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Meditation and psychosis: trigger or cure?

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Summary

This is a review of studies concerning the use of meditation techniques in psychiatry and psychotherapy. A brief history and characteristics of meditation are presented, with an emphasis on mindfulness meditation, which is a type most widely used as a health intervention. Potential adverse effects of meditational practices are also brought to attention. We focus mostly on the links of meditation to psychosis, describing both conditions in which meditation may cause decompensation, as well as presenting research on the effects of the implementation of modified meditation techniques in psychotic patients. In order to better understand the phenomena described we interpret the effects of meditation using psychodynamic and cognitive theories. The studies presented here suggest that in certain circumstances meditation may trigger psychosis, but they also show that interventions based on mindfulness may play an important clinical role in the alleviation of symptoms during psychotic episodes.

meditation / mindfulness / psychosis / schizophrenia / psychotherapy

INTRODUCTION

"Meditation" in the Western world used to refer to philosophical thinking or deliberation that focuses on a particular topic or question, usually of deep existential or metaphysical importance (e.g. Rene Descartes' *Meditations on First Philosophy*). However, with the rise of counter-cultural movements during the 1960s and early 1970s , a more Eastern meaning of this term was incorporated into Western culture: meditation became seen as a phenomenon that does not engage the thinking process but, on the contrary, seeks to disengage it [1].

Nowadays, meditation is a term commonly used for various mental exercises consisting of techniques of concentration or contemplation, such as sitting meditation, walking meditation, repeating a mantra, breath exercises, tai chi, qigong, some aspects of yoga, etc. Although this type of meditation is known in and inherent to many different religions, it seems that its most mature and sophisticated forms can be found in Buddhism. The most widespread form of Christian meditation is a technique developed by John Main OSB and propagated by the World Community for Christian Meditation. This technique is essentially a concentrative meditation with the focus on a mantra word. In psychological terms meditation is a state of increased introversion maintained in an attempt to quieten daily thoughts and emotions and quell "busyness". It is believed that a state of passive awareness can be achieved by stopping the flow of rational thought and normal mental activity [2, 3]. This is the type of meditation this article focuses on. Meditation understood in this way refers to dwelling in a state of consciousness with a single-pointed focus or dwelling in a state of alertness/wakefulness without a particular focus [1], reflecting the classic distinction between concentrative meditation and mindfulness meditation. In the Western world these techniques rarely appear in their "pure" form. Their most popular Western modifications are transcendental meditation and mindfulness meditation. The first is

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not only a specific technique, but also an institution or even a cult. From the functional point of view, transcendental meditation engages focused attention while mindfulness meditation embraces not only focused attention but also open monitoring [4]. In this article we will focus mostly on the latter type.

Mindfulness meditation

Mindfulness can be described as "the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment" [5, p. 145]. The author of this definition, Jon Kabat-Zinn, is known for his pioneering work which led to the transcription of Buddhist meditational practices (while stripping them of their religious context) into formal Western medicine procedures and their application in healthcare. Mindfulness therapy was developed and first implemented at the Stress Reduction Clinic founded in 1979 by Kabat-Zinn at the University of Massachusetts Medical School. The method was a combination of ancient meditation techniques, hatha yoga and psychoeducation, designed as a coherent structure of an 8-week programme of 3-hour weekly meetings. This procedure, devoid of religious elements, was at first aimed at helping patients suffering from chronic pain and was named mindfulness-based stress reduction (MBSR). The programme's efficacy was confirmed by different scientific studies and this later on led to the development of a wide array of modified interventions tailored at dealing with different psychopathological conditions. As a result, the concept of mindfulness became more widely known and began to be used in many new contexts, also by lay people.

