

Mindfulness – focused awareness: application in children at a psychiatric ward

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Summary

Mindfulness (focused awareness) pertains to a state of mind in which attention is focused to one's own experiences (physical sensations, thoughts, emotions) or enviroment (sounds, smells) in the present moment with an accepting and nonjudgmental attitude. Although mindfulness had been present in the tradition of religions of both the East and West for more than 2500 years, mindfulness based therapy (MBT) was brought into modern medical practice in the late 1970s. Studies have shown that mindfulness has positive effects in children on symptoms of depression, anxiety, attention-deficit/hyperactivity disorder, impulsivity, eating disorders, addiction.

Mindfulness has been incorporated in the comprehensive therapy program at the closed psychiatric ward (ages 7 to 14) since 2015 of the Psychiatric Hospital for Children and Adolescents, Zagreb, Croatia. It is applied in group sessions with children with various mental health disorders combined with other cognitive behavioral therapy (CBT) techniques ev-

ery work day in the duration of approx. 20 minutes. Mindfulness techniques include sensory exercises (smell, taste), breathing exercises, body examination, guided imagination, movement exercises, standing yoga, listening meditation. When applying mindfulness in children it is necessary to shorten the duration of the exercises, as well as adjust them by incorporating elements of play. Mindfulness exercises are gladly accepted by the children and have lead to a reduction in internalised and externalised problems.

Key words: mindfulness, children's psychiatric ward, children's mental health disorders

Sažetak

Mindfulness (usredotočena svjesnost) odnosi se na stanje svijesti s pažnjom usmjerenom prema vlastitim iskustvima (tjelesne senzacije, misli, osjećaji) ili okolini (zvukovi, mirisi) u sadašnjem trenutku sa stavom prihvaćanja i neprosuđivanja. Iako je mindfulness prisutan u tradiciji religija Istoka i Zapada već više od 2500 godina, terapije bazirane na usredotočenoj svjesnosti (eng. mindfulness based therapy – MBT) uvedene su u suvremenu medicinsku primjenu tek krajem 1970-tih godina. Istraživanja potvrđuju da mindfulness ima pozitivne učinke u djece na simptome depresije, anksioznosti, poremećaja pažnje i koncentracije te hiperaktivnosti, impulzivnosti, poremećaji hranjenja, ovisnosti.

Mindfulness je uključen u sveobuhvatni terapijski program na zatvorenom psihijatrijskom odjelu Psihijatrijske bolnice za djecu (dob 7 do 14 godina) od 2015. godine. Primjenjuje se u grupnom radu kod djece s različitim poremećajima mentalnog zdravlja kombiniran s drugim tehnikama kognitivno-bihevioralne terapije (KBT) svakog radnog dana u trajanju oko 20 min. Mindfulness tehnike uključuju senzorne vježbe (miris, okus), vježbe disanja, pregled tijela, vođenu imaginaciju, vježbe kretanje, stojeća joga, meditacije slušanja. Kod primjene mindfulnessa u djece potrebno je skratiti vrijeme trajanja vježbi te ih prilagoditi djece unoseći elemente igre. Mindfulness vježbe rado su prihvaćene od strane djece te rezultiraju smanjenjem internaliziranih i eksternaliziranih problema.

Ključne riječi: mindfulness, dječji psihijatrijski odjel, poremećaji mentalnog zdravlja djece

Introduction

The term *mindfulness* pertains to a state of mind in which attention is focused to one's own experiences (physical sensations, thoughts, emotions) or environment (sounds, smells) in the present moment with a nonjudgmental attitude (1, 2). The key point in mindfulness is to apply focused attention aimed at the present moment in which every thought, emotion or physical sensation that appears in the consciousness is noticed and accepted without judgement just as they are (1).

Interventions and mindfulness based therapy (MBT) was brought into modern medical practice in the late 1970s (2, 3). Mindfulness-based techniques are a part of the so-called third wave of CBT psychotherapeutic approaches (4). MBT draws its roots from meditative techniques that have been present in the tradition of religions of both the East and the West for more than 2500 years. Contemporary adjustments to traditional Buddhist meditation techniques open the way for application and acceptance of mindfulness in different cultures and surroundings (1). What makes mindfulness and meditation similar is that attention is directed, and what separates them is that the goal of mindfulness is not to clear the mind, but to accept everything noted in the focus of attention with a nonjudgmental attitude.

