

Pharmacological Correction for Adjustment Disorder in Adolescents

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Abstract

The research presents the results of examination and treatment of patients hospitalized in the adolescent male department of the St. Petersburg State Public Healthcare Institution 'Skvortsov-Stepanov City Psychiatric Hospital No.3' with diagnosed adjustment disorder. Disorders of emotions and behavior were traced in 80.11% of observations (of which 17.82% were suicidal-blackmailing behavior in the anamnesis, 10.53% with a history of suicide attempts); depressed mood, anxiety, fear attacks in 16.87%, other cases against the background of alcohol and psychoactive substances (PAS) in 3.02%. The main drugs of choice to treat emotional and behavioral disorders with psychomotor disinhibition, aggression, conflict, emotional instability, agitation, anxiety, neurotic signs (symptoms), and sleep disorders are: thioridazine, pericyazine, chlorprothixene, sulpiride (eglonyl). In 94.51% of cases, the treatment was effective – the condition was improved to complete remission of the symptoms that dominated on admission and in the first days. Decompensation was observed in 3.61% of cases due to refusal to receive maintenance therapy.

Key-words: Adolescents, Adjustment Disorders, Typical and Atypical Antipsychotics.

1. Introduction

Adolescence is between childhood and adulthood, and not surprisingly, most adolescent mental health disorders are either continued childhood disorders or early onset in adults. The disease begins in adolescence only because its latency period extends for many years, and therefore it simply does not have time to develop in childhood. Most adolescents normally perceive the changes that occur during this period of development, but some cannot cope on their own with the difficulties that arise. Adolescents acquire adult bodies, but not their roles, rights, or financial independence. There is a shift from accepting rules and boundaries imposed by others to setting one's own. Young people face a difficult challenge as they try to express their growing capabilities and aspirations for self-determination within limits that are acceptable to parents and society at large. Therefore, adolescence is of particular importance as a period of increased risk of adjustment disorder [6, 14, 15, 24].

Adolescence is important in terms of shaping the emotional sphere. Emotions can affect behavior and play the role of a systematizing structure for adaptive behavior. Due to the affective assessment of the surrounding world and to the desire to meet certain needs, the emotional sphere plays an important role in adaptation to changing conditions, in personality development and in the formation of adaptive behavior in adolescents. Adaptive behavior leads to effective relationships in society. On the other hand, adjustment disorders in a teenager have the following effect: due to the loss of behavior control, the emotional component comes to the fore, while the cognitive component is of secondary importance [11].

Relief from stress, if there is no alternative, is manifested by an affective response – this may be a way to relieve stress or temporarily cope with problems that cannot be solved more adaptively [6].

In socialization of adolescents, various sources are involved: for example, teachers at school or peers, but the most important institution is the family. At the same time, there is a correlation between optimal parenting and adequate adaptation of adolescents, and the greater risk of developing mental health disorders is associated precisely with the low level of parental respect, care and warmth in relationships with their children [24].

The main condition causing overload in the adaptive mechanisms is stress. The concept of stress was first described by T.R. Glynn in 1910 and thanks to the classic works by H. Selye (1936) has become a part of everyday life. Stress in a broad sense can be defined as a non-specific reaction

of the body to a situation that requires more or less functional restructuring, appropriate adaptation to the given situation. Not only negative but also psychologically favorable events require adaptive costs and, therefore, are stressful [3, 15].

Most often, the external causes of stress in adolescents are psychosocial, among which a number of typical stressors can be distinguished. To a lesser extent, the occurrence of stress is influenced by biological and sociocultural reasons. Such negative situation as interpersonal conflicts manifests itself during social interaction at school, family, with peers, which is a source of anxiety in a teenager. Loss, which may be associated with the death of loved ones, divorce of parents, moving to a new place of residence, etc. is a source of depression. If there is an imbalance between high desires and low opportunities to fulfill them (frustration), which is quite common in adolescence, anger and hostility can manifest. Mental overload associated not only with school but also with preparation for exams, prolonged worries about conflicts, feelings of loss can exhaust the body's strength (including psychological strength), which leads to asthenia. Mental trauma can play the role of a predisposing factor for acute affective reactions, cause neuroses and psychopathic development against the background of character accentuations [31, 36, 37, 40, 41].

When exposed to stress factors, an adaptation process takes place in the body of a teenager,. At the first stage, the so-called 'fight or flight' reaction occurs. External or internal stimuli which are perceived as stressful (increased assessment of social threat, low control and predictability of the social situation) activate stress-implementing systems [8].