As Khoury and colleagues summed up [6], mindfulness carries a variety of meanings: (a) self-regulation of attention, (b) decentring, (c) awareness of sensations, thoughts and emotions, (d) openness and acceptance of all inner experiences with calmness, (e) non-reactivity and non-judgement, (f) observing and describing, (g) equanimity, (h) kindness, and (i) compassion. This variety of understandings and functions of mindfulness is reflected in different interventions. However, we can categorize these meanings into three wider blocks: mindfulness *per se*, acceptance and compassion. Mindfulness includes meditation-like procedures aiming at improving awareness and retraining attention, implying an improvement in emotional regulation and a reduction of maladaptive automatic responses. Acceptance refers to embracing all kinds of intrapsychic experiences, not avoiding but instead engaging in "kind observing" of both unpleasant and pleasant thoughts, feelings, somatic sensations, and then "letting go" of them. Compassion in this context is thought to activate the "self-soothing system", decrease negative emotions such as shame, fear and helplessness, and increase positive attitudes and feelings such as contentment, love and kindness.

On the basis of these three factors, distinct therapy modalities were established and put under the caption "third wave of cognitive–behavioural therapy".[1] The most important of these are: mindfulness-based cognitive therapy (MBCT) [7], acceptance and commitment therapy (ACT) [8], compassion-focused therapy (CFT) [9] and dialectical behaviour therapy (DBT) [10]. The first proved effective in preventing recurrences of depression episodes, whereas the last proved effective in treating patients with borderline personality disorder. There are also numerous reports confirming the efficacy of mindfulness-based interventions in other clinical populations, both somatic and psychiatric, from body image disorder [11] to post-traumatic stress disorder [12], as well as in non-clinical populations, for example with the aim of increasing a positive hedonic tone [13].With all the evidence supporting mindfulness-based interventions it would be easy to conclude that they are efficacious and always beneficial in a very wide range of different applications. However, it would be remiss not to mention the possible side-effects of meditation (including mindfulness meditation), which include disorders of both a physical and a psychological nature. In the first part of this article we will focus on one, possibly the most extreme, side-effect, namely psychosis. Then, in the second part of the article, we will look at the evidence of beneficial effects of meditative techniques in psychotic disorders.

The dark side of meditation

Meditation is a practice on the borderline of psychology and spirituality, so it should not come as a surprise that both its therapeutic value and its problematic aspects have been picked up on by psychologists and psychiatrists with an interest in spirituality. However, transpersonal psychologists have given this matter most attention. Transpersonal psychology evolved on the grounds of humanistic psychology. Abraham Maslow, who first inspired humanistic psychology, later came to the conclusion that the spiritual layer of human existence and the associated

[1] It is worth noting that long before the "cognitive era" elements of the mindfulness approach could be found in certain psychotherapy schools, such as Gestalt, transpersonal and even the psychodynamic school.

extraordinary states of consciousness should be given more attention. This led to the foundation of transpersonal psychology.

The name of this "fourth-force psychology" was invented by the Czech psychiatrist and psychoanalyst Stanislav Grof, who initiated the use of lysergic acid diethylamide (LSD) in the treatment of hospitalised psychiatric patients. Working with his wife, Christine, Grof later noticed that people involved in different spiritual practices, such as meditation, at some point seem to be facing especially challenging experiences catalyzing personal crises of various kinds and degrees. They called such crises, depending on their intensity and ensuing difficulties, "spiritual emergence" and "spiritual emergency". Emergence here seems to emphasize new and potentially beneficial experiences associated with the crisis, while emergency stresses its dangerous and harming aspect [14]. Another transpersonal psychotherapist, John Welwood, described the concept of "spiritual bypassing" which involves escaping from the basic human needs and feelings by dissociating into mental states without a proper integration [15].Most recently, Willoughby Britton, a clinical psychologist, neuroscientist and Buddhist practitioner has warned against treating meditation as a "happy pill", something that could be used to get rid of all kinds of trouble, a simple and easy method of relaxation. Britton devised a study called "The Varieties of Contemplative Experience". She interviewed dozens of advanced meditation practitioners, teachers and Buddhist scholars asking them about "difficult or challenging mind (or body) states" that can occur as a result of an intensive meditation practice.

