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The Integrative Theory of Hypnosis in the Light of Clinical Hypnotherapy

Rashit Tukaev

Abstract

The chapter describes the author's integrative theory of hypnosis and hypnotherapy (ITHH) and the universal hypnotherapy (UH) method. The ITHH contains neurophysiological, biological, and communicative components. (1) Hypnosis is triggered by symbolical hypnogenic situations of inability of decision-making and/or its behavioral realization. Hypnosis development results in qualitative reorganization of the brain activation system functioning from distribution to generation of activity. Hypnosis deepening is based on the increase of brain activation. Hypnosis development in right-handers is associated with a regressive reorganization of the left hemisphere to the right hemisphere functioning mode, with whole brain functioning on right hemispheric principle. (2) Hypnotization generates hypnogenic stress. Hypnotherapy activates a readaptation process, including neurohormonal, neurotransmitter secretions; activation of the immunological and biochemical responses; and spontaneous change of pain sensation. (3) Hypnotic communication styles (directive, non-directive) are (i) changing due to historical evolution of social communication styles and (ii) indirectly using the representations about hypnosis. The UH utilizes the ITHH, being close to the positive and mindfulness psychotherapeutic approaches. The complex of UH and psycho-education formed positive-dialogue psychotherapy (PDP) for the treatment of anxiety disorders. The randomized clinical trial of PDP efficiency in the therapy of panic and generalized anxiety disorders confirmed high clinical efficiency and the mindfulness effect of UH.

Keywords: hypnosis, theory, secondary-phenomenological approach, neurophysiology, hypnogenic situation, brain activation system, biology, communication, universal hypnotherapy, positive-dialogue psychotherapy, panic disorder, generalized anxiety disorder, randomized clinical trial, efficiency of psychotherapy, mindfulness effect

1. Introduction

The author's long-term work in the fields of hypnology and hypnotherapy revealed restrictions associated with the lacks of consistency and interdisciplinarity of the research and practice.

The phenomenon of animal hypnosis, identified in all higher vertebrates and, therefore, genetically determined [1, 2], as a rule, is not evaluated by modern hypnologists as a homolog of human hypnosis. The belonging of humans to mammals gives no chance for selective “loss” of basic, genetically determined protective mechanisms of hypnosis. If the ability of hypnotization in humans is genetically determined, how one can be fundamentally non-hypnable? In this logic, situational hypnability/non-hypnability is the result of the interaction of cultural and personal representations about hypnosis with the perception of actual hypnotization, personal request for hypnotization, but not the implementation of some primary, essential level of hypnability. What is the point of populational and longitudinal studies of hypnability and creation of great amount of appropriate psychometric tools for its estimation? What is measured in reality, hypnability or suggestibility? Where is the analysis of the results of clinical practice in which the vast majority of hypnotherapist’s patients are hypnable?

It should be noted that the general trend for searching of interrelations between genetic factors and brain activities, especially in cases of mental disorders [3, 4], is accepted by modern hypnology [5, 6]. In the logic of the cognitive hypnosis paradigm, the relationship of the dopamine-related catechol-O-methyltransferase (COMT) [5] and the serotonin-related 5-HTTLPR polymorphisms to measuring hypnotizability was studied [6]. The study of connections between genotype and the hypnotizability, determined both by questionnaires, outside hypnosis, and in combination with real hypnosis [7] concretizes interrelations of dopaminergic and serotonergic genotypes and the subjective different experiences in hypnosis. From the standpoint of clinical hypnotherapy, which demonstrates efficiency in the treatment of anxiety and affective disorders [8], the fact of cross-association of the Val158Met catechol-O-methyltransferase genetic polymorphism simultaneously with (1) anxiety disorders (ADs) [9] and (2) hypnotizability [6] becomes significant.

The long-term process of accumulation of genetic data associated with the phenomenon of human hypnosis in the future can lead to a comparison of human and animal hypnosis. The search for the genetic basis of universal protective hypnosis reaction in humans and animals has not yet been realized.

The brain of all higher vertebrates operates in the fundamental circadian cycle of the steady states (modes) of sleep and wakefulness. The phenomenon of animal hypnosis represents a protective adaptation to the behavioral situations of an insoluble impasse [10, 11], which includes a holistic systemic pattern associated with immobilization (catalepsy); decrease or cessation of pain sensitivity; and situationally determined duration. Sleep and wakefulness form a category of circadian-conditioned, fundamental, stable states, whereas the phenomenon of hypnosis belongs a qualitatively different category of behaviorally situationally developing state that ends when the situation is resolved successfully. Such a logic allows us to distinguish between two basic genetically determined categories or classes of states in the activity of the brain: (1) circadian-conditioned sleep and wakefulness and (2) situationally determined (animal) hypnosis.

Russian neurophysiologists Bogdanov and Galashina [1, 2, 12] in the study of animal hypnosis in rabbits had revealed that the single case of animal hypnosis has long-term (1 month) neurobiological action; is followed by functional regress of neuronal activity in the networks, with reorganizational transduction of pathways of coded information, and restoration of neuronal activity after hypnosis; and stimulates and optimizes the learning in a previously actualized area of the behavior. So, experimental data indicate a powerful neurobiological effect of animal hypnosis, and increasing the effectiveness of learning in a previously actualized area acquires a fundamental therapeutic value in human hypnosis [12].

Being a homolog of animal hypnosis, human hypnosis extensively and variably implements a genetically defined neurophysiological pattern of adaptive response

to behavioral impasse, complementing the range of triggers by symbolic impasses, due to thinking, culture. Moreover, traditional culture, and then therapy, channeling the use of the given neurophysiological pattern-state in various ways creates different types of its utilization and nominalization, defining it as hypnosis, trance, meditation, relaxation, etc.

The extreme adaptive and regressive nature of animal hypnosis (to overcome the behavioral impasse) determines the presence in this phenomenon of explicit systemic neurobiological and general biological adaptive mechanisms, which are inevitably realized in human hypnosis. Thus, the acceptance of conclusion about the fundamental unity of animal and human hypnosis not only stimulates the theoretical analysis of this phenomenon and development of related therapeutic practices but also targets the areas of research and outlines potential results.

2. The integrative theory of hypnosis

2.1 History of development and components

In the 1970s to 1980s, the author conducted an extensive research on the characteristics of reproduction and the impact of hypnosis-induced colors and images in the interest of their utilization in hypnotherapy of anxiety disorders [10, 11].

In the 1970s, Russian hypnology was based on Pavlov's theory of hypnosis, and the phenomenology of hypnosis was completely studied [10]. In an attempt to use color suggestion for additional directed (sedative, activating, based on the psychology of color) effects, the author began to use regular suggestion of blue color for the therapy of anxiety disorders. Like the Western colleagues, the author believed in the direct implementation of the "correct" hypnotic suggestion and expected that in deep hypnosis, patients would directly realize the suggestion of concrete blue color. Results of the suggestion, "To see the blue color, to see it constantly," turned out to be much more complicated (see **Figures 1–4**): (1) "vision" of color occurred not only in deep but also in medium hypnosis, i.e., in most patients; and (2) in addition to blue, other chromatic and achromatic colors and visual images were realized. Since the identified phenomenology of realization of color suggestion was not previously known, the author began its independent study, which lasted 10 years. Four voluminous studies were conducted:

1. The study of patterns of reproduction of hypnotically induced colors and images, depending on the hypnosis depth (healthy subjects, 62; neurotic patients, 131)
2. The study of the phenomenon of chromatic and achromatic transformations of the blue color (healthy teenagers, 44; healthy adults, 63; neurotic patients, 158; patients with organic disorders, 156)
3. The study of spontaneous structures in the reproduction of hypnotically induced colors (105 patients)
4. The study of the psychophysiological effects of hypnotically induced color sensations and images (totally 85 healthy individuals, 90 patients)

For each study, special questionnaires were developed. Results obtained in the 1970s and 1980s were published in two author's monographs, given in the reference; therefore, this chapter contains only the main, valid results.

The experience obtained in the study of the hypnotic reproduction of color sensations and images is probably unique in its focus on the identification, fixation,

