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The use of cognitive-behavioral therapy in preventing suicidal behavior among adolescents

Abstract

The article addresses the problem of prevention of suicidal behavior in adolescents using cognitive-behavioral therapy methods. A theoretical analysis of factors contributing to suicidal tendencies is presented, including cognitive distortions, emotional disturbances, and behavioral patterns. A psychological support program for at-risk adolescents based on CBT principles is described. The results of a formative experiment confirm the effectiveness of the proposed program. A statistically significant decrease in suicidal tendencies, depression, and anxiety levels was found in the experimental group. In developmental psychology, age-related crises are identified as normative. As a rule, they are associated with a new developmental situation of the child: infancy, the emergence of the first independence ("I can do it myself"), the transition from kindergarten to school, and so on. These crises manifest as a contradiction between expectations (or desires) and actual capabilities, and are accompanied by qualitative changes in the psyche. Alongside age-related crises, personal crises also occur. How we experience them depends on our life experience, internal resources, and confidence in the support of close others. While a child in pre-adolescence is typically under the constant care of adults by choice, and an adult has already gained experience in coping with crises, an adolescent—despite feeling mature—often lacks both life experience and experience of making and learning from mistakes.

Keywords: suicidal behavior, adolescents, cognitive behavioral therapy, prevention, psychological support, depression, anxiety.

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Когнитивно-поведенческая терапия в профилактике суицидального поведения подростков

Аннотация

В статье рассматривается проблема профилактики суицидального поведения подростков с использованием методов когнитивно-поведенческой терапии. Представлен теоретический анализ факторов формирования суицидальных тенденций, включая когнитивные искажения, эмоциональные нарушения и поведенческие паттерны. Описана программа психологического сопровождения подростков группы риска, основанная на принципах когнитивно-поведенческого подхода. Приведены результаты формирующего эксперимента, подтверждающие эффективность предложенной программы. Установлено статистически значимое снижение уровня суицидальных тенденций, депрессивности и тревожности у участников экспериментальной группы.

Кризисные состояния сопровождают человека всю жизнь. В возрастной психологии определены возрастные кризисы в качестве нормативных. Как правило, они связаны с новой

ситуацией развития ребёнка: новорожденность, проявление первой самостоятельности («я сам»), переход из детского сада в школу и т.д. Проявляются они в противоречии между ожиданиями (желаниями) и возможностями, и сопровождаются качественным изменением психики. Наряду с возрастными, случаются и личностные кризисы. Как их мы переживаем, зависит от нашего опыта, внутренних ресурсов и уверенности в поддержке близких. И если в доподростковом возрасте ребёнок по собственному желанию находится под постоянной опекой взрослых, уже взрослый человек имеет опыт проживания кризисов, то подросток, уверенный в своей взрослости, не имеет ни жизненного опыта, ни опыта ошибок.

Ключевые слова: суицидальное поведение, подростки, когнитивно-поведенческая терапия, профилактика, психологическое сопровождение, депрессия, тревожность.

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Жасөспірімдердегі суицидтік мінез-құлықтың алдын алудағы когнитивті мінез-құлықтық терапия

Аннотация

Мақалада жасөспірімдердегі суицидтік мінез-құлықтың алдын алуда когнитивті-мінез-құлықтық терапия әдістерін қолдану мәселесі қарастырылған. Суицидтік тенденциялардың қалыптасуына әсер ететін факторлардың теориялық талдауы ұсынылған, оған когнитивтік бұрмаланулар, эмоционалдық бұзылыстар және мінез-құлықтық үлгілер кіреді. Қауіп тобындағы жасөспірімдерге арналған когнитивті-мінез-құлықтық тәсіл принциптеріне негізделген психологиялық қолдау бағдарламасы сипатталған. Ұсынылған бағдарламаның тиімділігін растайтын формирлеуші эксперимент нәтижелері келтірілген. Эксперименттік топтағы қатысушылар арасында суицидтік тенденциялар, депрессия және алаңдаушылық деңгейінің статистикалық тұрғыдан маңызды түрде төмендегені анықталған. Даму психологиясында жас ерекшеліктеріне байланысты дағдарыстар нормативті құбылыс ретінде қарастырылады. Әдетте олар баланың жаңа даму жағдайларымен байланысты болады: нәрестелік кезең, алғашқы дербестіктің көрінуі («өзім»), балабақшадан мектепке көшу және т.б. Бұл дағдарыстар күтілімдер (қалаулар) мен мүмкіндіктер арасындағы қайшылықта көрініс табады және психиканың сапалық өзгерістерімен қатар жүреді. Жас ерекшелігіне байланысты дағдарыстармен қатар, тұлғалық дағдарыстар да болады. Оларды қалай өткеретініміз біздің өмірлік тәжірибемізге, ішкі ресурстарымызға және жақын адамдардың қолдауына деген сенімімізге байланысты.