The author sums up her as yet unpublished study with these words: "…people are having all kinds of unexpected meditation effects, cognitive, perceptual and sensory aberrations, and it's scaring the hell out of them. Many of the meditators in my studies in clinical settings are reporting classic meditation side effects like depersonalization. De-repression of traumatic memories is another really common one. People have all this energy running through them; they are having spasms and involuntary movements; they are seeing lights. They check themselves into psychiatric hospitals" [16]. Britton initiated The Dark Night Project at Brown University, Rhode Island, which aims at providing help tailored to people who are "victims" of meditation.

The phenomena described above are observed not only by transpersonal psychologists or Buddhist clinicians. This is evidenced by the fact that they have been (partly) recognized in DSM-IV and DSM-5, which emphasize the need to distinguish between psychopathology and meditation-related experiences. Under the heading of "Culture-Related Diagnostic Issues" related to depersonalization/derealization disorder, we read:

> "Volitionally induced experiences of depersonalization/derealization can be a part of meditative practices that are prevalent in many religions and cultures and should not be diagnosed as a disorder. However, there are individuals who initially induce these states intentionally but over time lose control over them and may develop a fear and aversion for related practices" [17, p. 504].

Research on psychosis following meditation practice. The first article dealing with the question we focus on appeared in a prestigious psychiatric journal at the end of the 1970s [18]. The authors note that besides many beneficial effects of meditation, negative effects can sometimes be observed, namely depersonalization, altered reality testing and the appearance of previously repressed, highly charged memories and conflicts. They describe three cases in which disturbing symptoms were observed. Importantly for our later considerations, the symptoms were associated with transcendental meditation (mindfulness meditation was not yet a part of psychiatric discourse), emerged during intensive meditation practices within a meditational retreat that lasted a couple of days, and all of the patients had been hospitalised with a diagnosis of schizophrenia prior to the incident. The authors state that a combination of intensive meditation, fasting, sleep deprivation and a history of schizophrenia, along with the discontinuation of medication, can be hazardous.

What is important is that all three patients recovered very quickly. Secondly, the retreat staff, all advanced meditators, handled these clients with an extraordinarily high degree of skill and empathy. This seemed to reflect their psychological sophistication and familiarity with altered states of consciousness. Thirdly, one of the three persons was able to obtain a high degree of in-

sight and detachment, especially during interview, which, according to the authors, appeared to be a result of her meditation training. However, the study should not be generalized because of its small sample. Chan-Ob & Boonyanaruthee's study [19] published 20 years later mirrors the tone of the previous report. Despite extreme methodological simplicity, their observations, based on clinical practice, have some descriptive utility. These authors also describe three cases of acute psychotic episodes following intensive meditation, however, only one person had an earlier diagnosis of schizophrenia. They all enrolled for an unconventional meditation practice, a very intensive 7-day course, with only one meal allowed per day and sleep allowed for 4-5 hours. The authors note that the course did not offer any tailoring of practice according to participants' previous state of mind. The person with the diagnosis of schizophrenia had withdrawn her medication, which caused her anxiety, frustration and insomnia, followed by psychotic states. The second person had a history of depression and family problems. Day by day her anxiety, caused by feelings of obligation both towards the outside world and towards the meditational practice, was rising. When she began showing signs of delusions of being persecuted, she was sent to a hospital, where hallucinations, labile affect, mild loosening of affect, poor allopsychic orientation and low insight were also diagnosed. After introducing antipsychotic treatment all of the symptoms quickly diminished and the patient was sent home a week later. The third person did not have a history of psychiatric disorder.

The 35-year old businessman enrolled for the training motivated by the need to cope with his financial problems better. He was unable to detach from his situation and to focus on meditation. Soon, ruminations, loss of appetite and insomnia appeared. The man tried to cope with these by adding night-time walking meditation to the practice. After three days like this he started experiencing hallucinations and delusions of grandiosity accompanied by bizarre behaviour, pressure of speech, flight of ideas and lack of insight. His preliminary diagnosis of acute psychosis was therefore changed to bipolar disorder type I. After a week all of the symptoms were gone, however, and the patient was sent home after three weeks. The authors claim that meditation itself was not the cause of these episodes, but rather an overzealous attitude, which caused sleep and eating disorders that in turn triggered psychosis.