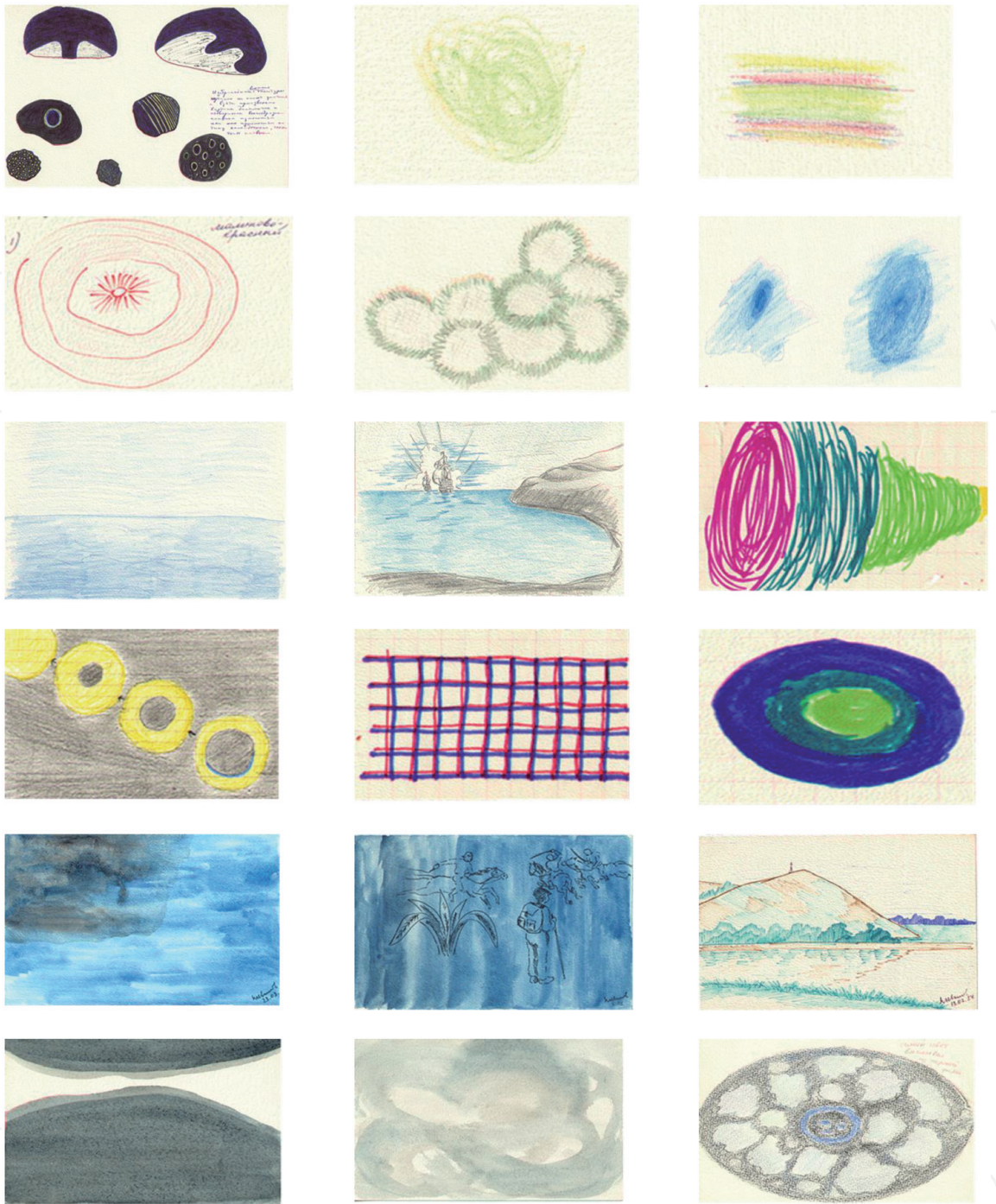


Figure 1.
The post-hypnotic drawings of hypnotized subjects, reflecting the reproduction of induced blue color: “To see, to represent, to feel the blue color.” Illustrations from the author’s monograph.

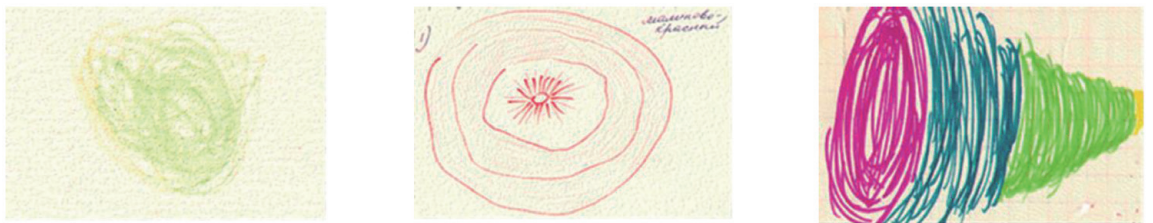


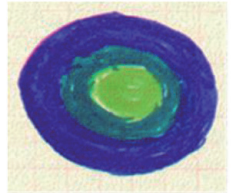
Figure 2.
The phenomenon of the chromatic transformation of hypnotically induced color. Posthypnotic drawings of subjects.

and detailed analysis of the spontaneous variability of the hypnotized response to suggestions in hypnosis. The study is focused not on assessing the effective achievement of a particular suggested result but on spontaneous responses to

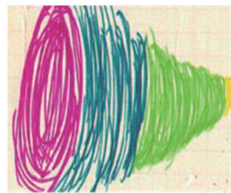


Figure 3.
The phenomenon of the achromatic transformation of induced blue color. Posthypnotic drawings of subjects.

In medium hypnosis induced colors and images are reproduced 2-dimensional (flat) and wavelike damped.



In deep hypnosis induced colors and images are reproduced 3-dimensional (volumetric) and stable over the time.



The hypnosis maximum depth is characterized by "effect of presence", - hypnotized find himself "in the reality of image". The image becomes multimodal.

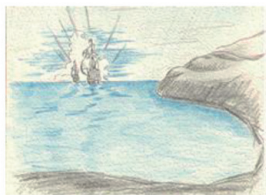


Figure 4.
Patterns of reproduction of color and image in dependence of hypnosis depth. Posthypnotic drawings of subjects.
Note: picture's systematization was based on independent estimation of hypnosis depth during hypnosis session.

“banal” suggestion or spontaneous trance characteristics during hypnotherapy. Therefore, the phenomena described by the author fall out of sight of modern researchers of color suggestions in hypnosis [13, 14].

As a result of our research, a new systematization of the reproduction of suggested colors was obtained. It included (1) patterns of reproduction of the induced color and image in different depths of hypnosis; (2) the description and interpretation of a phenomenon of chromatic transformation of the induced color; and (3) the description and interpretation of a phenomenon of achromatic transformation of the induced color.

We described the spatial and temporal differences in the reproduction of color and image in medium and deep hypnosis. In medium hypnosis induced colors and images are reproduced two-dimensionally (flat) and wavelike damped. In deep hypnosis induced colors and images are reproduced three-dimensionally and stable over time. The hypnosis maximum depth is characterized by “effect of presence,” when hypnotized find himself “in the reality of image”—the image becomes sensory multimodal.

The phenomenon of chromatic transformation of the induced color manifested in the reproduction of another color instead induced (e.g., red, yellow, green—on induction of blue). The study pointed to the connection of this phenomenon with infantilism—as personality characteristics of a hypnotized subject: (1) age-related (adolescents) and (2) disorder-related (dissociative disorders).

The phenomenon of achromatic transformation of the induced color manifests in decolorization of induced colors (into black, gray). According to our findings, the phenomenon of achromatic transformation of reproduced colors in hypnosis intensely increased in cases of brain organic disorders, which lead to the idea of its connection with low level of brain activation. The experimental verification confirmed the hypothesis. We received a change in the initial reproduction of blue color by psychopharmacological increase (imipramine) and decrease (chlorpromazine) of the level of activity of the reticular formation of the brain. A single use of imipramine (25 mg 1 h before a hypnotic session) validly improved color reproduction, and a single use of chlorpromazine (25 mg 1 h before a hypnotic session) caused a total achromatic transformation in all subjects.

The obtained results allowed us in the 1980s to 1990s to develop the secondary-phenomenological approach of the study of hypnosis [10, 11]. It is based on the following: (1) Identification of patterns of reproduction of induced colors and images depending on the hypnosis depth, age, healthy subjects, and anxiety and organic disorders. (2) Comparison of hypnotic visual phenomenological patterns with neurophysiological models of brain activation system, visual afterimages, age dynamics of hemispheric asymmetry, and construction of the neurophysiological model of hypnosis. (3) Comparison of modern data of hypnosis neurophysiology.

The secondary-phenomenological approach allowed us to move from the systemic phenomenological description of visual hypnosis to its neurophysiological modeling.

The secondary-phenomenological approach to the study of hypnosis is fundamentally close and presents the precursor of the methodology of studying neuronal correlates of consciousness developed in modern psychology of consciousness [15], in which the implementation of consciousness patterns is related to the neurophysiological activity of the brain that provides them.

In the 1980s to 1990s, we have investigated the biological mechanisms of hypnotherapy and hypnosis phenomenon of spontaneous nociception [10, 11]. The study of the biological mechanisms of hypnotherapy was based on results of systemic clinical research of blood system in dynamics of hypnotherapy of anxiety and organic disorders.

The study was based on a fourfold analysis of 29 blood components (clinical, biochemical, immunological): (1) at the beginning of therapy, before and after a hypnotherapy session and (2) at the end of therapy, before and after a hypnotherapy session. The groups of the study include 113 patients with anxiety disorders of neurotic (78 subjects) and organic (35 subjects) genesis. The description of the biological mechanisms of hypnotherapy was based on the valid data of statistical analyzes (parametric, nonparametric, factorial).

The last 30 years, we have conducted research on therapy and hypnotherapy communication mechanisms. These studies formed the basis for the description of the communicative component of hypnotherapy [14].

Studies have allowed us to develop the integrative theory of hypnosis, represented by neurophysiological, biological, and communicative components [10, 11, 16].

2.2 Neurophysiological component

The development of hypnosis is achieved through the creation of primary (for man and animal) or secondary (symbolical) hypnogenic situations which restricts the ability to make decisions and/or its behavioral expressions. Hypnosis development results in a qualitative reorganization of the brain activation system functioning from distribution to generation of activity. The functions of distribution and

generation of activity are realized by morphologically different structures within the activating system of the brain.

Deepening of hypnosis from wakefulness to somnambulism is based on the growth of opportunities for brain activation; deep hypnosis opportunities for brain activation are comparable to the waking state.

Hypnosis development in right-handers is associated with a regressive transfer of the left hemisphere regulatory activity to the right hemispheric functioning mode. In comparison with the ontogenetic shift of hemispheric specialization, this is a reversed process of the whole brain function reorganization to right hemispheric principle. This conclusion was published in 1996 [10]. A year later, in 1997, the authoritative American hypnotist published a review with the characteristic title [17]: "Relateralizing hypnosis: or, have we been barking up the wrong hemisphere?"

Subsequent functional magnetic resonance imaging (fMRI) research showed [18, 19] high levels of activity in areas responsible for visualizing scenes (the occipital lobes) and for analyzing verbally presented scenarios (the left temporal lobe), a heightened activity in the prefrontal cortex, and a higher connectivity between different brain regions in highly hypnotizable people. In hypnosis, a perception of color, real or hallucinated, led to the activation of the fusiform area with more clear effects in the left cerebral hemisphere than the right.

