

ORIGINAL ARTICLE

NEUROTIC CONDITIONS: PROBLEM, DIAGNOSIS, CORRECTION BY COGNITIVE-BEHAVIOR THERAPY

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ABSTRACT

The aim: To identify the relationship between neurotic states and hardiness as an indicator of mental health, to explore the possibility of using the cognitive-behavior therapy techniques to correct neurotic states in young people.

Materials and methods: The methods "Clinical questionnaire for the detection and evaluation of neurotic conditions" (K. Yakhin, D. Mendelevich) and "Hardiness Survey" (S. Muddi, adapted by D. Leontev, O. Rasskazova) were used for diagnosis. Wilcoxon test was used to determine changes in the manifestations of neurotic states in the conditions "before" and "after" the application of cognitive-behavior therapy techniques. Correlation analysis was used also to distinguish the relationship between neurotic states, hardiness and its components.

Results: It has been identified that various neurotic states are differently related to hardiness as an indicator of mental and social health. The level of anxiety and obsessive-phobic disorders has inverse negative relationship with general level of hardiness ($r = -0.31$ and $r = -0.34$), but the level of asthenia has a positive connection with this indicator ($r = 0.49$). The level of neurotic anxiety is inversely related with the level of personal involvement in life ($r = -0.27$). The effectiveness of CBT techniques (psycho-education, distancing, cognitive reassessment) for the correction of neurotic states, namely: anxiety ($p < 0.01$) and hysterical reaction type ($p < 0.01$) was proved.

Conclusions: Neurotic states are correlated with level of hardiness (an indicator of mental and social health) and personal involvement in life. The correction of neurotic states can be effectively carried out by means of CBT.

KEY WORDS: mental health, neurotic state, hardiness, correction, cognitive-behavior therapy, psychodiagnostics of neurotic states, cognitive and emotional shift

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INTRODUCTION

According to figures from WHO, for the last 65 years the number of people with neurotic disorders has increased in 24 times, particularly, the depression and anxiety have been the most common mental disorders. In 2015, their prevalence was 5.1% (44.3 million) and 4.3% (37.3 million). It was found that women have a 50% higher incidence of depression and anxiety disorder than men. These disorders are psychogenic and have the reversible nature. They manifest themselves as emotional instability, increased exhaustion, disorders of general well-being and various somato-vegetative functions. Even with high levels of neuroticism, people have saved the adequate self-vision and self-esteem. However, such conditions form neuroses that negatively affect a person's mental health [1-3].

Although these disorders are reversible, their impact on life can be quite significant, so their detection and correction is extremely important for reinforcement of mental health. According to the numerous researchers, one of the most effective means of correcting such conditions is cognitive-behavior therapy (CBT) [4-7].

THE AIM

The purpose of the study is to identify the connection between neurotic states and hardiness as an indicator of mental health, to explore the possibility of using cognitive-behavior therapy techniques to correct neurotic states in young people. We have hypothesized that CBT would be effective method in correcting neurotic conditions, especially those related with anxiety.

MATERIALS AND METHODS

Neurotic states were identified using the method "Clinical questionnaire for the detection and evaluation of neurotic states" (K. Yakhin, D. Mendelevich), which contains 6 scales: anxiety (occurs in a situation of uncertain danger and manifests itself in anticipation of negative developments); neurotic depression (mild form of depression, which is shown as sad mood, decreased activity, inhibition, fatigue); asthenia (neuropsychiatric weakness, manifested itself in increased fatigue and exhaustion, high sensitivity, extreme mood swings and difficulty sleeping); hysterical reaction type (the tendency to transform of emotional experience into

