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ADJUSTMENT DISORDERS IN STUDENTS WHO HAVE SUFFERED PSYCHOEMOTIONAL STRESS: SYSTEMATIC REVIEW OF DIAGNOSTICS, TREATMENT AND PREVENTIVE CARE

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Цитування: Медичні перспективи. 2021. Т. 26, № 4. С. 31-39

Cited: Medicni perspektivi. 2021;26(4):31-39

Key words: students, adjustment disorders, psychoemotional stress, psychocorrection, prevention

Ключові слова: студенти, розлади адаптації, стрес, психокорекція, профілактика

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Abstract. Adjustment disorders in students who have suffered psychoemotional stress: systematic review of diagnostics, treatment and preventive care. Yuryeva L.M., Sharun A.I. Currently, the mental health problem of students, which often leads to the creation of unfavorable foundations for the development of non-psychotic mental disorders, is particularly relevant and socially significant. The purpose of this article was to conduct a systematic literature review of the current state of the problems of students' adjustment disorders, taking into account interventions aimed at preventing and correcting them, and analyzing the results. We searched the electronic databases Oxford, Google Scholar, PubMed, Medline and Web of Science, ScienceDirect, Scopus, Cyberleninka, PsycInfo on prevalence, adverse effects, and interventions in students with adjustment disorders. Of the 25 studies published over the period from 2004 to 2020, 10 (40%) data on treatment and preventive measures are reported. The search revealed that interventions aimed at correcting and preventing adjustment disorders in students may improve various aspects of well-being, including psychological, pedagogical and medical ones. However, the evidence is limited by the relative inadequacy of long-term and reliable experimental studies. In view of this, it is advisable to further implement larger projects and conduct broader and longer-term research, which will contribute to a more reliable and in-depth study of the impact and effectiveness of such interventions. Based on a scientific search, the theoretical and methodological foundations of psychocorrection of students with adjustment disorders are substantiated, taking into account the specifics of the mental functioning of this category. While there are few works devoted to the study of developmental issues, clinical and psychopathological features, dynamics of non-psychotic mental disorders, taking into account gender and organizational factors in university students in the context of higher education reform, such issues require further study applying systemic approach in order to develop and implement in practice the early diagnosis as well as corrective and preventive measures.

Реферат. Розлади адаптації в студентів, які перенесли психоемоційний стрес: систематичний огляд діагностики, лікування і профілактики. Юр'єва Л.М., Шарун А.І. На цей час особливо актуальною і соціально значущою є проблема психічного здоров'я студентів, яка часто призводить до створення несприятливих основ для розвитку несприятливих психічних розладів. Метою цієї статті було проведення систематичного літературного огляду сучасного стану проблеми розладів адаптації в студентів, з урахуванням втручань, спрямованих на їх запобігання та корекцію, й аналізом отриманих результатів. Було проведено пошук по електронним базам даних Oxford, Google Scholar, PubMed, Medline u Web of Science, ScienceDirect, Scopus, Cyberleninka, PsycInfo щодо поширеності, несприятливих наслідків і втручань у студентів з розладами адаптації. З 25 досліджень, опублікованих за період з 2004 до 2020 року, у 10 (40%) наводилися дані про лікувально-профілактичні заходи. У результаті пошуку виявлено, що втручання, спрямовані на корекцію та профілактику розладів адаптації в студентів, можуть покращити різні аспекти добробуту, зокрема психологічні, педагогічні та медичні. Однак докази обмежені відносною недостатністю довготривалих та надійних експериментальних досліджень. З огляду на це, доцільно в подальшому впроваджувати масштабніші проекти та проводити більш широкі та тривалі дослідження, що сприятиме достовірнішому та глибшому вивченню впливу та ефективності таких втручань. На основі наукового пошуку обґрунтовано теоретико-методичні основи психокорекції осіб студентів з розладами адаптації, з урахуванням

специфіки психічного функціонування зазначеної категорії. У той час, як робіт, присвячених вивченню проблем розвитку, клініко-психопатологічних особливостей, динаміки непсихотичних психічних розладів з урахуванням гендерних та організаційних чинників у студентів закладів вищої освіти в умовах реформування вищої освіти, небагато, є потреба в подальшому вивченні з позиції системного підходу з метою розробки та впровадження в практику заходів ранньої діагностики та корекційно-профілактичних впливів.

