Meditation in Complementary and Integrative Medicine: Taxonomy of Effects and Methods

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Introduction

Meditation, especially mindfulness meditation, has been experiencing a real boom for several years. This also applies to the related science, where an exponential increase in the corresponding scientific work has been recorded [c.f. 1]. It is estimated that there are now 200–500 million people meditating worldwide. Especially in the last few years, statistics have shown an exponentially increasing popularity. For Germany, a nationally representative survey [2] recently showed that 16 million people are currently meditating or are at least interested in getting started. For them, greater balance, relaxation, and well-being were the focus: The most frequent reasons given for meditating were improvements in mental (70%) and physical well-being (60%), followed by mental performance (50%). The most common form: mindfulness meditation.

Meditation in the Medical Context

Meditation is becoming popular in medicine as well. It now constitutes a central component of mind-body medicine (MBM) as it is increasingly and firmly established in the Anglo-American regions, at well-known universities (medical faculties), and has thus become a fundamental component of medical care and training in many places [c.f. 3]. Just as meditation is understood as a pillar of MBM that also conveys mindfulness as a general principle, meditation techniques or meditation-based interventions are, likewise, regularly assigned to complementary and integrative medicine (CIM) [4].

At the core of CIM lies the idea of an active, health-promoting and independent patient. Typically, CIM interventions are team-based and, above all, pluralistic or multidisciplinary, yet always patient-centered. Self-regulation (i.e., self-help or sometimes self-healing) is therefore an overriding principle of both CIM and MBM, which also pertains to the application of meditation and mindfulness [c.f. 5].

With regard to practical interventions of CIM and MBM, we often find the so-called BERN framework as a basis. This includes the four columns behavior (B), exercise (E), relaxation (R), and nutrition (N) – general tools of health promotion [3]. On the one hand, meditation can be seen as an integral part of mental training (→ B column – through its cognitive components), but it can also be linked to relaxation processes and stress-reducing aspects and interventions (→ R column). Mindfulness as a super-ordinate attitude or principle, less than a formal technique, may be contained in all four columns, or it may specifically characterize the R components (sometimes called “meditation column”).

Meditation Effects

One notices: The assignment and systematics of meditation present us with a challenge – also in its communication, in medicine, and in research. Against the background of innumerable studies on mindfulness and meditation, more and more knowledge about possible effects – therapeutic, clinical, or medical – has emerged in recent years. From the point of view of an operable research as

Fig. 1. Taxonomy of meditation effects. According to current research, meditation and mindfulness potentially influence attention (→ focusing, control), emotion (→ regulation, control), stress (→ reduction) and relaxation (→ increase), body-awareness (→ improvement), self-reference (→ increase), a general feeling of connectedness and prosociality (→ increase), as well as mind-wandering (→ reduction, inhibition). All of these areas can be assigned to the generic term of self-regulation [c.f. 3].

well as applied science, it seems imperative to bring the various effects of meditation into a meaningful context, i.e., an integrated system, concept, framework, or model – or a taxonomy.

Based on earlier work and related reviews [including 6–9], meditation effects may now be systematically assigned to the generic term of self-regulation, under which up to seven distinct and identifiable principles can be summarized (Fig. 1).

Meditation Methods

But what is counted as part of meditation? How can the methods and individual techniques be systematically brought into an operable relationship with one another?

Meditation comes from the Latin word *meditatio*, which roughly means to find your own center, aligning yourself to the center. It also describes the practice of maintaining or rediscovering inner balance through reflective thinking (ancient Greek: *medomai*). In Eastern cultures, meditation is considered a fundamental exercise for influencing consciousness. It is particularly famous in connection with Buddhism or in pre-Buddhist or Hindu contexts, but there is also a long tradition in Sufism (Islam). In the West, e.g., in the Jewish Kabbalah or Christian mysticism – generally, in introspective, concentrated prayer or contemplation – such approaches have also been noticed for a long time. Just as beyond religious contexts: Here, meditation has established itself predominantly as an exercise in reflection. We find it, exemplarily, in René Descartes’ *Meditations on the Foundations of Philosophy* from 1641 [10].

