of such model is justified by the strong logical link between diagnosis and therapy, which underscores the role of the diagnostic process *per se*; it is also fundamentally important to be able to use a universal

diagnostic language to facilitate communication between specialists in the field. It is thus a matter of interweaving the data relating to the set of signs and symptoms, which phenomenologically identify a psychiatric disorder using descriptive criteria, with details on an individual's psychological functioning interpreted in the light of the developmental role of adolescence.

2.2 Adolescent patients and how they are taken into care

According to a recent study by Costello et al. (2005), as many as 12% of adolescents suffer from a psychiatric disorder severe enough to interfere with their functioning. From the various data available in the literature it also emerges that many disorders of developmental age (60% on average) continue into adult life (Bittner et al., 2007; Hofstra et al., 2001; Kessler et al., 2005; Kim-Cohen et al., 2003). Moving from this finding, many authors have wondered about the variables capable of better predicting the stability or susceptibility to change of developmental-age psychiatric disorders. For the time being, however, no general model has been developed to explain the mechanisms behind the continuity or discontinuity of a psychopathological condition (Rutter et al., 2006).

There are still no global epidemiological data on the long-term future of patients who had various problems in adolescence, nor any comparative studies on the nature of these difficulties and their treatment. Clinical experience and the various studies conducted on some such disorders would nonetheless converge in suggesting a strong correlation between disorders of adolescence and even severe problems in the long term (Fava Vizziello, 2003; Jeammet, 1980).

Most studies in the literature on these issues have focused on following up patients with various psychiatric diagnoses, and the persistence of a given disorder would depend primarily on its diagnostic category (Fonagy et al., 2003). Other studies indicate, however, that the degree to which the disorder interferes with the patient's functioning is equally important for prognostic purposes, even in the absence of a diagnosis of frank psychopathology (Angold et al., 1999; Gatta et al., 2009a, 2010a, 2010b). In the light of these considerations, and given the worrying epidemiological data pointing to a marked persistence of such problems, it is worth taking a look at the type of work done by the services for developmental age to treat and prevent psychopathologies in adolescents.

In this setting, a central role is occupied by services designed specifically for adolescents, for this age of transition from childhood to adulthood involving changing and personality structuring processes that lay the foundations for and shape the type of functioning of the future adult. Sadly, it is for this particular age group that we often find shortcomings in the health services and inadequacies in their specialization, in Italy at least - to such a degree that it is still true to say, as De Martis said many years ago (1997), that the organization of health care mirrors the problems of identity typical of these individuals, giving rise to a no man's land (neither children or adults) where we often see a destructive game in which competences and responsibilities are batted backwards and forwards between psychiatrists, hospitals, families, schools, social services and, in many cases, even the police and the law courts.

While the more recent literature reflects the uncertainty of the services, there is clearly still a paucity of documentation - even on an international level - on the efficacy of therapeutic-rehabilitation treatments offered by the services for developmental age, as regards the methods for taking them into care without resorting to hospitalization for cases with moderate-severe disorders (Gatta et al., 2009, 2010a, 2010b). Day centers would seem to be a

good resource for the more severe cases, thanks to their flexibility and capacity to adapt to different circumstances, but unfortunately not enough research has been done to compare the efficacy of residential treatments as opposed to day centers or the patient's living environment for the various types of patient and severities of their conditions (Green, 2002). All too often, the available studies report generic outcome measures in relation to different psychiatric disorders without specifying the type of therapeutic intervention provided, while studies comparing groups of hospitalized patients with groups treated elsewhere are still entirely inadequate in providing practical indications on how to organize the services (Shepperd et al., 2009). Unlike the situation for other types of therapeutic intervention in the living environment (such as multisystem therapy and case management), we could find not one comparative study including intensive treatments at day centers or in semi-residential settings (Lamb, 2009).

Given the lack of information from controlled randomized studies, in a recent meta-analysis published in Cochrane, Shepperd et al. (2009) pointed to the need to conduct prospective studies at the various services, based on clear clinical and demographic parameters at the time of a patient's admission and using precise, standardized outcome measures at the time of their discharge.

As for the best approach to these patients, studies are focusing on the hypothesis that a multimodal and multidisciplinary approach is more effective than single, sectorial approaches (Dimigen et al., 1999; Gatta et al., 2010a; Pazaratz, 2001) and that this approach - with a coordinated action involving several operators sharing in the project- may be best for taking adolescents into care in many situations in which their psychopathology is severe.

The multi-professional therapeutic team shares the investment between people in different relational settings, while remaining united in its global view of the project, offering a response that facilitates the process of differentiation between dependence and development, so difficult to achieve without the aid of a "third party". Clearly, focusing on the numerous aspects of the relationship with the patient and working as a team can contribute to a better outcome and improve the clinical efficacy of the intervention (Palareti & Berti, 2010; Pazaratz, 1996). This therapeutic method is applicable to various mental disorders, both in developmental age and in adults, and its efficacy has been acknowledged internationally (Bartels et al., 2004; Bond et al., 2001). Within this network, it is also worth emphasizing the importance of the cooperation with the adolescents' families and the proper exploitation of a personal relationship with them so that they can share the experiences of suffering caused by their child's disorder, also with a view to reinforcing the working alliance with them (Gatta et al., 2009b, 2010b, 2010c; Hawley & Weisz, 2005; Marcelli, 2009; Woolfenden et al., 2009).

2.3 The Semi-residential Adolescent Psychopathology Service

The study involved patients attending the Daily Service for Adolescents at the Neuropsychiatric Unit for Children and Adolescents in Padua. The main purposes of this service are the care and rehabilitation of adolescents with severe psychopathological disorders (mood disorders, psychotic disorders, antisocial behavior and personality disorders), particularly optimizing their welfare and providing intervention for these young patients through an integrated clinical and pedagogical approach. Various professional figures cooperate on the therapeutic project and this multi-professional team includes a child and adolescent neuropsychiatrist, a psychologist and two educators and a social worker. Adolescents attending the center undergo an initial diagnostic process, leading to a

psychiatric diagnosis formulated according to the ICD 10 (World Health Organization, 1992) and the therapeutic project involves attending a day center.

The centre receives adolescents (males and females from 12 to 18 years of age) with various types of psychiatric and behavioral disorder of moderate to severe degree: it has a capacity to treat approximately 25 patients in all and can simultaneously accommodate up to six adolescents, with the ratio of one operator to every two patients.

The adolescents attend from Monday to Friday from 09.00 to 17.00. Access to the structure is based on individual projects prepared by the team, which establishes the number of weekly visits and their duration. The educators can also implement tailored and/or home-based interventions in situations where an adolescent suffers from significant social isolation, and in acute cases requiring temporary hospital stays, acting as companions and providing support while the patient is in hospital. Patients can also be received in emergency situations (moments of acute crisis, or when a "buffer intervention" is needed while a patient is waiting to join a residential community). These latter interventions do not follow the normal enrolment protocol.

The general goals of the service are:

- to optimize the patient care and education measures for adolescents in situations of particular mental illness and at particularly crucial times;
- to support the families in their educational role;
- to construct an integrated clinical and pedagogical project with the various services on different levels and with different institutional roles;
- to improve the social involvement of adolescent in their living environment.

The multidisciplinary team consists of: a developmental neuropsychiatrist responsible for the service, a psychologist-psychotherapist, two educators, a social worker, a coordinator, and an administrative assistant.

There are also trainee psychologists, trainees on the degree course for professional educators at the Faculties of Education Sciences and Psychology, and physicians training in developmental neuropsychiatry.

The team holds the following meetings:

- a weekly meeting to coordinate their clinical-pedagogical work and program the educational activities;
- a weekly team meeting to discuss the cases;
- periodical meetings with social-sanitary operators and clinicians to report on the cases being treated in the semi-residential setting to discuss the clinical issues, assess the adolescent's progress, and recommend new patients for the treatment;
- a monthly supervisory team meeting with an outside psychiatrist-psychotherapist.

2.3.1 Protocol for enrolling new patients at the semi-residential center

The phase for assessing and enrolling an adolescent at the semi-residential center for adolescent psychopathologies is completed according to the following protocol.

1. The case is presented to the team operating at the semi-residential service for adolescent psychopathologies by the psychologist or neuropsychiatrist proposing their enrolment at the Neuropsychiatric Unit for Children and Adolescents and a file is prepared for the patient being recommended.

2. The case is discussed and, where applicable, a preliminary period of observation and assessment of the adolescent is decided.
3. A meeting is held with the patient and family to formalize the proposal to start with a preliminary period for the adolescent to get to know the semi-residential service. In addition to patients and their parents, this meeting is also attended by the clinician referring them and an educator.
4. The observation period starts, normally involving four meetings according to the following schedule:
 - the first meeting is for introductions, observations and free activity (playing, computer, exploring spaces);
 - the second meeting is when an observation file is completed (a semistructured interview) by a "third party" educator, i.e. an educator who has had the least to do with the adolescent so far, in order to guarantee the utmost neutrality in the administering the assessment tool. Then activities are proposed in small groups to see how the adolescent functions in group situations;
 - at the third meeting activities are proposed on the basis of the adolescent's interests emerging from the previous interview;
 - the fourth and last meeting is where, in addition to the activities already begun at the third meeting, there is also space for a conversation and exchange of ideas with the adolescent, to provide feedback relating to the previous meetings, the adolescent's mode of participation and greater or lesser willingness to enroll at the semi-residential center.
5. The reference educator completes an initial observation file on the trend of the four meetings.
6. The team assesses the observation period within two weeks after its completion and decides whether to recommend that the adolescent continue with the semi-residential experience or terminate it.
7. The patient and family are informed about the child's progress so far and there is an exchange of ideas relating to the adolescent's and the family's experiences and motivations. If all concerned agree to the semi-residential program, this decision is shared and signed jointly by the family and by the physician referring the case to the team, and these parties agree on a first integrated, tailored therapeutic and educational project, and an initial schedule for the adolescent's attendance at the center.

