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Treatment of phobias and mental disorders with the help of hypnosis and meditation

Tratamiento de las fobias y trastornos mentales con la ayuda de la hipnosis y la meditación

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ABSTRACT

This review explores the therapeutic potential of hypnosis and meditation in managing phobias and mental disorders, particularly as non-pharmacological adjuncts in psychotherapeutic practice. The increasing global incidence of mental health conditions, coupled with interest in integrative treatment approaches, underscores the relevance of this study. A systematic review of peer-reviewed literature from 2018 to 2023 was conducted using international databases, including Web of Science, Scopus, PubMed, Google Scholar, and ResearchGate. Analytical approaches included bibliographic, hermeneutic, and bibliosemantic methods to synthesise findings on clinical applications, mechanisms of action, and therapeutic outcomes associated with hypnosis and meditation. The literature indicates that hypnosis may alter cognitive and perceptual processing, contributing to reductions in stress, pain, and anxiety symptoms. Neuroimaging studies suggest alterations in brain regions involved in attention, emotion regulation, and pain perception. Mindfulness meditation has been associated with improvements in psychological resilience and emotional regulation, as well as structural brain changes connected to cognitive and affective functions. Both practices have shown potential as complementary tools within cognitive behavioural frameworks, particularly in contexts involving phobias, post-traumatic stress, and generalised anxiety. Although not yet standardised in psychiatric care, hypnosis and meditation offer promising therapeutic benefits as adjunctive interventions. Their integration into evidence-based protocols requires further validation through randomised controlled trials, standardisation of practice guidelines, and interdisciplinary evaluation of long-term outcomes across diverse populations.

Keywords: emotional disorders; suggestive therapy; fear; obsessive states; relaxation.

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RESUMEN

Esta revisión explora el potencial terapéutico de la hipnosis y la meditación en el tratamiento de las fobias y los trastornos mentales, especialmente como complementos no farmacológicos en la práctica psicoterapéutica. La creciente incidencia de trastornos de salud mental a nivel mundial, junto con el interés creciente por enfoques terapéuticos integradores, subraya la relevancia de esta investigación. Se realizó una revisión sistemática de literatura científica revisada por pares, publicada entre 2018 y 2023, mediante bases de datos internacionales (Web of Science, Scopus, PubMed, Google Scholar, ResearchGate). Se aplicaron métodos bibliográficos, hermenéuticos y bibliosemánticos para sintetizar los hallazgos sobre aplicaciones clínicas, mecanismos de acción y resultados terapéuticos asociados con la hipnosis y la meditación. La literatura indica que la hipnosis puede alterar el procesamiento cognitivo y perceptivo, contribuyendo a la reducción del estrés, el dolor y los síntomas de ansiedad. Estudios de neuroimagen sugieren cambios en regiones cerebrales implicadas en la atención, la regulación emocional y la percepción del dolor. La meditación de atención plena se asocia con mejoras en la resiliencia psicológica y la regulación emocional, así como con cambios estructurales en el cerebro relacionados con funciones cognitivas y afectivas. Ambas prácticas muestran un potencial prometedor como herramientas complementarias dentro de marcos de terapia cognitivo-conductual, particularmente en casos de fobias, trastorno por estrés postraumático y ansiedad generalizada. Aunque aún no están estandarizadas en la atención psiquiátrica, la hipnosis y la meditación ofrecen beneficios terapéuticos prometedores como intervenciones complementarias. Su integración en protocolos basados en evidencia requiere validación adicional mediante ensayos clínicos aleatorizados, estandarización de directrices de práctica y evaluación interdisciplinaria de resultados a largo plazo en poblaciones diversas.

Palabras clave: trastornos emocionales; terapia sugestiva; miedo; estados obsesivos; relajación.

INTRODUCTION

Mental disorders represent a significant global public health challenge, with increasing prevalence and severity across diverse populations. According to Charlson et al. (1), psychiatric conditions such as depression, anxiety, post-traumatic stress disorder (PTSD), bipolar disorder, and schizophrenia affect approximately 22.1% of the general population. These conditions contribute not only to clinical burden but also to social marginalisation, diminished quality of life, and increased healthcare expenditure. Standardised prevalence estimates indicate that mild forms of depression, anxiety, and PTSD affect 13% of individuals, while moderate forms impact around 4%.

In particular, phobic and anxiety disorders account for a significant proportion of these mental health conditions, with an overall prevalence ranging from 5.1% to 20%. These disorders are often associated with persistent and irrational fears, avoidance behaviours, and substantial interference with daily functioning. According to Whiting et al. (2), Peebles (3), Elkins (4), the prevalence rate of mental illness increases to 6-10% among individuals with personality disorders and schisophrenia spectrum disorders. As Rehm and Shield (5) emphasise, anxiety- and fear-related mental disorders have become a major global health problem, especially in high- and above-middle-income countries. The relative impact of these disorders on the overall health of the population has increased in recent decades, and this may be partly due to the social stigma surrounding mental disorders and insufficient access to treatment.

