

## Change in the Motivation to Receive Treatment by Overweight Adolescent Girls in the Course of Counseling

Anastasia Votineva<sup>1\*</sup>; Zhanna Prokhorova, PhD<sup>1</sup>; Vladimir Polyakov, PhD, ScD<sup>1</sup>;  
Lyubov Rychkova, Corresponding Member of the RAS<sup>1,2</sup>; Irina Yaroslavtseva, PhD, ScD<sup>2</sup>

<sup>1</sup>Scientific Center for Family Health and Human Reproduction Problems

<sup>2</sup>Irkutsk State University

Irkutsk, the Russian Federation

### Abstract

**The purpose** of this study was to reveal changes in the motivation to receive treatment by overweight adolescent girls in the course of counseling.

**Methods and Results:** The study included 2 groups of overweight girls with gynecological disorders aged between 14 years and 16 years. Group 1 comprised 20 girls admitted to a hospital for the first time; Group 2 consisted of 20 girls who had undergone treatment earlier (were admitted repeatedly). The motivational-personal sphere was studied using the following methods: (1) McClelland's method for testing social and psychological activity motivators; (2) S.R. Panteleev's research method of self-attitude; (3) EAT-26; (4) The body satisfaction method by Collins.

The results obtained showed that changing motivation to receive treatment is a complex process implying changes in motivational induction: Achievement Motive, Affiliation Motive, Help Motive, Development Motive, and Cognition Motive. It was also revealed that directly acting motives prevailed over those emerging due to awareness of the treatment's purpose.

**Conclusion:** A specially developed counseling process comprising diagnostic, informational, correctional and developmental aspects of working with adolescent girls individually and in groups contributed to changing motivation to receive treatment by overweight adolescent girls. (**International Journal of Biomedicine. 2020;10(4):448-452.**)

**Key Words:** overweight • adolescent girls • counseling • motivation • personal sphere

### Introduction

Various aspects of being overweight are studied because of the great medical and psychological significance, widespread prevalence, and continuous growth of the number of overweight people in all age groups, including adolescents.

<sup>(1)</sup> According to the WHO, 10%-15% of the child population in developed countries is overweight or obese. The results of sample studies in Russia showed a high prevalence of obesity among children over the past 20 years. The number of obese children aged 6-11 years has doubled (from 7% to 13%), and the number of obese adolescents aged 12-19 years

has increased almost 3 times (from 5 to 14%), which leads to impaired puberty in adolescents, especially in girls, and to impaired reproductive function in the future.<sup>(2)</sup>

In recent years, more studies have been conducted that demonstrate that the satiety signal triggers complex reactions of the hypothalamus-pituitary and limbic systems, some of which are associated with positive emotions.<sup>(3-6)</sup> An unfavorable emotional state, low self-esteem, the degree of functional defect caused by the disease and subjective perception, as well as the patient's personal reaction to the disease, affect the motives for treatment, expressed in the denial of excess weight and self-acceptance.<sup>(7-9)</sup>

Changes in the motivation to receive treatment by overweight adolescents and a higher effectiveness of adolescents' involvement in the treatment process are possible in the course of specially organized counseling.<sup>(10-14)</sup> The urgency of the problem of changing the treatment motives in overweight adolescents, on the one hand, and its

\*Corresponding author: Anastasia Votineva, Junior Research Officer; Laboratory of Neuropsychosomatic Children's Pathology, Scientific Centre for Family Health and Human Reproduction Problems, Irkutsk, the Russian Federation. E-mail: [adomashenkina@mail.ru](mailto:adomashenkina@mail.ru)

underdevelopment, on the other hand, determined the purpose of the study.

The purpose of this study was to reveal changes in the motivation to receive treatment by overweight adolescent girls in the course of counseling.

## Materials and Methods

The study included 2 groups of overweight girls with gynecological disorders (primary oligomenorrhea, secondary oligomenorrhea, hypothalamic dysfunction (menstrual irregularities) aged between 14 years and 16 years. Group 1 comprised 20 girls admitted to a hospital for the first time; Group 2 consisted of 20 girls who had undergone treatment earlier (were admitted repeatedly). The data obtained as a result of the adolescents' examinations at the Scientific Center for Family Health and Human Reproduction Problems was collected in the form of a questionnaire survey, accompanied by studying the background, and general clinical and psychological study findings.

