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Research Article

Full awareness or mindfulness in the practice of current clinical psychology and psychiatry: Explanatory contributions

Abstract

Introduction: In accordance with relevant historical sources and the objective of reducing the conceptual ambiguity surrounding full awareness or mindfulness, it should be emphasized that the aim of these concepts is better self-regulation and that the task of the observer is to remain equanimous between attraction and repulsion of what is being observed.

Methods: A search for the word or descriptor "mindfulness" with the use of modern search engines and research databases with thesaurus, such as Medline-PubMed, PsycINFO, Embase, the Cochrane Library and InDICEs-CSIC, results in such a high number of records that this is, in practice, unmanageable. Therefore, this article, which is essentially a theoretical review and an opinion study, will only take into consideration the most important, novel or significant findings.

Results: Full awareness is adjuvant to the treatment of certain mental disorders. It is known that meditation training can improve the affective response by reducing the reactivity of the amygdala and that practicing meditation leads to a reduction of physiological stress markers. However, it is also true that we are witnessing a trend that is not without confusion as well as an exponentially growing interest in mindfulness, in both the scientific and non-scientific fields.

Conclusions: This paper aims to clarify the matter of concept, validity and psychological-psychiatric usefulness of full awareness or mindfulness currently and in the foreseeable future.

Introduction

The term full awareness refers to what is inherent and characteristic of so-called mindfulness. The latter term was coined by Kabat-Zinn [1] and is, at the same time, the translation of the word satipatthāna, from the Pali language. This translation is the most suitable one and represents the quality or subjective state of being present, aware of the present moment. It is a specific and personal attitude towards one's own experience. Mindfulness prevails and is of great importance both in clinical psychology and in general medicine, but particularly so in psychiatry. Despite everything that has already been expressed and published [2-4], the concept of mindfulness still requires the best possible clarification and an update from an integral, comprehensive and potential perspective.

As a complex construct, full awareness or mindfulness "terms that will be used interchangeably hereafter" is not an arbitrator of what it observes. Thupten [5], has just suggested that there may not even be a link between mindfulness and secular ethics or compassion and that it must be considered independently from them. However, Karremans et al., [6], using a multi-methodological approach, confirm that mindfulness is associated with forgiveness and that it may promote interpersonal functioning. The latter is consistent with what was previously stated by Rodríguez, García-Rubio, Paniagua, García-Diex & de Rivas [7], among others, in their Mindfulness Integrative Model or MIM.

When properly understood, meditation and mindfulness consist essentially of paying full attention in an unattached and constant way –ideally moment to moment–, simply and subtly, to the current experience, of the phases of emergence and cessation, and of letting emotions and thoughts go by without judgment. In accordance with the relevant historical sources and in order to reduce conceptual ambiguity, it should be emphasized that the task of the observer –nàma, in Sanskrit

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and Pali– is to try to remain neutral and equanimous –from Pali's upekkhā– between attraction and repulsion towards what is being observed –rùpa–[1]. Regarding the utility of mindfulness, it suffices to mention that, as Martin [8], states, it helps those who feel the need to do something to make the world a better place.

Meditation is a self-regulated and secular strategy, which is currently gaining increasing interest, especially in the mental health sciences. It is considered an effective means to promote healthy confrontation responses and is beneficial for both mental and physical health as well as for aging.

The present moment is partially made up of the past, which the Buddha taught us to ignore, just like the future [9]. It is equally important to remember that the present comprises the future, and that if we take care of the present moment, we will be able to transform both the past and the future. This state of full awareness and attention cannot be reached from desire alone. To achieve this, it will be necessary to let go of one's prejudices and to learn.

Material and Methods

First of all, it should be pointed out that in 2003, about 50 articles were being published per year on the topic of mindfulness. In 2013, this number increased to almost 500 [10]. Nowadays, if one searches the World Wide Web with the most used search engine –Google– for the word "mindfulness", the result will be about 100 million entries. If "psychotherapy" and the year 2018 are added to this search, the result will be nearly one million. In Google Scholar, mindfulness and psychotherapy, without quotation marks, result in about 75,000 entries. Something similar occurs when using second generation meta-search engines or multi-search engines on the Web.