The sympatho-adrenal system implements the effects associated with the release of catecholamines and with the activation of the sympathetic nervous system; this leads to the excitation of neurons in the central nervous system. In addition, hemodynamic changes develop, leading to an increase in heart rate and blood pressure; bronchodilation and increased ventilation of the lungs also occur. At the biochemical level, there is increased glycogenolysis and lipolysis, and other changes that contribute to adaptation. The effects of the hypothalamic-pituitary-adrenal system are caused by the secretion of adrenocorticotrophic hormone and glucocorticosteroids, the effects of which are associated with an increase in the amount of body energy formed from various depots (glycogen in the liver, adipose tissue, etc.). At the same time, at first, there is an increase in immunity (due to the release of antibodies and various cytokines into the bloodstream), and then, over time, its inhibition occurs: a decrease in T-lymphocytes, natural killer cells, destruction of the thymus and lymphoid tissue. The activation of the above two systems triggers the somatoliberin-somatotropin-somatomedin system which also helps the body cope with new conditions [8, 26].

At the second stage of the adaptation process, the intensity of the above changes reaches a plateau for the period which length depends on the resources of the adolescent's body. If there is a pronounced imbalance between the intensity, duration of exposure to the factor and the body's resources, the third stage begins – that of maladjustment. It is manifested in psychological and emotional disorders, symptoms of disorders of the autonomic nervous system, pathological changes in sleep or appetite, in asthenic and other manifestations.

Adaptive changes under the influence of stress factors occur at different levels: genetic, biochemical, functional, morphological, and most importantly, in terms of the development of psychological stress, at neurophysiological and behavioral [8]. It turns out that as a result of the depletion of the systems of higher nervous activity, various mental health disorders arise, leading to neurotic disorders, and in severe cases to psychosis.

Thus, stress can cause a wide range of mental disorders or contribute to their precipitation. Mental trauma operates in a complex of various factors. In the concept of stress-diathesis, a large role is given to individual personality traits and to human vulnerability (for example, the tendency to develop anxiety or depression). Risk factors may include genetic or neuroendocrine background, negative experience, and low educational level [5, 31, 36, 37, 40, 41].

Stress is at the core of many theories of suicide which is the extreme degree of adjustment disorder. Under the influence of pronounced stress with a pronounced discrepancy between the low psychological resources of the adolescent's body and stress factors of high intensity, pronounced mental disorders arise, which, in turn, can become a trigger factor for the transition of suicidal thoughts to suicidal behavior which can lead to disability and death. It is important to note that suicide is the leading cause of death in adolescents worldwide [39].

Adjustment disorder is a common side effect of exposure to a stressful event where the strength of stress is beyond the adaptive capacity of a person and the effects of stress are sustained over time.

In the 10th revision of the International Classification of Diseases (ICD-X), adjustment disorders are classified among stress-related disorders. Typical stressful events are highlighted that can lead to violation of mental adaptation processes. These include a change in lifestyle, increased physical and emotional stress, rupture of significant personal relationships, separation from loved ones, a change in social status, and certain types of nosogenic reactions in somatic patients [12].

The structure of the clinical picture in patients may differ significantly, which is associated with the difficulties of diagnosis. Adaptation disorders are highly variable in their psychopathological manifestations. Clinical forms are described: a) with a prevalence of anxious or depressive symptoms

in the clinical picture; b) with a predominance of psychovegetative and asthenic disorders, in which hypothyria fades into the background; c) with a predominance of angry, aggressive reactions, and behavioral disorders. There are several effective interventions that prevent the development of adjustment disorder when used as early as possible after stress [2].

Stress can be accompanied by a normal level of physiological anxiety and fear, but when distress occurs and, subsequently, adjustment disorder occurs, pathological anxiety occurs which is accompanied by mental, socio-psychological and psychophysiological maladjustment [13].

Adaptation disorder in adolescents can occur against the background of psychotropic active substances (PAS). This is a psychopathological vicious circle: the increasing dependence on psychoactive substances and the formation of an affective disorder stimulate each other, which aggravates the course of the disorder [17]. In literature, there is evidence that childhood and adolescence mental disorders increase the likelihood of taking psychoactive substances in adulthood [23].