Meditation teachers' perspectives

Probably the most comprehensive study in this area is that by Lois VanderKooi [20]. She focused on the perspectives of Buddhist teachers of meditation. The survey she conducted among them took the form of in-depth interviews, which gave very interesting and practical insights from the very core of the phenomenon of meditation, especially in the context of meditation retreats. Part of meditation practice is associated with non-ordinary states of consciousness (NSC). The teachers identified a number of signs indicating which NSC could be a predictor of a psychotic break. As VanderKooi summarizes: "These include obsession with the NSC, more negative, fearful, and bizarre NSC, fear of going crazy, aberrant behavior, and emotionally disconnected 'schizoid' states. One teacher thought that people prone to psychosis have more rage and self-pity and fewer moments of sadness and clarity than those who are not prone [to psychosis]. Another teacher said that lack of humility is a sign of difficulty. Generally, teachers reported that too much effort and too much or too little anxiety can signal difficulties and that high-strung, emotionally volatile people have more intense and frequent NSC" [20, p. 41]. These symptoms usually signal a need to abandon the practice or to lighten it up. The teachers defined psychosis as a problem associated with overidentifying with NSC and being unable to disidentify and let go. They found that psychosis can develop at either the initial or the advanced stages of practice, but it is estimated to occur in far less that 1% of meditators. In people with a history of psychosis it is more likely to occur during the initial stages, which is related to the student's inability to use meditation practices to stabilize the mind while its defences are relaxed. A few cases of psychosis may occur after a retreat. Students stripped of their usual defences can become depressed and overstimulated when they re-enter ordinary life. Psychosis is very rare in more

advanced stages, because meditators have developed greater equanimity or an ability to observe and let go of mental content. At the time, it is usually associated with excess concentration and overexertion.

Limitations of understanding

Most of the few studies related to "meditation-induced" psychosis have serious limitations. The most important one is poor methodology: case studies of previously hospitalized meditators, small trials, lack of control groups and overall lack of structure. Other important factor that limits the generalizability of the findings from those studies is that little or no information was provided on the levels of experience or competency of the meditation instructor. According to empirical studies, the extent to which a meditation instructor is able to impart an "authentic embodied transmission" of meditation teachings is a factor that considerably affects outcomes [21]. Indeed, poorly administered meditation training can lead to adverse health effects. Also, most of the studies provided inadequate information regarding the range of meditation techniques employed. Shonin et al. [21] note also that participants were attending open meditation retreats rather than practising within a clinical framework setting, which means that they had been exposed to intensive meditation practice (i.e. involving up to 18 hours of meditation per day with prolonged periods of fasting and/or silence).

Insight from psychoanalysis

Psychoanalytically oriented authors interested in meditation generally agree to Shaffi's decades old grasp of the subject, according to which meditation is a state of active passivity and creative quiescence or "controlled" regression, during which traumas of early childhood are re-experienced and mastered [22]. There is also a general agreement that during meditation different fantasies, feelings and primitive thoughts emerge, including but not limited to "oceanic" states, which is in congruence with the psychoanalytical concept of "regression in the service of the ego". These "adaptive" regressive states can be differentiated from pathological regressive states due to their transitory, quickly reversible nature and their ability to boost self-esteem [23]. Epstein & Lieff [24], speaking about meditation viewed more as a spiritual practice, warn about psychological reductionism, which leads to labelling as regressive, if not even psychotic, states and experiences that could be otherwise conceptualized as mystic, or, to use a language not affiliated with spirituality, states that involve a transformation of the ego. Despite the fact that mindfulness is in a way an example of psychological reductionism of spiritual practices, it remains practically identical in its application and we can assume that it does not differ substantially in terms of phenomenological experience, and even a secular mindfulness practice can lead to insights of spiritual quality. In fact, spirituality may partly explain MBSR outcomes, whereas changes in both spirituality and mindfulness after an 8-week programme are significantly related to improvement in mental health [25]. Therefore, Epstein & Lieff's conclusions seem to remain valid, even if we take into account contemporary Western modifications of meditation techniques.