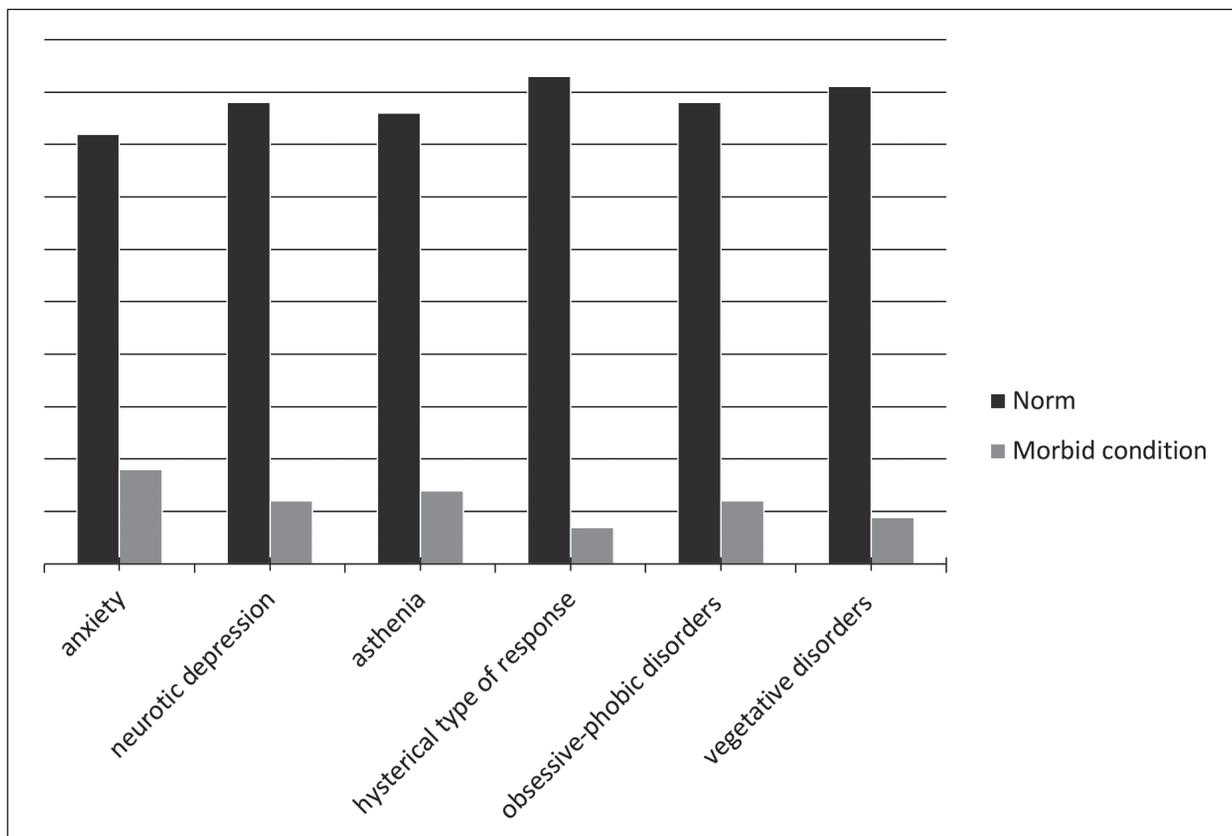


Fig. 1. Indicators of neurotic states according to the method “Clinical questionnaire for detection and evaluation of neurotic states” (K. Yakhin and D. Mendelevich)

somatic symptoms); obsessive-phobic disorder (manifested itself in pedantry, hypersusceptibility to habits and rituals, careful consideration of their steps); autonomic vegetative disorders (physiologic failure of internal organs).

To diagnosis the hardiness as one of the indicators of mental health was used test “Hardiness Survey» (S. Muddi, adapted by D. Leontev, O. Rasskazova). Researchers S. Muddi and D. Khoshaba interpreted hardiness as a personal trait that determines the level of mental health and consists in three life settings:

1) scale “Personal involvement in life” (“Commitment”) reflects the level of life activity, which resonates with the acceptance of own life style, life enjoyment and the lack of feeling “out” of life;

2) scale “Control over the life events” (“Control”) reflects in the fact that a person believes that it is he who influences the events of his life, even if this influence is relative, sometimes it is successful, and sometimes – not successful; in contrast to the fact that she feels helpless and unable to influence her life;

3) scale “Willingness to take risks” (“Challenge”) determines the personal relations to events, which has been happening with him. High readiness indicates that a person is open to the development of any events, and it does not matter what experience he (she) receives (positive or negative), the main thing is that the result will be taken into account next time. This position allows person to act with lack of reliable guarantees of success and achievement, at their own risk [9].

Wilcoxon test was used to determine changes in the manifestations of neurotic states in the conditions “before” and “after” the application of cognitive-behavior therapy techniques. This criterion does not require a normal distribution of the compared populations. It is used to assess the differences between two series of measurements made for the same set of subjects, but under different conditions or at different times. Pearson’s correlation analysis was used to find the connection between neurotic states and hardiness (as an indicator of person’s mental and social health).

The study was conducted online in a sample of adolescents (N = 100, age from 18 to 30 years). Among the study participants we have had 84% of women (84 persons) and 16% of men (16 persons). The main population is students 82% (82 persons) and 18% of subjects (18 persons) are employed people. 14% (14 persons) of subjects live in the village and 86% (86 persons) – in the city; 3% (3 persons) are married, 49% (49 persons) are not married and 48% (48 persons) are in a love relationship.