The motivational-personal sphere was studied using the following methods: (1) McClelland's method for testing social and psychological activity motivators; (2) S.R. Panteleev's research method of self-attitude; (3) EAT-26; (4) The body satisfaction method by Collins.

The study was approved by the Ethics Committee of the Scientific Center for Family Health and Human Reproduction Problems. Written informed consent was obtained from each research participant (or the participant's parent/guardian).

Statistical analysis was performed using the statistical software package SPSS version 21.0 (IBM Corp., Armonk, N.Y., USA). Baseline characteristics were summarized as frequencies and percentages for categorical variables and as mean±SD for continuous variables. The Wilcoxon criterion was used to compare the differences between the paired samples. A value of  $P<0.05$  was considered significant.

## Results and Discussion

Study of changing the motivation to receive treatment by overweight adolescents in the course of counseling comprised 6 stages (incoming diagnostics was performed at the second counseling stage, intermediate diagnostics was performed at the fourth counseling stage, and the final diagnostics was performed at the sixth counseling stage).<sup>(15)</sup>

The first stage of this six-stage program was acquaintance, study of the state. The second stage was a two-dimensional definition of the problems associated with the motives to receive treatment. The third stage was identification of alternatives to the motives to receive treatment by overweight adolescents. The fourth stage was planning, development, and consolidation of behavioral strategies for developing treatment motivation. The fifth stage was development of motives by overweight adolescents outside the counseling process. The sixth stage was assessment and feedback.

Our study of changes in the motivational induction characteristics in the girls of Group 1 revealed the following: Achievement Motive, the most pronounced motivation,

was found in 5.67% of cases, Influence Motive in 1.27%, Aggression Motive in 1.13%, and less pronounced Spiritual Motive in <1.0% (Fig.1).

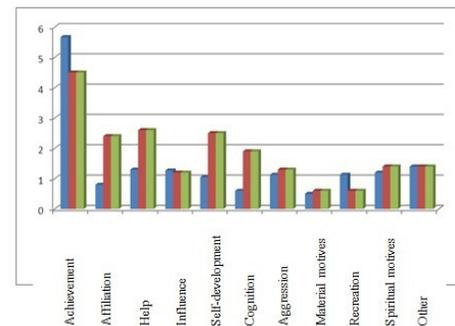


Fig.1. Changes in motivational induction characteristics in the girls of Group 1.

■ - Incoming diagnostics; ■ - Intermediate diagnostics; ■ - Final diagnostics

Obtained intermediate diagnostics results: Using a variety of techniques aimed at reducing motivation, a decrease in Achievement Motive was registered with a simultaneous increase in Affiliation Motive ( $P<0.05$ ), Help Motive ( $P<0.05$ ) and Self-Development Motive ( $P<0.05$ ). The patients became more focused on pro-social motives. They were encouraged to take part in the treatment by procedural-meaningful motives when they were satisfied with the process and content of the exercises, and not by factors that are not related to therapeutic activity.

The final diagnostics results produced the following data: No significant changes were recorded in the motivation system. The results of Nuttin's test and McClelland's method showed no significant changes. The obtained results showed that, in general, the motives of adolescents stabilized at the second stage of the study and further self-perception changes occurred.

Thus, significant strengthening in the following motivational induction characteristics was observed: Achievement Motive, Affiliation Motive, Help Motive, Development Motive, and Cognition Motive.

The study of changes in the motivational induction characteristics in overweight adolescent girls of Group 2 revealed the following: Achievement Motive, the most pronounced motivation, was found in 5.67% of cases, Influence Motive in 1.27%, Aggression Motive in 1.13%, and less pronounced Spiritual Motive in <1.0%. Achievement Motive is the adolescent's persistent need to be successful in various activities. During the initial diagnosis, low motivation and lack of interest in the treatment process were found (Fig.2).