At the same time, we are shown the other side of the coin. Practitioners of meditation sometimes happen to be so consumed by the "rhetoric of transformation" that they fail to notice the regressive character of the majority of their experiences. Transpersonal psychology literature labels these kinds of misconceptions as pre/trans fallacy [26]. The name refers to confusing the state of a lack of separation characteristic for symbiosis with the mother during early infancy with the state of transgression of one's separatedness with an impression of becoming one with the universe. Epstein & Lieff claim that such misrecognitions arise when meditators, teachers, clinicians and researchers conceptualize meditation as one discrete state, rather than as a developmental process. These authors propose an understanding of meditation parallel to the process of psychoanalysis, in which in the beginning stages regression may occur in order to enable progress when the ego is strong enough to withstand regressive upsurge.

Also, narcissistic flavour is inherent in the intermediate stages of meditation, but not all practitioners interpret these experiences solely in narcissistic terms, which allows them to move beyond

these experiences. Early meditation experiences may also fuel "immature" defence mechanisms of schizoid fantasy and hypochondriasis as issues of interpersonal relationships become directed back into the internal meditative experience. These kinds of problems cannot be resolved when instructors direct students to focus solely on the process, instead of the content of the experience, and, as opposed to traditional forms of meditation rooted in the spiritual tradition, a framework in which such material could be worked through does not exist. According to Epstein & Lieff, psychosis can manifest among meditators with poorly developed ego, who use primitive defence mechanisms of denial, delusional projection and distortion of regressive forces.

Neural mechanisms involved in meditation and psychosis

It is important to note that meditation is not only a psychological phenomenon but also a physiological and neural one. There is a wealth of literature concerning the influence of meditation on brain structure, with most studies showing increased cortical thickness and altered neural processes in various areas of the brain, particularly those associated with attention and emotion [27]. Significant changes are observed in the cortical structure in regions that are routinely engaged during meditation, and those changes are considered to be overall beneficial [28]. There is also some evidence of dopamine system activation during certain ecstatic meditative states [29]. Dopamine levels in the striatum increase during meditation [30] and this may partly explain the relationship between psychosis and meditation, as pre-synaptic dopamine synthesis and synaptic dopamine availability are increased in the striata of people with psychotic illnesses [31]. Increased dopamine levels during ecstatic meditative states are consistent with Fischer's [32] hypothesis of an arousal continuum. The lowest end of the scale represents yogic samadhi, proceeding next toward the relaxed meditative tranquillity of zazen, normal midpoint, sensitivity, creativity, anxiety, hyperarousal representing acute schizophrenia, and finally, mystical ecstasy at the highest end of the scale. However, qualitative differences between psychotic and meditative states, especially regarding the ability to integrate and tolerate inner experiences, may raise a question if neural correlation may be interpreted as a causal factor in this case and if arousal alone can be regarded as a key factor.

Mindfulness meditation as help in dealing with psychotic states

Let us look at the other side of the meditation-psychosis coin. As we have stressed before, there is a rich literature concerning meditation as a helpful tool in different mental conditions. Perhaps, due to negative anecdotal and scientific evidence (such as that mentioned earlier), for many years there were no clinical studies utilizing meditation for people with severe mental distress. First trials were perhaps inspired by the success of mindfulness meditation in affective disorders [7]. The studies on using meditation in schizophrenia were possible also due to the nature of mindfulness, which seems to be simple to conduct, safe, lacking a religious component and at the same time "psychological". Mindfulness allows a volitional, though not in any way intrusive, control over the flow of thoughts and emotions, especially when they become pathological in nature. Chadwick and colleagues [33], the authors of the first study on the application of mindfulness in psychotic patients, began with similar assumptions.[2]

An earlier study by Chadwick and Birchwood showed that psychotic patients react to voices and paranoid delusions with confrontation and rumination [34]. The common denominator for confrontation and rumination is resistance. What is more important, those experiences and reactions become a central part of the patient's Self. The team led by Chadwick noted that a mindfulness-based approach towards such experiences does something completely opposite. They assumed that maintaining a state of "clear awareness" and the acceptance of psychotic sensations leads to treating them as temporary phenomena that are not incorporated into Self, and to the notion that they do not have to reflect reality. Instead of trying to suppress unwanted thoughts and emotions (which is usually unsuccessful), acceptance, a core feature of mindfulness, encourages openness to everything that arises in the consciousness, but without following it (which prevents rumination). The attitude