Functional regression of thinking processes promotes prevalence of figurative thinking and activates attributive projectivity of thinking. Hypnotic reproduction of sensations and images involves attributive projectivity and reflects entirely personal traits and states and body functioning; this opens a way for projective transformations of problems and symptoms of psychogenic and somatic disorders. In the waking state, phenomenal models of the world and the self, stored in the subject's memory, are superimposed on the current perception of the external world and the perception of self. In hypnosis subject's phenomenal models of the world and the self are superimposed, projected on the limited self-perception, which leads to the formation of limited (intra-perceptual) hypnotic reality and expanded (intra-/extra-perceptual) hypnotic reality. All the phenomenal content of consciousness of the subject in hypnosis deeply and fully reflected his current psychological and bodily condition.

2.3 Biological component

Hypnotization generates hypnogenic stress. Hypnotherapy activates the systemic readaptation processes that are reflected in changes in neurohormonal and neurotransmitter secretions; activities of the immunological system; activation of protein, bilirubin, and cholesterol exchange; etc.

Hypnotherapy activates protein metabolism and activity of several enzyme systems of the organism. Hypnotherapy has a positive influence on the metabolism of bilirubin. The activation of cholesterol metabolism, characterized by a significant reduction of its concentration in the blood, has a significant clinical importance. The observed decrease of cholesterol concentration in blood, normalizing its metabolism in the process of hypnotherapy, means the restoration of activity of cell membranes, cells, organs, and tissues, slowing down their aging.

The stressful nature of hypnosis limits its therapeutic application, in that excessive intensity of hypnogenic stress may result in the maladaptation. Prolonged hypnotherapy may actually decrease and exhaust adaptable resources of an organism.

Hypnosis in clinical situations enables the possibility of a spontaneous (without specific suggestions) change of pain sensations.

In the 1980s during the course of group hypnotherapy in a therapeutic clinic, based on the universal hypnotherapy (UH) technique [10, 11, 17], which has no analgesic suggestions (see below), the author was faced with cases of spontaneous relief of acute (traumatic) pain after the session and opposite cases of the causeless appearance and amplification of patients' bodily pain during a hypnotherapeutic session, with its subsequent reduction in chronic disorders. Repeated cases of spontaneous modulation in hypnosis of pain in cases of acute and chronic pathological processes required explanation; therefore, using a special questionnaire, all such cases were studied. Over the 5 years of observation, the hypnotherapeutic dynamics of pain in acute traumas (15 patients) and in chronic pathological processes (mainly neurointoxications—167 patients) was studied. This study was clinical-phenomenological; the dynamics of the severity of pain were correlated with the results of other objectivizing methods of clinical research and the conclusions of relevant specialists. Data were obtained on patients who received accidental injuries or dental care (bone fractures, sprains, tooth extraction) during an intensive short-term hypnotherapy of anxiety disorders (10–12 1-h sessions 3–5 times a week). The phenomenon of spontaneous hypnotic nociception became an unexpected, but regularly repeated, finding. Therefore, the question is not in the existence of the phenomenon of spontaneous hypnotic nociception but in the scientific understanding of its mechanisms.

The author's explanation of the phenomenon of spontaneous hypnotic nociception was based on the model of the structure and function of the nociceptive and vegetative regulation systems [20], according to which the pain impulse on the way from the pathological zone to the cerebral cortex can be damped by the damping system of the brain at three levels (spinal cord, thalamus, cerebral cortex), with the parallel activation of the hierarchical system of vegetative regulation of the pathological zone; this model satisfactorily explains the phenomenon of spontaneous hypnotic nociception [10, 11].

Western hypnology in the last 70 years in its development has paid a considerable attention to the research and practice of suggestive hypnotic analgesia. Researchers in experiment and practice have always been interested in only directed hypnosuggestive analgesia and its mechanisms, which essentially brought the phenomenon of spontaneous hypnotic nociception beyond the scope of any analysis.

It should be noted that studies of hypnotic analgesia have become the cornerstone in the development of modern hypnology, since after a long discussion they have led to the recognition that hypnosis is an altered state of consciousness [21–26]. Brain mechanisms underlying the modulation of pain perception under hypnotic conditions involve cortical as well as subcortical areas including anterior cingulate and prefrontal cortices, basal ganglia, and thalami [21]. It is demonstrated that hypnotic analgesia is characterized by a loss of coherence between the brain areas, reflecting “an alteration or even a breakdown of communication between the subunits of the brain” [20, 23, 24, 26]. Recently, in addition to experimental neurophysiological studies of the differences in the brain mechanisms of pain perception by high and low hypnotizable [27], analogous genetic studies have appeared [28]. Due to these studies, it became known that hypnotic assessment may predict lower responsiveness to opioids, and inefficient opioid system may be a distinctive characteristic of highs [29], and modulation of hypnotic pain responses is connected with differential recruitment of right prefrontal regions, which are involved in selective attention and inhibitory control [27].

Returning to the phenomenology of spontaneous nociceptive sensations in hypnotherapy, we need to note that it is characterized by the following features.

Acute pathological processes are characterized by one-step regressive dynamics of hypnotic nociception.

Chronic pathological processes are characterized by two-stage dynamics, including consistently associated progressive and regressive stages. The progressive stage of the dynamics of nociceptive sensations is observed at the beginning of hypnotherapy. At this stage, the strengthening or the appearance of nociceptive sensations in the area of localization of chronic pathological process occurs. On the regressive stage, the weakening or disappearance of nociceptive sensations caused by a chronic pathological process occurs.

The dynamics of the hypnotic nociception in acute and chronic pathological processes turns on spontaneously and has a positive therapeutic vector, being determined by the hypnogenic mechanism of readaptation. It can be strengthened by specific hypnotic suggestions.

2.4 Communicative component

Hypnotization and hypnotherapy can be considered as a goal-oriented communication—the communicative process. The hypnotic communicative process includes two basic components: cultural and interpersonal. The cultural component determines the varying boundaries, volumes, dynamics, and potential effectiveness of hypnotherapy while the interpersonal its specific implementation. The cultural and interpersonal components of hypnotherapy interact typologically, since culture defines historically determined patterns—communication styles that actualize the style sets of cultural and interpersonal components. Communicative styles, formed in the space of everyday communication, are then transferred to hypnotherapy, acquiring specialized features. The historical evolution of cultural communicative styles will generate the evolution of communicative styles of hypnotherapy. However, “within” hypnotherapy, a change in communicative styles will be perceived as an independent, personified process. The evolution of hypno-communication develops from classical and directive to non-directive hypnosis. In Russia, the style of universal hypnotherapy [29, 30] further appeared.

Directive hypnosis is a product of the European nineteenth century, with its class-hierarchical communicative style. Therefore, its communicative, being dominantly authoritarian, is based on the idea of direct “guiding” of “hypnabile” patient by the hypnotherapist to a positive therapeutic result.

Non-directive hypnosis appeared in the 1970s, during the cultural heyday of individual rights and freedoms, with a manipulative management style in society. Its communicative style (Erickson’s model) is based on the verbal, non-directive, and manipulative management of the patient, taking into account his or her non-verbal reactions, which uses non-directive adjustment and management, and on the idea of finding an adequate use of the resources of the wise unconscious, which uses thematic metaphors and descriptions, as tools for accessing resources.

The communicative style of universal hypnotherapy is built on a biopsychosocial paradigm; takes into account and rebuilds relevant cultural representations about hypnosis in the interests of therapy; uses primary positive cognitive-behavioral models and biological mechanisms of hypnotherapy; actively applies the non-verbal component of communicative interaction during hypnotherapy; attracts and potentiates the patient’s recovery activity during the session and the entire course of hypnotherapy; and contributes to the formation of semantic therapeutic, aimed at active recovery and improvement.

A real hypno-communication is inevitably wider and deeper than the prescribed methodological frameworks. But the communicative style forms a therapeutic “core” that determines the initial selectivity, process, and the results of hypnotherapy. **Table 1** compares the communicative styles of directive, non-directive hypnosis and universal hypnotherapy.

Feature	Directive hypnosis	Non-directive hypnosis	Universal hypnotherapy
The conscious use of cultural representations about hypnosis	No	No	Yes
The use of cultural beliefs about hypnosis	Yes	Yes	No
Therapeutic transformation of cultural beliefs about hypnosis	No	No	Yes
Features of verbal communication	Spelling out prescriptive text	Algorithm of non-directive adjustment, management taking into account the trance microdynamics	Stimulation of positive directed activity of the patient using feedbacks
Non-verbal communication	Spontaneous use to support directive management	Mirroring and management reflecting the trance microdynamics	Active semantically directed use of non-verbal feedback channel
The ratio of activity of the therapist and patient	The dominant activity of the therapist	Reliance on the client's internal activity to utilize the resources of the unconscious with the dual activity of a therapist in realization of a client's and his own trance	Stimulation of the patient's increasing motivational activity during therapy with the creation of a semantic therapeutic space
Using of feedbacks	Intuitive, for the regulation of directive management	Conscious feedback in the form of adjusting and maintaining tracking mimic reactions, breathing, muscle tone, body postures, with reduced ideomotor feedback	Hypnotization, dehypnotization, body-oriented work is completely built on the feedback of verbal and non-verbal levels
Goal setting	Local restrictions overcoming by suggestion of alternative positive states, positive conditioning	Patient's access to the wise unconscious, its unlimited resources for problems solving + partial use of the principles of the "classical" approach	Stimulation of the patient's active assimilation of the basic positive mechanisms of healthy mental homeostasis
Therapy limitations	Non-hypnability, hypomania	Hypnosis resistance	Therapy cessation

Table 1.
Communicative styles of directive, non-directive hypnosis and universal hypnotherapy.

