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# Early psychopathology: arrival to first aid

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## Summary

Adolescence has been identified as a phase of transition and destabilization in which risk behaviors for oneself or for others can emerge. These behaviors are characterized by an increased search for novelty, impulsiveness and preference for reward, which can give rise to an increased risk of using drugs. Beyond this alcohol and/or drug abuse, among the so-called "risk behaviors" typical of this age group, there are bullying, "cyberbullying", "sexting", soliciting online, violent behavior against objects, animals or people, as well as self-harm and suicide attempts.

This work aims to evaluate the psychopathological needs of adolescents arriving for the first time at an emergency room. This work also aims to emphasize the importance of untreated disease duration as a negative prognostic factor, particularly in mental disorders. The number of first aid visits for teenagers appears to be on the rise. Teens arrive to the emergency room with various symptoms that can range from suicidal ideation to self-harm, substance abuse, social psychological problems resulting from childhood sexual abuse, or family psychiatric history.

Today it is important to implement early intervention programs whose goal is to reduce latency times latency of psychiatric assistance intended to intervene in the best possible way on those sources of discomfort that are not part of the diagnoses structured by the DSM 5 manual.

**Key words:** adolescence, first aid, psychopathological onset

## Introduction

The term "Adolescence" generally refers to the transition phase from childhood to adulthood whose duration is quite variable. During this phase, it is possible to note that the typical characteristics of late adolescents (12 and 18 years) are often found also in young adults (18 and 25 years) such as the lack of economic independence and the long stay in the origin family.

In the adolescent phase we witness the maturation of the analysis and introspection skills and the definition one's own identity with a progressive personological reorganization. Several authors study the deep emotional disturbances, considering the adolescent crisis "physiological", mostly correlated to the biological changes typical of this period [1].

In this experience, the body pays the highest price. In fact, the mistreatment of it by the adolescent in crisis denounces the collapse of the psychic container and the need to affirm one's own omnipotence, challenging the limit between life and death.

Adolescence brings with it a basic depressive potential but also a drive increase such as to determine an increase in aggression and impulsivity. This can result in transgressive and risky behaviors with often lethal consequences on the individuals health who practice them [2].