[2] It is important to underline that the studies concerned people currently in a psychotic state, in this case in the course of schizophrenia or schizoaffective disorder, not people currently in remission.

of observing "events in the mind" fosters their emergence and disappearance from the consciousness and although psychotic experiences do not change their unpleasant quality, it eliminates the distress associated with fighting them. Instead of engaging in inefficient ways of coping with psychotic symptoms, a meta-cognitive stance of mindfulness allows the patient to "let go" of them. Ten patients participated in Chadwick et al.'s study. Mindfulness practice took place in groups and consisted of 6 weekly 90-minute sessions (with a 15-minute break). Each session was led by two of the authors, one with 8 and the other with 4 years' experience in mindfulness meditation.

Meditation itself was conducted twice during the session and lasted for 10 minutes. The sessions also included a general discussion about the past week, and a mix of teachings on different aspects of mindfulness. Meditations were guided, which means that the leader was giving instructions approximately every 2 minutes, which was meant to help refocus attention. During meditation patients focused mainly on their breath with some time spent also focusing on their bodies. The instructions provided during both meditation and preparation emphasized the attitudes of letting go, acceptance and non-judgement. Patients were also given audiotapes with guided meditation but they were free to use them as they wished. The results of this first study of the application of mindfulness in psychotic patients were promising. Firstly, none of the participants had any adverse effects. Nine out of ten improved on the Clinical Outcomes in Routine Evaluation (CORE) scale. All participants had improved mindfulness levels measured by the Mindfulness Questionnaire. Limitations of the pre-/post- study, a small sample size and most importantly, lack of a control group does not allow mindfulness to be considered the main factor leading to improvement . However, subjective reports of the study participants pointed to mindfulness training as the most therapeutic factor in the study. Despite the fact that the results of this study should not be generalised because of the lack of a control group and a small number of participants, interventions utilised there can be treated as a gold standard. Both the modification of traditional mindfulness-based therapies and – not so obvious in the case of later studies – the fact that leaders were trained and experienced in mindfulness meditation and psychotherapy can be treated as an example of how such interventions should be performed.

Conclusions in the light of later studies and the meta-analysis of studies on mindfulness interventions in psychosis

The division of mindfulness interventions into components such as mindfulness meditation, acceptance and compassion, drawn at the beginning of this article is, according to Khoury and colleagues [6], valid and useful also for psychotic patients. Owing to mindfulness meditation a person experiencing psychosis can, with time, develop an instant awareness of what is going on in their head. This is accompanied by a transition from being engulfed in a psychotic experience to observing it, which allows some sort of cutting off from disturbing internal phenomena. Acceptance means a different attitude towards experienced thoughts and emotions. Compassion, in turn, enables a compassionate attitude towards oneself. It is important to clearly state that the goal of mindfulness interventions in psychosis is not to change the character of psychotic experiences and recognize them as irrational (which is what happens in classic cognitive–behavioural therapy (CBT), where delusional beliefs are confronted, discussed and provided with counter-evidence). Mindfulness does not aim at the symptoms per se, but rather targets the pathological coping mechanism related to the symptoms, which makes it a quick and healthier way of managing one's mental state. However, Khoury et al. [6] warn that this can lead to remission, as all mindfulness components can be thought of as different strategies of emotion regulation, considered to be crucial in the treatment of psychotic disorders. Based on Khoury et al.'s meta-analysis [6] of the efficacy of mindfulness interventions in the treatment of psychosis, several conclusions can be drawn. A strong positive correlation can be observed between mindfulness (measured by different questionnaire scales) and clinical outcomes. The two other components of the intervention, i.e. acceptance and compassion, did not have a one-way correlation when measured separately, however, when measured together with mindfulness they

produced a stronger correlation and effects on clinical outcomes than mindfulness alone [6].