2.5 Outcomes of the integrative theory of hypnosis and hypnotherapy

Thus, hypnotherapy should be considered as a systemic therapeutic space, which includes four components: a culture-dependent communicative, defining the communicative style of hypnosis and hypnotherapy, which, as a rule, is attributed to the nature of hypnosis; the methodological component; the biological component of hypnosis, with neurobiological, analgesic, and general adaptive effects; and the component of the patient's personal response to the disorder and its therapy.

The regressive rearrangement of brain functioning to a prepubertal level, caused by hypnosis, sharply increases the subject's learning ability and the assimilation of suggestive therapeutically significant information.

The biological effects of hypnotherapy provide broader prospects for its clinical application. The therapeutic effectiveness of hypnotherapy is restricted by the presence and volume of stress-readaptive resources of the subject's organism and psyche. Technically, "correctness" of hypnotherapy is important, but it is not the only condition for treatment success. The absence or reduction of the hypnotherapy biological effect should be expected in patients undergoing a long-term treatment with adrenal hormonal medications and cases when the medication blocks or reduces the hypnotherapy biological readaptation effect (antidepressants, tranquilizers).

The integrative theory of hypnosis and hypnotherapy focuses on the basic systemic mechanisms of hypnosis and hypnotherapy, available for verification and concretization. Therefore, the constant accumulation of hypnosis research data (e.g., 3–9, 13, 14) will rather complement and expand its basic positions.

Thus, the default mode network—a large neural structure connecting different parts of the brain—was recently described [28, 31, 32]; its function is to provide a high level of activity even when the person is not engaged in a focused mental work. Recent experiments have described an increase in activity and an increase in the volume of the default mode network when practicing mindfulness meditation [33] and yoga [34].

According to the integrative theory of hypnosis and hypnotherapy, hypnosis development results in the reorganization of the brain activation system functioning from distribution to generation of activity. It was supposed that the functions of distribution and generation of activity need to be realized by morphologically different structures of the brain. So, the proposed system of activation generation of the brain activation system now is determined as a default mode network.

3. The method of universal hypnotherapy

More than three decades ago, the author developed a new method called universal hypnotherapy, so named because of its efficacy in both individual and group forms of therapy for a wide range of anxiety disorders [10, 11, 16, 23, 30, 35–39]. UH is rooted in the traditions of the Russian school of hypnotherapy, which shares its basic principles with positive approach (concept of resilience and resourcefulness) [29, 30] and mindfulness-based psychotherapeutic methods.

The author understands mental health and mental stability as an active adaptive state and process, which are spontaneously and actively maintained [16], whereas anxiety disorders break down the psyche's natural homeostasis. On the basis of research of therapy outcomes, we had described a model of the Personal System of Psychological Adaptation (PSPA) [11, 16, 29, 30, 40]. PSPA is a spontaneously activated homeostatic dynamic structure which forms during ontogenesis and creates a hierarchy of adaptive mechanisms from the earliest, most simple types to mature, complex, individualized, and personal ones which can be used as coping mechanisms. The hierarchic PSPA can be represented as a spherical multilayered model involving the following components: (1) a concentric structure of layers-levels of the hierarchic organization of adaptation mechanisms that form an expanding sphere around a "center" or the "self," the self who decides which outer layers will be predominantly activated; (2) a system of connections between each of layers-levels of the sphere; and (3) the highest mature level of the hierarchy of multilayer level mechanisms of psychological adaptation that has the capability of transforming the interactions between the underlying levels.

PSPA dynamics may express themselves in regressive, reactivating, or progressive (forming) transformations. In the case of regressive dynamics, the underlying levels, ontogenetically antecedent to it, become primarily active and assume the role of regulatory functions overriding more advanced functions; this results in the reorganization of the system of radial and spherical connections and development of new clusters not present at the previous stages of PSPA ontogenesis. Reactivation dynamics involves the reconstruction of the function initially of the top layer level of psychological adaptations and of PSPA “normal functioning” which has been disturbed by its previous regressive dynamics. The formation of PSPA dynamics is possible through the development of a higher layer level which would overcome the insufficiency and defectiveness of previous psychological adaptations of underlying levels. In cases of anxious maladaptation, weakening in the higher level of adaptive mechanisms causes the lower level of adaptive mechanisms to acquire greater behavioral significance. According to our model [11, 16, 21, 29, 38], psychotherapeutic interventions are especially suitable for cases of anxiety disorders in which there is a regressive activation of early ontogenic adaptation mechanisms.

Our empirical research on hypnotherapy outcomes [10, 11, 16, 29] has revealed that the dynamics in cases of efficient hypnotherapy with complete improvement in anxiety disorders is consistent with the mechanism of reactivation and, for organic disorders, with the mechanism of PSPA formation; in cases of partial improvement, the psychological dynamics for anxious disorders corresponds to PSPA incomplete reactivation, and for organic disorders it corresponds to PSPA incomplete formation.

3.1 Basic principles of universal hypnotherapy

UH method is based [10, 11, 16, 29, 30, 35–37, 39–41] on the activation of hypnotherapy biological healing potential leading to readaptation and to physiological and psychological self-regulation; more specifically, this includes stimulation of positive personal states and values and further depends on an individual’s holistic positive engagement in recovery and in future steady adaptation. This process should lead to the creation of a positive goal-oriented semantic field enabling clients to act on hypnotic suggestions which should shape positive behaviors and therapeutic transformations.

UH is built on positive stimulation of patient’s self-holistic activity all over hypnosis session: from hypnosis induction to therapy and final dehypnotization.

The specific techniques include distancing from stressogenic experiences and negative states, along with utilizing projective transformations and visualization of color. One of the most important hypnotherapeutic goals refers to the stimulation of a holistic personal positive activity that would promote recovery and future steady adaptation. In this respect, the strength of a patient’s motivation to recover and to improve his or her state has a direct impact on the outcome. That is why stimulation of positive therapeutic motivation (PTM) to improve one’s condition and to recover is considered, in universal hypnotherapy, to be its main therapeutic objective. Work with a patient’s PTM starts on the first diagnostic session and becomes the foundation of the therapeutic contract; such motivation is maintained during the course of therapy and is acknowledged when the course is finished.

During the diagnostic session, after discussing the clinical diagnosis and possible prognosis of therapy and establishing a confidential relationship, a patient’s motivation and wish to recover and/or to actively achieve the desired psychotherapeutic outcome are reviewed. Motivation for improvement, or for recovery, is directly or indirectly stimulated and maintained during the course of subsequent therapy, both within and outside of the hypnotherapy format. Indirect stimulation of the PTM is

maintained by continuous encouragement of the patient's activity within the course of therapy, but also directly during the sessions of UH at all its stages.

Positive dynamics, commencing with the hypnotic induction, can be enhanced by showing the patient changes in symptoms, from session to session, based on a self-evaluation utilizing a graphic linear scale (ranging from the most negative to the most positive state); this allows for a comparison of results between sessions and identification of interim and general dynamics. Any increase in a patient's motivation for recovery and its behavioral manifestations is acknowledged and emphasized, during and at the end of therapy, as his or her tangible achievement in the process of positive adaptation. Furthermore, hypnosis is used to facilitate change.

Our understanding of hypnosis is that it leads to functionally regressive stages in brain functioning that trigger prepubertal imaginative thinking [10, 11, 29, 30] and promotes the reverse transformation in a regulatory hierarchy in which the meaning of words dominates over feelings, mental states, and perceptual experiences. Such a reorganization makes it possible in hypnosis to elicit actual feelings and mental states which could be utilized for positive transformation (i.e., confidence, calmness, freedom, self-efficiency and self-sufficiency, etc.) enabling the patient to experience positive personal states and values.

One of the most effective technique in dealing with specific symptoms includes somatic projective catharsis which requires awareness of personal control and limitations, along with the recognition of positive change in a person's condition, even though it may not be consciously known how it was achieved. The highest level of conscious differentiation occurs in the visual domain; it is less in the auditory and even less in the proprioceptive modalities [10, 11, 38, 39].

From a practical clinical perspective, catharsis is achieved after a client is informed that the perception of any event in one domain may also be reflected in another perceptual domain. Subsequently, it is proposed to the patient to become aware of anything unpleasant, negative, and painful that is a result from past experiences—memories, feelings, and also any feelings in his or her breast (i.e., heaviness or tension which occurs when a person is offended or derogated); if a person begins experiencing such a feeling, it is suggested to him or her to breathe it out. When after some attempts, the unpleasant feeling is diminished and each subsequent inhaling becomes easier, it is suggested that also the remaining part of the feeling can be breathed out. Breathing out the unpleasant sensation (i.e., heaviness or tension) is assigned to a client as a task to be carried out independently and to be continued until the maximum liberation from this unpleasant feeling is obtained, which is typically associated with a sense of peace.

Yet another technique utilizes visualization. The author's research [10, 11, 41] into the impact of color sensations and images induced in hypnosis was a stimulus for its integration with hypnotherapy for anxiety disorders. We have experimentally shown [10, 11, 37] that for the purposes of relaxation, the imaging of a blue color is the most suitable approach. That is why repeated blue color induction (with an interval of 1–2 minutes) is used during hypnotherapy sessions for the creation of a color-relaxing background to accompany the verbal suggestions.

Experimental data has shown that in mild and deep hypnosis, color inductions have a direct psycho-vegetative and emotional impact on a human being, and this impact is different from the one in the waking state because of the intensification of the activating potential of colors and the reduction of their sedative effect. The visualization of colors, induced in hypnosis, is accompanied by three phenomena of a neurophysiologic and psychological nature. The first one is achromatic transformation, when following hypnotic suggestion, chromatic colors (blue, green, yellow, red) are seen as achromatic (i.e., gray, black, brown). According to our experimental and clinical investigations, achromatic transformation phenomenon is the

manifestation of a low level of activity of the reticular formation which is the brain activating system [10, 11, 41]. We should note that achromatic transformation is clinically significant; specifically, induced color visualization is restored as the patient's condition clinically improves [10, 11, 41]. The third phenomenon—chromatic transformation of colors induced in hypnosis—manifests as the recognition of another color, not the one which was suggested to the patient to be imagined. According to our data, the phenomenon of chromatic transformation of visualized color is conditional on an individual's personal characteristics associated with personal maturity. Therefore, the phenomenon of induced color chromatic transformation which is typically observed in children is reduced in healthy adults, but is increased in dissociative and somatoform disorders.