With the use of modern search engines and research data bases with thesaurus, one can find numerous entries with a lot of "documentary noise." It is also possible to find some sort of pseudoscience subsumed in the corresponding applied neuroscience. This is the case of: 1) Medline-PubMed –from the U.S. National Library of Medicine–; 2) PsycINFO –from the American Psychological Association–; 3) Embase –Excerpta Medica dataBASE–; 4) The Cochrane Library, in its Cochrane Library Plus version; 5) ÍnDICEs-CSIC –Information and Documentation of Science in Spain, which encompasses bibliographic databases IME, ISOC and ICYT–; and 6) also when using the most recent Research Domain Criteria or RdoC from the National Institute of Mental Health (NIMH) in the USA.

In practice, the number of clinical essays and reviews found with the term "mindfulness" in the title, abstract or key words, whether in the natural language or the descriptor-controlled language –from Medical Subject Headings or MeSH– is unmanageable. Furthermore, there is the bibliography obtained from secondary sources, mainly in book format. Given the current popularity of mindfulness, one will inevitably find distorted, ambiguous, and confusing results about what mindfulness is, what it means, and how it is practiced and should be practiced properly, even when rigorous selection criteria are applied.

This article aims to clarify the true concept of mindfulness, which is anchored in Buddhism and runs through modern cognitivism and neuroscience. It also aims to elucidate some of the most outstanding aspects about the use and application of mindfulness in contemporary and future clinical psychology and psychiatry. This work is based on qualitative secondary research that is concise and narrative, with interpretative components. The methodology used can be compared to the scientific method followed for non-numeric data, which characterizes qualitative meta-studies or meta-synthesis [11,12]. This article will critically consider the best specialized literature obtained from any information source, without aiming to be exhaustive. A historic, traditional and specialized perspective has been maintained throughout this work.

Development and Discussion

Full awareness or mindfulness, adjuvant in the treatment of certain mental disorders

Clinicians and meditation practitioners must be aware of the positive effects of meditation on emotions and positive prosocial behavior [13], in addition to favoring cognitive flexibility. Nonetheless, there is a lack of sufficient studies conducted with high-quality methodology and, for the first time, there are publications on certain undesirable and temporary, although relatively prevalent, effects of meditation [14,15]. Regarding those undesirable effects, Baer, Crane, Miller, & Kuyken [16], have just established three groups of factors involved in such effects and that are linked to types of programs, participants or clients, and clinicians or instructors.

Yet, in spite of this, mindfulness-based treatments added to psychotherapy and the usual antidepressants[2] have been confirmed for years now as a promising intervention adjuvant to the therapeutic approach to depression, thus improving the residual depressive symptoms after a depressive episode or preventing relapses and recurring depression in clinical populations [17,18). The potentially beneficial effects of mindfulness on bipolar patients suffering from anxiety and depressive disorders have recently been confirmed [19]. The utility of mindfulness on severe and persistent mental disorders is also likely [19,20], since it has already been suggested that mindfulness could improve the quality of life of patients suffering from these types of disorders [21]. Brief, appropriate training in mindfulness has shown positive effects in the reduction of symptoms like sadness, mental rumination,

[1]Pali –*pāli*, an Indic language, similar to Sanskrit used in the ancient Indo-Aryan period– is, according to theravāda tradition, the language from Magadha (an ancient kingdom in Northeast India and present-day Nepal), where Buddhism emerged. It was spoken in the 6th century before our era and is the language that Buddha Siddharta Gautama –the last known *Samyaksambuddha*, according to popular belief– used to convey his teachings. *Nàma* means mind, mental or mentality, and *rùpa* refers to the subject, but also the object itself.

[2]In the contexts of primary and specialized health care, antidepressant drugs continue to be the pillars of antidepressant treatment.

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anxiety or stress [22,23]. However, although meditation has also been demonstrated to improve insomnia [24], it does not seem to significantly and categorically increase the quality of sleep [25].

It is precisely in relation to insomnia that there are two recent meta-analyses: one of them seems to confirm that insomnia increases the risk for psychopathology [26], and the other one proposes a protocol for conducting a systematic review and meta-analysis on the effectiveness of mindfulness-based interventions for insomnia [27]. Additionally, these interventions may also promote resilience and adaptive coping for individuals with low self-esteem [28]. In fact, the term "mindful-self" has even been proposed with the intention of highlighting the potential benefits of mindfulness and meditation for mental health and general well-being [29].

