

# MATERNAL ATTITUDE AS A RESOURCE FOR OVERCOMING THE PSYCHOLOGICAL CONSEQUENCES OF A SEVERE FORM OF AN ORTHOPEDIC DISEASE

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**Introduction.** Idiopathic scoliosis in a surgical pathology stage creates a difficult situation in the life of sick adolescents. There may be signs of marked neuropsychic stress, fear, helplessness, and behavioral deviations in adolescents suffering from the scoliotic disease. Hence, it is important to study the factors of protection and external adaptation resources that are crucial for coping with psychological difficulties in adolescence. One such resource is the maternal attitude, including emotional support.

**Material and methods.** Sixty women were enrolled in the study, 30 of whom were mothers of patients of a pediatric orthopedic clinic who had been diagnosed as having idiopathic scoliosis of 3–4°, and 30 were mothers of adolescents without disorders of the musculoskeletal system. The method used the A.Ya. Varga and V.V. Stolin diagnostics of parental attitude, the SF-36 quality of life questionnaire, and C.D. Spielberg's self-evaluation technique for determining the level of situational and personal anxiety (adaptation of Y.L. Khanin). Average statistics were calculated, the statistical significance of differences in comparisons was calculated by performing Student's test, and correlation analysis was performed by calculating Spearman's correlation coefficients.

**Results.** The attitudes of the parents of the healthy adolescents and those of adolescents with idiopathic scoliosis were characterized by a predominance of positive feelings and a desire to provide emotional support to the adolescent proportionally while recognizing the difficulties in the child's life situation. A mother's positive attitude toward her child under treatment in a surgical clinic for correction of a severe spinal deformity may be distorted by her anxiety and depressive feelings, which may reduce the mother's ability to provide emotional support in a situation difficult for the child. An important component in the system of psychological care for adolescents with idiopathic scoliosis may be professional psychological support focused on harmonization of child–parent relations.

**Keywords:** idiopathic scoliosis; parental attitudes; mental health; children.

# МАТЕРИНСКОЕ ОТНОШЕНИЕ КАК РЕСУРС ПРЕОДОЛЕНИЯ ПСИХОЛОГИЧЕСКИХ ПОСЛЕДСТВИЙ ТЯЖЕЛОЙ ФОРМЫ ОРТОПЕДИЧЕСКОГО ЗАБОЛЕВАНИЯ

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**Введение.** Идиопатический сколиоз в стадии хирургической патологии создает трудную ситуацию в жизни больных подростков. В этих условиях у подростков, страдающих сколиотической болезнью, могут наблюдаться признаки выраженного нервно-психического напряжения, переживания страха и беспомощности, поведенческие девиации. В связи с этим важным представляется изучение факторов защиты, внешних адаптационных ресурсов, имеющих решающее значение для совладания с психологическими трудностями в подростковом возрасте. В качестве такого ресурса рассматривается родительское (материнское) отношение, включающее эмоциональную поддержку.

**Материал и методы исследования.** В исследовании приняли участие 60 человек: из них 30 человек — матери пациентов детской ортопедической клиники с диагнозом «идиопатический сколиоз 3–4-й степени» и 30 чело-

век — матери подростков без нарушений опорно-двигательного аппарата. Применяли методику диагностики родительского отношения А.Я. Варги и В.В. Столина, опросник качества жизни SF-36, самооценочную методику для определения уровня ситуативной и личностной тревожности Ч.Д. Спилберга (адаптация Ю.Л. Ханина). Вычисляли средние статистические данные, достоверность различий определяли по критерию Стьюдента, проводили корреляционный анализ с вычислением коэффициента Спирмена.

**Результаты исследования.** Родительское отношение здоровых подростков и подростков с идиопатическим сколиозом характеризуется преобладанием положительных чувств, стремлением пропорционально трудности жизненной ситуации, в которой оказался ребенок, оказывать ему эмоциональную поддержку. Позитивное отношение матери к своему ребенку, находящемуся на лечении в хирургической клинике для коррекции тяжелой деформации позвоночника, может быть искажено ее собственными тревожно-депрессивными переживаниями, что может отрицательно сказаться на способности матери к проявлению эмоциональной поддержки в трудной для ребенка ситуации. Важным компонентом в системе психологической помощи подросткам с идиопатическим сколиозом выступает профессиональная психологическая поддержка, ориентированная на гармонизацию детско-родительских отношений.