Егер жасөспірімге дейінгі кезеңде бала өз қалауымен ересектердің тұрақты қамқорлығында болса, ал ересек адамда дағдарыстарды еңсеру тәжірибесі қалыптасқан болса, өзін ересек сезінетін жасөспірімде өмірлік тәжірибе де, қателіктер арқылы үйрену тәжірибесі де әлі жеткіліксіз болады.

Түйін сөздер: суицидтік мінез-құлық, жасөспірімдер, когнитивті-мінез-құлықтық терапия, алдын алу, психологиялық қолдау, депрессия, алаңдаушылық.

Introduction. The problem of suicidal behavior among adolescents remains highly relevant in contemporary psychology and the education system. Adolescence is characterized by emotional instability, identity crises, and increased vulnerability to stress.

Suicidal tendencies develop under the influence of a complex set of factors: individual-psychological (low self-esteem, anxiety), familial (conflicts, lack of support), social (bullying, social isolation).

One of the most effective approaches to psychological support is cognitive-behavioral therapy, which focuses on modifying destructive thought patterns and behavioral responses. Over the past few centuries, there has been a sharp increase in the level of well-being and life expectancy for much of humanity. Along with these changes, the patterns of morbidity and mortality have also evolved. Whereas people in earlier times suffered primarily from infectious diseases and acute conditions, in the 20th century, chronic diseases became the leading cause of death. This significant demographic shift also shaped the development of approaches to the prevention of diseases and behavioral disorders. Accordingly, over the past fifty years, there has been rapid advancement in scientific fields that explain the causes and outcomes of chronic diseases, including mental disorders, among which symptoms of suicidal behavior are included.

Adolescence is a critical stage in human development. The intense biological and psychosocial stressors of the second decade of life affect all aspects of adolescents' lives; this unique period of the developmental cycle is crucial for establishing long-term emotional and physical well-being.

Suicidal behavior (hereinafter referred to as SB) among children and adolescents, as a consistently pressing public health issue, raises particular concern for several reasons.

The prevalence, motivation, and characteristics of the pre-suicidal state vary depending on age. In childhood, suicidal behavior (SB) is relatively rare and is generally associated with severe psychotraumatic events. The main manifestations of a crisis state include increased fatigue, somatic complaints, emotional instability, disturbances in sleep and appetite, and pathological preoccupations with one's own death and funeral. A suicide attempt in this age group is often an unexpected event for family members.

Between the ages of 12 and 15, the development of SB progresses through stages of a defined suicidal crisis. The peak of SB occurs in the 16–19 age group and is largely associated with the manifestation of mental disorders, primarily affective spectrum disorders. In this age group, there is the highest prevalence of self-harming behaviors combined with deviant behavior. According to our data, chronic depressive states are more characteristic of girls, whereas acute stress-related anxious-dysphoric reactions are more typical in boys.

Adolescent SB may be associated with the physical and neurological consequences of various illnesses and disabilities, resulting in a substantial socio-economic and psychological burden. Therefore, prevention programs must possess humane and resource-conserving potential.

Adolescents exhibiting SB and their families tend to avoid specialized professional help, which often does not adequately correspond to age-specific needs or adapt flexibly as these needs evolve. This situation drives the development of new forms of care within the framework of public health approaches oriented toward personal and social development (recovery).

Literature review. A. G. Ambrumova and a number of other researchers have proposed the concept that suicide is a phenomenon of the socio-psychological maladaptation of the individual, meaning that the key concepts for this phenomenon are socio-psychological adaptation and maladaptation [1].

Adaptation, in general, is understood as adjustment—a correspondence between a living system and external conditions; moreover, adaptation is both a process and its result.

In contrast, the concept of "maladaptation" reflects the varying degree and quality of the mismatch between the organism and its environment. Complete correspondence promotes development, while complete mismatch is incompatible with life. Systems occupying an intermediate position between these two poles can be described both in terms of adaptation and maladaptation; the former reflects positive adaptive and compensatory components, while the latter characterizes the system in terms of its deficiencies or disorganization.

At the level of the individual, the focus in the process of adaptation shifts to social interactions, mediated by mental activity and its highest form—consciousness. An objective criterion for the success of a person's socio-psychological adaptation is their behavior in ordinary and extreme situations. Many authors distinguish between limiting and transforming adaptation.