A more efficient approach has been promoted regarding the orientation of neuropsychological interventions towards cognition and links to emotion, body, and environment [30]. An increasing number of authors suggest that current cognitive therapies should be directed primarily towards stimulating metacognition [31]. This refers to being aware of the mental operations that take place in one's own awareness or also to the capability of people to reflect on their thought processes and the way in which they learn. It is the task of the physicians to guide their patients' training so that they may experience negative thoughts and feelings from a decentralized or "disidentified" perspective [32], that allows them to take distance from them [33-36]. Cognitive and cognitive-behavioral therapies –the most common ones are those of A.T. Beck and A. Ellis–, are too focused on elements containing overly-realistic propositions and should broaden their horizons towards metacognitive interventions.

Mindfulness-based psychotherapeutic interventions are found among "third" or "latest generation" psychological treatments [17,37,38]. However, there is still a great lack of knowledge about why these psychotherapies are efficient [39], although this is also the case for all the others. It seems that mindfulness is useful when embedded in these treatments because it contributes to reducing the incidence of thought –language– as an element that distorts the real experience. Mindfulness emphasizes the acceptance of the current circumstances, even when these are unpleasant.

For their part, the latest generation interventions with the most empirical support are: 1) "Mindfulness Based Stress Reduction" or MBSR, which is Kabat-Zinn's pioneering approach, published in 1982 [1]; 2) "Mindfulness Based Cognitive Therapy" or MBCT, which has been specifically developed to treat clinical depressions; 3) "Dialectical Behavior Therapy" or DBT, which was initially conceived for emotional instability disorder in patients with borderline personality and at high risk of suicide, but was later expanded to treat other disorders; and lastly, 4) "Acceptance and Commitment Therapy" o ACT, especially effective for those disorders that are prominently influenced by so-called "experimental avoidance", understood as a functional diagnostic dimension [40]. These four treatments are completely secular and do not have any spiritual, moral, ascetical or mystical limitations – even though they take into account some peculiar therapeutic strategies from DBT. This is also the case of MBSR and MBCT, despite openly admitting their relation to Buddhist meditation and the fact that they all incorporate, to different extents, elements from Buddhist philosophy and psychology, included in or added to the mindfulness construct.

Some psychotherapists have proposed building a bridge between the development of key therapeutic skills and the practice of mindfulness [41]. Some understand that mindfulness is part of a certain spiritualization of psychotherapy, as an attempt, in a way, to de-psychologize or de-psychiatrize it [42]. This can only be true if one already has or wishes to have a spiritual vision of life –a concept that depends mainly on culture, beliefs and ideology–, medicine, psychology and, of course, psychopathology [43]. This is particularly the case considering that there has recently been an increase in public and academic reflection on the relevance of spirituality in health matters, as a reaction to the long prevailing secular thought [44]. In any case, spirituality is unnecessary and accessory here, even if it is frequently linked, although by no means in an obligatory way, to Buddhist meditation.

If spirituality and mindfulness, and therefore also meditation, are independent, so are mindfulness and psychotherapies, which can either concur and converge, not concur, or concur without converging. In fact, one of the underlying problems mindfulness faces is the frequent and reductionist attempt to turn it into another psychotherapeutic intervention; that is, a new therapeutic technology like so many others [45,46]. Therefore, mindfulness does not replace psychotherapeutic or psychopharmacological treatments that have been empirically confirmed, especially those for anxiety or mood disturbances, but it can significantly help those interventions either as a central, integrated or complementary element.

For over a decade, mindfulness-based interventions have been studied as potentially valid treatments for many addictive behaviors [47]. Currently, this includes when teenagers exhibit problematic consumption behaviors [48]. This does not contradict what has been presented in some modern hypotheses about the biological foundations of maladaptive metacognitions, which could indeed lead to those problematic consumptions [49].

The "Mindfulness-Based Relapse Prevention" or MBRP program is specifically for patients with addictions, whether substance-related or not [50-52]. This program was developed at the Addictive Behaviors Research Center at the University of Washington for the recovery of those patients. It is a product or sub-product of MBCT, on which MBRP is largely based. The new program's structure is also based mainly on MBSR, the efficiency and effectiveness of which is quite well established [50,53].

Psychobiological approach of mindfulness

Neural and physiological mechanisms that underlie the regulation of humor are just now beginning to be known.