**Ключевые слова:** идиопатический сколиоз; родительское отношение; психическое здоровье; дети.

## Introduction

In the field of psychology, the problems of mental disadaptation in children and adolescents facing a difficult life situation due to a severe disabling disease are conventionally assessed through the presence of risk factors [1–6]. However, this approach does not meet all the requirements because one of the important aspects, the protection factors, the adaptation resources of the child or adolescent, is not considered [7–12]. Domestic and foreign authors note that compared to adults, children and adolescents are more dependent on the resources of other people as well as have a higher need of an external resource [7, 9–12]. The researchers denote that the external resources critical to cope with psychological difficulties in childhood and adolescence are family support, reliable affection, parental acceptance, understanding, love, control, and harmonious styles of family education [7, 9–11, 13, 14]. In addition, the adaptation resource is treated as a complex phenomenon manifested only in a difficult life situation, such as that arising due to a severe illness [7–9, 12, 15, 16]. Idiopathic scoliosis (scoliotic disease) is a severe spinal deformity with unclear etiology that disfigures the patient's body and impairs the functions of the internal organs. The initial symptoms of idiopathic scoliosis are generally observed in children of primary school age (6–8 years). Spinal deformity progresses for several years and by adolescence it may reach a stage of surgical pathology, turning a "practically healthy child" into a patient with a disabling disease. The most commonly observed spinal deformities that disfigure the spine appear

in girls at the age of 11–13 years and in boys at the age of 12–14 years. In cases of scoliotic disease, visible changes in the appearance (curvature of the rib cage and pelvic bones) are combined with internal symptoms of severe pathology due to the deformity of internal organs as well as dysfunction of the respiratory, cardiovascular, and other somatic systems of the body. In this regard, adolescents with idiopathic scoliosis have reduced functional capacity, impaired well-being and activity, and motor limitations [1–5, 17, 18]. They develop fatigability, impaired attention, and headaches, resulting in poorer academic performance, negatively influencing their opportunities for peer interaction and distorting the trajectory of personal development [1, 2, 4, 5]. Similar to other severely disabling diseases, idiopathic scoliosis creates a special life situation for the adolescents, which is filled with events and circumstances not observed in the lives of their healthy peers [1–3]. Patients with idiopathic scoliosis are often forced to undergo rehabilitation in health resorts and children's clinics, wear corsets that limit their movement, and in cases of severe spinal deformity, to undergo complex surgical treatment [4, 5, 17, 18]. These events act as chronic, repetitive, or long-term stressors and are perceived by the patient as a threat to a normal life in the future. Under these conditions, adolescents with scoliotic disease may exhibit signs of marked neuropsychic stress, fear, helplessness, and behavioral deviations [1–5]. The etiological factors of idiopathic scoliosis remain unclear [17, 18]. Complex recovery treatment is focused on eliminating the disease consequences than on the

causes. This fact can be an additional stressor and make the adolescents fearful of the future. This raises the need of psychological assistance for adolescents with idiopathic scoliosis, and the participation of a psychologist in cases requiring restorative surgical treatment is especially important. In such cases, specific psychological measures require a scientific justification and consider the risk factors of maladaptive disorders and the adaptive resources of the affected adolescents.