2.3.2 The path for taking the patient into care

1. Formulation of the tailored educational project and schedule of attendance at the semi-residential center

This phase is completed by the working team and the object is to prepare a first project in the light of the findings during the preliminary observation period. A record is made of patients' and their families' demographic details, the motives for enrolment on the program, the internal and external activities conducted, the established goals, the general and specific objectives of the course of therapy, a description of the integrated intervention designed for each adolescent and the timing for assessing their progress and the project.

Access is always formulated on the basis of a tailored individual project and the adolescent's weekly attendance is constantly monitored. Punctuality and adherence to the agreed frequency of attendance is an important tool for assessing the adolescents' and their

families' compliance with the agreed educational project, as well as being a necessary premise for implementing the semi-residential program. For each patient, a schedule is agreed with the family, the specialist and the adolescent concerned, starting from a minimum of two attendances a week (lasting four hours each).

2. Periodical clinical interviews and progress monitoring

For each patient, there are periodical clinical meetings with their own doctors to monitor their psycho-developmental trends and personal response to the therapy. The parental couple is also followed up with regular meetings with a clinician (neuropsychiatrist or psychologist), possibly with the support of an educator.

This action on the families needs to be supported and empowered to help parents establish a different image of their child from the one they knew before, and make sense of the changes taking place in the child during the period in semi-residential care, as well as providing input on how the parents themselves need to respond to the child on a daily basis. A course of psychotherapy proper for both the adolescents and their parents is often recommended and implemented.

3. Completion of a file for recording changes and reviewing the therapy

After the first six months of attendance at the semi-residential centre, the educational project is reviewed, and the goals and/or operating methods are expanded and/or diversified, based on a first structured assessment of the adolescent's progress that involves completing and checklist of specific indicators relating to the various areas of intervention (relational, social, autonomy).

4. Ongoing assessment

The ongoing assessment of the adolescent's progress is based on various methods:

- periodic team discussions,
- periodic meetings with reference clinicians
- periodic meetings with family
- periodic meetings with teachers
- periodic assessment of files completed by the reference educator
- observation/assessment charts recorded before and after laboratory activities
- the periodic administration of standardized tests (Youth Self Report 11-18) at the baseline, when the patient is taken into care and subsequently every six months
- the periodic completion by the team of the Global Assessment of Functioning test (GAF) (at the time of compiling the therapeutic and educational project and subsequently every six months).

This assessment and constant monitoring procedure enables the ongoing adjustment of the objectives of the integrated individual projects, which is normally done every 3-6 months. The tests can also be used as a tool for pre- and post-assessment of the effects of the intervention at the start and end of a specific laboratory activity to evaluate its efficacy.

5. Discharge

The end of the course of therapeutic intervention can be decided by various factors. In the most favorable of outcomes, the project may be concluded because the preset goals have been achieved and the adolescents have regained their social contacts and schooling experience, and the course of therapy undertaken can be consolidated.

Attendance at the centre may also be interrupted due to poor compliance on the part of the adolescent and/or the family (with repeated and unjustified failures to attend appointments at the semi-residential centre or meetings with clinicians, or inadequate cooperation). The program may also be stopped by the need to include the patient in a residential community. In each case, the conclusion of the project is confirmed during the course of a final meeting attended by all the parties involved (the adolescent, the family, the reference educator, the psychologist and the neuropsychiatrist).

2.3.3 Pedagogical activities

The object of the pedagogical activities is to support the adolescents in the course of their development by means of a relationship with the figure of the educator, who serves as an "auxiliary ego" and consequently as a supportive companion. This is achieved by providing a space, which takes practical shape in the rooms at the semi-residential centre, and by designing a project that involves customized objectives and timings.

In experiences of research applied to different educational settings, various functions have been identified on which the educator's action is concentrated. The educator thus has several functions (Marcelli & Braconnier, 1989; Pani et al., 2009):

- as a mediator between the adolescent and the adult world;
- to provide protection in relation to the adolescent's interior conflicts;
- to accompany the patient on a path towards a normalizing educational context;
- as containment, providing stability and helping the adolescent to manage the dynamics of his/her daily life.

The *general educational goals* of the educational process providing the starting point of an individual educational project tailored to each patient include:

- helping the adolescents to gain awareness of their own sentiments, impulses and behavior;
- helping them to test their abilities in a protected setting and to raise their self-esteem;
- helping them to realistically assess their living environment.

The *activities* in which the psycho-educational process takes shape are designed to achieve the individual objectives of each adolescent's project and rely on fundamental tools, such as providing a setting as a framework in which to enable to the experience of meeting, using the operator's capacity for empathy to create a relationship that can help the adolescent to let their emotional experiences resound inside themselves and thereby increasingly gain control over them, promoting organized behavior patterns, abilities and motivations that can pave the way to satisfactory social relations and an adequate performance in the completion of tasks and the achievement of goals. During their attendance at the center, the adolescents conduct activities designed to develop their personal interests, acquire skills and reinforce their self-esteem. Outings, the preparation of a newspaper, painting, watching films, playing, writing, and dramatizations are activities conducted at the center, individually and in small groups, in the constant presence of the educators. There are also structured laboratories involving pet therapy, horse therapy, art therapy and naturalistic experiences at teaching farms organized in cooperation with other associations, as well as participation in therapeutic winter and summer holiday camps. For many young people, these activities are the only opportunities they have to put themselves to the test away from their usual living environments, to measure themselves against an adventure outside the home, and thereby testing their capacity to manage on their own, to experiment with detachment from the family, to live in groups and share the group's behavioral rules.

Finally, courses are also organized to support the adolescents' formal education in cooperation with their schools. This involves formulating tailored teaching programs and the presence of teachers at the semi-residential centre.

3. Clinical study

3.1 Aim

The aim of this study was to analyze the psychopathological manifestations and psychosocial functioning of a sample of 67 adolescents attending the semi-residential service for adolescent psychopathologies at the Neuropsychiatric Unit for Children and Adolescents of the local public health services in Padova (Italy) between 2006 and 2009.

This analysis aimed to assess the efficacy of a multi-professional (educational, psychological, pharmacological) integrated therapeutic intervention, in terms of the patients' clinical progress, psychopathological changes and global psychosocial functioning, 12 months after starting the program.

3.2 Sample

The study sample consisted of 48 males (71.6%) and 19 females (28.4%), aged between 13 and 19 years when they began to attend the semi-residential service, divided into three age groups, i.e. 13-14 (46.3%), 15-16 (41.8%) and 18-19 (11.9%); 29.9% of the sample were attending lower secondary school, 34.3% were at higher secondary school, and 35.8% had abandoned school.

3.3 Materials and methods

The patients' functioning and psychopathology were assessed using the Global Assessment of Functioning (GAF) scale and the Achenbach Youth Self Report 11-18 (YSR), respectively, which were completed at the beginning of the semi-residential treatment and repeated after 12 months.

The GAF (Startup et al., 2002) is a scale used by operators to rate a patient's psychosocial functioning and activities, regardless of the nature of their psychiatric disease. It corresponds to Axis V of the DSM-IV (APA, 1994). The GAF scale comprises 10 levels (further divided into 10 points) and each patient is assigned to a given level on the strength of a scoring system: the higher the score, the better the patient's psychosocial functioning. The levels of functioning are described as it follows: **91 - 100** Superior functioning in a wide range of activities, life's problems never seem to get out of hand, he/she is sought out by others because of his or her many positive qualities. No symptoms. **81 - 90** Absent or minimal symptoms (e.g. mild anxiety before an exam), good functioning in all areas, interested and involved in a wide range of activities, socially effective, generally satisfied with life, no more than everyday problems or concerns (e.g. an occasional argument with family members). **71 - 80** If symptoms are present, they are transient and expectable reactions to psychosocial stressors (e.g. difficulty concentrating after family argument); no more than slight impairment in social, occupational, or school functioning (e.g. temporarily falling behind in schoolwork). **61 - 70** Some mild symptoms (e.g. depressed mood and mild insomnia) OR some difficulty in social, occupational, or school functioning (e.g. occasional truancy, or theft within the household), but generally functioning pretty well, has some meaningful interpersonal relationships. **51 - 60** Moderate symptoms (e.g. flat affect and circumstantial speech, occasional panic attacks) OR moderate difficulty in social,

occupational, or school functioning (e.g. few friends, conflicts with peers or co-workers). **41 - 50** Serious symptoms (e.g. suicidal ideation, severe obsessive rituals, frequent shoplifting) OR any serious impairment in social, occupational, or school functioning (e.g. no friends, unable to keep a job). **31 - 40** Some impairment in reality testing or communication (e.g. speech is at times illogical, obscure, or irrelevant) OR major impairment in several areas, such as work or school, family relations, judgment, thinking, or mood (e.g. depressed, avoids friends, neglects family, and is unable to work; child frequently hurts younger children, is defiant at home, and fails at school). **21 - 30** Behavior is considerably influenced by delusions or hallucinations OR serious impairment, in communication or judgment (e.g. sometimes incoherent, acts grossly inappropriately, suicidal preoccupation) OR inability to function in almost all areas (e.g. stays in bed all day, no job, home, or friends) **11 - 20** Some danger of hurting self or others (e.g. suicide attempts without clear expectation of death; frequently violent; manic excitement) OR occasionally fails to maintain minimal personal hygiene (e.g. smears feces) OR gross impairment in communication (e.g. largely incoherent or mute). **1 - 10** Persistent danger of severely hurting self or others (e.g. recurrent violence) OR persistent inability to maintain minimal personal hygiene OR serious suicidal act with clear expectation of death.