According to one definition, aggressive behavior is manifested by some kind of hostile actions. In this case, the purpose of these actions is to inflict physical or moral suffering on others or on oneself. This definition also proposes a classification of aggressive behavior, dividing it into extrapunitive (directed at other living beings or objects and accompanied by feelings of anger and irritation) and intrapunitive (autoaggressive, directed at oneself and accompanied by a sense of guilt) [7]. In adolescents, the reaction of the cortex is expressed in behavior disorders in the form of aggressive or dissocial behavior [12].

Determining the effectiveness of treatment for adjustment disorders in adolescents is an urgent problem of modern psychiatry [9, 10, 16, 18]. The basis of clinical analysis is the psychopathological qualification of painful experiences and behavioral disorders. Clinical and psychopathological analysis involves identifying the main symptoms of the disease and isolating pathogenetic and pathoplastic factors [10].

The evidence base for the correction of behavioral and emotional disorders in children and adolescents using antipsychotic drugs is in the early stages of development. In addition, there is little research on the long-term efficacy and side effects of psychotropic drugs in adolescent patients [22]. Thus, a serious study of the treatment of mental disorders in adolescence, including adjustment disorders, is required. It is necessary to take into account the influence of various psychotropic drugs: effectiveness, indications, contraindications and side effects in this contingent of patients.

The present research **aimed** to evaluate the effectiveness of drug therapy in the most common disorders of emotion and behavior in adolescents with adjustment disorder.

Research Objectives: to study the dynamics of the number of hospitalized patients with these disorders; to determine the order of admission; to identify the age that is most characteristic of the disorder under study; to determine the reasons for admission for adjustment disorders; and to identify decompensations. The sequence of priorities was as follows: a) the presence of stress; b) the time period from the onset of the disease; c) acute condition upon admission; d) the presence of typical symptoms or symptom complexes per case; e) regression of symptoms.

2. Materials and Methods

Adolescents hospitalized in the adolescent psychiatric male department of the Skvortsov-Stepanov City Psychiatric Hospital No.3, Saint-Petersburg with a diagnosis of adjustment disorder were examined clinically and psychopathologically. The main selection criterion was a clinically established diagnosis – adjustment disorder within the framework of the ICD-X diagnostic heading (F 43.25). The main group consisted of 49 adolescent patients (aged 15 to 18) diagnosed with adjustment disorder. The method of structured interviews with the help of medical records, including history data, socio-demographic data, clinical and psychopathological research, and the statistical method were used to analyze the clinical picture of the disease with highlighting most common leading symptoms in the adjustment disorder with disturbed emotions and behavior. The most frequently used drugs were also considered for a group of symptoms characteristic of adjustment disorder but not united by a common origin.

The present study was approved by the Ethics Committee of the Hospital on February 24, 2014. The dynamics of the state was assessed using the Clinical Global Impression Scale (OGI) created at the US National Institute of Mental Health (NIMH) in 1976. This scale includes subscales which show the severity of the patient's condition and general improvement, as well and the index of effectiveness. The OGI scale allows tracking the dynamics of the general condition of the patient and identifying an improvement or deterioration in the therapeutic effect according to a 7-point rating system from 1 (pronounced improvement) to 7 (pronounced deterioration) (Table 1). The assessment of this parameter is carried out after the end of a certain stage of treatment and at the end of therapy. In this case, one should take into account the reason for the change in the patient's condition (is the therapeutic effect associated with drug therapy?). It is also important to identify the difference in the general condition of the corresponding day of therapy and the first day, which reflects the degree of clinical recovery of the patient. The effectiveness index is calculated taking into account two indicators: the therapeutic effect which can have a value from 0 (pronounced) to 3 (absence or

deterioration) and the side effects of the drug from 0 (no side effects) to 3 (side effects are higher than the therapeutic effect). The index of therapeutic effectiveness corresponds to the intersection of a row and a column corresponding to the above two indicators (Table 2) [1]. The main advantage of the OGI scale is the relative ease of obtaining a generalized assessment of the patient's condition and making a decision on the appointment or correction of drug therapy.

Table 1 - Overall Improvement on the OGI scale [1]

Points	Condition assessment	Therapy days			
0	No assessment				
1	Pronounced improvement				
2	Improvement				
3	Minor improvement				
4	No changes				
5	Slight deterioration				
6	Deterioration				
7	Pronounced deterioration				

Table 2 - Calculation of the Effectiveness Index on the OGI scale [1]

Therapeutic effect	Side effect			
	0 points – absent	1 point – no significant effect on the general condition	2 points – a significant effect on the general condition	3 points - side effects are higher than the therapeutic effect
0 points – significant	00	01	02	03
1 point – moderate	10	11	12	13
2 points – minimum	20	21	22	23
3 points – no changes	30	31	32	33

The criterion of effectiveness in the study was the achievement of the indicator ‘improvement’ or ‘pronounced improvement’ on the OGI scale. The authors of the present study considered the most common reasons for hospitalization for which psychotropic treatment was prescribed.