The phenomenology of induced color characterizes the depth of hypnosis; in mild hypnosis, visualized color is flat (two-dimensional) and changes sinusoidally; in deep hypnosis, it becomes three-dimensional and remains stable (in both healthy and emotionally disordered people).

The mind's ability to dissociate can be utilized for distancing from stressogenic experiences. It has been shown in psychological research [36, 42] that people's normal experiences proceed through subjective separation or distancing from the events, without cognitive distortion of their essence. Pathological attempts at psychological adaptation lead to events of the past events being confounded by cognitive deformations and distortions of events. Already more than 30 years ago, we noted that hypnotherapy allows for the normal experiencing of events and for subjective distancing while eliminating pathological adaptation mechanisms that distort the experience [3, 4]. To normalize the process of experiencing, we have elaborated a method of two-stage distancing with respect to current and past events; the first step serves for distancing from the current personally stressogenic events, and the second step is designed for distancing and resolving past stressogenic, negative, and traumatic experiences.

The mechanism of normal experiencing of current events presents the basic mechanism for the stable functioning of a healthy psyche; therefore, the author considers the sustainable inclusion of this mechanism in anxiety disorders as a key point in successful therapy. During UH the patient gains the ability to stably distance himself both from the current experiences and their projections into the future and from the past experiences.

Since the 1980s cognitive-behavioral therapy (CBT) has developed techniques based on modifications of ancient Vipassana meditation [43–48]: mindfulness-based stress reduction (MBSR) [49, 50] and mindfulness-based cognitive therapy (MBCT) [51, 52]. These techniques, producing “the third wave” of CBT evolution, have expanded the range of therapeutic efficacy for anxiety disorders, including generalized anxiety disorder (GAD) [53, 54].

Since these techniques also use the principle of distance experiencing, the author with the co-worker performed a comparative analysis of UH and CBT mindfulness-based techniques [36, 37], which revealed a significant similarity, consisting of (1) the formation of distancing, metaposition, and positive perception and (2) stimulation of personal integration and self-identity and working with body control and breathing control. UH and mindfulness-based techniques differ in parameter of experiences without judgment, duration of therapy, the need for meditation, and self-hypnosis after the end of therapy. UH explores only the principle of distancing, out of religious-philosophical connotations, it is the most short-term (10–15, rarely up to 20 sessions), and it does not require the continuation of self-hypnosis.

Yet another technique uses an individual's abilities to generate bodily sensations. Indirect suggestions of feelings of warmth (mostly) and coolness (in some areas of the body) are used for projective body work in universal hypnotherapy. Areas chosen for suggestion of warmth are the parieto-occipital zone with projection

“inside head,” posterior surface of the neck, shoulders, area of the left half of the breast (from the front), precostal space, and epigastria; suggestion of coolness while inhaling is directed to the nose, temples, and the zones, where it is needed. These suggestions establish experiences of warmth and coolness in the body which replace other less pleasant feelings.

The process of normalization requires restoration of restful sleep. That is why increasing the quality of sleep is one of the objectives of UH in which suggestion refers to the positive phenomenological model of restful sleep (falling asleep in the evening and in the morning waking up without remembering sleeping itself).

Before finishing the session of universal hypnotherapy, the therapist needs to seed suggestions about positive feelings taking place in the following order: body comfort, lucidity of thinking, and a good mood state.

3.2 Structure of session

A session of UH lasts for about 35–40 min, which includes (1) hypnosis induction and four (2–5) therapeutic parts.

3.3 Hypnosis induction in universal hypnotherapy

Hypnosis induction in UH is completely based on the realization of motivational activity of the hypnotized person, in the algorithm of bodily feedback with himself and implements the scheme: the hypnotized person is focusing on the desire to enter into hypnosis, mentally saying the phrase: “I want to enter into hypnosis,” being ready (if the phrase dominates the person’s mind for 20–30 s), giving the signal by raising any hand. The therapist touches the brush, suggesting that if the hand is spontaneously lowered, there happens a transition to hypnosis; the completion of the movement means the completion of the hypnotization. The therapist in immediate feedback briefly describes the characteristics of the movement of the hand and the behavior of the hypnotized, who perceives this as therapist’s control of the induced movement.

The given method of hypnosis induction is contrary to cultural beliefs about hypnosis. Therefore, before the first induction, the therapist implements a special connecting script, which transforms the cultural model of hypnosis and allows the hypnotized person to accept fully the proposed method. It is effective in the vast majority of therapy-motivated patients (more than 99%), which allows patients in single and group format to enter hypnotic trance quickly and deeply.

The first part of UH therapeutic session is focused on somatic projective catharsis, whereas the second part of UH session consists of the following steps:

1. The induction of blue color, which is then repeated periodically with an interval of 1–2 min during the whole session
2. The enhancement of positive mental states and values
3. A two-step procedure of distancing from stressogenic experiences and resolving negative states or disorders and developing hypnotic self-suggestions that would shape positive behavior
4. The suggestion of sleep normalization

The third part of the session is represented by body projective work with a periodic induction of blue color. The fourth part of the session basically corresponds to its first part (but does not use projective “breathing”), and additionally the need

to continue with modeling positive states is emphasized along with enhancing the positive dynamic and motivation for recovery.

So, the first and the third parts in the composition of the UH session focus on body projective working, using breathing techniques and inducement of pleasant feelings of warmth and coolness; it also emphasizes a personal activity and a personal responsibility to continue the work in the same manner. The goals of body projective work are liberation from symptom, normalization of functioning, and relaxation.

The second and third parts of the session actualize the feelings—states of confidence, calmness, and freedom; they also focus on distancing from stressogenic experiences and on resolution of negative states or disorders, with the development of positive behavioral models that would offer an alternative for pathological behavior and provide suggestions for sleep normalization.

The therapeutic influence on the client is achieved by providing a meaningful sensory stimulation through three channels (verbal, visual, and proprioceptive): active positive modeling of problem situations; repeating semantically significant components of the script which may be presented in the archaic folk song style—couplet-refrain—with induction of blue color as being the refrain; and presenting suggestions with the proper speech intonation.

UH has an integrated and focused content of the suggestions that support each other; as a result, regardless of whether a single individual component of therapy is effective, the whole therapeutic structure remains considerably efficient. UH creates a system of multilevel impacts stimulating a patient to assimilate actively his or her primary ideas, mental states, and experiences; its positive cognitive-behavioral models could be later implemented in real life, in order to eliminate psychopathology and to promote effective problem-solving. The application of UH creates a positive therapeutic semantic field and a goal-oriented therapeutic process.

At the end of the hypnotic session, the patient is informed about the upcoming dehypnotization according to a feedback scheme: a spontaneous return movement of a previously lowered hand is suggested, and when the hand returns to its initial position, the session is finished. The rate of dehypnotization is determined by the hypnotized person.

4. Universal hypnotherapy in the controlled therapy of anxiety disorders

The last two decades have become a time of significant increase in AD.

In the 2000s, the author applied UH for the treatment of panic disorder (PD) and GAD, adding a psycho-educational component to the therapy complex determined initially as a cognitive-oriented psychotherapy, later named by author positive-dialogue psychotherapy (PDP) for anxiety disorders. PDP has demonstrated sufficient clinical efficacy in the treatment of anxiety disorders (PD, GAD). In 2010, the author with the co-worker [35] conducted a controlled study of the effectiveness of PDP for anxiety disorders. Assuming a partial similarity of UH to mindfulness-based CBT methods, the study used additional psychometric estimation of mindfulness effect.

4.1 Method

4.1.1 Participants

Patients were recruited through an Internet advertisement on the site of Moscow Research Institute of Psychiatry soliciting for individuals with anxiety symptoms

and panic attacks (PA) to take part in a clinical study of psychotherapeutic treatment of anxiety disorders. Psychotherapeutic treatment was offered for free. Inclusion criteria were that patients: (1) be between 18 and 60 years and (2) fulfill diagnostic criteria for either PD or GAD. Exclusion criteria were: (1) suicidality, (2) other psychiatric disorders as a primary diagnosis (schizophrenia spectrum disorders, affective disorders, personality disorders), (3) severe somatic diseases in the decompensation stage, and (4) parallel participation in other psychotherapeutic programs.

These criteria allowed for the presence of isolated comorbid depressive and phobic symptoms, provided that patients had AD as a primary diagnosis. Patients with initial pharmacological treatment (antidepressants, anxiolytics, tranquilizers) were also included in the study. The possibility of termination of pharmacological treatment as their state improves during the therapy was discussed with such patients. The pharmacological treatment was terminated at all patients after 5–6 psychotherapeutic sessions. **Figure 5** illustrates the patient flow in the study.