In the context of Ukraine, statistical data indicate a serious problematic aspect in the field of mental health. It is estimated that 1.2 million people, more than 3% of the total population, face severe fear and anxiety, including the problem of war and uncertainty about the future. In this regard, new methods of working with anxiety and fear are gradually being introduced, such as hypnotherapy

and meditation. These approaches, though still relatively underrepresented in traditional psychiatric practice, have garnered increasing attention from both clinicians and researchers.

According to studies by Lebedyn and Lebedyn and Tymoshenko (6), Danylova et al. (7), hypnosis affects various areas of the brain, including those responsible for perception, pain regulation, sensory processing, and emotional response. This feature can be useful in treating stress, anxiety, and post-traumatic stress disorder, as hypnosis can help individuals calm down and focus on the positive aspects of their condition. In turn, Shkolnikova (8) notes that fear has a natural evolutionary significance, as it helps humans and animals avoid danger and survive. However, fear can also lead to various negative consequences, such as tension, chronic stress, anxiety, panic, and can even affect physical health, including death in some cases. Following Lysnyk (9), hypnosis treatment can be beneficial and affect a person's psychological state, including fear and painful emotions.

Hypnosis and meditation techniques can be incorporated into psychotherapy to help individuals relax, reduce anxiety, and manage phobias of various origins. Atamanchuk (10) argues that fears deserve the most careful study and the earliest possible intervention to prevent the appearance of neuroses as a mental disorder. During hypnotherapy, the specialist uses the hypnotic state to interact with the patient's subconscious, thereby facilitating the modification of fears and negative beliefs. According to Radul (11), hypnosis can be a useful tool in dealing with phobias such as agoraphobia, social phobia, panic attacks, and other anxiety disorders. Thus, the occurrence of fear in response to a stress factor is a physiological phenomenon rooted in a protective mechanism. In the treatment of phobias, anxiety, and other mental disorders, it can be considered appropriate to use hypnosis and meditation in a complex format with other important methods. However, hypnosis and meditation are still at the stage of research.

The purpose of the paper is to analyse the current data on the use of hypnosis and meditation in the correction of anxiety and phobic disorders. The study aims to highlight updated data on the effects of hypnosis on human cognitive functions, describe structural changes in the brain resulting from hypnotherapy, and characterise the advantages and disadvantages of using hypnosis.

MATERIALS AND METHODS

To achieve this goal, the main methods of reviewing scientific medical literature, including bibliographic and bibliosemantic approaches, were employed. Due to the latter method, a review and thorough analysis of modern international literature on the chosen topic was carried out. The systematic literature review was conducted according to established scientific standards to ensure the integrity and reproducibility of the search, selection, and analysis processes. The review procedure, including database selection, keyword formulation, inclusion criteria, and analytical generalisation, was performed collectively by the authors. The methodological principles underlying the integration and structuring of the literature review align with those employed in recent studies by Elkins (4), Foley and Lanzillotta-Rangeley (12), and Brandmeyer et al. (13), which provide evidence-based frameworks for evaluating psychotherapeutic and neurocognitive research.

The paper drew on scientific literature from multiple countries, including the USA, Canada, India, China, Korea, Turkey, Singapore, Vietnam, the United Arab Emirates, Germany, Italy, France, and Ukraine. For this purpose, scientometric databases such as Web of Science, Scopus, PubMed, as well as research repositories such as Google Scholar and Research Gate were employed, focusing on publications from 2018 to 2023. A comprehensive search on the research topic was performed, with no language restrictions applied. The following list of scientific names, terms, and phrases was used to search for relevant scientific information: "psychology", "psychiatry", "psychotherapy", "cognitive disorders", "students", "oncological processes", "mental disorders", "hypnosis", "hypnotherapy", "attention", "memory", "cognitive disorders", "meditation", "relaxation", "schizophrenia", "schizoaffective disorder", "obsessive-compulsive disorder", "inpatient treatment", "phobias", "neurosis", "psychosis", "neurology", "thinking", "post-traumatic stress disorder", "stress", "stress disorder", "adaptation", "adaptogens", "compensatorymechanism", "medicines", "drug therapy", "cognitive therapy", "behavioural therapy", "therapy under stress", "therapy in war", "effectiveness of hypnosis", "performance", "prognosis of therapeutic tactics", "suggestion", "trance", "omissions", "trance state", "deep relaxation", "mental reconciliation", "hypnotic state", "self-knowledge", "contemplation", "concentration", "mental harmony", "reflection", "spiritual practice", "mental reflection", "panic", "anxiety", "awe", "abstinence", "anxiety".

This paper used the following methods of theoretical cognition: analysis, synthesis, and induction. In particular, the method of analysis involved collecting information and structuring the entire presentation into the main theses. Using the method of hermeneutics, the main concepts and propositions related to the terms hypnosis, hypnotherapy, and meditation were examined and characterised. The use of hermeneutic techniques has enhanced the understanding of how patients perceive their own thoughts, emotions, and experiences during hypnosis. The statistical approach is used in two interrelated areas. Firstly, it is used as one of the most effective methods for analysing and processing literary sources. This approach allowed the extraction of additional information from existing data, the identification of trends, relationships, and patterns in information, and the use of this data to confirm or refute hypotheses. Secondly, the statistical method helped to form a general idea of the prevalence of psycho-emotional disorders and develop possible methods for their correction. For this purpose, statistical data were used to determine the distribution of these disorders among the population. For example, the statistical method made it possible to determine the prevalence of these disorders across different regions and age groups, which helps to analyse their causes and risks. To solve these problems, statistical data from the population of Ukraine and countries in Asia, Europe, and the United States were used as a basis.