Obtained intermediate diagnostics results showed no significant differences in the level of motivation in the adolescents of Groups 1 and 2. We registered decreased achievement motivation with simultaneous growth of the affiliation motives using various techniques aimed at strengthening motivation.

The final diagnostics showed the following results. Subjects' motivation stabilized at the second counseling stage

and further self-perception changes occurred. The adolescents became more focused on the treatment and started to take part in psychological exercises.

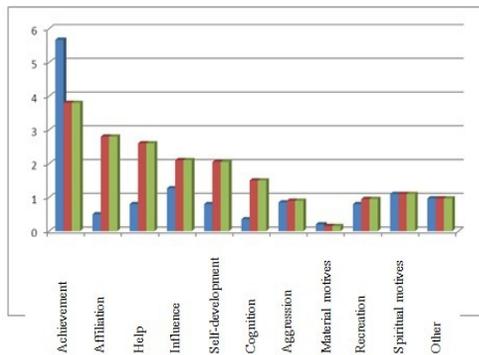


Fig.2. Changes in motivational induction characteristics in the girls of Group 2.

■ - Incoming diagnostics; ■ - Intermediate diagnostics; ■ - Final diagnostics

Thus, significant strengthening in the following motivational induction characteristics was observed: Achievement Motive, Affiliation Motive, Help Motive, Development Motive, and Cognition Motive.

The changes were connected with self-attitude and self-esteem in the adolescent girls of both groups. The results of changes in self-attitude among the overweight adolescent girls of Group 1 are presented in Figure 3.

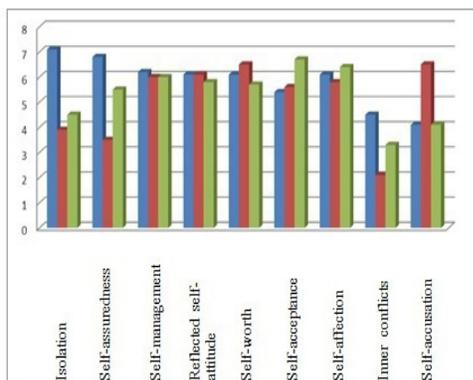


Fig.3. Changes in self-attitude in the girls of Group 1.

■ - Incoming diagnostics; ■ - Intermediate diagnostics; ■ - Final diagnostics

As a result of the application of S.R. Pantelev’s research method of self-attitude, the following data was obtained. First of all, overweight adolescents showed a high self-confidence, self-worth, self-acceptance and self-accusation. The data shows that overweight adolescents have a generally positive self-attitude; they demonstrate no aggression and accept themselves. However, they are relatively self-contained, according to the primary diagnostics results.

The intermediate diagnostics results showed a considerable shift in the “Isolation” ( $P<0.01$ ) and “Self-accusation” ( $P<0.01$ ) indicators in all adolescents. During the counseling, the patients became more open, but self-criticism expressed in self-accusation also increased. The “Self-acceptance” indicator also decreased, though not so much ( $P<0.05$ ). It was revealed that in the course of counseling, the overweight adolescent girls became more self-critical and accepted themselves to a lesser degree. With self-attitude development, the adolescents’ focus of attention shifted from the outer side of the personality to its inner side, from more or less random traits to the personality as a whole. This shift is connected with realizing their drawbacks, of both inner and outer nature. On the other hand, without changing self-attitude no somatic changes are likely to occur.

The final diagnostics showed primarily stabilization in subjects’ self-esteem in the course of counseling. The “Self-accusation” indicator considerably decreased ( $P<0.01$ ), and the “Self-acceptance” indicator, on the contrary, increased ( $P<0.01$ ). The data shows that the adolescents have developed a more positive perception of themselves and their bodies.

Changes in self-attitude and self-esteem of the girls of Group 2 is presented in Fig. 4.

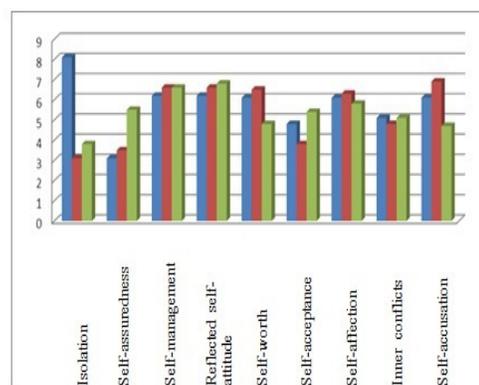


Fig.4. Changes in self-attitude in the girls of Group 2.