Although mindfulness is still approached with distrust in medicine, there is more and more evidence that MBT-s are effective in mental disorders such as depression, anxious disorders, eating disorders, addiction in adults (5-11) as well as children and adolescents (12-17), and that they lead to improvements in depressive symptoms, anxiety, stress and quality of life in patients with malignant and cardiovascular diseases, chronic pain and chronic somatic diseases (6, 18-22). These effects have been confirmed in comparison with different control interventions (waiting list or usual treatment). Since mindfulness reduces stress in adults and children, it can be useful in prevention as well, because learning how to handle frustrative situations with focused awareness helps in dealing with stress in life, both currently and in the future (1).

Mindfulness based therapies

Mindfulness based therapies include various techniques and interventions, ranging from sitting meditation and breathing exercises to movement meditation and application of mindfulness in everyday life and activities, such as eating, walking and showering with focused awareness. Mindfulness training is most often performed through groups in structured programs, usually lasting for 8 sessions, after which it is possible to continue application of the exercises in groups or individually.

Kabat-Zinn (1) developed a structured program for stress reduction based on mindfulness (Mindfulness-based stress reduction - MBSR) in the late 1970s, as a supplement

to basic medical treatment, in which mindfulness-based exercises constitute a primary therapeutic tool. Mindfulness exercises in the MBSR program include body examination, sitting meditation, Hatha yoga, walking meditation and mindfulness in everyday life, e.g. eating. MBSR has spread rapidly and is offered today by numerous hospitals, clinics, schools, prisons and various other institutions worldwide (1).

Segal, Williams and Teasdale (23) integrated MBSR with cognitive-behavioral techniques for depression in the 1990s and developed a cognitive therapy based on mindfulness (Mindfulness Based Cognitive Therapy – MBCT) for treating depression. Applying mindfulness exercises in persons suffering from depression disrupts the automatic ruminative pattern of negative thoughts that increases the probability of a depression relapse (24). The effectiveness of MBCT preventing a depression relapse in persons that have had three or more depressive episodes is equal to that of antidepressant maintenance therapy, and MBCT has been included in therapeutic guidelines for depression relapse prevention (25).

The effectiveness of MBT has been confirmed, besides depression (acute episode and relapse prevention), also for anxious disorders, bipolar disorder, eating disorders and addiction as well (26-29), while some disorders such as schizophrenia and social anxiety react better to standard therapeutic procedures (30).

Effect of mindfulness on the organism and brain

Mindfulness has positive effects on cognitive, emotional and physical functioning (31-35), which has been confirmed in numerous studies. Cognitive effects can be seen in increased attention span, cognitive flexibility, creativity and rumination reduction (31). Mindfulness decreases emotional reactivity, improves emotional regulation, empathy, satisfaction and increases resilience to stressful situations (31).

Neurophysiological effects of mindfulness include normalisation of blood pressure, heart rate and respiratory rate, as well as oxygen consumption (35), neuroendocrine status (reduced activity of hypothalamic–pituitary–thyroid axis and cortisone levels), sympathetic and parasympathetic nervous system, inflammation (lowered level of proinflammatory cytokines) which regulate different metabolic functions and organ systems (digestive, immune and cardiovascular system) (34, 35). The reduction in stress levels after mindfulness results in heightened productivity and effectiveness of persons.

Studies have shown that regular application of mindfulness leads to significant functional and structural changes in the brain as well. Mindfulness allows for psychological and behavioral answers that are more flexible to internal and external stimuli, which is a result of heightened activity and thickness of the cortex in the frontal regions of the brain, which are responsible for self-regulation, and lowered activity of the amigdala, with better control of strong emotions (33). A higher degree of emotional stability and lower

reactivity is also the result of higher activity of the anterior cingulate cortex, attached to the prefrontal cortex (33). Mindfulness meditation increases alfa and theta waves in EEG-s, which results in improvements in cognitive processes (36) and endorphin, serotonin and dopamine releases, positively affecting mood (35).