RESULTS AND DISCUSSION

Clinical responsiveness and limits of hypnosis

Clinical hypnosis has demonstrated utility in managing various psychological conditions, including anxiety disorders, chronic pain syndromes, and stress-related ailments, contributing to improved psychosocial functioning. Nevertheless, a critical gap remains in the literature regarding the clinical implementation of hypnosis, particularly in relation to healthcare professionals' practices, therapeutic perspectives, and experiential knowledge. This lack of standardisation in clinical settings underscores the need for systematic documentation of practitioner experience to guide evidence-based integration of hypnosis into mainstream psychiatric care. The study of Wall (14) shows that only approximately 20% of individuals can fully succumb to hypnosis, while another 20% show no response at all. The remaining 50-60% of individuals may exhibit some vulnerability to hypnosis, but they are not always completely exposed to it. Consciousness, or the upper layers of the cerebral cortex, plays an important role in perceiving and analysing danger, and in making informed decisions about the response to this danger. Consciousness is the domain in which integrative analytical processes occur, enabling individuals to act consciously and judiciously in situations involving fear or danger. However, it is also important to consider that emotions, including fear, are complex and encompass both conscious and subconscious aspects. The subconscious mind, or more basic brain structures, can automatically influence responses to danger, even without the active involvement of consciousness. This approach enables the body to respond quickly to potential threats.

Contemporary applications of hypnotherapy

Foley and Lanzillotta-Rangeley (12) surveyed 691 clinicians in 31 countries to determine the most common clinical applications of hypnosis, evaluation of effectiveness in clinical practice, approaches, and experience. The survey identified 36 uses of clinical hypnosis. In addition, the results show that clinicians most frequently employ hypnosis to reduce stress, enhance well-being, prepare patients for surgery, manage anxiety, promote mindfulness (mindfulness hypnotherapy), and assist in childbirth. Studies on active anxiety hypnosis were conducted with healthy volunteers across several series of experiments. The first study, conducted on an unselected sample of university students who volunteered for a hypnosis experiment, examined the effect of active anxiety induction on predominantly motor suggestions. No significant differences were observed between the effects of traditional induction and active anxiety induction during the execution of test sentences. The second series compared pedalling on a simulator for the same duration and resistance, with or without hypnotic induction. Active notification induction significantly increased the response to test suggestions, as opposed to just pedalling.

Despite these differences, qualitative analysis of the data showed that the manner of executing the tested hypnotic suggestions was similar in the two types of hypnosis characterized by dissociation, clear and vivid dream-like imagery, involuntary execution of motor suggestions, effortless memory improvement, and rationalisation. In addition, post-hypnotic suggestions were observed. Overall, 55% of subjects spontaneously reported unmistakable changes in their perception of time and space, unusual visual and bodily sensations or distortions, and sudden emergence of unexpected memories. The

disengagement from the external environment and the narrowing of attention in both types of hypnoses were reported by 78% of the subjects. In contrast, 72% indicated that while traditional hypnosis induced drowsiness and passivity, active hypnosis was associated with increased alertness and a sense of refreshment. According to 68% of subjects, the induction of active readiness led to emotionally more positive, sometimes even ecstatic experiences.

According to Timmermann et al. (15), during the practice of mindfulness meditation, a person may observe changes in the perception of pain, including its nature and intensity. By focusing on bodily sensations, individuals undergoing hypnosis can become more aware of the processes associated with pain, such as anticipatory anxiety or catastrophic thinking, and learn to distinguish these processes from their personal identification with the sensation. Meditation, rooted in diverse religious and philosophical traditions such as Buddhism, Hinduism, and Sufism, has gained considerable attention in Western clinical contexts for its therapeutic potential. Contemporary approaches, including mindfulness-based stress reduction and transcendental meditation, offer structured methodologies aimed at cultivating attentional control, emotional regulation, and cognitive clarity. These practices are increasingly employed to promote psychological resilience, with empirical studies documenting improvements in emotional stability, self-awareness, and stress coping mechanisms. Some meditation techniques are aimed at revealing inner experience and self-understanding.

These techniques may include observing thoughts and emotions, as well as practising introspection and reflection. These practices contribute to mental enrichment and foster greater awareness and attentional focus. Other techniques focus on love, emotional harmony, and everything around. In addition, Basso et al. (16) note that the effect of meditation on the sense of will may vary depending on the specific meditation technique employed and the manner in which it is practised. Some meditation techniques can increase feelings of will and self-control, while others can weaken these aspects (Figure 1). For example, mindfulness meditation is often aimed at developing attention and consciousness. It can help improve your sense of will, especially in your ability to control your reactions to stressful situations and negative emotions. Mindfulness meditation helps maintain emotional balance and make conscious decisions.