Taking into account the identified clinical and social characteristics of adolescents in an acute state, in terms of correction, drug therapy was most often used with the gradual addition of non-drug methods of treatment, including various types of psychotherapy; to consolidate the positive dynamics, art, labor, play, dance movement therapy was given next.

The percentage by gender was 38.62% males of the total number of adolescents admitted to the hospital with this diagnosis for the period under consideration.

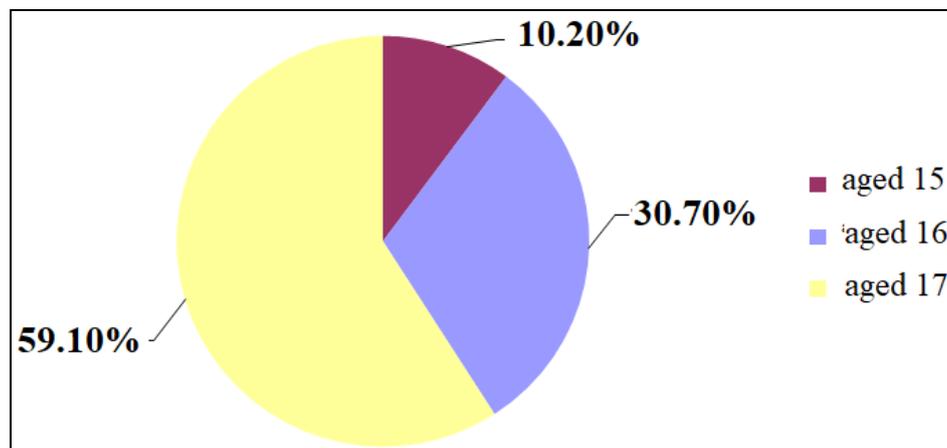
The verification of the diagnostic assumption was achieved with the help of amnesic information, observation in stationary conditions, examination data, and the nature of the response to therapy.

Statistical data analysis was carried out using the SPSS computer program (SPSS Inc., USA). The one-sample Wilcoxon test was used to assess the statistical significance of changes in signs before and after treatment. The critical level of significance when testing the statistical hypothesis was taken as 0.05. The data obtained were presented in the form of a median and 1, 3 quartiles due to the fact that their values do not obey the law of normal distribution.

3. Results and Discussion

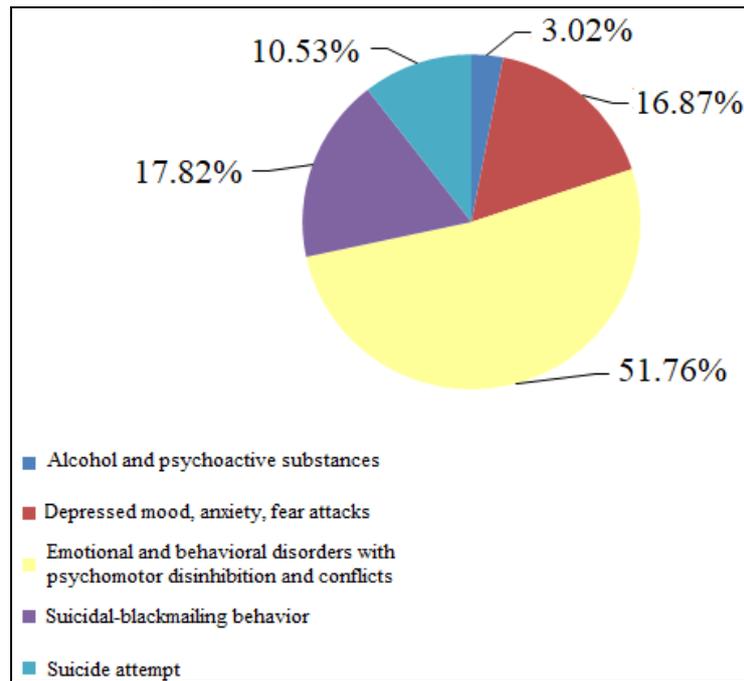
The order of admission of adolescents to the hospital (mainly for emergency psychiatric care) was 80.23%. By age, the numbers are as follows: aged 15 – 10.20%; aged 16 – 30.70%; aged 17 – 59.10%. The average length of hospital stay was 18 days (± 5 days) (Fig. 1).