In this study we have investigated the possibilities of correction of neurotic states by CBT techniques, in particular: psycho-education, distancing, cognitive reassessment, etc.

RESULTS

We present the obtained results on six scales of the questionnaire K. Yakhin and D. Mendelevich in Fig. 1. We found that the majority of young people (82%) have had

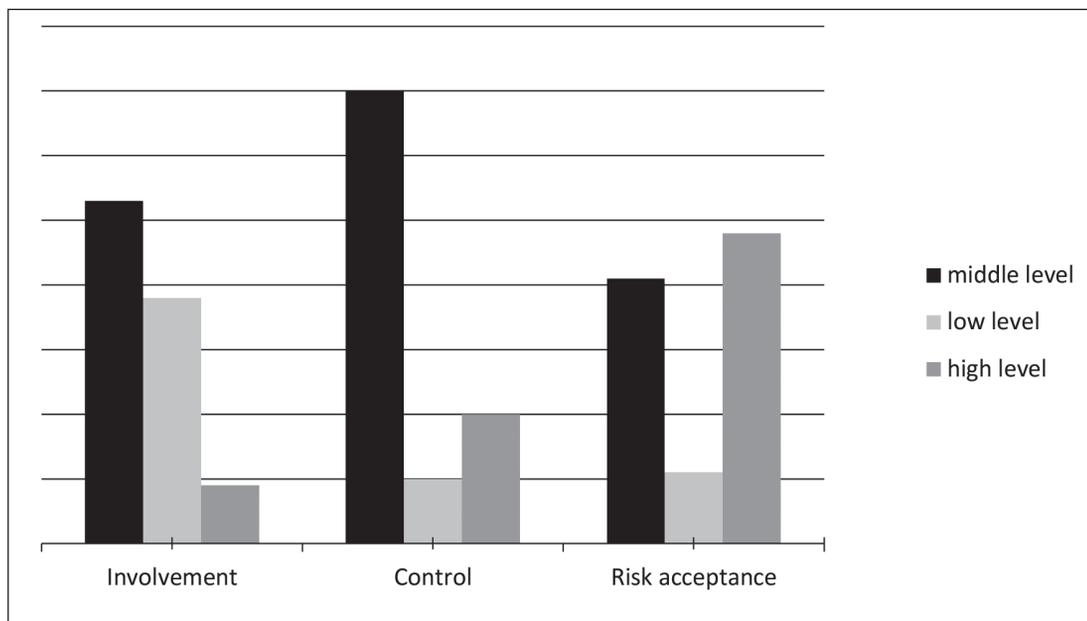


Fig. 2. The expression level of hardiness indicators, according to the test "Hardiness Survey" (S. Muddi, adapted by D. Leontev, O. Rasskazova)

anxiety at the level of health and only 18% of subjects have had anxiety at the level of illness. The most people who participated in the study have had the level of neurotic depression within normal limits (88%), but 12% of respondents have had a predisposition to this disease. 14% of subjects have had asthenia at the level of morbidity, and 86% of respondents have been in good health. The majority of young people have had a hysterical reaction type within health (93%) and only 7% of subjects have had it on the level of illness. Obsessive-phobic disorder has been characteristic of 12% of respondents, this disorders have not been detected in 88% of respondents. The high level of vegetative disorder has been diagnosed in 8.9% of young people, but the majority of respondents (91.1%) have been within normal limits.

Thus, we can conclude that the intensity of neurotic states of young people is low and their mental state is closer to the norms of mental health. It was found that the most widespread diseases in young age are anxiety (18%) and asthenia (14%).

In modern research, indicators of personal hardiness are considered by scientists as important indicators of mental and social health of personality [4, 8-10], which provide the ability to survive stressful situations, maintaining internal balance and withstanding a temporary relative decline in productivity. People with high level of hardiness can quickly restore personal resources, find additional resources and turn changes into opportunities for their further development.

The results of diagnosis the components of personal hardiness using the test "Hardiness Survey" (S. Muddi, adapted by D. Leontev, O. Rasskazova) are presented in Fig. 2. It was found that more than half of the subjects have had the middle expression level of involvement in life (53%); more than one third of them (38%) have had a low

level of this property and only 9% of subjects have had a high level of its expression.

Also it was identified that the most of study participants have had a middle expression level (70%) on the scale "Control". Accordingly 20% of subjects have had a high level of this property and 10% of respondents have demonstrated a low expression level of ability to control their emotions and drives.

It is noteworthy that the number of people with a high expression level of tendency to risk (48%) has predominated among young people, 41% of respondents have had a middle level and only 11% of study participants have demonstrated a low expression level of this property.