Mindfulness: mechanism of action

The effectiveness of mindfulness in improving mental disorders includes several mechanisms of action: cognitive change, improved self-control and self-regulation, exposure to uncomfortable and painful experiences which leads to a decrease in emotional reactivity (31-33).

Cognitive change or metacognitive awareness pertains to the development of a “re-mote” or “decentered” perspective in which persons perceive their thoughts and emotions as “mental events” rather than facts (1). Our mind is occupied with thoughts about the past or the future – the things we have done or should be doing – which are connected to feelings of depression and anxiety. The basic assumption in mindfulness is that by living in the present moment without judgement and with openness and acceptance, a broader perspective is possible; thoughts are observed as cognitive events that come and go rather as the absolute truth, emotions are observed as the current experience rather than something we have to fight against, physical sensations are observed as the body’s answer to emotions. Thus, the relationship towards the symptoms is altered, rather than the symptoms themselves (1).

Mindfulness creates “space” between perception and answer. A person becomes able to answer to stressful situations reflectively and based on their own choice, not by reflex or reactively. Emotional reactivity is reduced as well as automatic non-useful behavioral patterns with avoidance strategies that only increase the intensity or frequency of unwanted uncomfortable internal experiences (37). These maladaptive strategies contribute to the persistence of many, if not all, emotional disorders (2). Moreover, deep and steady breathing, included in mindfulness meditation, decreases symptoms of discomfort in the body by balancing the activity of the sympathetic and parasympathetic systems (1).

Application of mindfulness in children and adolescents

When applying mindfulness in kids and adolescents it is necessary to consider developmental characteristics and cognitive abilities (38). Mindfulness exercises that are used in adults should be adapted for children, meaning shortening of the duration, usage of simplified language and introducing elements of play, activity, movement and fun. Application of mindfulness in children includes the involvement of their parent/guardian

in order for them to familiarize themselves with the basic principles of the exercises, as well as to follow along with their children during the exercises. The sequence of the exercises is also adapted to children: first, exercises of attention towards the external surroundings are performed, followed by body experiences and lastly mind exercises and meditation for older children. Mindfulness exercises used in children and adolescents can vary, and most often include exercises for senses, movements, body examination, listening, breathing, and various exercises of meditation for older children and adolescents (12, 38).

Although there have been considerably less studies on the application and effects of mindfulness in children and adolescents than in adults, there is evidence for positive effects of different interventions and therapies based on mindfulness applied in schools, nonclinical and clinical populations on physiological, socioemotional and behavioral functioning of children and adolescents (12-17, 39-45). MBT-s are acceptable and kindly accepted by children, and there is no data on negative influence and unwanted reactions. As in new scientific fields, previous studies on mindfulness in children and adolescents have numerous methodological limitations, such as a small number of participants, lack of control groups and/or randomisation of participants and standardised measuring instruments, the use of self-report questionnaires and bias due to inclusion of volunteers instead of chosen participants, all of which contributes to the conclusion that the results of the studies and their conclusions may be considered as preliminary.

Studies have shown that mindfulness exercises can increase the ability of children to face stress by improving cognitive flexibility, self-regulation, mood and overall socio-emotional development (38). Kabat-Zinn (1) emphasizes that mindfulness, because of looking at thoughts and emotions without judgement and not reacting impulsively, enables the acceptance of stressful events as challenges instead of as threats, thus increasing the ability of children and teens to face current and future life challenges.

It has been found in clinical populations of children and adolescents that mindfulness has a beneficial impact on reduction of anxiety, depression, somatic symptoms, symptoms of post-traumatic stress disorder, attention deficit, distractibility, behavioral issues, aggressiveness, impulsiveness, peer abuse, expulsion from school as well as an improvement in cognitive inhibition, selfconfidence, social skills (12-17, 39-45). A family mindfulness program for children on the autism spectrum has proven to be effective in reducing social communication problems, as well as marking an improvement of emotional and behavioral functioning of children and improvement of the functioning of parents and their parenting process (46).