Today, beyond religious-cultural classifications, we would understand meditation primarily as a mental training, which is typically secular and works cognitively or emotionally (affectively), either via thinking or feelings (mixed forms also exist). Or, as an alternative, there are

more physically oriented forms, such as bodily relaxation techniques, or “imported” practices, such as yoga, qigong, or tai chi. These include the mental component as an integral or secondary constituent.

With the specific methods and their investigation, a concrete distinction can be made between meditation-based procedures on the one hand and meditation-informed procedures on the other. With the latter, an actual meditation technique is more in the background, and this practice is usually mixed with other aspects and methods (such as MBM or health promotion, BERN, etc.). The same applies to the second distinction, especially in the case of meditation-based procedures: Here, a difference can be found between formal and informal meditation or mindfulness. Formal practices would be those in which the meditation takes place explicitly (on the meditation mat or pillow, etc.), i.e., it is carried out in a clearly recognizable, discriminable framework and setting. Informal practice, on the other hand, means that the attitude or the principle of a certain meditation method are transferred to everyday life or integrated into everyday activities (e.g., mindful shopping, washing dishes, etc.).

Systematics of Formal Meditation and Mindfulness-Based Procedures

Already in the early religious texts, we see a division of formal meditation, in general, but also mindfulness meditation in particular, which essentially consists of two basic forms [c.f. 6]. We differentiate between focused attention (FA) and open awareness (OA), as shown in Figure 2. In the former, the practitioner concentrates on a mantra, a recurring sound, word, or short sentence, or on a given, repetitive movement. That means on either a wandering (moving) focus or a constant, monotonous focus – such as the repeatedly spoken word *om*, on which the

Fig. 2. Taxonomy of meditation methods. A systematic overview of the various methods of meditation and mindfulness (mindfulness meditation) reveals a distinction to be made between FA and OA. FA and OA are each subdivided into methods in which a selected focus (left side) either remains steady or wanders, or, correspondingly, a more broadened awareness (right side), lies either on a steady or a wandering (i.e., moving) segment of the momentary experience. In its extreme, wandering or fluctuating OA may correlate with experiences of “global binding” or “oneness” – feel-

ings, or a perception, of nonduality or nonseparation, a merging with the world, the environment, or “all beings.” These systematic distinctions, which are methodologically justified, also show correspondences in neuroscientific analyses, since they correlate with different activation patterns and distinctly involved regions of the brain [c.f. 6]. Methods of compassion or loving kindness (etc.) are commonly used as a third pillar of meditation methodology. FA, focused attention; OA, open awareness.

attention then lingers, and everything else fades out of the awareness as far as possible. Particularly often, the breath is taken as a steady focus for this purpose: coming and going, constant attentive observation of the incoming and outgoing breath, lifting and lowering of the abdomen – all of these are constant, stable foci of attention.

A more wandering focus on the other hand, unlike the rather uniform inhalation and exhalation, would be, e.g., the so-called body scan: the scanning or palpation of the body in the imagination, i.e., only in consciousness. The body is systematically felt and observed with inner eyes, ears, or the sense of touch. Whatever is sensed from the selected (focused) inner space becomes the respective meditation object until the next object appears (and so on). The autogenic training known in the West or progressive muscle relaxation also belong in this category, as do a number of body-oriented procedures.

What all these FA techniques have in common, wandering as well as static, is that attention is focused on a previously determined or delimited, specific object – which either moves continuously, as in a wandering scan, or remains constant. In contrast to this, in OA, one looks at everything that happens or becomes conscious (i.e., aware) without prior limitation or predetermination on certain foci or concrete objects; rather with an open curiosity, simply observing. Here, again, it implies that it should be avoided to judge or evaluate what has been experienced. Like a flashlight, in OA, the meditator directs his/her attention to the supposed reality, inside and outside, and looks at whatever appears in the cone of light.