It is disturbing facts that one third of young people (38%) have had a low level of involvement in life, and therefore they caught feel themselves as "out" of life, not finding something interesting and valuable for them, not enjoying their own way of life. Perhaps these data are generated by two factors:

- young men and women, looking for ways to realize their potential and achieve meaningful goals, have faced certain real difficulties (unreasonable expectations, non-normality of their activity, corrupt structures, etc.), and these factors have caused their experiences of excluding of life, losing confidence in their ability to influence events;
- this study has been conducted in situation, when young people have faced with activity limitations due to a pandemic caused by the CoVid-19 virus.

At the same time, it was found that almost half of respondents (48%) have had a high level of risk acceptance. Therethrough, the most part of respondents have had a fairly good attitude towards functioning in complex or new situations. They have perceived them as challenges, which have opened different opportunities to gain a new experience). Then most of the respondents might use inap-

Table I. Connection between indicators of neurotic states and hardiness

Neurotic states	Indicators of hardiness	Pearson's correlation coefficient	The level of significance
Neurotic depression	Involvement in life	-0.27	p<0.01
Anxiety	Hardiness	-0.31	p<0.01
Asthenia	Hardiness	0.49	p<0.001
Obsessive-phobic disorder	Hardiness	-0.34	p<0.001

appropriate actions, overestimating the probability of success and underestimating the threatening factors. It is referred to an “unjustified risk”, which associated with neglect of security and certainty, unwillingness to case analysis and situation forecast (see Fig. 2).

According to the general indicator of hardiness, which takes into account the results of all three scales, we found that 25% of people have had a low level of this property, 49% of respondents have showed a middle of hardiness level and 26% of young people – a high level. Thus, the middle hardiness has been prevailing, but a quarter of subjects have been characterized by low and high levels of ability to withstand life's hardships and stressors.

The next task of our study is investigating the relationships between neurotic states and components of hardiness. The obtained results are presented in table I.

The rate of neurotic depression has an inverse significant connection with the factor of involvement in life ($r = -0.27$; $p < 0.01$). Thus, neurotic depression “removes” a person from life, reduces the personal ability to jump with two feet into life and take pleasure in doing that.

Anxiety and obsessive-phobic disorders have an inverse significant connection with the general indicator of hardiness: the more pronounced these conditions, the lower the overall personal ability to withstand life's problems and difficulties ($r = -0.31$; $p < 0.01$ and $r = -0.34$; $p < 0.001$). These facts mean that personal mental and social health would deteriorate and the individual's ability to successfully cope with stressful situations would decline too, if the anxiety and obsessive-phobic disorder became more intense. The opportunities of young people to maintain internal balance in situations of uncertainty, limitations, dangers, constant changes, as well as their ability to withstand temporary productivity slump rapidly either.

Our attention was drawn to the positive significant correlation between the level of asthenia and the general level of hardiness: the more pronounced asthenia, the more willingness to cope with difficulties ($r = 0.49$; $p < 0.001$). Thus, asthenia acts as a protective mechanism, which saves from excessive stress. It manifests itself as an unconscious response to the inability to realize desires and drive. At the same time, a person remains socially included, but does not have a vital resource for social activity. Due to the intensification of more resource-saving strategies of self-control and self-regulation, the personality continues to make some resistance to stressors, while maintaining their integrity.

Individuals with the highest level of neuroticism were invited to participate in the therapeutic community. Thus, an experimental group was created, which included 10

students: 8 girls and 2 boys (average age 19 years). A program of short-term personal psychotherapy was developed. The program included CBT techniques aimed at reduce anxiety, increase understanding of subjective nature of the events assessment and develop the skill to identify the sources of unpleasant emotions, etc. The duration of one meeting was 30-40 minutes; the number of meetings was 10. At each meeting, homework was provided.

Techniques psycho-education, distancing, cognitive reassessment were used. Psycho-education is a mandatory first step in CBT when psychologists deal with any disorder. The purpose of the technique is to explain to a client the sense of mental health, their problems and their consequences for life; provide specific information about certain neurotic state, such as anxiety, the action of negative automatic thoughts (NATs) and the means of overcoming these states. Psycho-education also involves the use of metaphors to help a person better understand their difficulties and their causes. Examples of metaphors: “Darkness in the future”, “Frightened eyes” and others.