Studies on the effectiveness of mindfulness in children and adolescents at risk of cardiovascular diseases and obesity have shown better results for mindfulness in comparison to standard educational and therapeutic programs (47, 48).

Application of mindfulness at the Inpatient unit of the Psychiatric Hospital for Children and Adolescents

The Inpatient Unit of the Psychiatric Hospital for Children and Adolescents is the only closed psychiatric ward for children and adolescents up to age of 18 years in the Republic of Croatia. The capacity of the unit is 37 beds (25 acute and 12 chronic). The most severe cases (suicide attempts, psychotic reactions, auto and heteroaggressive states as a part of different diagnostic criteria) in child and adolescent psychiatry in Croatia are treated at this ward. In diagnosing and treatment multidisciplinary (childrens' and adolescents' psychiatrist, clinical psychologist, social worker, work therapist, EEG, neuropediatrician, medical nurses) and multimodal approach is being followed (individual and group psychotherapy by psychiatrist and psychologist, family therapy, sociotherapy, occupational therapy).

Mindfulness has been applied at the Inpatient Unit of the Psychiatric Hospital for Children and Adolescents since 2015 in a group of elementary school-aged children (7 to 14 years old) as part of a multimodal therapeutic program individualised according to the needs of the child and his/her family. It is an open transdiagnostic group varied in the age of children and duration of hospitalization. The inclusion criteria are the positive opinion of the treating psychiatrist and parents/guardians consent. The group usually has 4-6 children. Mindfulness exercises are performed every work day in the duration of 20 to 30 minutes, depending on the number of children, their mental state at the moment and the conditions on the ward at the moment. For the children who have joined for the first time, a brief explanation of mindfulness is given, as well as the aim of the mindfulness exercises. The children participate in the mindfulness exercises one or more times, depending on the duration of their treatment, and exclusively during their stay at the ward. The exclusion criteria include poor reality testing, intolerance for group sessions and processes, severe cognitive impairment, intoxication, acute states of anxiety and depression, suicidal risk, manic episodes, weak motivation, oppositionality and antisocial features.

At the beginning the exercises of attention towards the external surroundings are practised (taste – chocolate, lemon; smell – flower, orange, spices; touch – various textures, ice; sight – one object, room, clothing diary; listening – bell, different musical rythms), followed by body experiences (movement – “train”, “Indians”, “dance”; breathing. my arms are a magnet, cold and warm breath, breathing with our stomach; body examination – Spaghetti test, fall snowflakes fall; everyday activities – teeth brushing, walking) and finally exercises for the mind and meditation for older children (thoughts – “River of thought”, “Empty slate”, “Thoughts as a vanishing cloud”, “Glitter powder bottle”, “Conveyor belt of worry”; emotions – “Weather forecast of emotions”).

After participating in mindfulness exercises, the children report on feeling of relaxation, improved mood. The staff has noticed a decrease in “acting out” reactions and aggressive behavior, as well as an improvement in cooperation by the children who attended the exercises. The goal is to teach the children mindfulness exercises so they can continue applying them after their hospital treatment.

Mindfulness is increasingly used in clinical conditions and psychiatric institutions for children and adolescents (49-51). Application of mindfulness in psychiatric wards requires realistic understanding of the possibilities and challenges: patients with a more severe symptomatology and comorbidity, acute phase of illness, side-effects of medication therapy, changes in group participants, current possibilities at the ward. Mindfulness exercises should, thus, be adapted to the population of patients and conditions at the ward. The choice of patients is important to avoid the disruptions of group sessions. Studies on the effectiveness of mindfulness on the population of patients at the psychiatric wards are still in early stages, but report on positive results (49-51).

Conclusion

Interventions and therapies based on the mindfulness principle represent rational, relatively fast, pleasant and nonstigmatising preventative and therapeutic procedures for internalised (emotional) and externalised (behavioral) problems that can be applied in different populations of children and adolescents (schools, health institutions, social care institutions).

Further research is needed to overcome the methodological limitations of previous studies, so that mindfulness may become an evidence-based intervention.

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