■ - Incoming diagnostics; ■ - Intermediate diagnostics; ■ - Final diagnostics

The primary diagnostics results showed practically no difference between the girls of both groups, according to Stolin-Pantelev’s test. The only difference observed was the difference in the “Self-accusation” indicator ( $P<0.05$ ). Thus, the girls of Group 2 showed a higher self-accusation level. The increased values show that the girls blamed themselves for their failure to lose weight and get well. They felt insecure, more isolated, and distrustful.

Intermediate diagnostics using S.R. Pantelev’s method of researching self-attitude showed various patterns for adolescents of Groups 1 and 2. In particular, it has turned out that the “Inner conflicts” indicator in the girls of Group 1 remained actually the same ( $P<0.05$ ). In fact, the girls of Group 2 undergoing treatment repeatedly seemed to have kept a bad

experience, which led to an inner conflict. Similar differences were observed for the “Self-acceptance” indicator ( $P < 0.05$ ). The girls of Group 2 were less prone to self-acceptance than the girls of Group 1. The dynamics is presumably connected with the feeling of successful treatment. The girls undergoing the treatment repeatedly felt less successful because of the bad experience they had in the past.<sup>(8,14,16,17)</sup>

The final diagnostics data shows that subjects’ self-esteem had stabilized. The “Self-accusation” indicator considerably decreased ( $P < 0.01$ ), and “Self-acceptance” increased ( $P < 0.01$ ).

Thus, significant strengthening of the following characteristics of personality self-attitude was observed: self-confidence, self-management, self-attitude, and self-acceptance. On the other hand, isolation, self-accusation and internal conflicts significantly decreased.

The obtained results allow us to correlate them with the studies of other scientists. Various aspects of obese adolescents were considered, such as types of eating behavior, the quality of life in general, complex treatment of adolescents with obesity, and psychological characteristics. There are studies of adolescent motivation, but we haven’t found a specific study of the motives of overweight adolescents to receive treatment. The urgency of the problem of changing the overweight adolescents motives to receive treatment, on the one hand, and its underdevelopment, on the other hand, determined the choice of the research topic.

## Conclusion

Changes in the motives of overweight adolescents to receive treatment consisted in 1) replacing the directly acting motives with motives arising from the awareness of the goal of the treatment process; 2) in changing the hierarchy of motives, so among the leading motives, the motives of treatment and health acquired significance; 3) in stabilizing the motives of treatment; and 4) in strengthening the success motive.

The overweight adolescents girls admitted to hospital for the first time, by contrast with the girls undergoing their treatment repeatedly, showed more pronounced positive changes in the treatment motives.

Based on the characteristics of motives in the adolescents of the 2 groups, we have assembled a psychological profile of overweight girls, which is characterized by the following:

-Motivation to receive treatment is characterized by decreasing Achievement Motive with simultaneous strengthening of Affiliation Motive, Help Motive, and Self-Development Motive. The adolescents became more focused on pro-social motives. No significant difference in the motivation level in the adolescents of Groups 1 and 2 was observed. Achievement Motive prevailed slightly in Group 1, but this difference was not statistically significant.

-The motivation to receive treatment and interest in the treatment appeared after several consultations; the adolescents became interested in the treatment process itself; they began to actively take part in all psychological exercises, and the treatment motivation appeared. The attending physician noted a positive attitude in the adolescents to treatment.

-In the sphere of body image and eating behavior, we found a significant shift in satisfaction with body image. However, it mainly manifested itself in the girls of Group 1. The girls undergoing treatment repeatedly showed less satisfaction with their changes. In the course of counseling, the adolescents showed significant changes in their assessment of their eating behavior. In particular, such indicators as “Striving for thinness,” “Bulimia,” “Inefficiency,” and “Mistrust in interpersonal relationships” decreased. Specially organized counseling contributed to positive dynamics in the development of eating behavior in overweight adolescents.