Due to the constant growth of emotional and information load complicated by living conditions as well as increasing demands to the individual's psychological adjustment potential, the problem of preventing stressors and their consequences for the individual, as well as maintaining the level of mental and physical health necessary for successful studying, is especially urgent. Problems related to professional development, the specific character of studying at medical schools and obstacles to achieve subjectively-significant goals, may result in gradual depletion of adjustment mechanisms and identity resources and, consequently, to disruption of functional systems of life, as well as the development of disorders of various manifestation in the mental and somatic spheres.

Adjustment to a range of new factors specific to higher education is a complex process and is accompanied by a significant stress of the compensatory-adaptive systems of the students' bodies. Moreover, in conditions of constant psycho-emotional tension and imperfection of psychophysiological systems, this may result in the disruption of the adjustment process and development of a number of diseases, including mental ones [2, 17, 35, 37].

It is known that a high percentage of psycho-emotional conflicts, deep feelings, crises, addictive behavior is characteristic at the initial stage of education [4, 9, 21, 33].

It was found that the formation of adjustment disorders in medical students is based on multifactorial conditioning, where biological, social and psychological factors are presented as part of an inseparable complex determining the specific character of clinical manifestations of maladjustment states and providing for special ways for their correction and prevention. The peculiarities of the dynamics of the students' adjustment to the modern conditions of studying at higher educational institutions and the mechanisms of their adjustment disorders occurrence have not been sufficiently studied, both in theoretical and practical terms [5, 7, 29, 30, 34].

It is indicative that the most alarming rates of mental illness growth is observed between the ages of 19 and 25, when the occurrence practically doubles [8].

According to the generalized literature data, life stress occurring at the initial stages of studying at a

university is often the cause of adjustment disorders and even suicidal attempts [9, 12, 15, 16, 26].

Numerous recent studies carried out in different countries have noted a high prevalence of neuropsychiatric disorders of the anxiety-depressive spectrum and a lower quality of life among medical students during their studies, compared with the general population and with students of other specialties [20, 21, 22, 23, 24, 25, 27, 28, 31, 32].

Non-psychotic mental disorders prevail in the general structure of mental illness in the student population. According to different authors, the prevalence of such illness among medical students ranges from 2.2% to 29.0%, which leads to mental maladjustment [1, 6, 11, 13, 14, 18, 19, 24].

According to the Dave Nee Foundation, an organizations that fight against depression and suicidal tendencies among the American population, 27% of law students suffer from depression after their first year, 34% after their second year and 40% before graduating from a standard three-year course of study, while, for instance, this figure for medical students is about 70%.

The research results allow us to state that psychoemotional disorders within adjustment disorders in junior students have a subclinical level of manifestations. The leading place in this is occupied by pre-nosological forms of dysfunction of anxiety-depressive, phobic, emotionally labile nature and somatovegetative spectrum, acting as predictors of the adjustment disorders clinical symptoms formation [6].

It was found that displaced students are more likely to have a high and pronounced level of maladjustment in comparison with other students. The leading risk factors for the formation of adjustment disorders for the displaced students include the need for adjustment in a new team, a sharp change in life stereotype, and the status of internally displaced persons. In most modern studies, attention is paid to the formation of disorders in the educational and professional activities of medical students who have not suffered due to the hybrid war [2, 10].

The lack of a well-developed and proven unified technology for distance study and the extremely short time for the introduction of this education system in the context of the COVID-19 pandemic forces us to face both technical and

organizational and psychological difficulties when switching to online education on a mass scale and completely [36].