The most important source of external adaptation resources for an affected adolescent is their mother [9, 12–14]. In the children's surgical clinic, she becomes a full participant of the treatment process in the poly-professional team of specialists. The mother participates in the care of her child during the stages of medical rehabilitation, simultaneously providing emotional support to the child. Emotional support is one of the most important components of parental attitude and one of the mechanisms necessary for a corrective emotional experience [6, 14]. For an adolescent with idiopathic scoliosis, this includes complete acceptance by family members, recognition of personal significance regardless of appearance, irrespective of whether they are healthy or unhealthy [19]. Emotional support, as a component of an adequate parental attitude, is highly significant for unwell children. The feeling of safety and hope for a favorable outcome of therapeutic measures that arises owing to emotional support creates the prerequisites for overcoming anxiety and fear in a situation involving complex painful treatment. Thus, an adequate parental attitude, including emotional support as an external adaptation resource, can be crucial for overcoming negative psychological factors. Further, unresolved psychological problems of the mother of an adolescent with idiopathic scoliosis, low satisfaction with various aspects of her own life, and a high anxiety level may manifest in a disharmonious parental relation, depriving the child of the required amount of emotional support during treatment.

It is noteworthy that the resource problem in adolescents with idiopathic scoliosis remains largely unexplored. Thus, it is important to study the characteristics of the mother's attitude toward her child who is experiencing a severe form of idiopathic scoliosis and study the parameters that reflect the mother's subjective satisfaction with

various aspects of her own life in the context of her attitude toward her unwell child.

**Aim.** The study aimed to investigate mothers' attitude toward their adolescent children with idiopathic scoliosis during the stage of surgical pathology as well as to study the self-evaluation characteristics of health and psychosocial status of mothers in relation to their attitude toward the unhealthy child.

## Material and methods

Total 60 volunteers participated in this study after being provided complete information regarding the study; 30 of them were mothers of patients in the pediatric orthopedic clinic, whereas 30 were mothers of adolescents without disorders of the musculoskeletal system. All patients in the clinic with a diagnosis of idiopathic scoliosis experienced severe spinal deformities of degree 3–4, classified as surgical pathology by the orthopedists. The age range of the adolescents in the study group was 13–17 years. Mothers accompanied their children to the hospital during the various treatment stages. The average age of the mothers of the unhealthy children was 42.5 years, whereas that of the mothers of healthy children was 40.5 years. Mothers who participated in the study were considerably educated (higher and secondary education); 83.3% of those in the treatment group (mothers of unwell adolescents) and 90% of those in the control group (mothers of healthy adolescents) were working professionals. Further, 83.3% of those in the treatment group were married, and 16.7% were single or divorced. In the control group, 90% of the mothers raised children in a full family, whereas 10% were single or divorced. Moreover, 76.7% of the treatment group mothers and 63.3% of control group mothers had two or more children.

Parental attitudes and self-evaluation characteristics of the health and psychosocial status of the mothers of the adolescents were studied using standard methods. To investigate the parental attitudes, the A.Y. Varga and V.V. Stolin method of diagnosing parental relations was used. To study the self-assessments of the physical, mental, and social status of the mothers, the SF-36 quality of life questionnaire that aimed to reveal the degree of satisfaction with physical health, mental state, and level of physical and social functioning was

used along with a C.D. Spielberg self-evaluation technique for determining the level of situational and personal anxiety (adaptation of Y.L. Khanin). The averages were calculated, Student's test was used for determining the reliability of the differences, and correlation analyses were performed with the calculation of the Spearman coefficient.

## Results

A comparison of the characteristics of the maternal attitudes as per the severity of scoliosis with the regulatory parameters showed high values of the characteristics of various options of parental relations, suggesting an effective implementation of emotional support to the child (Table 1). On the "acceptance-rejection" scale, 23 of the 30 mothers achieved high scores (24–31 points), whereas the others achieved medium to high scores (13–23 points). The results indicate that mothers of adolescents with severe scoliosis unconditionally accept their children, respect their interests, and recognize their behavioral and emotional characteristics. Moreover, emotional support is an integral component of parental attitude in such a situation of complex rehabilitation treatment in a hospital. Comparative analysis on the scale of "acceptance-rejection" did not reveal significant differences between the two groups of mothers. The present results demonstrate that a positive attitude toward the child, manifested as respect and the intention to provide emotional support to the child during a difficult situation was prevalent among the mothers in this study. Total 11 of the mothers of unhealthy children scored high (7–8 points) on the scale of "cooperation," while the others achieved medium to high scores. A comparative analysis of