Figure 1- Age of adolescents admitted for emergency psychiatric care



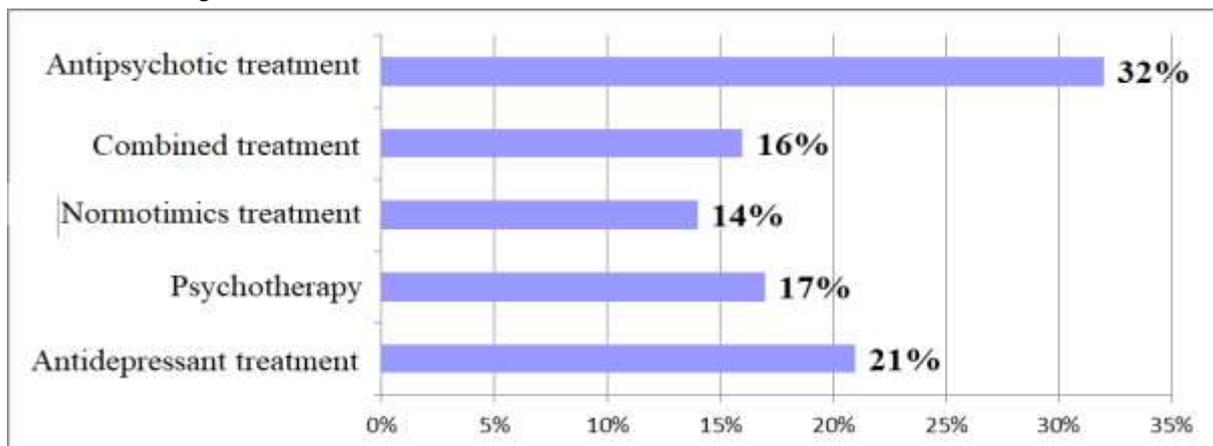
Emotional and behavioral disorders were traced in 80.11% of cases, of which 17.82% with a history of suicidal-blackmailing behavior, 10.53% with a history of attempted suicide; depressed mood, anxiety, fear attacks were observed in 16.87%, other cases against the background of alcohol and psychoactive substances – 3.02% (Fig. 2).

Figure 2- Emotional and Behavioral Disorders



Emotional and behavioral disorders were reported in 49 cases. Of these, 21% of patients received antidepressant treatment; treatment was not prescribed in 17% (patients underwent psychotherapy); 14% of patients received treatment with normotimics; 16% of patients received combined treatment with supportive therapy; antipsychotic treatment was in 32% (Fig. 3).

Figure 3 - Treatment of Emotional and Behavioral Disorders in Adolescent Males



According to the present study, there is an increased likelihood of adjustment disorders with increasing age, with more than half of adolescents diagnosed with adjustment disorders being 17

years old. This confirms the following correlation: with increasing age, there is an increase in the risk of stress in adolescents and, in the future, mental disorders [24].

The fact that the majority of patients were admitted to the hospital for emergency psychiatric care suggests that decompensation of the state of sick adolescents quite often occurs due to the refusal to seek medical help or due to the low effectiveness of treatment at the outpatient stage, untimely transfer to a psychiatric hospital or low compliance (adherence to treatment) of patients. Thus, there is a need to improve the quality of the psychological, psychiatric and psychotherapeutic assistance to the adolescent population to be able to diagnose mental disorders at the early stages.

According to the present study, the majority of patients with adjustment disorder had emotional and behavioral disorders. At the same time, a large proportion of them showed suicidal blackmail behavior and even attempted suicide, which also necessitates an increased detection of these mental disorders in order to ensure the safety and health of not only the patients themselves but of those around them. The latter is due to a more or less pronounced danger potentially created by patients with these manifestations.

Despite the small proportion of patients who decompensated due to refusal of treatment or refusal to visit a psychotherapist, this can be a problem. Refusal of treatment can be caused, among other things, by a decrease in compliance against the background of incorrectly selected therapy.