The YSR 11-18 (Achenbach, version for 11-18 year-olds) (Achenbach, & Rescorla, 2001) is one of the most commonly used scales for rating juvenile behavior and it is used internationally in the clinical setting and in research. It is in the form of a questionnaire completed by adolescents, and it has been translated and validated for Italians too (Frigerio et al., 2006; Ivanova et al., 2007). The questionnaire yields two profiles: one for competences (activities, social functioning, school performance) and one for behavioral and emotional problems, which can be assessed as “normal”, “borderline” or “clinical” on 8 specific syndrome scales. The syndrome scales relating to the various psychopathological pictures are: anxiety/depression, withdrawal, somatization, social problems, thought-related problems, attention problems, aggressive and role-breaking behavior. The problems are grouped into: internalizing problems (anxiety, depression and withdrawal, somatization); externalizing problems (aggressive and role-breaking behavior); and other problems (social problems, thought-related problems, attention problems).

The adolescents’ clinical progress was assessed after 12 months by completing the Clinical Global Impressions (CGI) (Guy, 1976) - for the part relating to Global Improvement. This was done by the clinician who had conducted the psycho -diagnostic assessment prior to the adolescents’ enrolment on the semi-residential program: patients were judged to have improved clinically when they scored 1-2, to have remained unchanged if they scored 3-5, and to have deteriorated when their score was 6-7.

The Working Alliance Inventory - Observer, Short version (WAI-O-S) was used by an outside observer (a psychologist trainer) to assess the bond between the parents and the therapist, and how much they agree on the action to take and the goals of the therapy. The WAI-O-S has been shown to have a good reliability ($r=0.81$; Gelfand and DeRubeis, unpublished manuscript), and research has also produced strong support for the reliability of the WAI scales in general, and for their validity (Hanson et al., 2002; Horvath, 1994). The WAI-O-S has been translated into Italian and validated for Italians (Di Giuseppe et al., 1996; Horvath, & Greenberg, 1989; Lingiardi, 2002). This scale consists of 12 items, 10 positively worded and 2 negatively worded, rated on a 7-point Likert-type scale. The items are divided into three subscales of 4 items each. The subscales, based on Bordin’s (1979) working alliance theory, are Goal (agreement about goals of therapy; e.g.

"The client and therapist have established a good understanding of the changes that would be good for the client"), Task (agreement about the purposes of the therapy; e.g. "There is agreement on what it is important for the client to work on"), and Bond (the bond between the client and therapist; e.g. "There is mutual trust between the client and therapist"). Given our aim to evaluate parents' capacity to cooperate in the adolescent's treatment, we chose to select the WAI-O-S's *Task* subscale (items 1, 2, 8 and 12). Ranging from a minimum of 0 to a maximum of 28, the ratings were coded as follows: no working alliance (scoring 0-9), a partial working alliance (10-19) and a good working alliance (20-28). The items were rated considering the parental couple as a *client* asked to become involved in and commit to their child's treatment when the team reported to them on the outcome of the initial assessment procedure and presented its tailored educational-therapeutic project (see section 2.3.1 item 7).

The adolescents' participation was evaluated by the educators, considering certain qualities of the adolescent-educator relationship and the adolescents' participating modalities during the first three months.

After three months of the adolescents attending the day center, the educators filled in four items for each client:

1. General attitude to the activities proposed at the day center: active (a), passive (b), ambivalent or oppositional (c);
2. Mode of talking about his or her self and tackling tests: active (a), passive (b), ambivalent or oppositional (c);
3. Recognition of the existence of an emotional disorder: present (a), indifferent (b), rejected (c);
4. Attitude to the educator: trust (a), indifference (b), mistrust (c).

The patient's participation mode was thus classified as follows: active (prevalence of "a"), passive (prevalence of "b"), ambivalent or oppositional (prevalence of "c"). If two answer modes were seen with the same frequency, the more conservative profile was to be chosen, but no such cases actually occurred.

Compliance with treatment was assessed for each patient according to their adherence to the educational-therapeutic project in terms of their attendance at the center to take part in the educational-pedagogical and clinical activities established in each adolescent's project: adherence to the therapeutic project was judged to be adequate when patients attended 75-100% of their appointments, discontinuous if the percentage was 50-74%, and inadequate if it was less than 50% or the therapeutic intervention was interrupted early.

Statistics: the statistical analysis was conducted using the following variables: gender, age, cultural level of the families of origin, formal education, situation of the parental couple, psychiatric diagnosis (ICD 10), reason for requesting to join the program, attendance at the semi-residential centre, period of stay at the semi-residential centre, adherence to the therapeutic project, working alliance with the parents (WAI-O), type of intervention, mode of participation, principal educational goals, clinical progress (CGI), individual and/or group approach, scores on the syndrome scales in the Achenbach YSR questionnaire, and scores on the GAF scale.

The data collected were input in a database and subsequently processed using the SPSS statistical software, rel. 14; a value of $p < 0.05$ was considered significant. After completing the *frequency analysis*, the *chi square test* was used as a statistical model (calculating the exact value of p) to analyze the gender-related differences in relation to all the above-listed variables. To assess the efficacy of the therapeutic intervention, we used Student's *t-test* for

paired samples, comparing the results obtained with the YSR before (T1) versus after the intervention (T2). To compare the results of the GAF assessment between T1 and T2 (T1) we used the *General Linear Model for repeated measures*. The same statistical model was also used to compare the differences in the mean GAF scores between T1 and T2 vis-à-vis the variables of interest, and the most relevant data (interaction effect between GAF and gender, frequency of attendance at the semi-residential center, integration of the therapeutic intervention, and type of intervention).

3.4 Results and discussion

3.4.1 Socio-demographic characteristics of the sample

The sample consisted of 48 males (71.6%) and 19 females (28.4%).

Their *age* at the time of enrolment on the semi-residential program was mainly distributed in the 13-14 year-old (46.3%) and 15-16 year-old (41.8%) age groups, while 11.9% of the adolescents were between 17 and 19 years old. Males and females were equally distributed in the three age groups ($\chi^2 = 1.20$, $df = 2$, $p_{\text{exact}} = \text{n.s.}$).

In our sample, 29.9% of the patients were attending lower middle school, 34.3% were at higher middle school and 35.8% had abandoned school: the reasons this last group was related both to academic difficulties and to major behavioral issues or symptoms of mental illness and isolation that interfered significantly with school attendance. According to the ISTAT survey of 2008, the national rate of adolescents abandoning their education in the first year of high school was 11.1% (ISTAT, 2008).

The drop-out phenomenon in our sample was clearly connected to these adolescents' psychiatric disease and it is also important as a prognostic indicator when considered in terms of the adolescent's psycho-educational growth.

There were no statistically significant differences between males and females as concerned their *school education* ($\chi^2 = .17$, $df = 2$, $p_{\text{exact}} = \text{n.s.}$).

The *cultural level* of the family of origin, judging from the formal education received by each of the parents (lower middle school, high school, university), was mainly medium-to-low: it was low for 32.8% of the sample, medium for 53.7%, and high for only 13.4%. This finding confirms, on the one hand, the trend of previously published studies on the inverse relationship between mental disorders in general and the families' socio-cultural level (Chandra et al., 1993; Flouri et al., 2010; WHO 2004), on the other, it goes to show that the intervention implemented is readily accessible to all, not discriminating between families in economic or cultural terms.

No significant differences emerged between males and females for this variable ($\chi^2 = .30$, $df = 2$, $p_{\text{exact}} = \text{n.s.}$).

In 76.1% of the cases, the families consisted of an intact *parental couple*, while in 23.9% the family was single-parent. No statistically significant differences emerged between males and females for this factor ($\chi^2 = 12$, $df = 1$, $p_{\text{exact}} = \text{n.s.}$).

3.4.2 Main psychopathological signs in our sample of adolescents, their diagnosis and the assessment of their psychosocial functioning

For 40.3% of our patients, the reason for referral to our service was for behavioral problems, 23.9% had affective-relational and family problems, 19.4% had schooling problems, and 16.4% suffered from social isolation. The *reason for requesting the service* varied according to the gender of the sample considered ($\chi^2 = 8.82$, $df = 3$, $p_{\text{exact}} = .03$): male patients were more

likely to ask for therapeutic intervention for behavioral problems (43.8% of the males vs 31.6% of the females), problems at school (20.8% of the males vs 15.8% of the females) or social isolation (20.8% of the males vs 5.3% of the females), while females were more likely to need to deal with affective-relational problems (14.6% of the males vs 47.4% of the females).