Despite Chadwick et al.'s assumptions that mindfulness would be effective only in coping with positive symptoms of psychosis [33], interventions of this kind proved to be modestly successful also in the reduction of negative symptoms. Reduction of affective symptoms (albeit also a modest one) and enhanced functioning and quality of life are probably an indirect effect of being able to better cope with symptoms. What is perhaps most important, however, is that participants described in their own words to an independent clinician how responding mindfully to unpleasant voices, paranoid thoughts and images greatly helped them to deal with those experiences. Six out of ten participants decided to enrol for the second course of training. These results do not differ substantially from the results of interventions based on classic forms of CBT. However, one of the conclusions of the meta-analysis by Khoury et al. is that third wave therapies have a much higher level of participant commitment and engagement. This seems logical, as these interventions do not try to question patients' thoughts, rationally convince them that they are pathological and change their beliefs. In other words, mindfulness therapists do not present themselves as those who know better which thoughts and emotions are healthy and which are not. Perhaps this makes patients feel more respected, and surely it prevents a difficult-to-handle cognitive dissonance, and this in turn leads to smaller attrition rates than in the case of traditional CBT. More recently, Chien & Lee [35] conducted a large-scale randomized controlled trial in which the effectiveness of a mindfulness-based psychoeducation programme was assessed in nearly 100 Chinese out-patients with schizophrenia. Compared with a treatment-as-usual control group, patients who received the mindfulness intervention demonstrated significant long-term improvements in psychotic symptom severity, psychosocial functioning and frequency of re-hospitalisation.Data are also available from qualitative research. Utilising the same intervention protocol as Chadwick et al.'s study [33], a grounded theory analysis of treatment experiences was conducted on 16 patients with a diagnosis of schizophrenia with prominent positive symptoms [36]. Mindfulness was shown to improve coping with delusions and modify the participants' perception of psychotic experiences. A three-stage process took place: (a) becoming centred and stable in the awareness of psychotic experiences, (b) allowing psychotic episodes to come and go without attempting to modify them, and (c) empowerment through acceptance and non-judgemental awareness of self and symptoms.

Specificity of mindfulness interventions for psychotic patients

All of the studies of the efficacy of mindfulness groups for people with psychosis implemented procedures that were highly modified from MBSR or MBCT– in order to match the needs of this population and thus eliminate the probability of adverse effects. One of the most important modifications is shortening the time of meditation: from 30–40 minutes to 10 minutes of mindfulness breath and from 3 minutes to 1 minute of body scan. The second important change is a fully guided character of the practice. Regular provision of instructions, mostly reminders, was intended to limit the space in which psychotic symptoms could emerge. The training was shortened to 6 sessions instead of 8, a 15-minute coffee break was introduced and the number of participants was limited to 6 from the usual dozen or so.

Limitations

The studies discussed here suggest that mindfulness meditation ameliorates psychotic symptoms. However, the generalizability of findings is limited by factors such as: (a) small sample sizes, (b) poorly defined or inactive control conditions (i.e. there was no control for potentially confounding factors such as therapeutic alliance etc.), (c) intervention heterogeneity (i.e. there were differences in the overall treatment duration, facilitator contact hours etc.), and (d) fidelity of implementation and/or adherence to practice were not assessed. Furthermore, since there is an ongoing debate on how to define the mindfulness construct, its teaching and operationalisation may vary among different mindfulness-based therapies [21].

Implications for clinicians

Vander Kooi's study [20] provides suggestions on how to deal with meditators who experience psychotic reactions. She gives an example of a young woman, who developed an irrepressible urge of contacting God while in a retreat; everything seemed symbolic to her and had cosmological dimensions. She found her mind racing as she tried to figure everything out and was looking for her teacher whom she recognized as God. She was admitted to hospital, where she was given antipsychotic treatment. She immediately wanted to return to the retreat, but was not allowed to, because she had stopped taking her medication. She could not understand why she was considered ill, because in her own opinion she was going through a process of enlightenment. Both the meditation group and psychiatric professionals considered her experience pathological and treated her in a condescending way. She was given appropriate help only after she met a Buddhist psychiatrist who acknowledged the value and spiritual dimension of her experience, while grounding her with medication and questions about mundane things. During her psychotic-like states, the woman experienced an "unravelling" of past traumas, fears and desires.