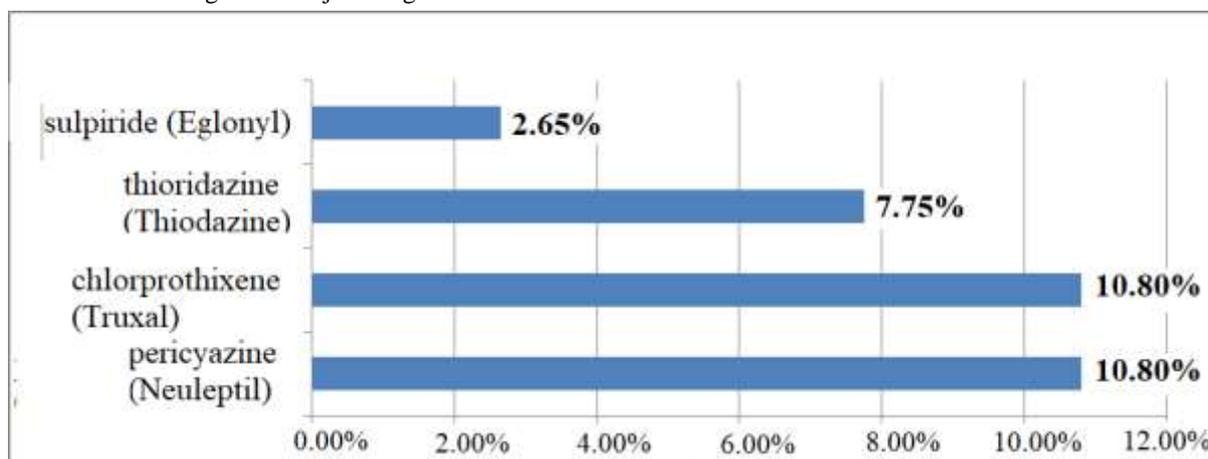
In general, various groups of drugs are used for adjustment disorders in adolescents: neuroleptics (antipsychotics), normotimics, antidepressants, sedatives and others, with increased prevalence of psychotropic drugs. In 2005-2012, increased usage of antipsychotic drugs in patients aged 0-19 years was revealed in a number of countries – Germany, Denmark, the Netherlands, and Great Britain. [25]. Notably, the use of antidepressants in childhood and adolescence increased over the past few years in Western countries [38].

This raises the question of the effectiveness and safety of psychotropic drugs for children and adolescents in connection with the small number of studies conducted on this contingent. In addition, the results of clinical trials conducted on the adult population can only partially be transferred to the child and adolescent population, which is associated with incomplete correspondence of physiological, biochemical, behavioral parameters of adults and adolescents, as well as the difference in the course of diseases. It is worth emphasizing that even in studies conducted on adolescents, only a short-term assessment of efficacy and safety was carried out, while long-term results (adverse reactions and the associated frequency of discontinuation of drug therapy) are not always taken into account. Nevertheless, despite the fact that some of the drugs are not indicated for use in pediatric practice, including among adolescents, psychotropic drug therapy for children and adolescents is

carried out [4]. This is not to say the drug cannot be used for the patient if its description lists no indication of childhood and adolescence or information about a certain mental disorder. The lack of information is due to the fact that no evidence base was provided on a specific issue. At the same time, some drugs tested on the adult population are used among adolescents (the so-called off-label drug prescription) with the aim of a beneficial effect on the patient [35]. Notably, prescribing drug or non-drug therapy or a specific drug should be decided on an individual basis, taking into account the patient's age, the severity of the mental disorder, the concomitant pathology, patient compliance, the ratio of potential benefits and harms, and other factors.

According to various authors, antipsychotics are most widely used in drug therapy for behavioral disorders. Among antipsychotic drugs, two groups are distinguished: typical (1st generation) and atypical (2nd generation) [25, 30]. In the present study, antipsychotic drugs, mainly of the 1st generation, were also prescribed more often. The drugs of choice for the treatment of emotional and behavioral disorders with psychomotor disinhibition, aggression, conflict, emotional instability, agitation, anxiety, neurotic signs (symptoms), sleep disorders were: thioridazine (Thiodazine); pericyazine (Neuleptil); chlorprothixene (Truxal); and sulpiride (Eglonyl). Truxal and Neuleptil were used in 10.8% of cases each, Thiodazine was prescribed in 7.75% of cases, Eglonyl in 2.65% of cases (Fig. 4).

Figure 4- Major Drugs for the Treatment of Emotional and Behavioral Disorders



According to various authors, 2nd generation antipsychotic drugs are more popular than 1st generation. For example, in France in 2006-2013 [30], as well as in Denmark, Germany, the Netherlands, and the UK in 2005-2012 [25], there was a trend towards increased prescription of 2nd generation antipsychotics and, accordingly, decreased prescription of the 1st generation drugs among

children and adolescents. In addition, in Canada in 2013, 97% of prescribed psychotropic drugs were antipsychotic drugs [32]. Drugs such as aripiprazole and risperidone are approved by the Food and Drug Administration (FDA) for the treatment of behavioral disorders such as irritability and aggression [30].