the mean group scores on the "cooperation" scale revealed significant differences between the two groups of mothers (see Table 1). The results also showed that the parents of unhealthy children were more often involved in the children's affairs than the mothers of the healthy adolescents. This may be attributable to the fact that unhealthy adolescents need more help from their mothers, both in everyday life and during treatment. On the "symbiosis" scale, symbiotic relationships were detected in 10 mothers of unhealthy children. Further, in 2 child-parent dyads, the parental relation was characterized by a tendency to establish a significant psychological distance from the child. In general, most mothers in the treatment and control groups tended to establish the optimal psychological distance from their children. On the "control" scale, 20 of the 30 mothers in the treatment group achieved average scores (3–5 points), indicating optimal adult control over the child's behavior. Moreover, authoritarian educational behavior toward the child prevailed in 5 mothers, and 5 mothers were not inclined to impose disciplinary restrictions on their child. On the scale of "attitude to the failures of the child," most of the mothers in the treatment group achieved low scores (25 of the 30 mothers received scores <2 points). These results indicate a positive parental attitude in terms of the ability to provide emotional support to the child during a difficult situation. Thus, the parental attitude of mothers of children with scoliotic disease and those of the mothers of healthy children did not significantly differ and was predominantly characterized by positive feelings, respect for the child, and a desire to provide the required emotional support to the child during a difficult life situation. The exception was the more pronounced desire of the mothers of adolescents

Table 1

Comparison of the parental attitude of mothers raising adolescents with severe deformities of the spine and those raising healthy adolescents

Parameter	Treatment group ( $M \pm S$ )	Control group ( $M \pm S$ )	<i>p</i>
Acceptance-rejection of the child	27.56 ± 5.41	29.14 ± 4.60	
Cooperation	6.09 ± 0.95	5.31 ± 1.37	< 0.01
Symbiosis	4.61 ± 1.72	4.13 ± 1.17	
Control	3.97 ± 1.77	3.63 ± 2.02	
Attitude to the failures of the child	1.78 ± 1.07	1.37 ± 0.76	

Note: *M* is the arithmetic mean; *S* is the mean square deviation; *p* is the level of significance of differences.

with scoliosis to participate in the affairs of their children. This aspect of maternal attitude was probably attributable to the limited functionality of adolescents with scoliosis and the need for greater involvement of relatives in the everyday life and therapeutic activities of the unhealthy children.

The disease creates a difficult life situation not only for the unhealthy adolescent but also for their family. Different characteristics of the mother's attitude toward her child can be mediated by the satisfaction with her family relationships; her own health and professional status; and the anxiety caused by severe manifestations of the child's illness and the prospect of complex therapeutic effects. Thus, we conducted a comparative study of the indicators of self-assessment of the physical, mental, and social status (quality of life) as well as the self-evaluated indicators of the anxiety experienced by the mothers of children with idiopathic scoliosis and the mothers of healthy adolescents (Table 2).

Comparative analyses of the indicators of self-assessment of physical, mental, and social status revealed a significant decrease in the indicators on the scales of "role functioning due to physical condition" and "mental health" in mothers of adolescents with severe spinal deformity than in those of healthy adolescents. The results demonstrate that mothers of unhealthy adolescents were with their children during inpatient treatment; thus, they were less satisfied with their physical condition than the mothers of healthy adolescents. Subjectively,

the treatment group mothers experienced physical discomfort, weakness, and fatigue that significantly limited their activities of daily living. In mothers of adolescents with severe spinal deformity, unlike in mothers of healthy children, there was a tendency of reduction of the self-esteem indicators of mental health manifested as dysthymia, anxiety, and depression.