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Among behaviours at risk for health and psycho-physical well-being, there are for example unprotected sexual activities, school leaving, escaping from home, high-speed motorcycle travelling without a helmet and driving under the influence of alcohol and/or other psychoactive substances. These behaviors also include the so-called "death games" and dangerous sports such as extreme skiing, "bungee jumping" and free canoe descents.
More recently the "Blue Whale Challenge", a "deadly" challenge that adolescent can take part in via social media chat groups, has taken hold in the world of young people. The conducts implemented in this "game" could constitute "suicidal equivalents" as they endanger the life of the subject or his physical integrity but, unfortunately, escape the epidemiological findings. Recent research suggests that these phenomena, show an incidence that varies between 15% and 20% among adolescents and young adults, with an onset between 13 and 14 years of age and are often associated with psychopathology but also with substance abuse, dysfunctional family relationships, social isolation and low academic achievement [3].
During this identity crisis, the adolescent ideas range from the willingness to be independent and the acknowledgement of dependence on one's own parents. The adolescent sometimes take refuge in the community, in other situations they find comfort in their own families. However, this is multiple reaction the right way for the adolescent to advance into the adult world [4].
The adaptation to the somatic and psychosocial evolution, typical of this period, takes place today more and more in advance and in an environment characterized by sensory "hyperstimulation" by the mass media, by different family organizations from the traditional ones and by the increased alcohol and drugs availability.
It is precisely in this difficult period that psychopathological onset can occur. In fact, in literature there are numerous clinical studies relating to adolescent psychopathology but they were hardly comparable to each other for both methodological and conceptual reasons.
Recent studies have shown an average prevalence of 21.8% of psychiatric disorders in adolescence. The most frequent disorders seem to be the Use of Substances (12.1%), Anxiety Disorders (10.7%) and Depressive Disorders (6.1%) [5].
Among all psychopathologies, Major Depressive Disorder (MDD) is one of the most frequently disorders in adolescence. It is associated with social disability and suicidal risk, affecting approximately 5% of adolescents of both gender. After puberty, MDD in girls shows a double incidence while Bipolar Disorder occurs in 20% of cases.
The recent great socio-cultural change of latest decades has significantly influenced the course of adolescence.
Furthermore, in an increasing number of cases, psychopathological distress in adolescence occurs in the form of an acute psychiatric crisis, sometimes catching the Emergency Departments unprepared for adequate and effective intervention.
However, the data relating to access to the Emergency Area for mental health problems are probably underestimated if one takes into account that, on frequent occasions, adolescents arrive at the emergency room with symptoms unsuitable for specific psychopathological diagnosis according to the Diagnostic and Statistical Manual of Mental Disorders (DSM) 5 and with signs of non-acute psychiatric suffering. In fact, patients often come to the emergency room with symptoms related to mental suffering linked to the family and/or socio-working environment, physical and/or psychological abuse, psychosomatic manifestations, post-traumatic stress and suicidal fantasies.
Since most of the causes of illness and death in this age group seem to be closely related to risk behaviors, implementing preventive interventions is considered necessary so that adolescence can attribute meaning to their actions and achieve their development goals without endangering their own's integrity and psychophysical health.
Nowadays mental health operators are facing with new difficulties, both organizational and managerial, relating to the safety of the patient and their own healthcare, with a growing profile of ethical, deontological and medico-legal responsibilities.
The work we carried out is an epidemiological, observational, retrospective study, which aims at analyzing the psychiatric consultations required for adolescent patients (18-25 years) who arrive, in a defined period of time and for the first time, in the emergency room manifesting or reporting an emerging symptomatic or psychopathological manifestation.
Then we compared the results obtained with those emerged from the most recent scientific literature and we identified the factors most predisposing to psychopathological distress at a young age, underlining possible primary prevention interventions, including rehabilitation techniques in the field of empowerment and psychosocial well-being of the most young people. The paper is also aimed at emphasizing the importance of the duration of untreated illness as a negative prognostic factor, particularly in mental disorders.

## Materials and Methods

We examined psychiatric consultations carried out on patients with range age of 18 and 25 years old who, in a period of 2 years (January 2018-January 2020), accessed to the Emergency Department of the Papa Giovanni XXIII Hospital in Bergamo, in need of a first psychiatric evaluation. The useful data was filtered through the "Opera" computer system.
Anamnestic information were collected, the onset symptoms and the most predisposing risk factors were analyzed in order to promote early identification and interventions.
In order to conduct the study a database was created by collecting the necessary information related to the psychiatric consultations. The datapoints were subsequently

divided into 3 different groups of variables, respectively defined as socio-demographic, personal and clinical features. Among the socio-demographic variables, attention was paid to:

- gender (male or female);
- age, in terms of range age (18-21 years or 22-25 years) and punctual age;
- country of origin;
- employment.

The personal variables taken into consideration were those relating to family history, previous stressful life events, presence of any childhood abuse, finding of neurodevelopmental disorders and organic comorbidities.

Among the clinical variables, the main symptomatic manifestations causing the young patient to the Emergency Area were identified, such as:

- behavioral disturbances (psychomotor agitation, verbal aggression or heterodirect agitation);
- suicidal ideation with or without suicidal attempts or even only self-harm;
- psychotic decompensation;
- acute intoxication from alcohol and/or other drugs of abuse;
- depressive symptoms;
- manic or hypomanic episode;
- anxiety rates with or without panic attacks;
- somatic symptoms of various kinds;
- escapes from home;
- DCA;
- extra-pyramidal symptoms (EPS);
- dissociative phenomena;
- sleep disturbances;
- obsessive brand symptoms;
- other symptoms such as catatonia or mutacism.

Clinical variables also include the "Duration of Untreated Illness" (DUI), the pharmacological treatment proposed by the specialist during the consultation, the indications provided by the latter in the Emergency Room (ER) and any subsequent accesses to the ER by the same young person patient. These are very important parameters above all when taking into account that the highest risk of suicide in people with schizophrenia occurs during the first five years of illness ("the critical period") and interventions are most fruitful during this time [6].