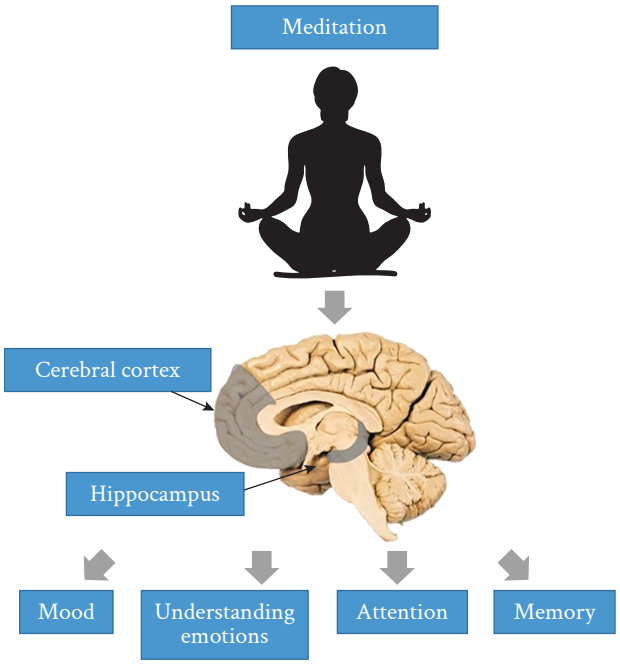

Figure 1. Images of cognitive links involved in the meditation process (16).

Cognitive and immunological effects of meditation

Brandmeyer et al. (13) point out that mindfulness meditation can lead to increased telomerase activity in peripheral blood mononuclear cells, indicating a possible effect of meditation on the immune system. Mindfulness meditation is a psychological practice that involves constant attention and conscious awareness of the present moment, without evaluating or reacting to it. It includes various techniques such as mindful breathing, mindful observation, and other ways to improve consciousness. According to the testimony of Rezzoug et al. (17), telomerase is an enzyme that plays an important role in maintaining telomere length at the ends of chromosomes. Telomeres are structures that allow cells to divide without losing genetic information. Maintaining normal telomere length is important for cellular integrity and immune system function. This may be important for longevity and immune health, as maintaining normal telomere length may be associated with a younger physical condition of the cells.

Zollars et al. (18) argue that medical students who participated in their study show significantly increased vulnerability to mental health problems such as depression, suicidal thoughts, anxiety, drug addiction, and eating disorders. Mindfulness meditation is a powerful tool for balancing and improving physical and mental health, even among young people. It

involves conscious attention to the current moment without judgment or criticism. Zollars et al. support the evidence for positive psychological and physiological effects of meditation, particularly mindfulness-based techniques. Empirical evidence indicates that regular meditation practice is associated with decreased cortisol levels, improved emotion regulation, reduced symptoms of depression and anxiety, and enhanced cognitive performance in both clinical and non-clinical populations. One of the main benefits of mindfulness meditation is the enhancement of mindful awareness. It fosters greater attentiveness to one's thoughts, emotions, and physical sensations. This can help improve decisive thinking and the ability to better respond to different situations in everyday life. Mental well-being can also be significantly improved through mindfulness meditation. It helps reduce anxiety and depression, as it teaches how to overcome negative thoughts and emotions. The patient learns to accept their thoughts and feelings without judgment, which promotes inner peace.

Afonso et al. (19) describe various types of meditation and MRI changes in the brain. During insight meditation, increases in cortical thickness have been observed in the right anterior brain regions and in the superior portion of the right frontal cortex. As a result of integrative body-mind training meditation, increased fractional anisotropy values have been observed in the left anterior radial corolla, the body and genu of the corpus callosum, the upper radial corolla, and the superior longitudinal fasciculus. When studying the brain structure of meditators, researchers identified interesting differences compared with individuals who do not practice meditation.

One of the main findings was an increase in grey matter concentration in the left hippocampus. The hippocampus is known for its important role in memory formation and learning, and an increase in its grey matter may indicate improvements in these functions among meditators. Differences in fractional values and fractional anisotropy were also observed in different brain regions of meditators. In particular, meditators showed higher fractional values in the sphenoid, precellular, and occipital regions, as well as in the ventromedial prefrontal cortex, which may indicate enhanced structural integrity in areas associated with emotion regulation and memory function. On the other hand, lower values of fractional anisotropy were observed in the right medial prefrontal cortex, posterior cingulate gyrus, and right occipital region, which may indicate greater flexibility and connectivity in these areas.