According to the literature, 1st generation antipsychotics, in particular chlorprothixene, may be effective in relieving severe emotional stress and reducing internal tension in the acute suicidal stage, but their therapeutic benefit is not very high [21]. According to the results of the present study, the main symptoms for which chlorprothixene was prescribed in clinical cases were: anxiety, fear, aggression, agitation, psychomotor agitation, a situationally depressed mood background, and sleep disturbances.

Treatment with pericyazine was recommended for increased excitability, hot temper, conflict, bouts of anger, emotional instability, protest reactions.

Thioridazine was used for increased fixation on a stressful situation, fear, anxiety, night fear, a situationally depressed mood background, agitation, tension, increased irritability.

With regard to the appointment of thioridazine, the data collected in the present research are partly confirmed by some authors. Thus, a randomized controlled trial found that thioridazine was more effective than placebo in reducing the severity of aggressive behavior [42]. According to other data, the efficacy of thioridazine in the correction of impaired behavior in children with IQ below the average level and with behavioral disorders was revealed [34].

In the present study, sulpiride was the only atypical antipsychotic drug of choice in drug therapy for conduct disorders. It was prescribed in cases where the clinical symptoms were dominated by lethargy, anergy, irritability, tension, which is associated with its less pronounced sedative effect.

There is no strong evidence that 2nd generation antipsychotics are more effective in treating behavioral symptoms than typical antipsychotics. However, there is an opinion that atypical antipsychotics are more suitable for young people, since their use has fewer side effects (less pronounced disorders of the extrapyramidal system and less pronounced sedation) in the short term [27]. Another important advantage of 2nd generation antipsychotics is the low risk of developing neuroleptic depression, against which an increase in suicidal thoughts and behavior may occur [19]. On the other hand, atypical antipsychotics can cause increased body weight, prolactin levels and metabolic syndrome more often than typical antipsychotics [32]. A large number of drugs in this group have a pronounced (to one degree or another) sedative effect. However, there are concerns

associated with the use of off-label antipsychotics for the treatment of behavioral disorders in childhood and adolescence [22].

Notably, there is a problem of sensitization and tolerance to antipsychotic drugs. With long-term use of this group of drugs, the brain structures adapt to therapy, as a result of the development of drug-induced neuroplasticity associated with dopamine D₂ receptors of the striatum and serotonin (5-HT)_{2A}- receptors in the prefrontal cortex. This leads to a change in the behavioral response to taking drugs, which must be taken into account in clinical practice [28].

Another group of drugs used to correct behavior disorders are normotimics. According to some literary sources, there is evidence of a small effectiveness of this class of drugs [33, 34]. In the present study, normotimics were not the drugs of choice, but their use was justified in some situations.

For the purpose of pharmacological correction of behavioral disorders caused by dependence on surfactants, according to the literature, various groups of drugs are used: antidepressants (tricyclic antidepressants, norepinephrine reuptake inhibitors, selective serotonin reuptake inhibitors (SSRIs) etc.), hypnotics and sedatives, antipsychotics [17].

Speaking about the side effects of psychotropic drug therapy, it should be borne in mind that the safety of the use of antipsychotics and antidepressants in children and adolescents differs significantly from the adult population. This is due to the more frequent occurrence of unwanted side effects in pediatric practice than in adult patients. Sedation is one of the most important, since it reduces the ability to learn, which can aggravate adjustment disorder [29].