At the end of the psychiatric evaluation, a specific therapeutic and management indication for each patient were provided such as a voluntary or coercive hospitalization in the Psychiatric Care; an admission to the Psycho-Social Center (CPS) or to the clinic dedicated to the management of the psychopathology in adolescence (Varenna Clinic) offering them a strong clinical-therapeutic care; a link to the Addiction Service (Ser.D), aimed at dealing with both subjects with problems of use, abuse or dependence on legal and / or illegal substances and those who manifest forms of behavioral addiction.

## Results

Statistical analyses were performed using the SPSS v. 26, taking into consideration 233 psychiatric consultations, 134 (57.5%) reported in 2019, 99 (42.5%) in the previous year.

The socio-demographic variables investigated gave the following results:

- the percentage of female patients was higher (N=129, 55.4%) than males (N = 104, 44.6%);
- the age range of patients was predominantly between 18 and 21 years (126, 54.1%) rather than that of 22-25 years (107, 45.9%), with a mean age of 21 years and a standard deviation of 2;
- compared to the country of origin, 159 (68.2%) patients were Italian, 56 (24%) non-European and 18 (7.7%) non-Italian but in any case European;
- in relation to employment, it was found that 63 (45.7%) were students, 47 (34.1%) workers and 28 (20.3%) unemployed.

The psychiatric family history has been investigated and we found:

- anxiety disorders (N = 9, 3.9%);
- mood disorders (N =7 , 3%);
- neurodevelopmental disorders (N = 3, 1.3%);
- substance abuse (N = 2, 0.9%);
- suicide (N = 1, 0.4%);
- In 90.6% of cases (N = 211) there was negative psychiatric history.

Subsequently, the presence of previous stressful life events was also examined:

- intra-family problems (N = 42, 18%),
- socio-economic difficulties (N = 38, 16.3%),
- bereavement (N = 11, 4.7%)
- transfers to another city and/or sentimental breakdowns (N = 29, 12.4%).

Many patients declared not have any previous stressful life events (N = 113, 48.5%).

Child abuse was also investigated (N = 23; 9.9%. Physical abuse in 3.9% (N = 9) of cases, sexual abuse in 2.6% (N = 6) of cases, other type in 3.4% (N = 8).

The anamnestic data showed the presence of:

- neurodevelopmental disorders (N = 38; 16.3%; Tab. I);
- organic comorbidities (N = 37; 16%; Tab. II);
- drug abuse (N = 76; 33%; Tab. III).

**Table I.** Neurodevelopmental Disorders.

| | Count | N % |
|---|---|---|
| Intellectual disability | 16 | 6.9% |
| ADHD | 8 | 3.4% |
| Specific learning disability | 6 | 2.6% |
| Autism spectrum disorders | 5 | 2.1% |
| Communication disorders | 2 | 0.9% |
| Movement disorders | 1 | 0.4% |
| None | 195 | 83.7% |

**Table II.** Organic comorbidities.

| | Count | N % |
|---|---|---|
| Epilepsy | 9 | 3.9% |
| Headache | 6 | 2.6% |
| Thyropathies | 3 | 1.3% |
| Do not specify | 3 | 1.3% |
| Bronchial asthma | 2 | 0.9% |
| Genetic syndromes | 2 | 0.9% |
| Deaf mute | 1 | 0.4% |
| Spastic diplegia | 1 | 0.4% |
| Food allergy | 1 | 0.4% |
| Pancreatitis | 1 | 0.4% |
| Diabetes mellitus | 1 | 0.4% |
| Obesity | 1 | 0.4% |
| MICI | 1 | 0.4% |
| Celiac disease | 1 | 0.4% |
| Gastritis | 1 | 0.4% |
| Prolactinoma | 1 | 0.4% |
| TB | 1 | 0.4% |
| Rheumatoid arthritis | 1 | 0.4% |
| None | 196 | 84.1% |

**Table III.** Drug abuse.

| | Count | N % |
|---|---|---|
| Cannabinoids | 40 | 17.2% |
| Alcohol | 16 | 6.9% |
| Psychostimulating | 13 | 5.6% |
| Do not specify | 5 | 2.1% |
| Opioids | 2 | 0.9% |
| None | 157 | 67.4% |