Further analysis of meditation by Portella et al. (20) also showed increased grey matter concentrations in various parts of the brain, particularly in the posterior cingulate gyrus, the left temporal-parietal junction, and the cerebellum. These changes may indicate improvements in information perception and processing functions, and changes in the regulation of emotional responses. However, in a detailed study of meditation techniques, there are isolated data on the dangers of meditation. Thus, Sharma et al. (21) were among the first to point out the negative aspects of this technique. This is logical, as although meditation has existed for a long time, systematic research into its effect on the psyche has begun relatively recently. The researchers draw attention to an important aspect—the presence of provoking factors that can affect the occurrence of psychotic disorders in individuals engaged in meditation. Psychotic disorders can be the result of a variety of factors, and it is difficult to establish an unambiguous causal relationship between meditation practice and these disorders. Instead, they are the result of a combination of several factors. The paper indicates that such individuals already exhibited provoking factors such as insomnia, inadequate food intake, a history of mental illness, and stress.

With the development of research, an increasing number of distinct forms of meditation have been identified. Thus, in their review, Sharma et al. (21) identify two main types (paths) of meditation—the type (path) of concentration, when an individual focuses on a particular object, and the type (path) of insight, or awareness, when an individual is constantly trying to be aware of the surrounding external and internal (feelings, thoughts) reality. Researchers, in addition to these types of meditation, separately distinguish mantra meditation—the constant repetition of a certain verbal formula or expression, which is, in particular, the basis for the practice of quite popular and ambiguous transcendental meditation. All these types of meditation differ from each other on a neurophysiological level, since each of them activates different parts of the brain. Thus, a study of individuals who had long practised Zen Buddhist meditation revealed a decrease in the size of the amygdala —a subcortical structure of the brain responsible for the overall level of anxiety and many other emotional manifestations of a person—compared to its average indicators.

Non-pharmacological strategies in mental health care

Every year, Ukraine loses at least 104 billion in revenue due to mental health problems. In Ukraine, 1.2 million people, and more than 3% of the population, suffer from mental disorders. Almost 2 million people are admitted to psychiatric hospitals every year. According to Arabzade Moghadam et al. (22), stress management can be carried out using various methods, both medical and non-medical. One of these non-drug methods is the use of hypnosis. Anxiety is an emotional state that occurs naturally as a protective response to perceived threats. For example, the researcher points out that dental anxiety is a specific response of patients to stress associated with the health of their teeth. According to statistics, one-seventh of the population experiences significant anxiety related to dental treatment. It is for this group of patients that dentists take appropriate measures, including both pharmacological and non-pharmacological methods of managing their behaviour. A study by Carmody et al. (23) has shown that non-drug methods, especially behavioural and cognitive approaches, are effective in this context. The study, which involved 286 smokers, found that 20% of participants who underwent hypnosis were able to quit smoking, compared with 14% of those who received standard recommendations.

Phillips et al. (24) argue that clinical hypnosis is a significant tool in therapeutic practice, with growing confirmation from both cognitive and neurobiological sciences, as well as increasing evidence of its effectiveness. Hypnosis involves controlled modification of various aspects of cognition, such as awareness, will, perception, and faith, through an external agent (hypnotist) or by oneself (self-hypnosis) using suggestion techniques. The study by Moss and Willmarth (25) on hypnotic susceptibility, or hypnotic ability, shows that the ability to respond effectively to hypnosis is a relatively stable trait, partially inherited, and measured using several standard procedures. Individuals with low hypnotic abilities may benefit from alternative therapeutic methods. However, most medical patients can benefit from integrating complementary hypnotic therapy into medical and dental practice.

Valentine et al. (26) showed that the effectiveness of hypnosis in reducing anxiety levels was higher when used in combination with other psychological interventions than as a separate treatment method. According to Rousseaux et al. (27) and Edwards (28), anxiety, pain, and fatigue are important aspects that can significantly affect the speed and success of patients' recovery after surgery. Preoperative anxiety is recognised as "an unpleasant state of anxiety or tension that occurs as a result of the patient's concern about their health status, hospitalisation, upcoming anaesthesia and the operation itself, and a non-specific fear of an unknown future." This preoperative anxiety can affect the patient on multiple levels. This can lead to increased levels of stress, which, in turn, can lead to deterioration in physical and emotional state. Excessive anxiety can affect the level of pain after surgery and lead to positive recovery results. Various approaches can be used to reduce preoperative anxiety. For example, patients may be provided with additional information about surgery and its course, which will help reduce the fear of the unknown. In addition, psychological support and special relaxation techniques can be useful in reducing anxiety and improving the patient's overall condition after surgery.

Neurobiological mechanisms of pain reduction via hypnosis

Research by Kittle and Spiegel (29) showed that hypnotic suggestion can significantly modulate pain perception and influence brain activity during pain stimulation. This fact indicates a powerful effect of hypnosis on the perception of pain on both sensory and affective levels. Hypnosis can lead to a decrease in the activity of the brain regions that are responsible for pre-processing pain. The work includes areas that cooperate in the formation of pain and respond to pain stimuli. In addition, hypnosis affects structures associated with sensory pain processing, such as the primary (S1) and secondary (S2) somatic cortex, and other sensory structures of the brain. This can lead to a decrease in the perception of pain. Hypnosis also affects areas associated with affective aspects of pain, including the anterior cingulate gyrus, islet, hippocampus, hypothalamus, and temporal cortex. These structures constitute important components of pain sensation and the emotional response to it. The perception of space and time can change under the influence of hypnotic induction. A person may feel that time is slowing down or speeding up, or that they are in a different place or time. This can be an important aspect of the hypnotic experience and is used to achieve specific goals. Hypnosis also influences a person's self-regulation and ability to control their behaviour and responses to various stimuli. In certain hypnotic states, a person may be more open to internal influences and cues that contribute to behaviour change.