Comparison of the self-assessment indicators of situational and personal anxiety of the treatment and control groups demonstrated that the mothers of unhealthy adolescents had significantly higher levels of anxiety than those of healthy adolescents (Table 3). The results showed that mothers who raised children with severe spinal deformity tended to assess themselves as emotionally tense and were characterized with worryment, anxiety, and nervousness. They are predisposed to perceive the treatment situation of their child as threatening. Such experiences in the mothers of unhealthy children tend to extend to other life events. To determine the mutual influences of the self-evaluation characteristics of health, psychosocial status, and parameters of the parental attitude of mothers raising adolescents with idiopathic scoliosis, a correlation analysis was performed. This analysis showed that the indicator of the parental acceptance-rejection relationship was directly correlated to the self-assessment of the level of physical functioning associated with health ( $r = 0.348$ ;  $p < 0.05$ ). Negative correlation was also

Table 2

Comparison of the quality of life indicators of mothers raising adolescents with severe spinal deformities and mothers raising healthy adolescents (according to the SF-36 method)

Scale name	Treatment group ( $M \pm S$ )	Control group ( $M \pm S$ )	<i>p</i>
General health condition	55.87 ± 18.62	63.58 ± 17.75	
Physical functioning	76.66 ± 19.44	84.32 ± 17.61	
Role functioning due to physical condition	56.64 ± 38.25	75.82 ± 30.44	< 0.05
Role functioning due to emotional state	52.38 ± 42.59	71.31 ± 34.51	
Social functioning	67.10 ± 26.71	73.66 ± 24.42	
Intensity of pain	71.51 ± 22.62	69.01 ± 26.08	
Vitality	52.16 ± 17.24	56.82 ± 18.23	
Mental health	45.61 ± 18.74	64.94 ± 14.94	< 0.01

Note: *M* is the arithmetic mean; *S* is the mean square deviation; *p* is the level of significance of differences.

Table 3

Comparison of the reactive and personal anxiety in mothers of adolescents with severe spinal deformities and mothers of healthy adolescents (according to the method "Self-Assessment Scale of the Level of Reactive and Personal Anxiety" by C.D. Spielberg, Y.L. Khanin)

Scale name	Treatment group ( $M \pm S$ )	Control group ( $M \pm S$ )	$p$
Reactive anxiety	48.03 $\pm$ 9.52	39.10 $\pm$ 7.78	< 0.01
Personal anxiety	48.30 $\pm$ 8.60	43.17 $\pm$ 6.40	< 0.01

Note:  $M$  is the arithmetic mean;  $S$  is the mean square deviation;  $p$  is the level of significance of differences.

established between the index of pain intensity and the indicator of cooperative parental attitude ( $r = -0.338$ ;  $p < 0.05$ ) as well as between the index of personal anxiety and the parameter of the maternal acceptance–rejection attitude ( $r = -0.453$ ;  $p < 0.05$ ). These results show that the positive attitude of the mother toward her child during treatment in a surgical clinic may change under the influence of her own anxiety, depression, and subjective feeling of physical ailment and fatigue. In this case, the mother's ability to interact with the child and to provide emotional support, benevolence, and understanding may be limited. In such cases, professional psychological assistance is required. In Russian psychology, psychological assistance in childhood and adolescence is considered as a specific systemic version of the psychological intervention that includes various components [6]. In this case, the most significant components in this system included psychological counseling, correction, and follow-up. Psychological support is a through component in the psychological care system. In this case, this type of psychological care can target both patients of the children's surgical clinic and their parents. The purpose of this type of psychological intervention can be to reduce the subjective experiences of anxiety, fatigue, and physical discomfort in the parents of adolescents with idiopathic scoliosis as well as to harmonize child–parent relations, thus increasing the effectiveness of emotional parental support for an unhealthy child in a difficult life situation.

## Conclusions

1. The characteristics of the parental attitude of mothers of children with scoliotic disease and the parameters of the parental attitude of mothers of healthy children do not significantly differ and are characterized by the predominance

of positive feelings and the desire to provide the required emotional support to the child during a difficult situation.

2. Mothers of children with severe spinal deformity are different from those of healthy children because they have poorer indicators of satisfaction with physical and mental health and opportunities for social functioning. They are characterized by a constant sense of physical ailment, fatigue, and anxiety; they tend to perceive their child's treatment situation as threatening.
3. A mother's positive attitude toward her child during treatment in a surgical clinic for the correction the severe spinal deformity may be influenced by her own anxiety and depression as well as feelings of physical ailment and fatigue, which can reduce her ability to provide the required emotional support to the child during a difficult situation.
4. An important component in the system of psychological care for adolescents with idiopathic scoliosis can be the provision of professional psychological support that focuses on harmonizing child–parent relations and on increasing the effectiveness of emotional parental support as a resource for overcoming the psychological consequences of the disease.