Regarding the symptomatic manifestations in the Emergency Area, it was documented:

- suicidal ideation and/or suicidal attempts and/or self-injurious gestures: 58 (24.9%);
- anxiety symptoms and/or panic attacks: 47 (20.2%);
- behavioral disturbances (agitation, aggression): 41 (17.6%);
- acute psychotic episode: 23 (9.9%);
- somatic symptoms: 12 (5.2%);
- depressive episode: 12 (5.2%);
- escapes from home: 8 (3.4%);
- acute alcohol and / or drugs intoxication 8 (3.4%);
- sleep disorders: 6 (2.6%);
- manic or hypomanic episode: 5 (2.1%);
- dissociative symptoms: 4 (1.7%);
- eating disorders: 4 (1.7%);
- other symptoms (catatonia, mutacism): 3 (1.3%);
- EPS: 2 (0.9%).

DUI was equal to an average of 51 days with a standard deviation of 64 and the outliers of 540 and 720 days were excluded from the analysis. The most prescribed therapy in the emergency room was represented by benzodiazepines (113, 48.5%), antidepressants (21, 9%), atypical antipsychotics (19, 8.2%), mood stabilizers (11, 4, 7%). In 29.6% (69) of the cases no therapy was prescribed.

In line with the literature data, it was possible to see how the different psychopathological pictures presented by the young patient in the emergency room were linked to some of the socio-demographic variables considered such as sex and country of origin. The male gender, in fact, presented mainly externalizing behaviors linked to aggression and a provocative attitude, while the female gender presented greater problems related to internalization and, therefore, characterized by a tendency to act self-injurious and/or anti-conservative as well as an alteration of the timism towards the depressive attitude (Tab. IV).

Clinincal manifestation of symptoms are split according to with the place of birth of the young patients examined:

- group of Italian patients: anxious symptoms (41, 25.8%), suicidal ideation (37, 23.3%) and behavioural disorders (30, 18.9%);
- group of immigrant patients: suicidal ideation (28.4%), behavioural disorders (14.9%) and psychotic decompensation (13.5%);
- only group differences related to anxiety symptoms were statistically significant, present in 8.1% of immigrant patients.

The anamnestic variable relating to the usage of substances, crossed with the variable relating to the onset symptomatology, gave the following results:

**Table IV.** Variable "Onset symptoms" in relation to "Gender".

| Clinical symptomatology | Male | Female |
|---|---|---|
| Behavioral disturbances | 24 (23.1%) | 17 (13.2%) |
| Suicidal ideation and / or TS | 19 (18.3%) | 39 (30.2%) |
| Psychotic break | 14 (13.5%) | 9 (7%) |
| Acute substance intoxication | 3 (2.9%) | 5 (3.9%) |
| Depressive episode | 4 (3.8%) | 8 (6.2%) |
| Manic or hypomanic episode | 3 (2.9%) | 2 (1.6%) |
| Anxiety and / or panic attacks | 17 (16.3%) | 30 (23.3%) |
| Somatic symptoms | 6 (5.8%) | 6 (4.7%) |
| Escape from home | 6 (5.8%) | 2 (1.6%) |
| DCA | 0 (0%) | 4 (3.1%) |
| EPS | 1 (1%) | 1 (0.8%) |
| Dissociative symptoms | 1 (1%) | 3 (2.3%) |
| Sleep disorders | 4 (3.8%) | 2 (1.6%) |
| Obsessive symptoms | 0 (0%) | 0 (0%) |
| Others (catatonia, mutacism) | 2 (1.9%) | 1 (0.8%) |
| Total | 104 (100%) | 129 (100%) |

- patients with a history of cannabinoid use arrived in the Emergency Area complaining of behavioural disorders in 27.5% of cases, psychotic decompensation in 22% of cases and suicidal ideation in the same percentage;
- patients who had a positive history of usage of psychostimulant substances such as cocaine and amphetamines were referred to the Emergency Room for acute intoxication or behavioural disorders in 23.1% of cases and for psychotic decompensation or flight from home in 15.4 % of cases;
- patients with a history of alcohol experienced behavioural disorders in 43.8% of cases, acute intoxication in 18.8% of cases and psychotic or depressive decompensation in 12.5% of cases.