Levine et al. (30) argue that constant stress can lead to various physical problems, such as high blood pressure, heart disease, immune system disorders, skin diseases, and gastrointestinal disorders. Anxiety conditions can lead to sleep disturbances, muscle tension, headaches, and other physical symptoms. Stress and anxiety cause or worsen mental disorders such as depression and anxiety disorders. This can have a serious impact on a person's quality of life and overall mental health. Stress and anxiety lead to bad habits, such as smoking tobacco or excessive alcohol consumption, which are risk factors for many diseases. Stress and anxiety affect lifestyle choices and habits, which can lead to the development of diseases. For example, individuals who experience chronic stress may not pay enough attention to their diet and physical activity, which can lead to weight gain and other problems.

Elkins (31) describes the results of a randomised clinical trial that examined the effectiveness of using hypnosis to reduce pain and improve quality of life in patients undergoing mastectomy due to breast cancer. A mastectomy is a surgical procedure that involves removing one or both mammary glands in women as a therapeutic method in the fight against breast cancer. These findings show that patients with higher rates of transgender identity (TI) are more likely to accept hypnosis treatment. In addition, indicators suggest that TI is positively associated with various aspects of the hypnosis experience, such as mental imagery, brightness, feelings of automatism, and altered body perception during hypnosis (32). This may indicate that patients with a higher transgender identity may be more susceptible to hypnotherapy and may experience more pronounced and deeper effects of hypnosis.

According to Elkins (33), patients who have been diagnosed with cancer face various difficulties in maintaining their well-being, including fatigue, sleep disorders, and emotional stress. Understanding the short-and long-term effects of hypnosis (including self-diagnosis of a critical situation and self-hypnosis) is important for post-cancer patients. As part of the author's study, 95 women who had successfully survived cancer were randomly assigned to two groups: one received hypnotherapy combined with a group-based approach, while the other served as a wait-list control group. The study found a significant reduction in fatigue, sleep disturbances, and emotional stress among participants who received hypnotherapy combined with group therapy compared with the control group.

Thus, while fear has its own evolutionary function, it is important to understand its impact on physical and mental health and to develop strategies for managing fear and stress. A hypnosis procedure can help a person focus on the positive aspects of their psychological state and reduce the intensity of fear. A hypnotherapist can use certain techniques to work with a person's subconscious mind and reprogram maladaptive responses. According to preliminary estimates, treatment of mental health disorders can reduce the overall risk burden of phobias and anxiety disorders by only 28% (26).

Phobias: Etiology, prevalence, and hypnotic interventions

A phobia is an uncontrolled imposition of fears and beliefs, which worsens during an unforeseen situation that causes fear of something, regardless of the cause of its occurrence. A common type of neurosis is a phobic disease; more than 5% of the world's population suffers from it (34). Phobias are caused by two groups of factors: psychogenic (related to human psychology), such as depression or stress, family conflicts, and biological factors associated with disorders of the autonomic nervous system, for various reasons: vegetative-vascular dystonia; impaired hormone synthesis; injuries and brain damage; drug or alcohol abuse; genetic predisposition. Cuvelier et al. (35) describe the fear of falling, which can lead to numerous negative health consequences, including limited physical activity, social isolation, and poor quality of life. Hypnosis can be a useful tool for treating anxiety and phobias associated with falls, especially in the elderly. This tool of influence can be safely combined with traditional medicine and physical rehabilitation. Researchers concluded that hypnosis can be an important and useful component of rehabilitation in hospitals for the elderly. Using hypnosis under the supervision of a qualified hypnotherapist can help elderly and senile patients overcome anxiety, pain, and other physical and psychological problems that may arise during rehabilitation. Severe fear can activate the body's stress response, which includes the release of stress hormones, increased heart activity, and increased blood pressure. If this stress response is prolonged or recurrent, it can have detrimental effects on both physical and mental health. In addition, some people may experience various phobias or anxiety disorders that are associated with excessive fears, and this can affect their daily lives.

Phobias can develop at different stages of life: in childhood, adolescence, or early adulthood. They are often associated with traumatic events or stress, but the reasons why some individuals become vulnerable

to certain phobias are not always clear. Some phobias can occur due to genetic or psychological factors, including heredity or other characteristics. They can also occur because of certain initial conditions, such as a combination of genetic predispositions and severe stress or traumatic experiences. For example, experiencing a traumatic event in childhood or fear in a particular context may lead to the development of a phobia later in life. However, the exact causes of phobias remain uncertain and require further investigation into the mental processes and individual characteristics of the psyche.