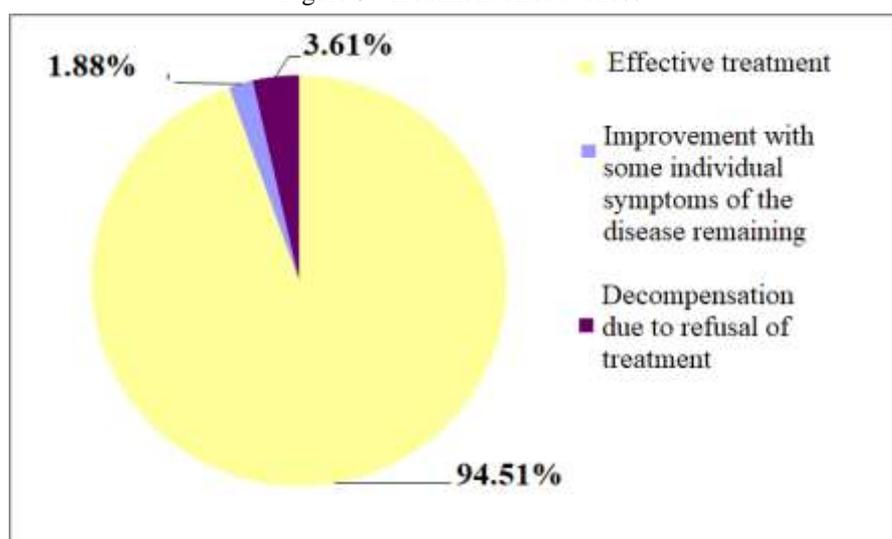
In the present study, antidepressants were the least common psychotherapeutic drugs, but in some situations, with the help of this group of drugs, it was possible to achieve remission.

Some antidepressants, especially SSRIs, are associated with an increased risk of suicidal thoughts and behavior in children and adolescents, which aggravates adjustment disorder in this group of patients [38]. The use of SSRIs has other side effects, the most important of which are serotonin syndrome, frontal lobe syndrome, exacerbation of obsessive-compulsive symptoms, and affective and behavioral disorders. In addition, there are difficulties in prescribing antidepressants and antipsychotics if adolescents have cardiac problems (for example, an abnormal heart rhythm) and other comorbidities. Nevertheless, with correct treatment, these drugs may well be used in pediatric practice [4]. Thus, according to one study on drug therapy of mental disorders in adolescence, including behavioral disorders, antidepressants (fluoxetine, sertraline, escitalopram) in children and adolescents were used in 16% of cases [20]. This means that antidepressants in the treatment of

mental disorders in adolescents, including adjustment disorders, should be used only with a competent approach, taking into account all the clinical features of the course of the disorder.

According to the results of the present study, the effectiveness of the treatment was revealed in 94.51% of cases with an improvement in the condition to complete remission of symptoms that dominated on admission and in the first days. In 1.88% of cases, an improvement was recorded with the preservation of individual symptoms of the disease. Decompensation in the male adolescent ward in 3.61% of cases was observed in connection with the refusal of maintenance therapy and refusal to visit a psychotherapist according to the follow-up data (Fig. 5). The high efficiency of the drug therapy for adjustment disorders, in the authors' opinion, is due to an individual approach to each patient, taking into account the peculiarities of the clinical course of the disorder and concomitant pathology.

Figure 5- Treatment effectiveness



4. Conclusion

Adolescence is the most important period in the life of every person. During this period, the process of socialization takes place, and also of self-determination and the manifestation of capabilities in various spheres of social life. It is highly undesirable that this fundamental stage of development, after which there is an exit into adulthood, be spoiled by various diseases, including mental health problems and adjustment disorder in particular. Stress, as a reaction causing a change in the adaptation of the body, in most cases, can pass normally, adapting the adolescent throughout the influence of the stress factor. However, this process can turn into distress, which leads to

adjustment disorder. The above suggests the need to influence stress factors: we cannot completely eliminate stressors, but we are quite capable of minimizing them, as well as changing the adolescent's attitude towards them through psychological, psychiatric and psychotherapeutic support.

According to the author's data, pharmacological therapy for adjustment disorders can be quite effective and safe. However, there is a need to improve the evidence base on this issue through a large number of studies, including randomized controlled trials. In the future, this will contribute to more effective and safer pharmacotherapy for adjustment disorder in adolescents, which will allow them to fully adapt to adulthood.

According to the results of the study, the authors came to the following.

5. Conclusions

- 1) The likelihood of developing adjustment disorders in adolescents increases with age;
- 2) Disorder of emotions and behavior was noted in 80.11% of observations (of which with suicidal blackmail behavior – 17.82%; attempted suicide – 10.53% in history); decreased mood, anxiety, attacks of fear – 16.87%; against the background of alcohol and PAS consumption – 3.02%.
- 3) The drugs of choice for the treatment of emotional and behavioral disorders were antipsychotics: chlorprothixene and Neuleptil were used in 10.8% of cases, respectively; thioridazine (Tthiodazine) in 7.75%; sulpiride (Eglonyl) in 2.65% of cases.
- 4) Antipsychotic therapy used to correct emotional and behavioral disorders in adolescents allowed achieving qualitatively better outcomes with remission in 94.51% of cases.

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