The sample consisted of adolescents who had been attributed a *diagnosis* according to the ICD 10 of psychotic disorders in 25.4% of cases, personality disorders in 34.3% (20.9% of them as a single diagnosis, 13.4% with comorbidities), behavioral disorders in 11.9%, phobias, stress-related and somatoform disorders in 10.4%, mental retardation in 9.0% and affective syndromes in 9.0% (Table 1).

Diagnosis	% (fq)
Psychotic disorders (F20-29)	25.4 (17)
Personality disorders (F60-69)	20.9 (14)
Two comorbid diagnoses (F60-69+ F30-48)	13.4 (9)
Behavioral and emotional disorders (F90-F98)	11.9 (8)
Phobias, stress-related and somatoform disorders (F40-48)	10.4 (7)
Affective disorders (F30-39)	9.0 (6)
Mental retardation, psychological development disorders (F70-89)	9.0 (6)
Total	100.0 (67)

Table 1. ICD 10 diagnoses.

No statistically significant differences emerged between males and females in relation to the diagnosis ICD 10 ($\chi^2 = 9.72$, $df = 6$, $p_{\text{exact}} = \text{n.s.}$).

These data do not confirm the literature on psychopathology in developmental age, in which gender variables are reportedly highly significant; for instance, psychosis, somatization, depression and eating disorders all have a different, gender-related prevalence and incidence (Costello et al., 2006; Frigerio et al., 2009; Kessler & Wang, 2008).

It is well known that problems of aggressive behavior, mental retardation and psychosis are more frequent in males, while eating disorders and internalizing disorders are more common among females.

The scores obtained by our patients in the Achenbach YSR (YSR 11-18) at the baseline assessment were grouped into three clusters, i.e. cluster 1 ("normal") comprises scores in the range of 50 to 64; cluster 2 ("borderline") scores from 65 to 69; and cluster 3 ("pathological") scores from 70 to 100, as recommended in the manual (Achenbach & Rescorla, 2001).

Table 2 shows the percentage of scores obtained at the time of the initial YSR assessment in the three clusters (*normal*, *borderline* and *pathological*) on the eight syndromes scales. Three questionnaires were not considered because they were incomplete. It is worth noting that half the patients were "borderline" or "pathological" on the subscales for anxious-depressive disorders, social problems, and attention disorders. The same applied to the subscales for social withdrawal.

As concerns the gender-related differences (Table 3), there were no statistically significant differences except for the scales for somatization, anxious-depressive disorders and social problems, where the differences by gender tended towards significance.

YSR syndrome scales	50-64 (normal) % (fq)	65-69 (borderline) % (fq)	70-100 (pathological) % (fq)
Social withdrawal	50.0 (32)	20.3 (13)	29.7 (19)
Somatization	79.7 (51)	15.6 (10)	4.7 (3)
Anxious-depressive disorders	37.5 (24)	26.6 (17)	35.9 (23)
Social problems	39.1 (25)	25.0 (16)	35.9 (23)
Thought-related disorders	73.4 (47)	18.8 (12)	7.8 (5)
Attention disorders	48.4 (31)	29.7 (19)	21.9 (14)
Delinquent behavior	84.4 (54)	10.9 (7)	4.7 (3)
Aggressive behavior	68.8 (44)	14.1 (9)	17.2 (11)

Table 2. YSR 11-18 pretest: percentages and frequencies (for 64 subjects).

In particular, there was a larger proportion of females with somatization and social problems among the “borderline” patients, and the girls prevailed for anxious-depressive disorders and social problems among the “pathological” cases.

YSR syndrome scales	50-64 (normal) % (fq)		65-69 (borderline) % (fq)		70-100 (pathological) % (fq)		χ^2 , df, p_{exact}
	Male	Female	Male	Female	Male	Female	
Social withdrawal	52.2 (24)	44.4 (8)	21.7 (10)	16.7 (3)	26.1 (12)	38.9 (7)	1.03, 2, n.s.
Somatization	87.0 (40)	61.1 (11)	8.7 (4)	33.3 (6)	4.3 (2)	5.6 (1)	6.2, 2, .06*
Anxious-depressive disorders	45.7 (21)	16.7 (3)	26.1 (12)	27.8 (5)	28.3 (13)	55.6 (10)	5.59, 2, .07*
Social problems	47.8 (22)	16.7 (3)	21.7 (10)	33.3 (6)	30.4 (14)	50.0 (9)	5.29, 2, .08*
Thought-related disorders	78.3 (36)	61.1 (11)	17.4 (8)	22.2 (4)	4.3 (2)	16.7 (3)	3.19, 2, n.s.
Attention disorders	54.3 (25)	33.3 (6)	23.9 (11)	44.4 (8)	21.7 (10)	22.2 (4)	3.02, 2, n.s.
Delinquent behavior	80.4 (37)	94.4 (17)	13.0 (6)	5.6 (1)	6.5 (3)	0 (0)	2.14, 2, n.s.
Aggressive behavior	71.7 (33)	61.1 (11)	10.9 (5)	22.2 (4)	17.4 (8)	16.7 (3)	1.40, 2, n.s.

*Tending towards significance

Table 3. YSR 11-18: comparison between males and females in the three clusters of scores, *normal*, *borderline* and *pathological* (64 subjects).

To enable their comparison, the percentages of males and females for each syndrome scale were calculated out of the total of the respective subsamples.

In the operators' assessment of global functioning using the GAF scale, the range most often found was 51-60, with 29.9% of the adolescents revealing moderate symptoms, e.g. flat affect and circumstantial speech, occasional panic attacks or moderate difficulties in their social,

occupational or school functioning (few friends, conflict with peers, etc.); this was followed by 23.9% of the patients with scores of 41-50 (more severe symptoms e.g. suicidal ideation, severe obsessive rituals, frequent shoplifting or any serious impairment in social, occupational, or school functioning, e.g. no friends, unable to keep a job) and 22.4% in the range of 31-40, with even more severe symptoms (some impairment in reality testing or communication, e.g. speech is at times illogical, obscure, or irrelevant, or major impairment in several areas, such as work or school, family relations, judgment, thinking, or mood, e.g. depressed, avoids friends, neglects family, and is unable to work; child frequently hurts younger children, is defiant at home, and fails at school) (Fig. 1).

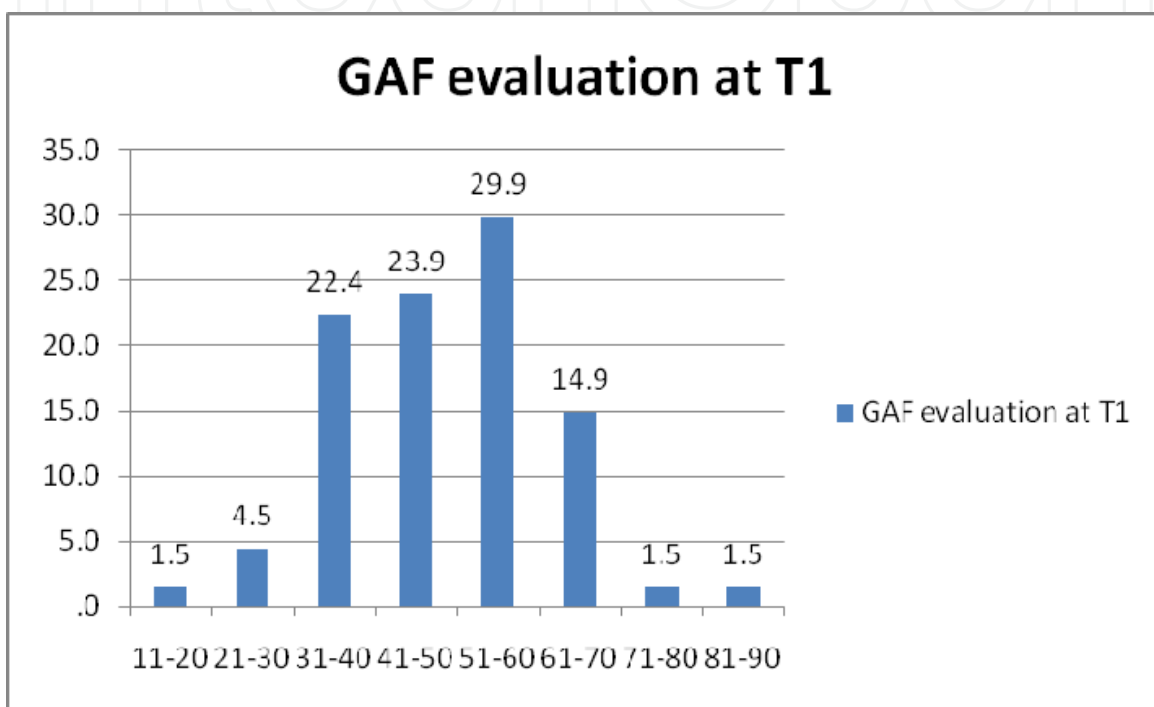


Fig. 1. Percentages of patients on different GAF scoring levels at T1.

3.4.3 Characteristics of the therapeutic project

The main *goals* of the educational-therapeutic project tailored to each patient were to help them achieve autonomy and improve their self-esteem (41.8% of cases) and socialization (29.9% of cases). Support for the family was identified as one of the priorities in 19.4% of cases, support in the adolescents’ schooling in 9.0%. No statistically significant differences emerged between males and females for this variable ($\chi^2 = .22$, $df = 3$, $p_{\text{exact}} = \text{n.s.}$).