While there are few works devoted to the study of developmental issues, clinical and psychopathological features, clinical structure, dynamics of non-psychotic mental disorders, taking into account gender and organizational factors in university students in the context of higher education reform, such issues require further study applying systemic approach in order to develop and implement in practice the early diagnosis as well as corrective and preventive measures.

The purpose of this article was to conduct a systematic literature review of the current state of the problems of adjustment disorders in students, taking into account interventions aimed at preventing and correcting them, and analyzing the results.

MATERIALS AND METHODS OF RESEARCH

Literature search

A systematic review was conducted to determine the prevalence of adjustment disorders in students, their clinical presentation and the impact of preventive and curative interventions. We searched among the published reviewed articles of the electronic databases (Oxford, Google Scholar, PubMed, Medline and Web of Science, ScienceDirect, Scopus, Cyberleninka, PsycInfo). The search was performed using the following search terms: студенти, розлади адаптації, стрес, психокорекція, профілактика; students, adjustment disorders, psychoemotional stress, psychocorrection, prevention. No restrictions on publication date or article language were applied. Additional search was performed when reviewing the references of selected articles, reviews of student adjustment disorders, and publications related to this topic. No such systematic reviews were found through the search in the Cochrane Library.

I/E criteria

To be included in the review, articles had to meet all the following criteria:

- a) be dedicated to students who have come of age;
- b) most of the samples showed maladjustment disorders or individual clinical manifestations thereof;
- c) quantitative or semi-quantitative data on the prevalence, ratio and interventions for the correction of adverse consequences should be provided;

d) according to ICD-10, the term “adjustment disorder” was defined as a state of subjective distress and emotional disorder that usually impede social functioning, productivity and occurring when adapting to significant changes in life or due to a stressful event;

e) particular attention was paid to university students who were attacked by a number of stressful events, in particular, obtaining a new social status, taking into account internally displaced persons or victims of hostilities, and the impact of changes in the educational regime, given its distant character;

f) disorders that were clearly identified by the influence of one or several causes, i.e. changes in life leading to long-lasting adverse circumstances or an exclusively adverse event, were included;