-In terms of personality traits, significant shifts were recorded for the “Isolation” and “Self-accusation” indicators in all adolescents. During the counseling, the adolescents became much more open to the psychologist, and at the same time, self-criticism expressed in self-accusation increased. The “Self-acceptance” indicator also decreased. After starting work, overweight adolescents became more self-critical and less self-accepting. This change was associated with their awareness of their internal and external imperfections. On the other hand, no somatic changes are likely to occur without changes in self-attitude.

Thus, a specially developed counseling process comprising diagnostic, informational, correctional and developmental aspects of working with adolescent girls individually and in groups contributed to changing motivation to receive treatment by overweight adolescent girls. Based on the results of the study, we plan to develop a comprehensive system of psychological rehabilitation aimed at developing motivations to receive treatment by overweight adolescent girls.

## Competing Interests

The authors declare that they have no competing interests.

## References

1. Zagoruiko MV, Bardymova TP, Rychkova LV. [Obesity in children and adolescents]. Siberian Medical Journal (Irkutsk); 2010;97(6):16-19. [Article in Russian].
2. Rychkova LV, Pogodina AV, Ayurova ZhG, Klimkina JuN. [Obesity and health-related quality of life in adolescents from ethnic groups of rural areas of Buryatia]. The Bulletin of the Siberian Medicine; 2018;17(3):105-114. [Article in Russian].
3. Darenskaya MA, Gavrilova OA, Rychkova LV, Kravtsova OV, Grebenkina LA, Osipova EV, Kolesnikov SI, Kolesnikova LI. The assessment of oxidative stress intensity in adolescents with obesity by the integral index. International Journal of Biomedicine; 2018;8(1):37-41. doi: 10.21103/Article8(1)\_OA5
4. Arina GA, Tkhostov ASH. Theoretical problems of studying the internal aspect of disease. Psychological diagnostics of attitude to disease in case of neuropsychic and somatic pathologies /Edited by M.M. Kabanova. L: Leningrad Publishing House at Bekhterev Psychoneurological Research Institute; 1990. [In Russian].
5. Isaeva LA. Children’s diseases. Textbook for medical

- students. Third Revised Edition. M., Meditsina; 2002. [In Russian].
6. Luriya RA. Internal picture of diseases and athrogenic diseases. 4th edition. M.: Meditsina; 1977:37-52. [In Russian].
  7. Bozhovich LI. Personality and its formation in childhood. SPb.; 2008. [In Russian].
  8. Shapiro SA. Motivation. M.: GrossMedia, ROSBUKH; 2008. [In Russian].
  9. Ryan RM, Deci EL. Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions. *Contemp Educ Psychol.* 2000 Jan;25(1):54-67. doi: 10.1006/ceps.1999.1020.
  10. Aseev VG. Behavior motivation and personality formation. M.;1976. [In Russian].
  11. Ilyin EP. Motivation and motives. SPb.: Piter; 2011. [In Russian].
  12. Kertis D. [Formulating the patient's problems and goals in short-term dynamic psychotherapy]. *The Journal of Practical Psychology and Psychoanalysis.* 2008;3. [Article in Russian].
  13. Rean AA. Psychology of personality. Socialization, behavior, communication. AST (Moscow), Prime-EUROZNAK (St. Petersburg); 2007. [In Russian].
  14. Heckhausen H. The anatome of achievement motivation. SPb; 2001. [In Russian].
  15. Kochunas R. Fundamentals of Counseling. M.; 1999. [http://www.psichology.vuzlib.org/book\\_o438\\_page\\_1.html](http://www.psichology.vuzlib.org/book_o438_page_1.html) [In Russian].
  16. Pintrich PR. An Achievement Goal Theory Perspective on Issues in Motivation Terminology, Theory, and Research. *Contemp Educ Psychol.* 2000 Jan;25(1):92-104. doi: 10.1006/ceps.1999.1017.
  17. Deci EL, Ryan RM. Handbook of self-determination research. University Rochester Press; 2002.
-