The majority of the adolescents attended the semi-residential centre for a *period of time* that exceeded three months; 50.7% of them attended for more than nine months (Table 4).

Attendance at the semi-residential centre	% (fq)
<3 months	14.9 (10)
3-9 months	34.3 (23)
>9 months	50.7 (34)
Total	100.0 (67)

Table 4. Period of attendance at the semi-residential centre.

No statistically significant differences emerged between males and females concerning the duration of the treatment ($\chi^2 = 2.15$, $df = 2$, $p_{\text{exact}} = \text{n.s.}$).

Approximately half the adolescents (49.3%) came to the semi-residential centre for 5-15 hours a week, 28.4% of them for less than 5 hours a week and 22.4% for more than 15 hours a week.

Their attendance at the semi-residential centre varied significantly as a function of gender in the sample considered ($\chi^2 = 11.88$, $df = 2$, $p_{\text{exact}} = .002$): most of the females attended the centre for less than 5 hours a week (47.4% of the females vs 20.8% of the males), or for more than 15 hours a week (36.8% of the females vs 16.7% of the males), while the majority of the males attended the centre for between 5 and 15 hours a week (62.5% of the males vs 15.8% of the females).

In 23.9% of the cases considered, there was an *unscheduled interruption* of the therapeutic project, within three months of joining the semi-residential centre in 14.9% of them; the difference between males and females was not significant ($\chi^2 = .09$, $df = 1$, $p_{\text{exact}} = \text{n.s.}$).

The *type of therapeutic intervention* for the majority of cases was of the integrated type (73.1%) with no differences between the genders ($\chi^2 = 1.34$, $df = 1$, $p_{\text{exact}} = \text{n.s.}$) (Table 5).

Type of intervention	% (fq)
Mainly educational one	25.4 (17)
Multi-professional integrated	74.6 (50)
Total	100.0 (67)

Table 5. Type of intervention.

In particular, the different psycho-educational therapy proposals are summarized in Table 6, where it is clear that in 41.8% of the cases a multi-professional integrated intervention (educational, psychological and pharmacological) was used, while an integrated educational and psychological intervention was applied in 28.4%, and a mainly educational-pedagogical type of intervention in 24.5%.

Integration of the intervention	% (fq)
Educational	25.4 (17)
Educational and psychological	28.4 (19)
Educational and pharmacological	4.5 (3)
Educational, psychological and pharmacological	41.8 (28)
Total	100.0 (67)

Table 6. Integration of the intervention.

No statistically significant differences emerged between males and females for the integration of the intervention ($\chi^2 = 2.63$, $df = 3$, $p_{\text{exact}} = \text{n.s.}$).

Going into more detail on the therapeutic project, as concerned the *educator-adolescent-group* relationship, there was a prevalence of individual interventions (65.7%) over group interventions (34.3%), with no significant differences between males and females ($\chi^2 = 2.07$, $df = 1$, $p_{\text{exact}} = \text{n.s.}$).

This can be explained in relation to the global usage of the service, characterized by cases of even severe psychiatric illness, for whom a dual relationship may be easier for the individual to tolerate and less risky from the point of view of any break down.

As for the patients' *adherence to their therapeutic project*, this was adequate in the majority of cases (68.7%), while in 17.9% it was discontinuous, and in 13.4% it was inadequate, i.e. the treatment was abandoned ahead of schedule or patients attended less than 50% of their scheduled appointments. There were no gender-related differences for this variable ($\chi^2 = 1.02$, $df = 2$, $p_{\text{exact}} = \text{n.s.}$).

The adolescents' mode of *participation* at the semi-residential centre was judged as active in 46.3% of cases, ambivalent in 29.9%, passive in 14.9% and oppositional in 9.0%, with no gender-related differences ($\chi^2 = 3.60$, $df = 3$, $p_{\text{exact}} = \text{n.s.}$).

The *working alliance with the parents* was generally adequate (53.7%), sometimes partial (35.8%) and occasionally lacking (10.4%). Here again, there were no significant differences between males and females ($\chi^2 = .49$, $df = 2$, $p_{\text{exact}} = \text{n.s.}$).

As for the overall *clinical progress (CGI)* of the sample considered, over the course of 12 months there was an improvement in 56.7% of the cases, while 10.4% of the patients deteriorated; in 32.8% the adolescents' clinical conditions remained unchanged. There were no significant differences between males and females ($\chi^2 = 3.09$; $df = 2$, $p_{\text{exact}} = \text{n.s.}$).

3.4.4 Assessment of the efficacy of the therapeutic intervention

To assess the efficacy of the intervention, we used Students t-test for paired samples to compare the results of the YSR obtained at the baseline (T1) and a year later (T2) (Table 7).

For all the domains of the YSR except for thought-related disorders (n.s.) and somatization (which tended towards significance), the patients had significantly lower mean scores at T2.

YSR syndrome scales	T1	T2	t	df	p.
Social withdrawal	1.83	1.49	2.83	58	.006
Somatization	1.27	1.17	1.76	58	.08
Anxious-depressive disorders	2.02	1.49	4.50	58	.000
Social problems	2.02	1.61	3.75	58	.000
Thought-related disorders	1.37	1.34	0.63	58	n.s.
Attention disorders	1.71	1.32	4.16	58	.000
Delinquent behavior	1.22	1.07	2.42	58	.02
Aggressive behavior	1.49	1.22	3.78	58	.000

Table 7. Student's t-test for paired samples comparing YSR scores at T1 and T2.

On the GAF scales too, the operators' mean assessments identified a significant remission of the symptoms, which changed from "severe" at T1 to "moderate" at T2 (Table 8).

	T1	T2	F	df	p
GAF	49,22	57,24	39.74	1	.000

Table 8. General linear model (GLM) on GAF scores obtained at T1 and T2.

Figure 2 shows that higher scores were obtained on the GAF reassessment, with a rightward migration of many of the patients (GAFT2), indicating a significant improvement in their global functioning. In particular, the percentage of patients in the range of 31-40 (which

indicates a severely impaired psychosocial functioning) decreased considerably from T1 to T2, while there was a considerable increase in the number of patients judged to have only mild symptoms and a good general functioning (scores 61-70). It is also worth noting that it was only at T2 that some of the patients were judged to have an optimal functioning and no symptoms (scores 91-100).

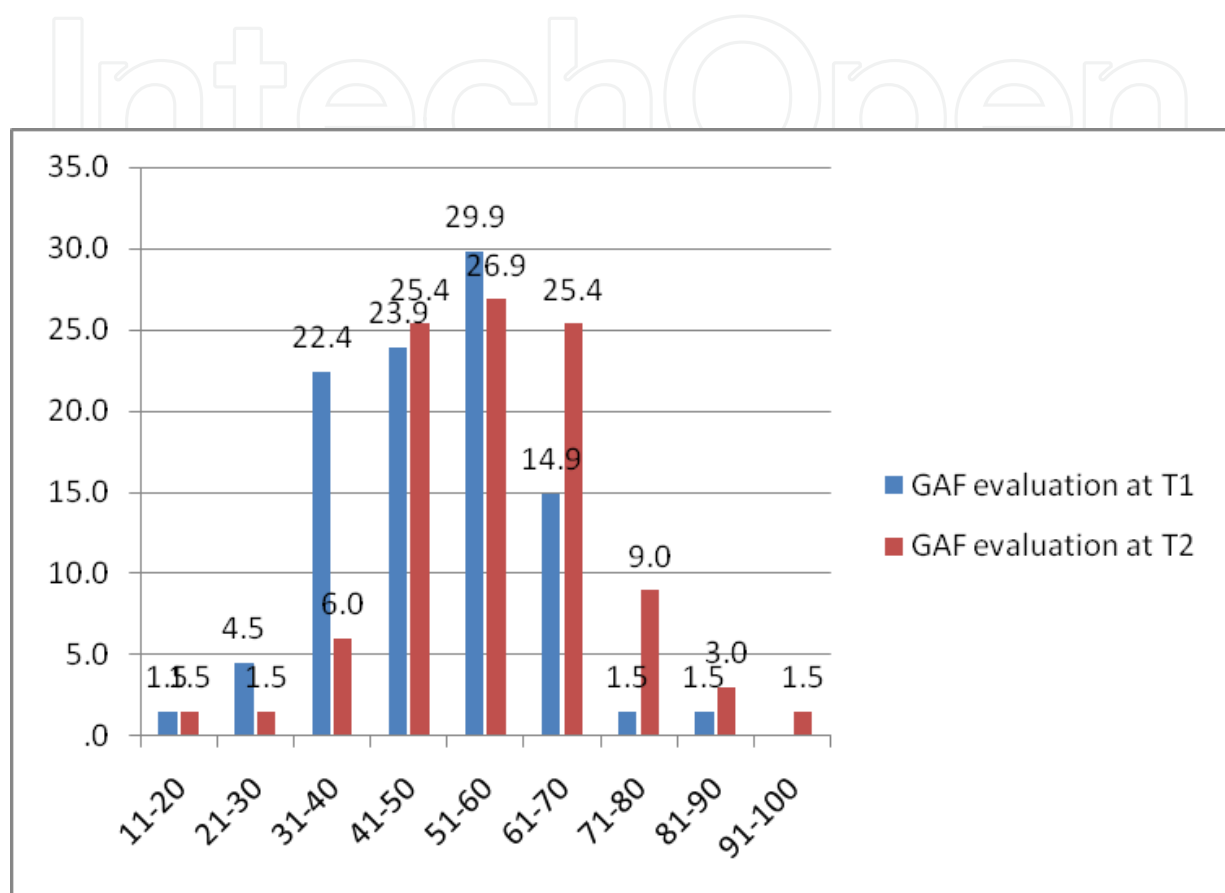


Fig. 2. Percentages of patients in the various ranges of GAF scores at T1 and T2.