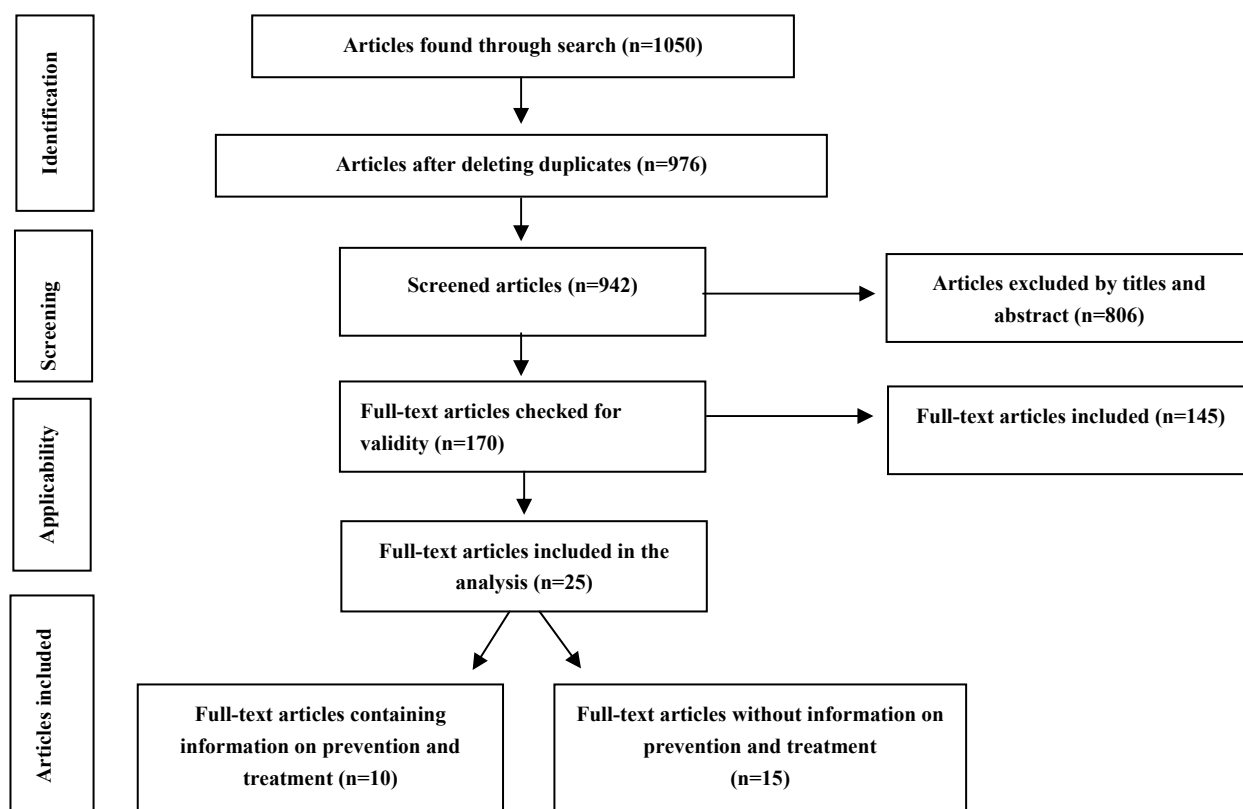
g) all kinds of correction and prevention methods for adjustment disorders in students were considered, including individual and group form of correction, as well as online interventions, taking into account the specific character of the mental functioning of this category. Articles were to be published in full form in peer-reviewed magazines.

The exclusion criteria were:

- a) age below 18;
- b) presence of an important neurological and/or psychiatric disorder. Unpublished thesis works and books were excluded.

During the search, a total of 1,050 mentions were received for such keywords as “студенти”, “розлади адаптації”; “students”, “adjustment disorders”, which were analyzed for the relevance of the title and content. Following the review of the title and abstraction and exclusion due to inconsistency, we revised 56 full texts, 25 of which were included in the final review (Figure) to break down the study selection procedure.

Most of the excluded works were devoted to the study of separate risk factors, the peculiarities of the effect of the team, curricula, teaching staff, and “teacher-student” relations, without focusing on the psychodiagnostic characteristics of adjustment disorders in students or the study of mental disorder against family problems. Finally, a number of articles reported on underage students, which is the exclusion criterion. The works that did not meet the inclusion criteria include students with concomitant mental disorders or mental and behavioral disorders due to the use of psychoactive drugs. Others focused on statistics rather than clinical presentation and did not report intervention and longitudinal follow-up, and were therefore also excluded.



Block diagram of the feature selection process

RESULTS AND DISCUSSION

The review included 25 articles, of which 6 were prepared in the United States of America, 3 – in Iran, 2 – in England, 2 – in Russia, 2 – in Taiwan, 1 – in Australia, 1 – in Ethiopia, 1 – in India, 1 – in Italy, 1 – in Canada, 1 – in Mexico, 1 – in Pakistan, 1 – in Ukraine, 1 – in Turkey, 1 – in Sweden, and 1 – in Japan (Table).

The sample sizes varied from 11 to 2,100 participants (total $n=8778$, average: $n=351$). The sample mainly included outpatients with no indication of the disease stage or severity. Surveys and interviews were conducted in 16 countries, 40% of study participants were assessed in Europe and the United States, the remaining 60% – in Australia, South America, Asia and Africa.