The present work also shows that cannabinoid users at the time of psychotic onset belonged to the lower age range (18-21 years) in 55.6% of cases and to the higher age range (22-25 years) in the remaining percentage of cases (44.4%). People who did not abuse cannabis were 18-21 years old in 28.6% of cases and 22-25 years old in the remaining percentage of cases (71.4%).

## Discussion

The results obtained appear to be in line with those emerging from the most recent data in the scientific literature relating to access to the Emergency Area by young adolescents at their psychopathological onsets.

Our research shows that the familiarity of patients admitted to ER was generally positive from a psychiatric point of view. Among the anamnestic data there were various stressors such as bereavement events and socio-economic problems but also stories of childhood abuse, organic comorbidities or neurodevelopmental disorders of different severity degrees.

Comparing the results of the cases relating to 2018 with those of 2019, a significant increase in access to the emergency room by the younger population was a clear evidence. These results appear in line with the data emerging from the most recent literature showing a trend in gradual and constant growth of young people who arrived at the emergency room with an emerging symptomatology and underwent to an initial psychiatric evaluation.

At the same time, a slight decrease in hospital admissions was observed from 2018 to the following year (20.2% in 2018 versus 17.1% in 2019), in contrast to the most recent literature data which show worldwide an increase in the hospitalization rates of younger patients at their psychopathological onset. Our data could refer to a solid and profitable connection of the patient to the Lombard territorial services. Of course, these data would need further confirmation, extending the study object of this thesis work to subsequent years.

The attention was subsequently placed on a possible relationship between the DUI of the patients examined and the probability that these, after their first access to the ED, have made further ones.

From the analysis of the data carried out using the Column Means Test, a statistically significant difference emerged between patients who had only one access to the ER (mean DUI of 42 days) and patients who had multiple accesses to the hospital emergency room (mean DUI of 71 days).

The extent of the DUI also appears to be directly linked to the average length of hospitalization of those patients who, once arrived in the ER and underwent the evaluation of the psychiatrist specialist, were admitted for hospitalization in the SPDC.

Furthermore, as already pointed out, the age between 18 and 21 years was more frequently observed than the age between 22-25 years. This underlines the earlier onset of symptoms attributable to psychopathological pictures of a different nature. However, observing the average ages of patients evaluated in the emergency room in 2018 in comparison with those who arrived in 2019, there is no difference in the average age within the sample (22 years in 2018 versus 21 years in 2019 ).

As we have seen, our data confirm what emerges in the global epidemiological scenario. Evidences show that main symptomatic manifestations in male patiens are behavioral disorders such as psychomotor agitation and/or auto or heterodirect aggression (23.1%), followed by suicidal ideation and/or suicidal attempts rather than self-injurious (18.3%) and anxiety symptoms with or without panic attacks (16.3%). In the female patients, on the other hand, suicidal ideation prevails (39, 30.2%), anxious symptoms (23.3%) and behavioral abnormalities (13.2%).

The “Column Proportions Test” (Z-test, parametric statistical test) shows that the percentage of women with behavioural disorders and suicidal ideation at the onset is significantly different from the percentage of men. Contrarily, the percentage of women who suffer from anxiety and/or panic attacks at the onset does not appear to be significantly different from the percentage of men with the same symptom at the onset.

With reference to the country of origin, however, it seems that the status of “immigrant” considerably increases the possibility that younger subjects manifest some form of psychopathological distress and that this is in most cases of a psychotic type. In fact, we found a statistically significant difference for anxiety symptoms of immigrant patients.

In line with literature data, our results show a correlation between the psychotic onset and the patient’s ethno-anthropographic conditions as well as cannabis use. This use seems to be associated with an earlier symptom onset and associated with a greater severity of productive symptoms.