The interaction with the time of administration of the GAF (T1 and T2) and the gender-related variables showed a trend towards statistical significance. In fact, according to the operators' assessments, females who started from a more severe assessment at T1 had a greater improvement at T2 (Table 9 and Fig. 3).

Gender	GAF T1	GAF T2	Interaction between GAF and gender		
			F	df	p.
Male	52.46	57.96	3.74	1	.06*
Female	43.58	55.42			

*Tending towards significance

Table 9. General linear model (GLM) for the GAF scales: interaction effect between GAF and gender.

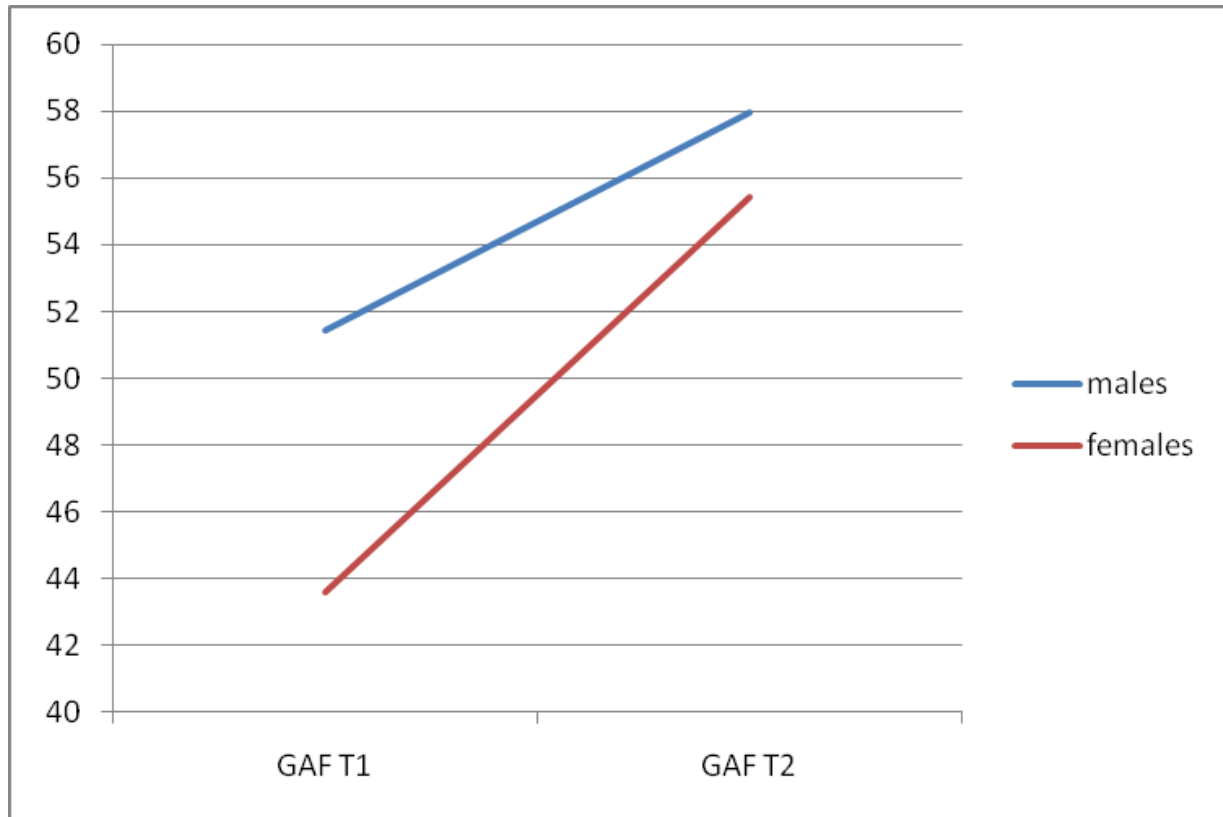


Fig. 3. General linear model (GLM) for the GAF scales: variation in mean GAF scores for males and females at T1 and T2.

The improvements seen in the GAF at T2 correlated with the number of hours the adolescents spent at the semi-residential centre. Table 10 shows a significant interaction between these two variables; although they had the lowest mean scores for the sample at T1, patients who attended the centre for more than 15 hours a week obtained the best improvement in absolute terms at T2. Moreover, the more the number of hours of weekly attendance at the centre increased, the greater the improvement seen in the GAF scores at T2, and this was particularly evident for patients who spent more than 15 hours a week at the centre (Fig. 4).

For multiprofessional intervention to be effective, in adolescent patients requiring treatment for such severe psychopathologies as those identified in our series of patients, naturally takes much longer and a more intensive treatment.

Attendance at the semi-residential centre	GAF T1	GAF T2	Improvement in GAF score (T2-T1)	Interaction between GAF and attendance at the centre		
				F	df	p
1-5 hours a week	51.21	56.21	5.00	5.25	2	.008
5-15 hours a week	49.48	56.00	6.52			
>15 hours a week	46.13	61.27	15.14			

Table 10. General linear model (GLM) for the GAF scores: interaction effect between GAF and attendance at the centre.

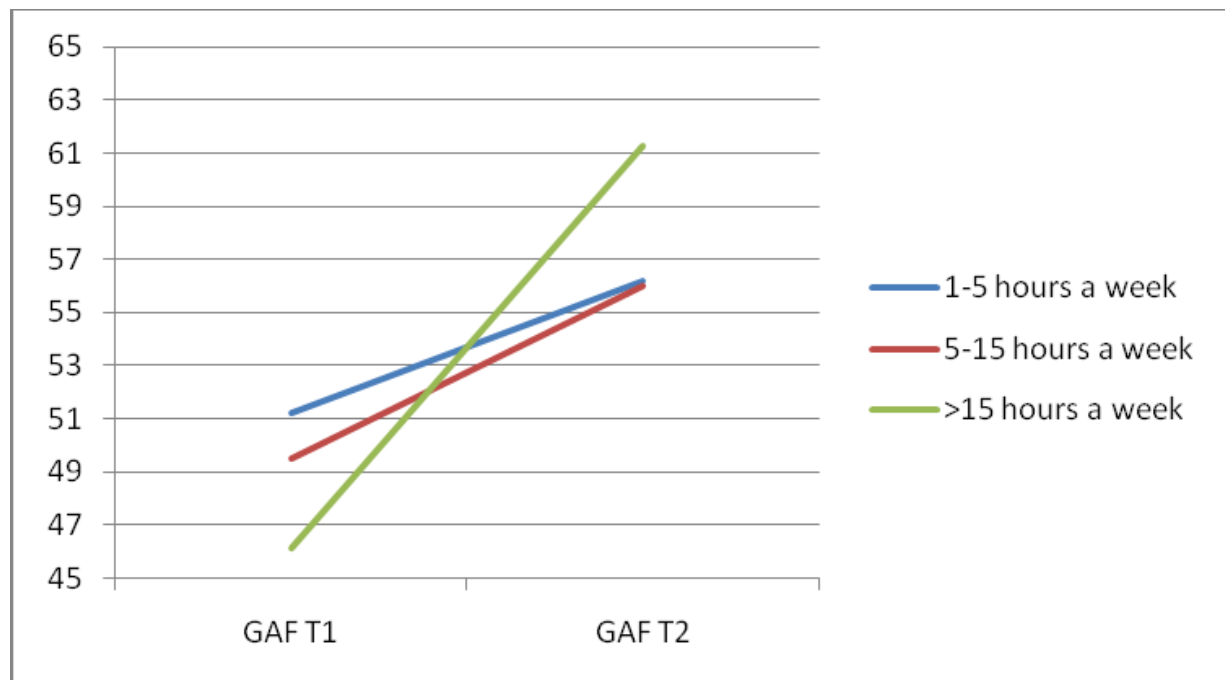


Fig. 4. General linear model (GLM) for the GAF scores: variation in mean GAF scores from T1 to T2 by time spent at the centre.

The interaction between the variation in the GAF scores between T1 and T2 and the type of intervention (mainly one-to-one or multi-professional integrated) was noteworthy, even though it was not statistically significant: the integrated intervention coincided with a greater improvement between T1 and T2 (Table 11 and Fig. 5).

This finding is confirmed in the literature by various studies supporting the greater efficacy of multimodal intervention in this mental health setting. In various different clinical pictures, the validity of a multimodal treatment approach comprising individual psychotherapy, pharmacology and family-based interventions is emphasized and recommended, even though evidence-based findings on the effects of different treatment methods are limited (Gatta et al., 2010a; Herpertz-Dahlmann & Salbach-Andrae, 2009; Masi et al., 2008; Nützel et al., 2005; Reeves & Anthony, 2009; Steiner & Remsing, 2007).

The interactions between the type of intervention (individual or in groups) and the variations in the GAF scores from T1 to T2 was not significant, indicating that both types of intervention are equally effective (Fig. 6).

Integration of interventions	GAF T1	GAF T2	Interaction between GAF and integration of interventions		
			F	df	p
One-to-one	52.72	57.17	2.98	1	.09
Integrated	47.94	57.27			

Table 11. General linear model (GLM) for the GAF scores: interaction effect between GAF scores and integration of interventions.