Thus, specific or simple phobias, such as fear of heights or claustrophobia, are often observed in childhood and can be associated with early negative experiences. For example, exposure to confined spaces during childhood, accompanied by feelings of restraint or fear, may contribute to the development of claustrophobia later in life. Phobic disorders are based on current, intense, and unrequited fear (phobia) of certain situations, creatures, or objects. This fear provokes the development of anxiety and other needs to avoid these objects or situations. Phobic disorders can be divided into general ones, such as agoraphobia (fear of difficulty in getting out of a situation) and social phobia (fear of social situations), as well as special phobias. Specific phobia is the most common among anxiety disorders. These include a pathological fear of certain objects or situations, such as spiders, heights, and enclosed spaces. Such phobias can significantly affect a person's daily life, causing stress and leading to the avoidance of certain situations. Phobias such as fear of animals (zoophobia), heights (acrophobia), and fear of thunderstorms (astraphobia, brontophobia) are among the most common. Specific phobias affect approximately 13% of women and 4% of men over a 12-month period.

Following Babbar and Oyarzabal (36), hypnosis can be a useful and important element of preparing for childbirth for many pregnant women. Hypnotherapy specifically designed for pregnant women is called pre-delivery hypnosis. Its purpose is to alleviate anxiety, stress, and pain, while also preparing the expectant mother for laboru. Self-hypnosis and hypnosis under the supervision of a specialist can help pregnant women learn to relax, manage pain and fear of childbirth, and improve their overall psychological state. Hypnosis can be safely used to create a positive and immersive childbirth experience for the mother. It is important to keep in mind that hypnosis during pregnancy should be performed by a qualified hypnotherapist who specialises in working with pregnant women. A specialist can teach a woman self-hypnosis techniques that she can use during labour.

During the treatment of phobias with the help of hypnosis and meditation, the following techniques are used: suggestion (the psychotherapist utters phrases that urge the patient to treat the phobic situation differently and remain calm), simulation of phobia (during the session, the psychotherapist can simulate a situation in which the patient can experience an attack of fear and work out the patient's feelings), the practice of neuro-linguistic programming—overcoming internal conflict with the object or situation of fear. Hypnotherapy presents several potential advantages in the treatment of phobic disorders when compared to traditional cognitive-behavioural methods. These include a rapid onset of symptom relief, reduced pharmacological intervention, and enhanced access to subconscious emotional content that may underlie pathological fear responses. However, these benefits are highly contingent upon patient susceptibility to hypnosis, the skill of the practitioner, and the integration of hypnotic techniques within a broader therapeutic framework.

Criticism of the use of hypnosis and meditation in the modern scientific community

According to De Benedittis (37) and Freedman and Wickramasekera II (38), hypnosis, which is one of the oldest forms of psychotherapy, has really come a long way in recent decades. It has become the object of intensive scientific study and at the same time an effective method for clinical use. This psychological practice is based on an individual's ability to immerse themselves in a deep state of concentration, where they may be more susceptible to influence on a subconscious level. Following McCann (39) and Wu (40), hypnosis is used for a variety of purposes, including pain relief, the treatment of phobias, sleep improvement, and stress reduction. Hypnosis can also be an important element in psychotherapy and other treatments for mental disorders.

Most clinicians rate hypnosis as a highly effective method for various clinical situations (41-43). These areas in which hypnosis is generally considered effective include reducing stress, preparing for surgery, treating anxiety, using mindfulness, and boosting self-esteem and confidence. Hypnosis helps people relieve stress and improve their psycho-emotional well-being. It is used to relax and reduce stress responses. In clinical settings, hypnosis is used

to prepare patients for surgical procedures. This can help reduce anxiety and improve the patient's overall psychophysiological state before surgery. Hypnosis is used as a component of the treatment of anxiety disorders. It can help patients reduce anxiety and teach them ways to relax and self-regulate. Hypnotic mindfulness can be used to increase consciousness and concentration, and to improve attention and memory. Hypnosis can be helpful for women during labour to reduce pain and stress. It promotes a calmer and more controlled delivery process. According to Méry et al. (44), the use of hypnosis as a technique that focuses on non-verbal communication allowed individuals to feel freer due to reduced expectations of verbalisation compared to previous psychotherapy activities. This enhances their sense of personal effectiveness and facilitates a person's relationship with themselves. These points are also useful for therapeutic alliance and related anxiety and depressive illnesses.

Basic hypnotic and meditative states are important phenomena studied in neuroscience and psychology. Although these conditions share certain features in their effect on pain perception, they differ in many aspects, and this indicates different neurocognitive mechanisms used to reduce pain during hypnosis and meditation. De Benedittis (45) and Araujo et al. (46) suggest that both conditions involve frontal modulation of areas of the brain that are associated with pain sensation. This may include activation of the dorsolateral prefrontal cortex, which plays an important role in regulating pain and pain sensation. However, it is important to note that the role of this part of the brain may differ during hypnosis and meditation. During hypnotic states, the role of the dorsolateral prefrontal cortex depends on the type of suggestion used in the hypnosis process. Different suggestions can activate different parts of the brain, which affects the perception of pain and its intensity.