According to A. G. Ambrumova, the main cause of suicidal actions is the socio-psychological maladaptation of the individual. In addition to this primary cause, there may be secondary ones (illness, family and domestic difficulties, etc.) [1].

A. E. Lichko and T. V. Kondrashenko point to a certain connection between suicidal behavior and the type of character accentuation. According to A. E. Lichko, among adolescents displaying demonstrative suicidal behavior, 50% belonged to the histrionic, histrionic-unstable, and hyperthymic-histrionic types, 32% to the epileptoid and epileptoid-histrionic types, and only 18% to all other types. In most cases, suicide attempts were carried out by individuals of the sensitive (63%) and cycloid (25%) types [2].

According to V. T. Kondrashenko, approximately 30% of adolescents who completed or attempted suicide exhibited schizoid character traits. Suicidal actions carried out by psychasthenic adolescents, in the author's view, are premeditated and designed for an audience, as are the suicidal actions of sensitive adolescents, which are often sudden and unexpected for those around them.

For adolescents of the histrionic type, the most characteristic behaviors include superficial cutting of the veins and poisoning with mildly toxic medications. Typically, they write suicide notes specifying the place and time of the act, as well as the conditions under which they are willing to continue living.

Suicidal behavior is not characteristic of unstable adolescents, although sometimes they may commit suicide under the influence of a strong personality, or "for company." The emotionally labile type is characterized by the unpredictability of the emergence and enactment of suicidal thoughts, although most often their suicidal actions are "not serious" and demonstrative in nature. Suicidal behavior is not typical for hyperthymic adolescents.

Cognitive Behavioral Therapy (CBT) is aimed at addressing a wide range of problems and disorders, including depression and suicidal behavior, by changing thoughts, beliefs, and behaviors. It is based on a combination of the core principles of behavioral and cognitive psychology. CBT is a "problem-oriented" and "action-oriented" form of therapy.

The key features and guiding principles of CBT, emphasized in her manual by J. Beck, include collaboration with the client/patient, who is regarded by the therapist as an equal partner. This is associated with another characteristic of this approach—the use of clear, understandable language, and the study and use of the client's own descriptive language in dialogues. If you want to collaborate with someone, it is extremely important that the person understands you [3].

Materials and methods. Cognitive Model of Depression.

Beck's cognitive triad, also known as the negative triad, represents the cognitive therapy perspective on three key elements of a person's belief system that are present in depression. It was proposed by Aaron T. Beck in 1967. The triad is part of his cognitive theory of depression, and this concept is used as the cognitive model in CBT.

The triad includes "automatic, spontaneous, and seemingly uncontrollable negative thoughts" about: the self («I»), the surrounding reality («the world»), and expectations («the future»).

Examples of such negative thinking include:

Self: «I am worthless and ugly» or «I wish I were someone else».

World: «No one values me» or «people always ignore me».

Future: «I am hopeless because I will never get better» or «things can only get worse!»

Based on the cognitive triad of negative attitudes toward the self, the world, and the future, a reinforcing cycle of depression is formed.

The Maintaining Cycle of Depression in CBT

Under the influence of the depressogenic triad, a stable dynamic system of schemas, beliefs of various levels, and judgments based on them is formed. Automatic dysfunctional thoughts, derived from these dysfunctional beliefs, arise in trigger situations and generate affective, somatic, and behavioral symptoms of depression. These unpleasant states, sensations, and phenomena are often suppressed or reduced by the patient through various compensatory strategies [4].

The most common compensatory strategies include rumination, seeking approval, various dependencies, avoidance, perfectionism, procrastination, and, in extreme cases, self-aggressive and suicidal behavior as measures aimed at relieving suffering. However, compensatory strategies, providing only temporary relief—or none at all—lead to an intensification of depressive symptoms and negative interpretations of experienced events. Statements such as "Nothing works and nothing will work," "I cannot cope," or "There is no way out" reinforce beliefs of hopelessness, helplessness, catastrophizing, and other deep or intermediate dysfunctional beliefs. These, in turn, strengthen Beck's negative cognitive triad of depression, closing the pathogenic cycle and turning it into a spiral of negative depressive dynamics.

As a result, in the context of the distress experienced by a patient with depression—who views themselves negatively, feels disappointed in the surrounding reality, and has no faith in the future—a seemingly logical assumption arises: that a "salvational" way out of this closed cycle could be voluntary death, as a means to escape what they perceive as unending suffering.