The technique of distancing was represented by the exercises “Tram” and “Radio”, which have had the aim to switch attention from anxiety to something pleasant or useful for a person. The meaning of this technique is that a person imagines that he (she) is on the tram track and when he sees the approach of the tram, he takes a step forward. When the door opens, instead of passengers there are a lot of anxious thoughts. In this moment the idea about opportunity to make a personal choice switches on. The person asks themselves the question: “Do I want to get on the tram?”, “How will I feel if I get on?”. Realizing that the desire to be in this place is zero, the person takes a step back and in a minute sees another tram. In this case, when the door opens, there are the ideas and words about support and love, which are highly useful in difficult times of their life. The technique oriented to realize that person will not necessarily plunge into a state of anxiety; he (she) can switch their attention to something pleasant.

The technique of cognitive reassessment was presented by the exercise “Useful and Useless Experiences”, aimed at recognizing thoughts that trigger experiences and analyzing them. Such procedures help people stay in active position, use algorithms and plan to organize their practice, check out their experience through the comparing with reality and blocking the getting stuck in a state of anxiety. The purpose of the exercise is to teach person to separate real anxiety, relating with the real events, from fictional or exaggerated ones. The exercise is supplemented by an analysis of how useful these experiences are for human life.

Table II. Changes in the expression level of neurotic states after the use of CBT techniques

Nº	Questionnaire scale	Empirical value of Wilcoxon T-test	The level of significance (p)
1	Anxiety	0	p<0.01
2	Neurotic depression	11.0	-
3	Asthenia	13.5	-
4	Hysterical reaction type	2	p<0.01
5	Obsessive-phobic disorders	12.0	-
6	Vegetative disorders	12.5	-

At the end of the program, participants were re-diagnosed with a questionnaire by K. Yakhin and D. Mendelevich to determine the changes in the expression level of neurotic states. Wilcoxon T-test was used to distinguish the discrepancies in situation “before” and “after” participation in the therapy group. The obtained results are shown in table II.

The results show that significant changes occurred in two neurotic states: decreased level of anxiety ($T = 0$; $p < 0.01$) and hysterical reaction type ($T = 2$; $p < 0.01$). Since these CBT techniques were primarily aimed at correcting anxiety, it could be concluded that the hysterical reaction type has been also characterized by anxiety.

DISCUSSION

We have chosen a model of short-term personal psychotherapy in order to obtain constructive changes in participants' personal sphere, which have been achieved through the disclosure, analysis, awareness of problems and correction of inadequate attitudes, emotional and behavioral stereotypes. The basis for this program has been the principles and algorithms for psychotherapeutic treatment of anxiety disorders on the neurotic level, carried out by a group of scientists T. Karavaeva, A. Vasileva and S. Poltorak. According to their approach, the main changes are planned in three spheres (cognitive, emotional and behavioral). This is about changing the perception of one's own role in the onset, repetition and development of conflict situations as the basis of new constructive behavior; a more favorable self-attitudes formation, which becomes a functional condition for reacting emotions and deactivating anxious experiences; the new forms of behavior construction for optimal adaptation, better functioning in society and prevention of recurrence of unconstructive behavior [2].

The result of our intervention program was significant changes in the expression of anxiety and hysterical reaction type. These results are consistent with the opinion of A. Alexandrov that in different psychopathological conditions the processing of information is influenced by systematic bias, which he called “cognitive shift”. The author uses the analogy with a computer program for explanation of principles of symptoms operation.

Each disorder has its own specific program that determines the type of information processing: it entering, analyzing and the choosing of resulting behavior. In case

of anxiety disorders, the “survival” program is activated: the person from the information flow snatches “danger signals” and blocks “safety signals”. The resulting behavior is characterized by an overreaction to relatively insignificant stimuli as a powerful threat, and the person begins to respond with avoidance. Thus, the activated program causes a cognitive and emotional shift in information processing, as a result of which the normal program of adequately selected and interpreted data is replaced by an “anxiety program”, which leads to the manifestation of neurotic symptoms [1].

These are the strong arguments for the use of CBT techniques to correct neurotic states and, as a consequence, increase the hardiness of the personality, which will lay the ground for improving the personal mental and social health. Among the various approaches to the restoring of mental health after trauma, T. Tytarenko as well puts the establishment of balance by means of self-regulation in the first place and then the restoring of lost self-efficacy, which is linked to the overall increase in hardiness [11].

CONCLUSIONS

The results of the study suggest that the majority of young people have the level of mental health for selected indicators of neurotic states. The anxiety and asthenia most often occur among neurotic disorders. The neurotic states are related to a person's level of hardiness, which is an indicator of their mental and social health. CBT techniques can be successfully used to correct neurotic states, namely anxiety and hysterical reaction type.

Based on these results, we can assume that certain CBT techniques affect specific neurotic states, and our further work may be to select techniques that would correct other states.

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The Authors declare no conflict of interest.

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