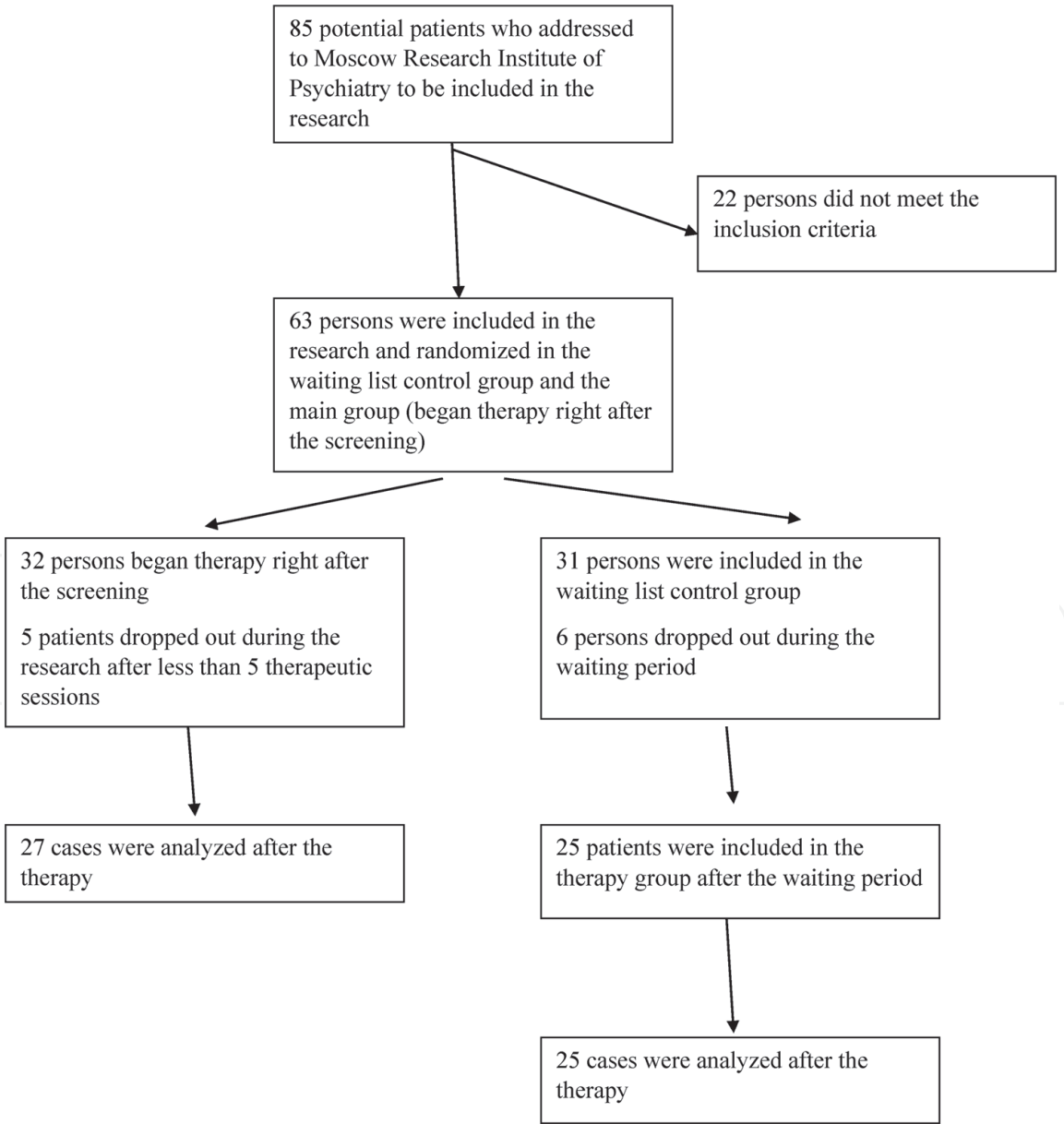


Figure 5.
Research design.

4.1.2 Procedures

After a preliminary telephone screening, eligible participants (N = 63) were invited for a structural clinical interview based on the criteria of the research version of ICD-10 [10]. Participants also completed a number of self-reported questionnaires for baseline assessment.

4.1.3 Design

After diagnostic evaluation and completion of all questionnaires, patients were randomly assigned to a treatment group or a waiting-list group. In the treatment group, patients went in therapy immediately and completed the self-report questionnaires at the end of the therapeutic process. Patients on a control waiting-list group were informed about a certain order for the beginning of the therapy and that they had to complete the questionnaires two times (the second time was 3 weeks after the first). The evaluation of psychometric data of this group was carried out 3 weeks before the treatment, just before the start of treatment and at the end of treatment. The control waiting-list group was a control group for itself and for the first group.

4.2 Treatment

PDP is based on the protocol developed by the author [14, 15]. The therapeutic intervention consists of three main components: (1) psycho-educational; (2) causal cognitive-orientated; and (3) hypnotherapeutic.

The psycho-education component includes a didactic material covering the following information about: (1) anxiety as a normal reaction of mobilization, needed to cope or avoid a dangerous situation; (2) anxiety disorder and the phases of its development for PD and GAD, because of the “swinging” of anxiety reaction by a combination of social, biological, and psychogenic factors; and (3) possibilities of psychotherapeutic treatment of AD based on (a) the resolution of current psychogenic issues, (b) the excluding intoxicating mechanisms (if there are any), (c) the coping with phobic component (if it's present), (d) the general increase of adaptive resources of the organism (through lifestyle rationalization), and (e) the normalization of vegetative regulation by psychotherapy or combination of psychotherapy with pharmacotherapy. The psycho-educational component of PDP is realized during the first therapy session, in an individual or group format.

The causal cognitive-orientated component of PDP has the following objectives: (1) Individual assimilation of the psycho-educational component. (2) Normalization of patient's traumatic experiences during a PA (if there are any). (3) Stimulation of patient's coping of anxiety triggers, restrictive behaviors, and phobias. (4) Stimulation of a healthy lifestyle with normalization of vegetative regulation. (5) Development of patient's autonomous understanding and coping with problem situations. (6) Development of skills of positive thinking and attitude.

The causal cognitive-orientated component of PDP is used during 2–7 sessions for about 20 min.

The hypnotherapeutic component of PDP uses the method of UH [10, 11, 29, 30, 36, 37, 39–41] which contains the following therapeutic interventions: (1) Increase of self-identity and self-integrity. (2) Transformation of patient's projections of his/her psychogenic and somatic-sensorial content. (3) Use of sedative and detachment influences of reproduced colors. (4) Stimulation of detachment of stress experience and completion of negative states and experiences based on modeling and realization of positive correct behavior. (5) Repeat of the interventions mentioned above

(1–4). (6) Creation in hypnotherapy a positive vector semantic space for patient's active therapeutic changes.

The UH, done in the second part of a 1-h session of PDP, lasts for 40 min. The frequency of PDP sessions is three times a week; the total number of sessions varies from 8 to 15 (till the stable improvement of patient's state).

4.3 Instruments

4.3.1 Psychometric instruments

The symptomatic questionnaire SCL-90-R is a Russian adaptation of N. Tarabarina [55]. In our research the following scales were used: DEP, depression; ANX, anxiety; and GSI, general severity index, a measure of the overall psychological distress. The Spielberger State-Trait Anxiety Inventory (STAI) is a Russian adaptation of Hanin [56]. The following tools were also used: Beck's depression inventory (BDI) [57]; Sheehan Clinical Anxiety Rating Scale (ShARS) [58]; and Five-Factor Mindfulness Questionnaire (FFMQ) [59], its short version. The FFMQ was adapted for Russian-speaking population by the authors. The Mindful Attention Awareness Scale (MAAS) [60] was adapted to Russian-speaking population by the authors.

4.3.2 Statistical instruments

The statistical analysis was made with the use of the program "Statistica 10." The following data were compared, using this program: (1) Initial data of the therapeutic group and the waiting-list control (WLC) group. (2) Initial data of the WLC group and the data of the WLC group at the beginning of the therapy. (3) Initial data of the primary therapeutic group and the WLC group at the point of the beginning of the therapy. (4) Initial and final data of the combined therapeutic group and the data from the WLC group (initial and at the point of the beginning of the therapy). (5) Initial and final data of the subgroup of monopsychotherapy (MPT) and the subgroup of psychotherapy with gradual discontinuation of psychopharmacotherapy (PT + PPT). (6) Initial and final data of the subgroup of PD and the subgroup of GAD.

Gender and demographic and psychometric characteristics were used in the statistical analysis. The methods of descriptive statistics (M, SD) and nonparametric statistics (Wilcoxon's test, Mann–Whitney test) were used. To evaluate the effect size, Cohen's unbiased d-index was used [61, 62] ($d \leq 0.20$, small effect size; $d \leq 0.50$, moderate effect size; $d \leq 0.80$, large effect size). The effect size was calculated using a pooled standard deviation. χ^2 was used to compare the degree of improvement between groups.

4.4 Results

4.4.1 Baseline characteristics of the main and control groups

Patients' gender and demographic and diagnostic characteristics are presented in **Tables 2** and **3**. Apart from the type of anxiety disorder, the presence of the accompanying psychopharmacotherapy at the beginning of the treatment was taken into consideration.

Twenty-nine participants (55.8%) were diagnosed with PD (11 of them were taking psychopharmacological medications at the beginning of the therapy); 23 participants (44.2%) had GAD as the main diagnosis (9 of them were taking

	Total (<i>n</i> = 52)		Primary therapeutic group (<i>n</i> = 27)		WLC group (<i>n</i> = 25)	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Gender (female)	35	67.3	20	74.1	15	60.0
Age (<i>M</i> , <i>SD</i>)	31.6	10.4	30.9	9	32.5	12.1
Education						
High	41	78.8	20	74.1	21	84.0
Student	6	11.5	2	7.4	4	16.0
Vocational school	4	7.7	4	14.8		
Secondary school	1	1.9	1	3.7		
Marital status						
Married/partner	23	44.2	12	44.4	11	44.0
Single	27	51.9	15	55.6	12	48.0
Divorced	2	3.8			2	8.0
Diagnosis						
PD	29	55.8	16	59.3	13	52.0
GAD	23	44.2	11	40.7	12	48.0
Months science onset (<i>M</i> , <i>SD</i>)	54.5	77.4	51.5	53.7	58.4	100.8
PPT	20	38.5	12	44.4	8	32.0

Primary therapeutic group—group that began therapy right after the screening; WLC group—waiting list control group; PPT—number of subjects with psychopharmacotherapy.