Years after the incident, she stated that it was precisely her lack of control over the unravelling content that brought about a diagnosis of schizophrenia. Interestingly, the process of unravelling had stopped and she later claimed she was more stable and peaceful than she had ever been before. She had stopped taking her medication and continued meditation but for not more than one hour a day, because she believed that longer meditation time would be harmful to her. This is consistent with Glueck & Stroebel's [37] findings that psychiatric patients benefit from transcendental meditation if it lasts up to 20 minutes per day, but may become prone to psychosis when meditating longer.This seems to indicate that even a psychotic process can be managed when a person experiencing it meets with at least a partial understanding. Such a supportive approach is taken by contemporary meditation teachers. The interviews conducted by Vander Kooi show that in dealing with psychotic-like experiences, teachers generally assure students that such phenomena occur with intensifying practice but will pass. They encourage students to simply observe the experience without denying, rejecting or indulging it. They may also supportively listen, such as when memories of trauma emerge, or they may elaborate on NSC that the student mistakes for enlightenment. When teachers notice the danger of adverse effects of meditation, they suggest that participants stop concentrative meditation and instead focus on mindfulness of internal and external phenomena and mental noting (a technique of repeatedly 'naming' or 'labelling' with the purpose of directing the attention to the mind/body phenomena in order to understand their true nature correctly), for concentrative practice tends to suppress unconscious material, whereas mindfulness allows it to emerge in a more subtle and slow way. Physical activity is also recommended, both with elements of meditation (e.g. mindful walking) and plain exercise or physical labour. Some of the teachers do not shy away from telling their students that their state is close to madness. In such cases they underline the role of other aspects of spiritual training, such as membership in the community and practising moral precepts.

CONCLUSIONS

The meditation experience makes it possible to ego-syntonically re-experience and re-examine unresolved conflicts and drives embodied in material that unfolds through the practice of meditation [38]. Utilising the well-known Kernberg's classification, we may conclude that traditional meditation serves people with a neurotic personality structure well, however, it may be a risk factor for psychosis for some people on the borderline and psychotic level. It is even more risky when the practice is carried out without a teacher or with a teacher who is poorly prepared, when the practitioner is not presented with an opportunity to talk through difficult experiences related to meditation when undergoing psychotherapy, and/or when the practice is extremely intensive and accompanied by fasting or sleep deprivation. On the basis of the research quoted earlier, we can thus reject the popular view that only healthy people should prac-

tise meditation. Even persons in the midst of a psychotic crisis can benefit from "soft" forms of meditation, such as modified mindfulness meditation, which may help them to properly distance themselves from their difficult emotional states, thought intrusions or even hallucinations. The type and intensity of meditational practice should be tailored to each patient's needs, and when there is a danger of decompensation, the person should be constantly monitored.

Cooperation between meditation teachers and mental health specialists is necessary, unless the teacher is also a clinician (which is true for some instructors of mindfulness). For people prone to psychosis, long-term meditational retreats are not recommended. With that in mind, some meditation centres have developed protocols in order to screen participants for psychological issues for which their programmes are contraindicated. Such protocols also usually include procedures that allow identifying psychological emergencies while on retreat and directing to appropriate mental health services. Mindfulness practice, in contrast to concentrative forms of meditation, not only decreases the probability of decompensation, but also helps to ground patients. While concentration meditation, similar to states of deep absorption, can be linked to the onset of hallucinations, mindfulness is taught as "choiceless attention" and it allows a meta-cognitive distance to psychotic experiences.

Though in-depth studies on both dangers and clinical utility of some forms of meditation are still needed, we are of the opinion that specially modified mindfulness training may be of substantial help and a valuable addition to the usual treatment both for patients currently hospitalised and those in the process of psychiatric rehabilitation.

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