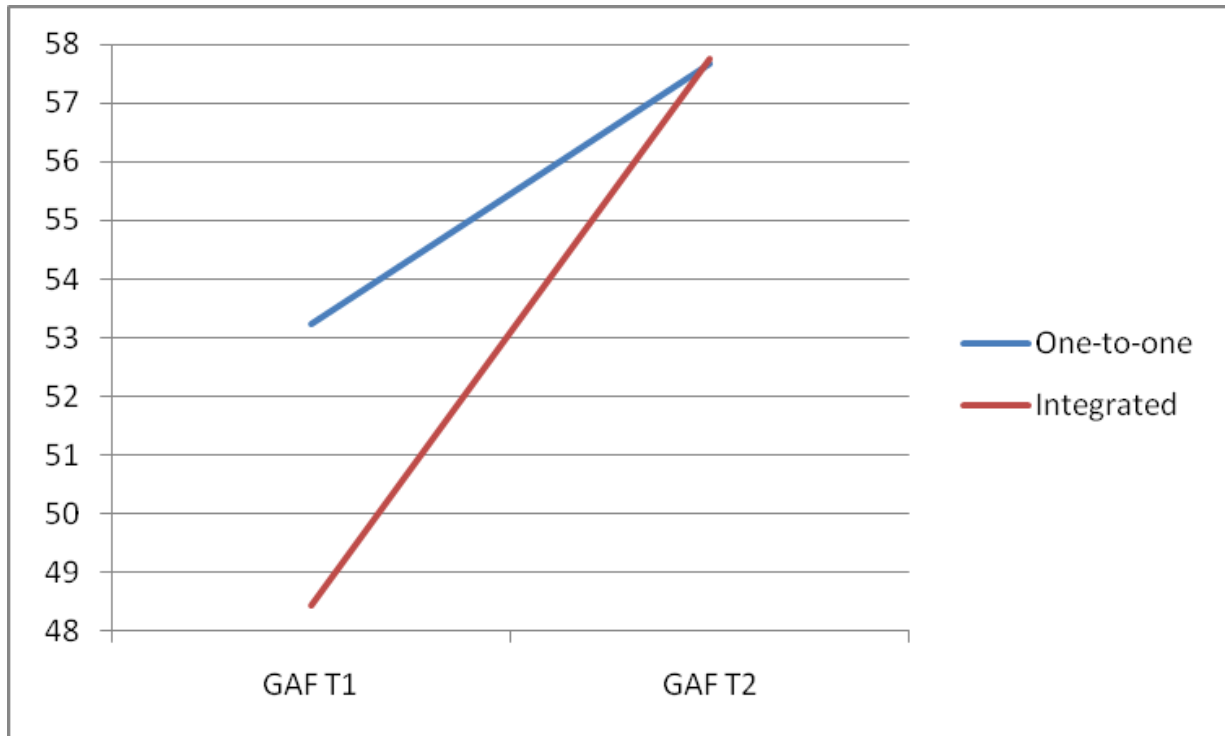


Fig. 5. General linear model (GLM) for the GAF scores: variation in mean GAF scores at T1 and T2 by type of intervention.

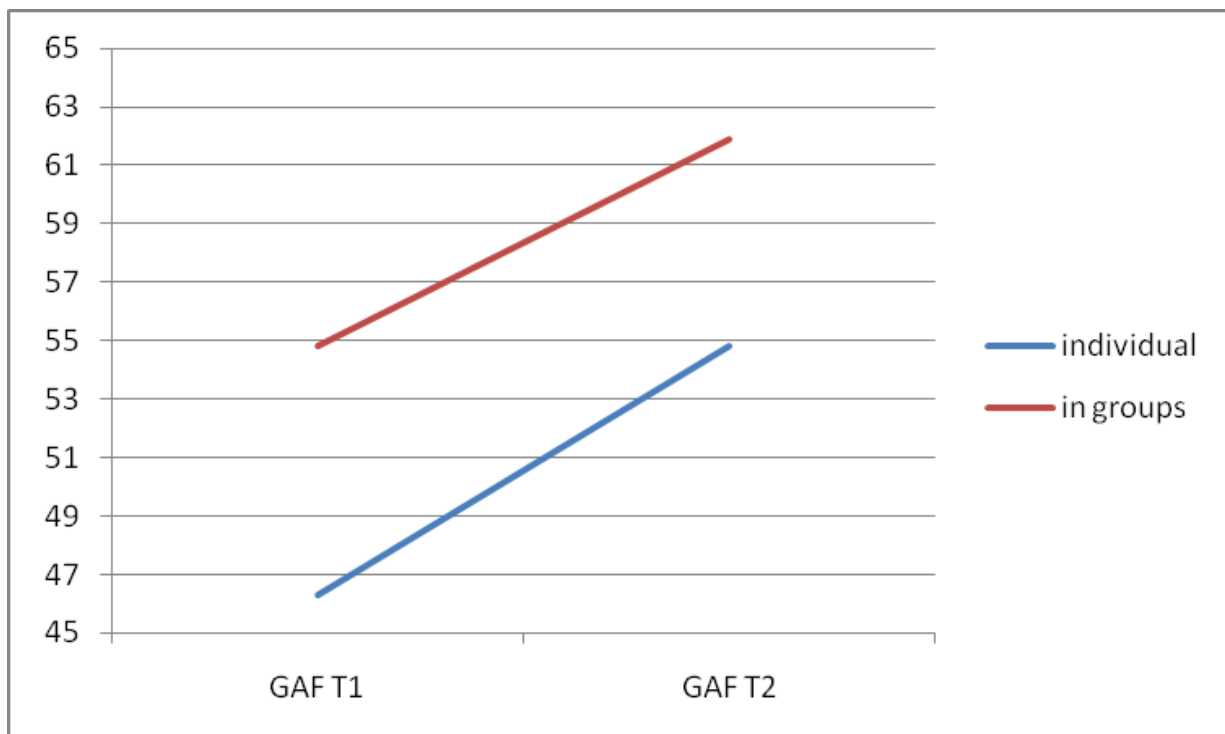


Fig. 6. General linear model (GLM) for the GAF scores: variations in mean GAF scores at T1 and T2 by type of operator-adolescent relationship.

The adolescents' *clinical progress* (improved, unchanged, deteriorated, based on the CGI) was correlated with the *time* spent at the semi-residential centre and a prevalence of patients who deteriorated (71.4%) emerged among those who attended for less than three months (while 13.6% of these patients remained unchanged and 5.3% improved); coinciding with a treatment period of 3-9 months, there were more than 1 in 3 of the patients who improved and another 1 in 3 of those who remained unchanged (36.8% and 36.4%, respectively), as opposed to 14.3% of those whose condition deteriorated. Among those attending for more than nine months, we found a majority of the patients who improved and remained unchanged (57.9% and 50.0%, respectively) and 14.3% of those who deteriorated ($\chi^2 = 20.51$, $df = 4$, $p_{\text{exact}} = .001$).

In addition, among the patients who abandoned the treatment ahead of schedule we found 71.4% of the adolescents whose condition deteriorated, 13.6% of those who remained unchanged and 21.1% of the patients who improved. On the other hand, among the cases who completed the treatment agreed with the operators, we found a marked prevalence of the patients judged to have remained unchanged or improved (86.4% and 78.9%) as opposed to a minority of those whose condition deteriorated (28.6%) ($\chi^2 = 10.4$, $df = 2$, $p_{\text{exact}} = .006$).

A study conducted by Luk et al. in 2001 on the drop-outs among young patients accessing mental health services showed that the adolescents who were not compliant were those judged to be less likely to improve at the time of the initial assessment and those whose parents found the treatment less well-organized, which goes to show the importance of parental compliance for patients of developmental age.

As for the relationship between *compliance* and *clinical progress*, an adequate adherence correlated with a positive clinical progress after 12 months. Among those whose compliance was adequate we found 86.8% of the patients who improved, 54.5% of those remaining unchanged and 14.3% of those who deteriorated ($\chi^2 = 24.64$, $df = 4$, $p_{\text{exact}} = .000$).

A more positive clinical course in the longer term also correlated with a more positive *cooperation with parents* ($\chi^2 = 10.44$, $df = 4$, $p_{\text{exact}} = .04$) (Table 12)

Working alliance	Clinical progress (CGI)		
	Improved % (fq)	Unchanged % (fq)	Deteriorated % (fq)
Adequate	68.4 (26)	36.4 (8)	28.6 (2)
Partial	28.9 (11)	45.5 (10)	42.9 (3)
Absent	2.6 (1)	18.2 (4)	28.6 (2)
Lacking	100.0 (38)	100.0 (22)	100.0 (7)

Table 12. Comparison between the clinical course and the type of cooperation obtained from parents.

The working alliance with parents is an important variable that influences the therapeutic program for adolescents, correlating significantly with the latter's compliance. Among our patients who adhered adequately to the therapeutic project we found a clear majority of parents who also cooperated adequately (86.1%), more than half of the parents who cooperated only partially (54.2%) and only 28.6% of the parents who were uncooperative; on the other hand, among the patients who interrupted their treatment ahead of schedule (although there were only nine instances of this), we found none whose parents had been adequately cooperative ($\chi^2 = 20.79$, $df = 4$, $p_{\text{exact}} = .001$).