Table 2.
Patient characteristics.

psychopharmacological medications at the beginning of the therapy). The basic clinical, demographic, and clinical-psychometric criteria of the main and control groups were compared using the Mann–Whitney test and χ^2 test for independent samples. The two groups did not show significant differences in all the parameters, but STAI-S score (which was significantly different in the groups of MPT and PT + PPT ($p = 0.01$)) and SCL-90 ANX ($p = 0.03$) and ShARS ($p = 0.007$) scores were significantly different in the PD and GAD groups (Tables 1 and 2). That fact witnesses a general success of the randomization.

The duration of the illness till the moment of the beginning of the treatment was also significantly different in the groups of MPT and PT + PPT (18.1 months and 112.8 months, accordingly; $p < 0.0001$). The mean duration of psychopharmacotherapy before the treatment in the group PT + PPT was 37.6 months. In all these cases (except 2) during this period the patients received more than two different psychopharmacological courses. These data allow us to call the PT + PPT group a therapy-resistant group.

4.4.2 Patients in the therapy: dropped out patients and patients who finished the therapy

Eleven out of 63 patients (17%) dropped out before the end of the treatment. Four patients could not visit sessions due to time limitations, 7 patients dropped out without any explanation, and 52 patients finished the therapy. The mean duration of the therapeutic course for these patients was 13.5 sessions of PDP. However, in the MPT group, the mean number of sessions was 11.5, and in the PT + PPT group, this number was significantly higher—16.7 sessions ($p = 0.0005$).

Scale	Total (n = 52)		Primary therapeutic group (n = 27)		WLC group at screening point (n = 25)		WLC group right before the therapy (n = 25)		MPT group (n = 32)		PT + PPT group (n = 20)		PD group (n = 29)		GAD group (n = 23)	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
SCL-90 DEP	1.66	0.82	1.58	0.75	1.59	0.81	1.74	0.90	1.56	0.64	1.81	1.06	1.68	0.77	1.62	0.91
SCL-90 ANX	1.85	0.93	1.75	0.87	1.75	0.89	1.96	1.00	1.76	0.80	2.01	1.11	2.09	0.81	1.54 ²	1.00
SCL-90 GSI	1.29	0.62	1.23	0.66	1.33	0.58	1.35	0.58	1.21	0.41	1.42	0.86	1.40	0.62	1.14	0.61
STAI-S	37.35	11.11	38.59	10.25	36.16	11.12	36.00	12.04	34.25	6.66	42.30 ¹	14.74	36.80	10.83	38.09	11.71
STAI-T	55.08	9.79	54.63	9.86	53.72	6.71	55.56	9.90	52.69	8.10	58.90	11.19	55.53	10.12	54.45	9.52
BDI	19.54	10.24	19.96	10.74	19.80	10.20	19.08	9.87	18.44	8.92	21.30	12.09	19.93	10.89	19.00	9.49
ShARS	48.77	25.47	49.11	21.75	51.76	22.10	48.40	29.43	45.38	24.95	54.20	25.99	56.67	25.03	38.00 ³	22.37
FFMQ-SF	71.54	9.28	72.60	8.62	71.68	8.95	70.40	9.99	71.70	7.34	71.28	11.95	72.46	9.02	70.28	9.68
MAAS	3.90	0.72	3.97	0.76	3.87	0.70	3.82	0.68	3.85	0.75	3.97	0.67	3.97	0.82	3.79	0.55

SCL-90 DEP, ANX, GSI—depression, anxiety, and global severity index of symptom checklist 90; STAI-S—Spielberger Anxiety Inventory, state anxiety; STAI-T—Spielberger Anxiety Inventory, trait anxiety; BDI—Beck Depression Inventory; ShARS—Sheehan Clinical Anxiety Rating Scale; FFMQ-SF—Five-Factor Mindfulness Questionnaire, short version, total score; MAAS—Mindfulness Attention Awareness Scale; MPT group—monopsychotherapy group; PT + PPT group—psychotherapy + psychopharmacotherapy group with later psychopharmacotherapy withdrawal.

¹p < 0.01 (comparing to MPT group).

²p < 0.03 (comparing to PD group).

³p < 0.007 (comparing to PD group).

Table 3.
Means and standard deviations at screening point and right before the therapy.

4.4.3 Psychotherapy results according to psychometric data

Psychotherapy results according to psychometric data are shown in **Tables 4–6**.

The combined psychotherapy results are presented in **Table 4**. Comparing before and after data in the main group and analyzing these data in comparison with WLC group data, we can observe a significant decrease of all clinical scales' scores in the main group (SCL-90 DEP, SCL-90 ANX, SCL-90 GSI, STAI-S, STAI-T, BDI, ShARS) practically to the level of the nonclinical norm.

For the STAI-T scale, the effect size is moderate (0.73); for the other six clinical scales, the effect size is large (from 0.87 to 1.28). The mindfulness scores (FFMQ-SF, MAAS) increased significantly with large (FFMQ-SF = 0.98) and moderate (MAAS = 0.71) effect sizes. There were no such changes in the WLC group during 3 weeks of waiting period.

Psychotherapy results in the PD and GAD groups are shown in **Table 5**. Significant changes of all clinical scales' scores are observed in both groups. There were no statistically significant differences between the groups at the end of the therapy. The effect size for clinical scales (SCL-90 DEP, SCL-90 ANX, SCL-90 GSI, STAI-S, STAI-T, BDI, ShARS) was bigger in the PD group, in which for all the scales it was large (from 0.99 to 1.75), but moderate for STAI-T (0.69). In the GAD group, the effect size was moderate (from 0.53 to 0.74) for five scales (SCL-90 DEP, SCL-90 ANX, SCL-90 GSI, STAI-T, ShARS) and large (from 1.06 to 1.20) for two scales (STAI-S, BDI). Changes in mindfulness scores in the PD group were moderate (FFMQ-SF, 0.78; MAAS, 0.62); in the GAD group, the effect size was large for FFMQ-SF (1.20) and moderate for MAAS (0.61).

Results for the groups of MPT and psychotherapy with gradual withdrawal of psychopharmacotherapy (PT + PPT) are presented in **Table 6**. It is important to notice significant differences between MPT and PT + PPT groups at the end of the therapy according to six scales of 9 (SCL-90 DEP, SCL-90 ANX, SCL-90 GSI, STAI-S, STAI-T, ShARS), which is confirmed by a larger effect for the MPT group. Comparing before and after the scores in the MPT group, there is a significant decrease of all scales' scores to the level of the nonclinical norm (SCL-90 DEP, SCL-90 ANX, SCL-90 GSI, STAI-S, STAI-T, BDI, ShARS). For all seven scales, the effect size is large (from 1.13 to 1.91). Mindfulness scores increased significantly with large (FFMQ-SF = 1.17) and moderate (MAAS = 0.64) effect sizes.

Comparing before and after the data in the PT + PPT group, a moderate significant decrease was observed for six clinical scales' scores (SCL-90 ANX, SCL-90 GSI, STAI-S, STAI-T, BDI, ShARS). There were no significant changes in SCL-90 DEP scores. The effect sizes are large for three scales (STAI-S, 0.94; BDI, 0.84; ShARS, 1.11), moderate for one scale (SCL-90 ANX, 0.56), and weak for two scales (SCL-90 GSI, 0.39; STAI-T, 0.46). Mindfulness scores significantly increased with a moderate effect size (FFMQ-SF, 0.75; MAAS, 0.57).

Results of this controlled study show high effectiveness of PDP for PD and GAD, which is confirmed by mainly high or moderate size effects in psychometric data.

The correctness of distinction of the groups of MPT and PT + PPT is confirmed by statistical analysis of psychometric data. The effectiveness of MPT is significantly higher than the combination of PT + PPT, while the duration of MPT is significantly lower.

The use of instruments in this research for mindfulness evaluation (FFMQ-SF, MAAS) was justified, because for the first time the significant increase of these parameters (with moderate effect size) was shown for the UH (PDP). Additionally, the effectiveness of the PDP was compared with MBCT [53] and MBSR [54] methods for several psychometric clinical scales and mindfulness scales

Scale	Therapy group (n = 52)			Waiting list control group (n = 25)			
	M	SD	d (before-after)	M	SD	d (before-after)	d (between the groups)
SCL-90 DEP							
At baseline	1.66	0.82		1.59	0.81		
At the end of treatment	0.94 ¹	0.83	0.87	1.74 ²	0.90	0.18	0.92
SCL-90 ANX							
At baseline	1.85	0.93		1.75	0.89		
At the end of treatment	0.93 ¹	0.84	1.04	1.96 ²	1.00	0.22	1.12
SCL-90 GSI							
At baseline	1.29	0.62		1.33	0.58		
At the end of treatment	0.74 ¹	0.59	0.89	1.35 ²	0.58	0.03	1.04
STAI-S							
At baseline	37.35	11.11		36.16	11.12		
At the end of treatment	24.81 ¹	10.11	1.18	36.00 ²	12.04	0.01	1.01
STAI-T							
At baseline	55.08	9.79		53.72	6.71		
At the end of treatment	48.12 ¹	9.27	0.73	55.56 ³	9.90	0.22	0.78
BDI							
At baseline	19.54	10.24		19.80	10.20		
At the end of treatment	9.65 ¹	7.41	1.11	19.08 ²	9.87	0.07	1.08
ShARS							
At baseline	48.77	25.47		51.76	22.10		
At the end of treatment	22.04 ¹	14.99	1.28	48.40 ²	29.43	0.13	1.13
FFMQ-SF							
At baseline	71.54	9.28		71.68	8.95		
At the end of treatment	80.12 ¹	8.06	0.98	70.40 ²	9.99	0.13	1.07
MAAS							
At baseline	3.90	0.72		3.87	0.70		
At the end of treatment	4.35 ¹	0.71	0.63	3.82 ⁴	0.68	0.07	0.76
SCL-90 DEP, ANX, GSI—depression, anxiety and global severity index of symptom checklist 90; STAI-S—Spielberger Anxiety Inventory, state anxiety; STAI-T—Spielberger Anxiety Inventory, trait anxiety; BDI—Beck Depression Inventory; ShARS—Sheehan Clinical Anxiety Rating Scale; FFMQ-SF—Five-Factor Mindfulness Questionnaire, short version, total score; MAAS—Mindfulness Attention Awareness Scale; MPT group—monopsychotherapy group; PT + PPT group—psychotherapy + psychopharmacotherapy group with later psychopharmacotherapy withdrawal. ¹ <i>p</i> < 0.0001 (comparing to the baseline figures). ² <i>p</i> ≤ 0.0001 (comparing to therapy group). ³ <i>p</i> < 0.001 (comparing to therapy group). ⁴ <i>p</i> < 0.002 (comparing to therapy group).							