Finally, analysing the regulation of the thymic axis, important scientific evidence highlights the relationships between child sexual abuse with early suicide attempts; ADHD as a risk factor for the onset of manic or hypomanic episodes and positive familiarity for Affective Disorders as

a predisposing factor to a depressive symptomatology at the onset.
We also noticed that half of the people who reported having suffered sexual abuse in the past performed self-harming gestures.
Referring to neurodevelopmental disorders as potential factors capable of triggering psychopathological conditions among the younger, it was noted that those who had already received a diagnosis of ADHD in childhood subsequently presented to the emergency room for probable expansion of the tone of the mood (12.5%). However, the main symptom manifestation of ADHD patients were behavioral disturbances (62.5%) [7]. Furthermore, those who had a positive family history for Affective Disorders then developed depressive symptoms characterized by suicidal ideation or self-harm (28.6%).
Our research obviously has limits and problems. They must be taken into account for a more adequate evaluation of the results, that is, patients aged between 18 and 25 years who needed a first psychiatric evaluation during the psychopathological acuity were examined. It is possible that some potential cases have escaped this examination as they are younger than the considered range and, therefore, of NPI competence.
Literature data show that the prevalence of psychiatric disorders at onset- progressively increases over the years and with the age of the adolescent and that the prevalence of mood disorders and neurotic, stress-related and somatoform disorders increased particularly in young ages over the years [8].
Future studies should be cross-conducted on young people in both adult psychiatric and NPI services, looking at a wider age range. Similarly, it appears useful to continue the work already started in order to assess the trend and prevalence of psychopathological disorders over time.

## Conclusions

Adolescence is considered a period of multiple evolutionary changes but also a phase of particular vulnerability to stressful and traumatic events that can lead to discomfort or psychopathological disorders. This period has been called “the adolescent crisis” to emphasize its intrinsic complexity. It involves some aspects such as:

- biological factors that include physical and psychic transformations;
- psychological factors enabling new cognitive abilities, communication skills to relate and to make new experiences;
- social factors among which personal interests and emotional and relational connections.

Therefore, it is easy to understand why the interest in clinical research regarding this difficult phase of life has progressively intensified.
Moreover, treatments of severe discomfort and mental states at risk reduce and counteract the evolution into mental illness.
However, adolescents are difficult to treat and motive to seek for help. This fact has delayed the establishment of specific counseling and care programs.
It is known, for example, that the highest incidence of psychopathological onset (75%) occurs in late adolescence and early adulthood and that the prodrome is often faded and can last up to 6 years.
In fact, different pathologies have often overlapping symptomatic patterns, characterized by non-specific symptoms such as cognitive, neuropsychological and psychosocial deficits. Therefore in many cases, it is difficult to define the diagnosis [9]. It must be taken into account also that the accessibility to territorial not emergency services for such users is very limited.
According to estimates, only a small part of these young people (less than 1 out of 6) asks for and receives appropriate care also because the current model is only partially capable of intercepting the serious discomfort that characterizes this young age group.
As a consequence, adolescents first come to the attention of doctors in emergency areas mainly for reasons such as self-harm, accidents and suicide attempts. At this regard, it was demostrated that there is a dramatic increase in the number of young people who come to the emergency room for psychiatric care, making the Emergency Area a privileged place for the possibility of welcoming these children and implementing a first diagnostic screening.
In conclusion, to avoid the onset and progression of the disease, primary prevention practices and interventions should be implemented for population at risk and for subjects with psychopathological onset [10]. The integration between UONPIA, Primary Medicine and Ser.Ds is fundamental to guarantee the continuity of care especially during the transition from psychiatric services for children to those for adults. Moreover, especially for adolescents, adherence to treatments, access to psychotherapeutic treatments and interventions dedicated to the entire family context are very relevant.
It is important to remember also that there are effective mental health promotion programs that provide practical skill development and, at the same time, a cognitive-educational approach to specifically address issues such as abuse, nutrition and related disorders, risk, interpersonal relationships including those of a sexual nature, the assumption of a healthy lifestyle. The ultimate goals is to implement integrated and interinstitutional strategies (school, social and health services) in order to promote processes of personal and social empowerment and to leverage values such as self-esteem and resilience.
Intervention programs aimed at reducing the latency time of psychiatric assistance could be very useful, since having a prolonged DUI exposes more frequently to greater severity and chronicity of the clinical picture.

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