According to Ahlskog (47), in the case of meditation, the role of the dorsolateral prefrontal cortex depends on the level of practice of the meditator. That is, experienced meditators may have a different mechanism for regulating pain compared to novice meditators. The meditation process can lead to the activation of various parts of the brain and other strategies to reduce the sensation of pain. The assumption of the researcher regarding the relationship between placebo response and hypnosis ability is critically investigated in his paper. Although there is no generally accepted theoretical definition of hypnosis, there is a consensus that the ability to hypnotise can be reliably measured. The author's research shows that the response to treatment using complementary hypnosis is superior to placebo treatment. The only study that tested whether placebo sensitivity correlated with the ability to hypnotise suggests that, at most, they are only slightly related.

In the context of evaluating the efficacy and limitations of hypnosis and meditation, it is important to situate these practices within the broader debate between biological and integrative approaches to mental health treatment. The biological paradigm, which dominates contemporary psychiatry, prioritises the use of psychotropic drugs such as antidepressants, anxiolytics, and mood stabilisers as clinically validated interventions for managing affective and psychotic disorders. These pharmacological strategies often deliver measurable and rapid symptom relief; however, they have been criticized for their side-effect profiles, long-term dependency potential, and the reductionist tendency to overlook patients' psychosocial and existential dimensions. In contrast, the integrative approach, which includes hypnosis, meditation, and other mind–body therapies, aims to address mental health through holistic engagement with the individual's cognitive, emotional, and physiological states. While this approach is increasingly supported by evidence from neuroscience and clinical psychology, its incorporation into standard psychiatric care remains controversial due to concerns over methodological heterogeneity, variability in practitioner training, and the subjective nature of outcome measurement. This tension between paradigms reflects an ongoing epistemological divide in modern mental health care. It underscores the need for further interdisciplinary research and clinical trials to compare the efficacy of multimodal treatments across diverse patient populations (39).

The aforementioned studies show that psychotherapy in the form of hypnosis can produce both beneficial and adverse effects. Incorporating hypnosis into psychotherapy can increase the risk of harm due to several factors: the trance may unexpectedly reveal the patient's vulnerability (due to a weakening of orientation to reality, a decrease in structure, the generation of unfamiliar sensations and perceptions, and increased access to internal information, such as emotions and images); trance may unexpectedly increase the permeability of the therapist's attitude or affect (due to increased mental sensitivity to the internal states of others). Many other studies have not found any significant effect of meditation

and hypnosis on positive mood, let alone anxiety. Although meditation is widely regarded as a low-risk intervention, emerging evidence highlights the need for a more nuanced understanding of its potential adverse effects, particularly in vulnerable individuals. Isolated case reports and small-scale studies have documented experiences of derealisation, exacerbated anxiety, and even transient psychotic episodes following intensive meditation retreats, especially among individuals with pre-existing psychological vulnerabilities or inadequate supervision. These findings underscore the necessity for appropriate screening and professional oversight in the clinical application of meditative techniques.

CONCLUSIONS

The use of hypnotherapy and meditation is not fully understood and partially proven in the medical community. In addition, these methods cannot be used as a separate type of therapy, but only in combination with other non-drug and drug methods of treatment. Hypnosis can be used to reduce pain, improve mental health, increase motivation to actively participate in rehabilitation procedures, and promote faster recovery. It is important for a hypnotherapist working with elderly patients in hospital settings to understand the characteristics and needs of this population and to provide individualised care. Hypnosis can be useful when used by competent specialists in the field of psychotherapy and medicine to achieve certain goals; however, it should always be considered an additional method, and consultation with a physician or psychotherapist is recommended prior to starting hypnotherapy.

Randomised controlled trials are the gold standard for evaluating treatment effectiveness. Encouragingly, recent studies show positive effects of hypnosis in cognitive-behavioural therapy and other treatments, indicating it can improve patients' quality of life and treatment outcomes. Ongoing research may expand hypnosis's role in medicine and psychotherapy. Crucially, hypnosis should be administered by trained, ethical professionals to ensure patient safety and maximise benefits.

Thus, hypnosis can be used as a method of pain relief and comfort improvement for patients with chronic pain or before and after surgery. Hypnosis can help solve sleep problems such as insomnia and nightmares, helping patients relax and fall asleep more easily. Hypnosis is quite effective in treating various conditions, such as anxiety disorders, phobias, post-traumatic stress disorder, and other mental conditions, and it also helps in managing chronic diseases and improving the quality of life of patients.

Future research should aim to elucidate the neurobiological mechanisms of hypnosis and meditation and to verify their efficacy through large-scale randomised trials. Priority should be given to standardising protocols, identifying responsive patient groups, and assessing long-term outcomes, particularly in those with comorbid psychiatric or chronic conditions. Populations in conflict zones, such as Ukraine, also warrant targeted study due to elevated mental health risks. Further innovation lies in integrating digital tools like virtual reality and mobile health apps to enhance therapeutic access and adherence. Ethical standards, practitioner qualifications, and international clinical guidelines must be developed to ensure the safe and effective application of these interventions.

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