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Mindfulness training seems to improve focalized attention, with the support of 1) the anterior cingulate cortex –its activation is related to the integration and direction of attention and motivation as well as motor control–, 2) the insula –its activation is related to interoception–, 3) the temporoparietal junction and the frontolimbic neural system, which activates the left prefrontal cortex –related to positive emotions and higher resilience– [54-57], among others. All these changes can work together by establishing better self-regulation. Indeed, it has been observed that patients suffering from depression –mainly the anxious subtype, but also the rest– usually present activation and connectivity deficit in the anterior cingulate cortex and the amygdala [58], – from the latin amygdalum–.

It seems that the bed nucleus of the stria terminalis and the amygdala nucleus, which form the extended central amygdaloid nucleus, are key in the regulation, processing and symptomatology of anxiety and fear –the latter understood as an innate function modifiable through learning– [59]. MBSR short-term training leads, most probably, to increased functional connectivity between the amygdala and a region involved in the regulation of emotions –the ventromedial prefrontal cortex or VMPFC– during affective pictures. Hence, meditation training can improve the affective response through reduced amygdala reactivity. It has been suggested that heightened amygdala-VMPFC connectivity during affective stimuli may reflect a potential mechanism where MBSR exerts salutary effects on emotion regulation ability [60].

In general, the practice of meditation leads to a reduction of the physiological markers of stress in a wide variety of clinical and non-clinical populations [61,62]. This can only be affirmed as a likelihood due to the considerable variety of meditation intervention types. The aforementioned is also applicable in the fact that meditation appears to be particularly effective for post-traumatic stress disorder [63]. The importance of stress in autoimmune disease has been known for several years. We now know that when the autonomous nervous system is under stress, it probably favors the deregulation of the innate immune function and the disinhibition of the inflammatory response [64]. In this regard, it has been suggested that meditation may have a remedial or modulatory effect on the consequences of chronic stress on gene expression [65].

As stated above, the key in meditation is practice. It does not matter whether or not the mind is calm; it must be accepted as it is. Certainly, according to fact or evidence-based medicine [66], –which, logically, is also applicable to current clinical psychology–, contemporary scientific statements that suggest that mindfulness improves prefrontal activation and its control over the amygdala are sufficiently credible [61,67,68].

It is true that there is a lack of more or less specific biomarkers in mental health for disorders that characterize their severity. It should also be clarified that we know that the clinical utility of prevailing diagnostic categories in mental pathology is intrinsically limited [69]. Likewise, there is a persistent lack of conformity and an unquestionable international debate concerning the excessive number of official diagnoses registered [70]. One should not forget that the genetic profile associated with psychopathology generally transcends the diagnostic limits stated in ICD-10 of the World Health Organization from 1992, and in the improved ICD-11 [71]. This is also valid for DSM-5 of the American Psychiatric Association from 2013. Similarly, it should be mentioned that most mental disorders are inheritable and polygenic [72], or are linked to the "transcriptomic" processes of human neurodevelopment that characterize the degree of genetic expression [73]. Lastly, it should be taken into consideration that there is an increasing need for informed genetic counseling in severe mental pathology [74]. Having stated all that, there is no serious and well-documented reticence to properly applied psychotherapy and psychopharmacotherapy, despite the frequently criticized progressive medicalization of normality and the commercialization of medicine [75] and, by extension, of clinical psychology.

Dissemination and current trends in mindfulness and meditation

Nowadays, there is enormous generalized, psychological and medical interest in mindfulness [76], –or any of its equivalent terms– as well as a wide distribution and an exponential growth of all related literature. Meditation is, in current specialized literature, a concept as diffuse as the concept of mindfulness has been for many years. Vipassanā, mindfulness meditation, is the mental quality that allows the meditator to gradually cultivate the ability of being awake, attentive and aware [77]. Vipassanā meditation consists of opening up and allows the mind to move in various ways. It is different from concentration meditations such as samatha ānāpānassati –samatha jhanā– and others [78]. Concentration meditation can be considered as the attitude of intensifying perception by consciously leading attention or also as a cognitive process of selective attention that brings calm and absorption. This limited field of attention predisposes the meditator to abandon logical thoughts. Both of these practices and those that incorporate exercises, such as yoga and others, have unquestionably beneficial effects [79].