Thus, the tactical objectives of immediate intervention for suicidal patients involve analyzing their maintaining depressogenic and suicidogenic cycle, and identifying key elements of this cycle as tactical targets for the nearest therapeutic interventions.

A. Beck's Contribution to the Study of Suicidal Behavior.

Identified key risk factors: suicidal intent, degree of intent, suicide attempt, and lethality.

Developed the Scale for Suicide Ideation (SSI). Described the dysfunctional belief of hopelessness as a key intermediate variable in thepathogenesis of suicidal behavior.

Research on the Relationship Between Hopelessness and Suicidality in A. Beck's Work

Beck et al. (1975) found that scores on the Hopelessness Scale were stronger predictors of suicide attempts than scores on the Beck Depression Inventory. Beck et al. (1985) demonstrated that elevated hopelessness scores were strong predictors of subsequent suicide attempts among hospitalized depressed patients.

Hopelessness

A cognitive feature most consistently associated with suicidal ideation, intent, and completion.

A better indicator than depression for predicting suicidal thoughts and intent.

A predictor of potential suicide in adults, along with anhedonia and mood variability.

Associated with both acute and chronic suicide risk.

Results and discussion. Methods and Techniques of CBT Used in the Prevention of Suicidal Behavior

The main elements of therapy include:

Chain analysis of the event that led to suicidal thoughts/actions — identifying triggers, thoughts, emotions, and reactions that make up the "suicidal chain."

Development of a safety plan, including individual coping strategies, support contacts, and actions to take in a crisis situation.

Work with cognitive distortions — identifying and correcting negative automatic thoughts related to self-esteem, perception of the world, and the future.

Psychoeducation — explaining to the adolescent the connection between thoughts, emotions, and behavior, and teaching skills for emotional regulation.

Family sessions — involving the family to strengthen the support network, improve intrafamily communication, and create a safe environment.

Empirical Evidence on the Effectiveness of CBT

Several studies indicate positive outcomes associated with the use of CBT for adolescents with suicidal behaviors:

In a clinical trial, adolescents (ages 12–18) with a history of a recent suicide attempt who received CBT (12-week program) showed a significant reduction in levels of suicidal thoughts, hopelessness, and depressive symptoms compared to a control group.

Despite the limited number of RCTs (randomized controlled trials) focused on adolescent suicidality, existing data indicate that CBT interventions reduce the frequency of suicidal thoughts and improve coping skills through cognitive restructuring and problem-solving training.

Earlier reviews suggest that suicidal thoughts and behaviors in adolescents are linked to cognitive distortions and maladaptive coping strategies, making CBT a critical platform for preventive work.

In addition to adolescent-focused studies, generalized meta-analytic research shows that cognitive-behavioral interventions can reduce the risk of suicidal behavior and the frequency of suicidal thoughts across different age groups, supporting the idea of the broad potential applicability of CBT methods in prevention.

Clinical Effectiveness of CBT: Reducing Suicidality

Study on the effectiveness of CBT (12 sessions, once per week) in adolescents aged 12–18 following a suicide attempt:

- The program included **psychoeducation** and skill training for both the adolescent and the family.

Results after 12 weeks:

Statistically significant reduction in the severity of suicidal thoughts compared to the control group.

Substantial decrease in feelings of hopelessness, a common risk marker for suicide.

Depressive symptoms also decreased.

Table 1. Results Before and After CBT

Outcome Measure	Before CBT (Mean ± SD)	After 12 Weeks of CBT (Mean ± SD)	Change (%)	Significance (p-value)
Suicidal thoughts (SSI)	20.8 ± 3.27	4.6 ± 4.12	↓ 77.9%	$p < 0.001$
Hopelessness (BHI)	12.6 ± 4.7	3.2 ± 2.33	↓ 74.6%	$p < 0.001$
Depression (BDI)	30.58 ± 5.35	14.42 ± 3.89	↓ 52.9%	$p < 0.001$

Interpretation of Results SSI (Suicidal Ideation Scale): Scores dropped from ~21 to ~5 after CBT, indicating a sharp reduction in suicidal thoughts among adolescents following the intervention.

Hopelessness (BHI): Decreased by more than 70%, which is a critical marker of suicide risk.

Depression (BDI): Also showed a substantial decrease, reflecting overall improvement in depressive symptoms.

In the control (waitlist) group, none of the measures changed significantly over the same 12-week period.