Likewise, among the adolescents who participated actively in the semi-residential project, we found a high percentage of parents who cooperated adequately (63.9%), 25% of those who cooperated only partially, and 28.6% of those who failed to do so ($\chi^2 = 12.04$, $df = 6$, $p_{\text{exact}} = .006$).

It is worth noting the finding concerning the adolescents' mode of *participation* in the semi-residential activities, which influenced their subsequent clinical progress: those who took an active part had a more positive follow-up assessment on their clinical progress, while those who were oppositional or ambivalent fared less well in the late assessment (Table 13.).

Mode of participation	Clinical progress (CGI)		
	Improved % (fq)	Unchanged % (fq)	Deteriorated % (fq)
active	65.8 (25)	27.3 (6)	.0 (0)
passive	13.2 (5)	22.7 (5)	.0 (0)
oppositional	2.6 (1)	13.6 (3)	28.6 (2)
ambivalent	18.4 (7)	36.4 (8)	71.4 (5)
Total	100.0 (38)	100.0 (22)	100.0 (7)

Table 13. Comparison between clinical progress and the adolescents' mode of participation at the semi-residential centre.

The above results relating to the relationship between compliance with the therapy, participation, alliance with the parents, and the patient's clinical progress are consistent with a number of published studies dealing with these topics.

The alliance with the parents proved to be a *sine qua non* for undertaking any therapeutic intervention with their children and for this to be successful (Gatta et al., 2005b, 2009b, 2010c, 2011; Marcelli, 2009).

Some authors emphasize that treating young patients it is very important to deal with their parents too (Diamond & Josephson, 2005; Hawley & Weisz, 2005, Nock & Ferriter, 2005; Nock & Kazdin, 2005), particularly when the young patients have behavioral disorders (Kazdin et al., 2006; Schaeffer & Borduin, 2005) like many of the patients attending our semi-residential service. It is also important to consider that a semi-residential intervention enables adolescents to remain in their habitual living environment and consequently demands a certain degree of cooperation on the part of their parents, or at least for the family environment not to be harmful to the adolescent.

It may sometimes be useful to take action on the parents themselves, as emerged from recent research conducted on several patients at our semi-residential service to investigate the influence of direct intervention to modify the parents' perception of their caregiving experience in relation to children with mental disorders (Gatta et al., 2010b): it emerged from our study that paying particular attention, in the course of several meetings, to aspects of the parents' experience and burden can improve their perception of the caregiving experience as well as reinforcing the therapeutic alliance. As in psychotherapy, the alliance can provide a corrective emotional experience sufficient to induce the reprocessing of internalized models relating, in this case, to caregiving. There is a risk of the treatment being abandoned prematurely every time an adolescent is taken into care and this risk increases when the parents take part in and exacerbate the patient's resistances. Moreover, any

conflict between the parental couple, previously masked by the attention the pair was paying to the adolescent's problems, may come to the surface and find expression in aggressive projections of each party to the couple on the other. Supportive treatment for the parental couple should therefore be recommended also with a view to protecting their child against the parents' acting out.

As regards the correlation between the alliance with the parents and the adolescents' mode of participation, it is clear once again that one of the variables most capable of influencing the therapeutic process is the parents' cooperation, which is probably an expression of their more global attitude to their growing and increasingly independent child. The children of parents who are cooperative benefit more from the proposed therapy and can invest successfully in the new interpersonal relationships offered by the semi-residential environment, and this leads to higher scores on the scales for social competences. The opposite applies to the children of uncooperative parents, who are unable to invest strongly enough in the relationships offered and promoted in the setting of the centre. This finding reveals all the ambiguity of these adolescents as they oscillate between dependence and independence: their parents' support still seems to be a fundamental condition for them to be able to invest in new relationships outside the family.

Judging from the data emerging from our study, the alliance with the parents seems to be linked to the type of family nucleus involved. Among those with whom an adequate alliance was constructed we found a slight prevalence of adolescents who were the offspring of intact *parental couples* (56.9% intact couples vs 43.8% single-parent families), while among those with whose parents it was impossible to construct an effective working alliance, we found a marked prevalence of adolescents coming from single-parent families (31.3% single-parent families, 3.9% intact parental couples). This finding can be placed in relation to the lack of a sufficiently supportive family environment, as documented by previous studies, and to the fact that single-parent families have to be seen as a possible factor of risk both for the onset of psychopathologies and for the failure of their treatment (Gatta et al., 2009a, 2009b; Hanington et al., 2011; Manzano et al., 1993).

4. Conclusions

The results relating to our patients' clinical progress after 12 months, the data deriving from administering the YSR and the scores on the GAF scale demonstrate the validity and efficacy, in the approach to adolescents with a mental illness, of a treatment based on an integrated psychological, psychiatric and educational-pedagogical intervention. We were able to reveal the importance of factors such as the active involvement of the adolescents, the parents' compliance with the therapeutic project, and the positivity of a multidisciplinary approach to their taking into care.

In particular, an important factor emerging from our research is the role of the adolescent's active participation. Shared objectives configure in the educational background an area of shared intentionality that succeeds in touching on different levels of change to expect from the therapeutic program, from educational goals that stem from a lack of motivation and interest to relational and even interior goals relating to the adolescent's of growing process of identification (Pasqualotto, 2005). The theoretical premise for each shared process lies in the need for these individuals to regain control of the competences and abilities impaired by their mental illness, thereby reasserting their fundamental rights as citizen in the sense of feeling a part of their affective, relational and productive world (Saraceno, 1995).

The educational-therapeutic experience aims to expand the patient's field of experience and offers new opportunities (see the aims of the service) in which the adolescents can feel an active part, a carrier of change in themselves and in their surrounding environment, not a passive receptor or someone who submits to decisions made by others. In this sense, the adolescents' active participation in their therapeutic project becomes a favorable prognostic factor of a positive clinical evolution because it stimulates the patients' interior resources to contribute to their personal evolutionary process.

Another fundamental point to emphasize and draw attention to is the parents' cooperation: to establish an adequate therapeutic alliance with the parents appears to be a factor fundamental to a successful clinical course. The parents act as a bridge and give us access to the patient, determining which treatments are acceptable at family level, and the intervention can use them as a vehicle in the sense that a change in their representations of their child and of their role as parents, and a change in the parents' attitudes and mode of interacting with their child are all an important stimulus for mobilizing their child's development (Fava Vizziello et al., 1991; Gatta et al., 2010b).

Given the small size of our sample and the psychopathological heterogeneity characterizing our cases, combined with the limited period of follow-up and the paucity of literature on this specific topic, it is still impossible to generalize from our results as concerns the efficacy of this type of treatment. Our findings should therefore be considered as preliminary and need to be confirmed in future by prospective studies on larger, more homogeneous populations, as mentioned elsewhere in the literature (Shepperd et al., 2009; Lamb, 2009).

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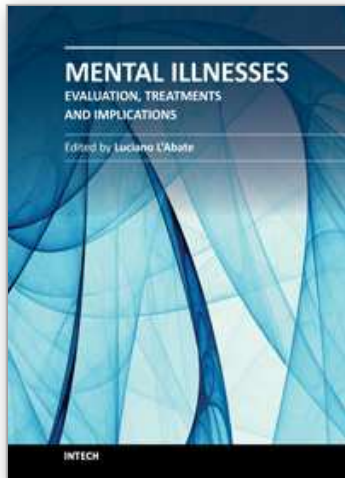
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Mental Illnesses - Evaluation, Treatments and Implications

Edited by Prof. Luciano LAbate

ISBN 978-953-307-645-4

Hard cover, 476 pages

Publisher InTech

Published online 13, January, 2012

Published in print edition January, 2012

In the book "Mental Illnesses - Evaluation, Treatments and Implications" attention is focused on background factors underlying mental illness. It is crucial that mental illness be evaluated thoroughly if we want to understand its nature, predict its long-term outcome, and treat it with specific rather than generic treatment, such as pharmacotherapy for instance. Additionally, community-wide and cognitive-behavioral approaches need to be combined to decrease the severity of symptoms of mental illness. Unfortunately, those who should profit the most by combination of treatments, often times refuse treatment or show poor adherence to treatment maintenance. Most importantly, what are the implications of the above for the mental health community? Mental illness cannot be treated with one single form of treatment. Combined individual, community, and socially-oriented treatments, including recent distance-writing technologies will hopefully allow a more integrated approach to decrease mental illness world-wide.

How to reference

In order to correctly reference this scholarly work, feel free to copy and paste the following:

Michela Gatta, Lara Dal Zotto, Lara Del Col, Francesca Bosisio, Giannino Melotti, Roberta Biolcati and Pier Antonio Battistella (2012). Adolescents with Mental Disorders: The Efficacy of a Multiprofessional Approach, *Mental Illnesses - Evaluation, Treatments and Implications*, Prof. Luciano LAbate (Ed.), ISBN: 978-953-307-645-4, InTech, Available from: <http://www.intechopen.com/books/mental-illnesses-evaluation-treatments-and-implications/adolescents-with-mental-disorders-the-efficacy-of-a-multiprofessional-approach>

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51000 Rijeka, Croatia
Phone: +385 (51) 770 447
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Unit 405, Office Block, Hotel Equatorial Shanghai
No.65, Yan An Road (West), Shanghai, 200040, China
中国上海市延安西路65号上海国际贵都大饭店办公楼405单元
Phone: +86-21-62489820
Fax: +86-21-62489821

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