Such objects can be thoughts, images, sounds, sensations, feelings or even “inspirations” (insights): whatever it is, coming from outside or inside, only existing in the imagination or completely real, everything counts. Here, too, the awareness itself can start to move, i.e., to wander, as if the light cone is made particularly wide. Or the flashlight itself goes on a wandering journey: one mentally (virtually) leaves the body or the original observation space, and everything that now gets into the window of perception (i.e., awareness) becomes part of the actual meditation experience – even the mind or consciousness itself.

Finally, in some schools there exists a third form, in which concrete, mostly given mental objects, contents, or abilities – including emotions – are not only observed but also actively practiced and trained, such as feelings of so-called loving kindness (c.f. metta or tonglen meditation, intercessory prayer, etc.); compassion, empathy, or altruism meditations are also part of this (Fig. 2).

Conclusions

Meditation, and especially mindfulness meditation, has been experiencing a real boom for several years around the world. This also applies to the accompanying science, where an exponential increase in the corresponding scientific work has been documented.

According to current knowledge, meditation and mindfulness potentially influence attention, emotions,

stress and relaxation, body-awareness and self-reference, a general feeling of connectedness and affection, as well as mind-wandering. All of these areas can be classified under the umbrella term of improved self-regulation.

With regard to the various methods of meditation and mindfulness, a distinction is made between FA and OA. FA and OA are each subdivided into methods in which a selected focus, or chosen area of observation, remains the same (stays steady) or moves. However, in OA (different from FA), the awareness lies on a section of the experiential space, or “reality,” without being preoccupied by a specific (previously known) focus: *come what may*.

Methods of compassion or loving kindness (etc.) can be described as a third, or intermediate, pillar of meditation.

Systematics or a taxonomy of the various meditation effects and underlying methods appears to be essential for operability and further scientific investigation – also, and especially, within the field of academic, evidence-based CIM.

Conflict of Interest Statement

The author has no conflicts of interest to declare.

References

- 1 Lee J, Kim KH, Webster CS, Henning MA. The evolution of mindfulness from 1916 to 2019. *Mindfulness*. 2021 doi: 10.1007/s12671-021-01603-x.
- 2 Cramer H. Meditation in Deutschland: eine national representative Umfrage. *Complement Med Res*. 2019;26(6):382–9.
- 3 Esch T. Self-healing in health-care: using the example of mind-body medicine. *Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz*. 2020 May;63(5):577–85. German.
- 4 Brinkhaus B, Esch T, editors. *Integrative Medizin und Gesundheit*. Berlin: Medizinisch Wissenschaftliche Verlagsgesellschaft; 2021.
- 5 Esch T. Self-regulation: Self-healing as part of medicine. A medical-cultural look at modern autoregulation research. *Dtsch Arztebl*. 2014;111(50):A2214–20. German.
- 6 Esch T. The Neurobiology of Meditation and Mindfulness. In: Schmidt S, Walach H, editors. *Meditation – Neuroscientific Approaches and Philosophical Implications*. Springer Series: Studies in Neuroscience, Consciousness and Spirituality. New York: Springer International Publishing; 2014.
- 7 Tang YY, Hölzel BK, Posner MI. The neuroscience of mindfulness meditation. *Nat Rev Neurosci*. 2015 Apr;16(4):213–25.
- 8 Esch T, Guarna M, Bianchi E, Stefano GB. Meditation and limbic processes. *Biofeedback*. 2004;32:22–32.
- 9 Stefano GB, Esch T. Integrative medical therapy: examination of meditation’s therapeutic and global medicinal outcomes via nitric oxide (review). *Int J Mol Med*. 2005 Oct;16(4):621–30.
- 10 Descartes R. *Meditationes de Prima Philosophia* [Meditations on First Philosophy]. Hamburg: Meiner; 1992.