Table 4.
Treatment effect.

(see **Table 7**), which demonstrated comparable effect sizes for the three methods. The received data expand the representation about mindfulness phenomenon, taking it beyond the boundaries of traditional meditation and bringing closer to the basic mechanisms of UH activation of the psychological process of normal coping by means of distancing.

Scale	PD group (n = 29)			GAD group (n = 23)			
	M	SD	d (before-after)	M	SD	d (before-after)	d (between the groups)
SCL-90 DEP							
At baseline	1.68	0.77		1.62	0.91		
At the end of treatment	0.82 ¹	0.83	1.05	1.09 ⁴	0.83	0.59	0.33
SCL-90 ANX							
At baseline	2.09	0.81		1.54	1.00		
At the end of treatment	0.89 ¹	0.72	1.52	0.98 ³	1.00	0.53	0.10
SCL-90 GSI							
At baseline	1.40	0.62		1.14	0.61		
At the end of treatment	0.72 ¹	0.60	1.08	0.78 ²	0.59	0.57	0.10
STAI-S							
At baseline	36.80	10.83		38.09	11.71		
At the end of treatment	24.13 ¹	9.77	1.20	25.72 ³	10.73	1.06	0.15
STAI-T							
At baseline	55.53	10.12		54.45	9.52		
At the end of treatment	48.20 ¹	10.66	0.69	48.00 ²	7.20	0.74	0.02
BDI							
At baseline	19.93	10.89		19.00	9.49		
At the end of treatment	10.13 ¹	8.29	0.99	9.00 ²	6.16	1.20	0.15
ShARS							
At baseline	56.67	25.03		38.00	22.37		
At the end of treatment	20.40 ¹	13.78	1.75	24.27 ³	16.56	0.67	0.25
FFMQ-SF							
At baseline	72.46	9.02		70.28	9.68		
At the end of treatment	79.18 ¹	8.17	0.78	81.32 ³	7.95	1.20	0.27
MAAS							
At baseline	3.97	0.82		3.79	0.55		
At the end of treatment	4.45 ¹	0.70	0.62	4.20 ³	0.71	0.61	0.35
SCL-90 DEP, ANX, GSI—depression, anxiety and global severity index of symptom checklist 90; STAI-S—Spielberger Anxiety Inventory, state anxiety; STAI-T—Spielberger Anxiety Inventory, trait anxiety; BDI—Beck Depression Inventory; ShARS—Sheehan Clinical Anxiety Rating Scale; FFMQ-SF—Five-Factor Mindfulness Questionnaire, short version, total score; MAAS—Mindfulness Attention Awareness Scale; MPT group—monopsychotherapy group; PT + PPT group—psychotherapy + psychopharmacotherapy group with later psychopharmacotherapy withdrawal. ¹ p < 0.0001 (comparing to baseline figures). ² p < 0.001 (comparing to baseline figures). ³ p < 0.005 (comparing to baseline figures). ⁴ p < 0.02 (comparing to baseline figures).							

Table 5.
Treatment results in PD and GAD groups.

4.4.4 Conclusion

- 1. PDP is clinically effective for the treatment of PD and GAD, comparing with the WLC group.
- 2. PDP is more effective in the MPT format than in PT + PPT format.

Scale	MPT group (n = 32)			PT + PPT group (n = 20)			
	M	SD	d (before-after)	M	SD	d (before-after)	d (between the groups)
SCL-90 DEP							
At baseline	1.56	0.64		1.81	1.06		
At the end of treatment	0.62 ¹	0.45	1.67	1.45 ⁶	1.05	0.34	1.03
SCL-90 ANX							
At baseline	1.76	0.80		2.01	1.11		
At the end of treatment	0.66 ¹	0.46	1.64	1.37 ^{3,7}	1.11	0.56	0.84
SCL-90 GSI							
At baseline	1.21	0.41		1.42	0.86		
At the end of treatment	0.53 ¹	0.25	1.91	1.08 ^{4,7}	0.80	0.39	0.92
STAI-S							
At baseline	34.25	6.66		42.30	14.74		
At the end of treatment	22.00 ¹	7.85	1.64	29.30 ^{2,6}	11.81	0.94	0.73
STAI-T							
At baseline	52.69	8.10		58.90	11.19		
At the end of treatment	44.75 ¹	5.32	1.13	53.50 ^{3,5}	11.61	0.46	0.97
BDI							
At baseline	18.44	8.92		21.30	12.09		
At the end of treatment	8.44 ¹	4.99	1.35	11.60 ³	10.02	0.84	0.40
ShARS							
At baseline	45.38	24.95		54.20	25.99		
At the end of treatment	18.38 ¹	10.38	1.38	27.90 ^{3,6}	19.19	1.11	0.62
FFMQ-SF							
At baseline	71.70	7.34		71.28	11.95		
At the end of treatment	80.60 ¹	7.76	1.17	79.40 ⁴	8.65	0.75	0.15
MAAS							
At baseline	3.85	0.75		3.97	0.67		
At the end of treatment	4.31 ¹	0.65	0.64	4.40 ²	0.80	0.57	0.12
SCL-90 DEP, ANX, GSI—depression, anxiety and global severity index of symptom checklist 90; STAI-S—Spielberger Anxiety Inventory, state anxiety; STAI-T—Spielberger Anxiety Inventory, trait anxiety; BDI—Beck Depression Inventory; ShARS—Sheehan Clinical Anxiety Rating Scale; FFMQ-SF—Five-Factor Mindfulness Questionnaire, short version, total score; MAAS—Mindfulness Attention Awareness Scale; MPT group—monopsychotherapy group. PT + PPT group—psychotherapy + psychopharmacotherapy group with later psychopharmacotherapy withdrawal. ¹ p < 0.0001 (comparing to baseline figures). ² p < 0.001 (comparing to baseline figures). ³ p < 0.005 (comparing to baseline figures). ⁴ p < 0.01 (comparing to baseline figures). ⁵ p < 0.001 (between the groups). ⁶ p < 0.01 (between the groups). ⁷ p < 0.05 (between the groups).							

Table 6.
Treatment results in MPT and PT + PPT groups.

3. PDP is effective in the PT + PPT format, so it can be used for a successful therapy on patients recurrent and resistant to PPT.
4. UH produces a distinct mindfulness effect comparable to that for mindfulness-based CBT.

Authors	Diagnosis	Intervention	No of subjects	Scales	M1	S1	M2	S2	D-unbiased
Evans and co-authors	GAD	MBCT	11	BDI	13.8	7.9	8.82	8.5	0.56
				MAAS	3.68	0.66	4.2	0.58	0.78
Vollestad and co-authors	AD	MBSR	31	BDI	17.3	9.3	8.5	9.1	0.93
				SCL-90 GSI	1.3	0.6	0.7	0.7	0.9
				FFMQ	113.8	21.6	128.2	22.3	0.64
Tukaev and Kuznetsov	GAD and PD	PDP (UH)	52	BDI	19.54	10.24	9.65	7.41	1.11
				SCL-90 ANX	1.85	0.93	0.93	0.84	1.04
				SCL-90 GSI	1.29	0.62	0.74	0.59	0.89
				SCL-90 DEP	1.66	0.82	0.94	0.83	0.87
				FFMQ	71.54	9.28	80.12	8.88	0.99
				MAAS	3.9	0.72	4.35	0.71	0.63

Table 7.
The comparison of PDP (UH) MBCT, MBSR efficiency, and mindfulness effect in therapy of anxiety disorders.

5. Chapter conclusion

In this chapter, the author attempted to describe briefly and systematically some of the results of his experimental, theoretical, and clinical studies in the field of hypnosis and hypnotherapy.

The integrative theory of hypnosis allows us to consistently explain a number of features of the hypnosis phenomenon related to hypnotization and analgesia, improving learning ability (suggestibility) and biological effects and providing a wide range of therapeutic applications and the evolution of the communicative style of hypnotherapy. The universal hypnotherapy presents the practical embodiment of the developed theoretical understanding of hypnosis, which in the controlled study has showed a high efficacy in the treatment of anxiety disorders.

The fact that UH, developed independently in the 1970s to 1980s of the twentieth century, was later assigned to the category of methods of positive psychology and psychotherapy, the author considers natural, associated with the fundamental prevailing of positive susceptibility of hypnotic (functional child) psyche. The therapeutically valuable feature of this technique is its pronounced mindfulness effect, which we explain as reactivated by therapy homeostatically significant mechanism of normal experiencing.

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Author details

Rashit Tukaev

Department of Psychotherapy and Sexology, Russian Medical Academy of Continuous Professional Education, Ministry of Healthcare of the Russian Federation, Moscow, Russia

*Address all correspondence to: tukaevrd@gmail.com

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