**Contribution of authors:** G.V. Pyatakova — performing the research, the analysis of the research results, writing the text; S.V. Vissarionov — clinical examination of patients suffering from idiopathic scoliosis; E.I. Lebedeva — edit the text.

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## References

1. Крайнюков С.В. Картина мира подростков с заболеваниями опорно-двигательного аппарата: дис. ... канд. психол. наук. – СПб., 2015. [Krainyukov SV. Kartina mira podrostkov s zabolevaniyami oporno-dvigatel'nogo apparata. [dissertation] Saint Petersburg; 2015. (In Russ.)]
2. Похилько С.А. Психологические характеристики подростков с патологиями позвоночника: дис. ... канд. психол. наук. – СПб., 2010. [Pokhil'ko SA. Psikhologicheskie kharakteristiki podrostkov s patologiyami pozvonochnika. [dissertation] Saint Petersburg; 2010. (In Russ.)]
3. Пятакова Г.В., Виссаронов С.В. Психологические аспекты идиопатического сколиоза: специфика детско-родительских отношений // Ортопедия, травматология и восстановительная хирургия детского возраста. – 2016. – Т. 4. – Вып. 4. – С. 56–63. [Pyatakova GV, Vissarionov SV. Psikhologicheskie aspekty idiopaticheskogo skolioza: spetsifika detsko-roditel'skikh otnoshenii. *Ortopediya, travmatologiya i vosstanovitel'naya khirurgiya detskogo vozrasta*. 2016;4(4):56-63. (In Russ.)]. doi: 10.17816/PTORS4456-63.
4. Rullander A-C, Lundström M, Lindkvist M, et al. Stress Symptoms among Adolescents before and after Scoliosis Surgery: Correlations with Postoperative Pain. *Journal of Clinical Nursing*. 2016;25(7-8):1086-1094. doi: 10.1111/jocn.13137.
5. Jing Han, Qintong Xu, Yi Yang, et al. Intractable&Rare Evaluation of quality of life and risk factors affecting quality of life in adokescente idiopathic scoliosis. *Disease Research*. 2015;4(1):12-16. doi: 10.5582/irdr.2014.01032.
6. Мамайчук И.И. Психологическая помощь детям и подросткам с соматическими заболеваниями // Педиатр. – 2014. – Т. 1. – С. 107–118. [Mamaichuk II. Psikhologicheskaya pomoshch' detyam i podrostkam s somaticheskimi zabolevaniyami. *Pediatr*. 2014;1:107-118. (In Russ.)]
7. Ткаченко И.В. Личностно развивающий ресурс семьи: онтология и феноменология: дис. ... д-ра психол. наук. – Сочи, 2009. [Tkachenko IV. Lichnostno razvivayushchiy resurs sem'i: ontologiya i fenomenologiya. [dissertation] Sochi; 2009. (In Russ.)]
8. Хазова С.А. Ментальные ресурсы субъекта в разные возрастные периоды: дис. ... канд. психол. наук. – Кострома, 2014. – 55 с. [Khazova SA. Mental'nye resursy sub'yekta v raznye vozzrastnye periody. [dissertation] Kostroma; 2014. 55 p. (In Russ.)]
9. Peterson L. Coping by Children Undergoing Stressful Medical Procedures: Some Conceptual, Methodological, and Therapeutic Issues. *Journal of Consulting and Clinical Psychology*. 1989;57(3):380-387. doi: 10.1037//0022-006x.57.3.380.
10. Калинина Н.В., Калинин И.В. Социальная адаптация школьников в инклюзивной школе: ресурсы и возможности // Общество: социология, психология, педагогика. – 2016. – № 5. – С. 34–36. [Kalini-na NV, Kalinin IV. Sotsial'naya adaptatsiya shkol'nikov v inklyuzivnoi shkole: resursy i vozmozhnosti. In: *Obshchestvo: sotsiologiya, psikhologiya, pedagogika*. 2016;(5):34-36. (In Russ.)]