In contrast, in introspective meditation, as is the case of vipassanā –vipassanā jhanā–, the result is a state of open and uncritical observation of cognitive contents and of any internal or external perception, which opens the way for full knowledge. For more information, please refer to the summary entitled "Basic Instructions for Insight" –Vipassanā Bhūmi– contained in the Pali Canon. This open awareness clarifies feelings, thoughts, motivations, attitudes and ways in which the individual reacts [80]. Finally, it is important to distinguish meditation as a potentially mystical, religious or spiritual practice from secular meditation as part of a psychological o psychiatric treatment [81].

In Pali, "passanā" means "vision" and refers to the ordinary vision that one has of things when one's eyes are open; "vipassanā" is to observe things as they are –complete vision–, to watch them in various ways and not as they seem to be [9,82]. It is also a direct experience of internal reality. The four foundations of mindfulness, vipassanā or introspection and discernment meditation, which is the original instruction

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conveyed by Buddha[3], are vigilant attention to: 1) one's body –for example, breathing–, 2) feelings –of all kinds–, 3) states of mind –wishes, disposition, dispersion, etc.–, and 4) mental objects –thoughts–. Usually, when faced with a mental object, the mind will immediately show interest in it [76]. Nevertheless, the mind that observes should also be a participant in what is observed, since only when the observer becomes a participant can there be transformation [83]. In this sense, it should be remembered that "The Greater Discourse on the Four Foundations of Mindfulness" –Mahāsatipatthāna Sutta– is, certainly, the most important regulatory source about the practice of meditation. In any case, the practitioner of introspection training will need to become aware of the existing differences between concentration –samādhi– and introspection –vipassanā– exercises [83,84].

Conclusions

There is no doubt that we are witnessing an unquestionable and apparently never-ending pseudo-obsession with acquiring academic degrees in psychology, psychiatry or different psychotherapies. Mindfulness and its potential relevance is no stranger to this trend. In fact, some of the new mindfulness-based treatments may come with a copyright, in the same way that institutes, legal professional associations, such as those in the USA, Europe and many other places, as well as "schools", "accredited" and online training courses offer content that is already protected internationally by copyright and proprietary rights. This is the case of Mindful Self-Compassion or MSC[4], among others. Without trying to deny the value of many of those emerging efforts, or the empowerment [85], that mindfulness is going to bring to patients, this all poses important accreditation, ethics and business questions. In this regard, it is important to remember S.N. Goenka, eminent preceptor of vipassanā meditation, when he stated that meditation should never become a business [87].

Lastly, the expansion of full awareness to other spheres beyond healthcare or education –contemplative orientation, learning or pedagogy–, coaching in all its forms, or mentoring, opens a wide field of expectations for interdisciplinary use, productivity, and individual and social growth; but at the same time, it opens the door to marketing and profit [33,36]. Therefore, clinical psychologists and psychiatrists nowadays will necessarily have to take sides on mindfulness and the possibility of properly implementing it on all those patients for whom mindfulness would be appropriate. To conclude, it should be highlighted that one of the main objectives of this theoretical review and opinion study is precisely to be able to assist physicians and therapists in making the decision to use these practices and interventions in an optimal way.

[3]Talk or discourse on the foundations of mindfulness –discourse number ten–, from the Middle Length Discourses of the Buddha. This discourse can be found in "Vipassana Dhura Meditation Center, Aurora –Colorado, USA–, 1989." The practice of the foundations of mindfulness is, essentially, the same as Ariya Aṭṭhaṅgika Magga or the Noble Eightfold Path; they both form the practice of "the middle way." *Magga* means the way that leads to the end of anguish or suffering. The original discourse of the Buddha on the foundations of mindfulness –*Satipaṭṭhāna* Sutta– appears twice in the Buddhist scriptures: once as the tenth discourse of the collection of middle length discourses –Majjhima Nikāya–, and once as the twenty-second discourse of the collection of long discourses –Dīgha Nikāya–, entitled *Mahā Satipaṭṭhāna Sutta*, that is, the Great Discourse. It should be remembered that the Buddha never taught a religion, rite or ritual, but the Dhamma, the way to emancipation or liberation [81,82]. Indeed, as part of the composed term Buddhadhamma, Dhamma refers to the set of teachings or initiations conveyed by the Buddha. But let us clarify one more time that the Buddha was neither a giver of commandments, nor a judge of anybody.

[4]It has been suggested with a large marketing component –in the author's opinion– that this therapy could initiate a "fourth generation" of psychotherapies that are emerging "beyond full awareness" [86].

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