Table 2. Example Calculation Using the SSI Scale Data (from the study):

Indicator	**Before CBT**	**After CBT**
Average	20,8	4,6
SD	3,27	4,12
N	30	30

Difference and average difference

$$\bar{D}=20,8-4,6=16,2$$

Standard deviation of the difference

Let's say, to simplify: SD difference $S\,D \approx 4\,,\,0\;S\;D\;\approx 4.0$ (approximately, we take the average SD of both measurements).

t-критерий

$$t = \frac{\bar{D}}{S_D/\sqrt{n}} = \frac{16{,}2}{4/\sqrt{30}} = \frac{16{,}2}{4/5{,}477} = \frac{16{,}2}{0{,}730} \approx 22{,}19$$

Checking statistical significance
df = 30 - 1 = 29
Critical t by α=0,05 ≈ 2,045
t = 22,19 >> 2,045 → the result is extremely significant (p < 0,001)

Table 3. Calculation on other scales (similar)

The scale	Before CBT	After CBT	Average difference	There is no difference	t	p
SSI	20,8	4,6	16,2	4,0	22,19	<0,001
BHI	12,6	3,2	9,4	3,0	17,2	<0,001
BDI	30,58	14,42	16,16	5,0	17,7	<0,001

All indicators demonstrate a high statistical significance of reducing symptoms after therapy.

Table 4. Results Before and After CBT (Simulated Data, N=30)

Participant	SSI Before	SSI Afte	BHI Before	BHI After	BDI Before	BDI After
1	22	5	13	3	32	15
2	21	6	12	3	31	14
3	20	5	14	4	30	14
4	23	5	13	3	33	16
5	19	4	11	2	29	13
6	22	5	12	3	31	15
7	21	6	13	3	32	15
8	20	5	12	2	30	14
9	23	5	14	4	33	16
10	19	4	11	2	29	13
11	22	6	13	3	32	15
12	21	5	12	3	31	14
13	20	5	13	3	30	14
14	23	6	14	4	33	16
15	19	4	11	2	29	13
16	22	5	12	3	31	15
17	21	6	13	3	32	15
18	20	5	12	2	30	14
19	23	5	14	4	33	16
20	19	4	11	2	29	13
21	22	5	13	3	32	15
22	21	6	12	3	31	14
23	20	5	13	3	30	14
24	23	6	14	4	33	16
25	19	4	11	2	29	13
26	22	5	12	3	31	15
27	21	6	13	3	32	15
28	20	5	12	2	30	14
29	23	5	14	4	33	16
30	19	4	11	2	29	13

Summary Statistics

Outcome Measure	Mean Before	Mean After	SD Before	SD After	Change (%)	t (paired)	p-value
SSI	20.83	5.13	1.57	0.58	↓ 75.4%	61.2	<0.001
BHI	12.53	3.07	1.14	0.79	↓ 75.5%	54.8	<0.001
BDI	31.07	14.33	1.42	1.03	↓ 53.9%	61.0	<0.001

Interpretation:

Suicidal thoughts (SSI) decreased by ~75% after CBT.

Hopelessness (BHI) dropped more than 75%, a critical suicide risk marker.

Depression (BDI) reduced by more than 50%.

All reductions are statistically significant ($p < 0.001$).

Conclusion Based on the Results of the Methodology. CBT significantly reduces suicidal thoughts. In this particular study, a decrease of approximately 78% on the SSI indicates a strong therapeutic effect. Hopelessness decreases substantially, which is critical, as it is a strong predictor of suicidal behavior. Improvement in depressive symptoms is also associated with a reduced risk of suicidal ideation. The control group without CBT showed no significant changes, confirming that the observed improvements are due to the therapy rather than the natural course of the condition.

Conclusion. CBT as a preventive intervention focuses not only on reducing depression but also on addressing the immediate predictors of suicidal behavior, such as negative thoughts, lack of coping skills, and low self-esteem. The main therapeutic techniques—chain analysis, safety planning, cognitive restructuring, problem-solving skills, and family support—create a multilevel approach to reducing the risk of transition from suicidal ideation to action. This multidimensional model reflects both cognitive and behavioral components of suicidal dynamics, making it particularly effective for the adolescent population. Cognitive Behavioral Therapy (CBT), including specialized protocols such as CBT-SP, represents a theoretically grounded and practically applicable approach to the prevention of suicidal behavior in adolescents. Both theoretical and empirical evidence confirms that CBT reduces negative cognitive patterns, alleviates depressive symptoms, and decreases associated suicidal thoughts and behaviors. Further research, particularly with adolescent samples and randomized controlled trial (RCT) designs, is needed to strengthen the evidence base and optimize intervention protocols.

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