11. Королева Ю.А., Матасов Ю.Т. Личностные ресурсы социально-психологической компетентности подростков с отклонениями в развитии // Вестник Костромского государственного университета. – Серия: «Педагогика. Психология. Социокинетика». – 2016. – Т. 22. – № 4. – С. 301–306. [Koroleva YuA, Matasov YuT. Lichnostnye resursy sotsial'no-psikhologicheskoi kompetentnosti podrostkov s otkloneniyami v razvitii. *Vestnik Kostromskogo gosudarstvennogo universiteta*. Seriya: Pedagogika. Psikhologiya. Sotsiokinetika. 2016;22(4):301-306. (In Russ.)]
12. Одинцова М.А. Жизнестойкость как ключевой ресурс преодоления виктимизации подростков при хронических заболеваниях // От истоков к современности — 130 лет организации психологического общества при Московском университете: сборник материалов юбилейной конференции. – 2015. – С. 48–50. [Odintsova MA. Zhiznestoykost' kak klyuchevoy resurs preodoleniya viktimizatsii podrostkov pri khronicheskikh zabolevaniyakh. In: *Ot istokov k sovremennosti – 130 let organizatsii psikhologicheskogo obshchestva pri Moskovskom universitete: sbornik materialov yubileynoy konferentsii*. (Conference proceedings) 2015. P. 48-50 (In Russ.)]
13. Боулби Д. Привязанность. – М.: Гардарики, 2003. – 477 с. [Boulbi D. Privyazannost'. Moscow: Gardariki; 2003. 477 p. (In Russ.)]
14. Варга А.Я. Структура и типы родительского отношения: дис. ... канд. психол. наук. – М., 1986. [Varga AY. Struktura i tipy roditel'skogo otnosheniya. [dissertation] Moscow; 1986. (In Russ.)]
15. Hobfoll SE. Social and Psychological resources and adaptation. *Review of general psychology*. 2002;6(4):307-324. doi: 10.1037//1089-2680.6.4.307.
16. Бодров В.А. Проблема преодоления стресса. Ч. 2. Процессы и ресурсы преодоления стресса // Психол. журн. – 2006. – Т. 27. – № 2. – С. 113–122. [Bodrov VA. Problema preodoleniya stressa. Part 2. Protessy i resursy preodoleniya stressa. *Psikhhol. zhurn*. 2006;27(2):113-122. (In Russ.)]
17. Балдова С.Н. Клинико-нейрофизиологическая характеристика идиопатического сколиоза у детей: дис. ... канд. мед. наук. – Нижний Новгород, 2009. [Baldova SN. Kliniko-neirofiziolgicheskaya kharakteristika idiopaticheskogo skolioza u detei. [dissertation]. Nizhnii Novgorod; 2009. (In Russ.)]
18. Дудин М.Г., Михайловский М.В., Садовой М.А., и др. Идиопатический сколиоз: кто виноват и что делать? // Хирургия позвоночника. – 2014. – № 2. – С. 8–20; 38–43. [Dudin MG, Mikhaylovskiy MV, Sadovoy MA, et al. Idiopathic scoliosis: who is to blame and what to do? *Journal Hirurgia Pozvonochnika*. 2014;(2):8-20. (In Russ.)]. doi: 10.14531/ss2014.2.8-20.

19. Пятакова Г.В., Виссарионов С.В. Исследование качества жизни подростков с тяжелыми деформациями позвоночника // Хирургия позвоночника. – 2009. – № 4. – С. 38–43. [Pyatakova GV, Vissarionov SV. Assessment of Life Quality in Adolescents with Severe Spinal Deformities. *Journal Hirurgia Pozvonochnika*. 2009;(4):38-43. (In Russ.)]. doi: 10.14531/ss2009.4.38-43.

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