Intervention aimed at preventing and correcting adjustment disorders in students was described in 10 out of 25 articles, accounting for 40%, 15 works (60%) were not implemented in practice. The following types of interventions were mentioned in the studies: group hypnosis (1), group therapy and pharmacotherapy (1), cognitive behavioral therapy

(1), online programs (1), social support (2), physical exercise (1), unified protocol and cognitive therapy (1). A number of articles reported on the need for public events to prevent negative influence on the mental state of young students and positive results of such events.

In general, most studies contain characteristics of psychosocial functioning and general well-being, as well as empowerment, self-esteem, and self-efficacy of students. A number of studies have received conflicting data regarding the relationship of certain stressors and indicators of students with adjustment disorders.

A number of studies focused only on students with adjustment disorders and had no control comparison group. Moreover, it is unclear whether there are links among such aspects as disease duration, symptoms, therapeutic compliance and social functioning. We were unable to find many studies that contain or compare patient data before and after interventions, a link with improved mental health and overall quality of life.

Summary data of measures developed by researchers

Author and Year	Year	Country	Number of respondents	Type of Intervention
BelayAbabu	2018	Ethiopia	537	Not conducted
Bellini	2020	Italy	76	Group hypnosis
Bergin	2015	Australia	481	Social support
Bhat	2015	India	803	Not conducted
Brooks	2016	England	101	Not conducted
Chung	2014	Taiwan	607	Not conducted
Dahlin	2005	Sweden	342	Not conducted
Demaray	2005	USA	82	Social support
ElAnsari	2014	England	2100	Not conducted
Frazier	2015	USA	105	Online programs
Frolova	2019	Russia	100	Not conducted
Haglund	2009	USA	125	Not conducted
Huang	2009	Canada	913	Not conducted
Konova	2012	Ukraine	11	Physical activity
Lung	2006	Taiwan	641	Not conducted
Mejias	2020	Mexico	41	Group therapy, drug therapy
Mohammadi	2013	Iran	33	Cognitive-behavioural psychotherapy
Pistorello	2012	USA	63	Dialectical behavior therapy
Rodgers	2009	USA	426	Not conducted
Shaikh	2004	Pakistan	264	Not conducted
Tanaka	2010	Japan	125	Not conducted
Ustundag-Budak	2019	Turkey	17	Dialectical behavior therapy
Voevodin	2018	Russia	578	Not conducted
Webb	2011	USA	134	Not conducted
Yazdani	2010	Iran	68	Stress management
Zenoozian	2013	Iran	23	Unified protocol, cognitive therapy

Consequences and follow-up studies

The search revealed that interventions aimed at correcting and preventing adjustment disorders in students may improve various aspects of well-being, including psychological, pedagogical and medical ones. However, the evidence is limited by the relative inadequacy of long-term and reliable

experimental studies. In view of this, it is advisable to further implement larger projects and conduct broader and longer-term research, which will contribute to a more reliable and in-depth study of the impact and effectiveness of such interventions. The analysis conducted makes it possible to identify the most effective, well-received and most

accessible interventions. Unfortunately, there are currently few programs that address the specific needs of students who have experienced psycho-emotional stress. New methods of intervention should be developed in future research to meet the needs of young people.

CONCLUSION

1. Based on the scientific and theoretical analysis of the study of the adjustment disorders in students problem, it was found that, despite numerous serious studies of various aspects of mental disorders in students, the problem of their early diagnosis in modern conditions can not be recognized to be eventually solved.

2. Given the results obtained, there are few works on the study of developmental problems, clinical and

psychopathological features, clinical structure, dynamics of non-psychotic mental disorders considering the influence of adverse factors in university students in the conditions of higher education reform, and the problem needs further study.

3. There are forecast research perspectives for these issues. Namely, they include the development and implementation of measures for early diagnosis and corrective and preventive effects in terms of a systematic approach. They also include detailed empirical study of the factors of maladjustment increase in the conditions of special educational needs, as well as the peculiarities of social interaction in an inclusive educational environment.

Conflict of interests. The authors declare no conflict of interest.

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The article was received
2021.02.18

