

## Mindfulness: Cognitive and Emotional Change

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### Editorial

Beck [1] developed cognitive therapy which led to broad therapeutic innovations and successful applications in the field of psychotherapy [2-4]. Mostly, by virtue of its linear nature and lack of empirical support from cognitive science, this clinically-driven model faced some limitations in practice [5]. To overcome the shortcomings, Teasdale and Barnard [6] experimentally investigated the link between cognition and emotion and came up with a non-linear/multilayer model (a science-driven model). As they suggested, information are processed in cognitive system at two qualitatively distinct levels, namely propositional level and implicational level. The former is linked with specific meanings behind language constructs (or words); the latter is associated with generic meanings behind language constructs (or words). In Beckian approach, it is the specific meanings that result in emotion production, whilst in the non-linear/multilayer model of cognition, in order to elicit emotional response, the generic, holistic meanings should be processed at implicational level [7].

Furthermore, Teasdale and Barnard [6] explain that generic, emotion-eliciting meanings cannot simply communicate through words. For this to happen, they surmised that other factors such as paralinguistic parameters (words tone, rhythm, composition, etc.) have to come into play. Apart from this, they also suggest that the physiological and bodily sensations which are felt during emotional experiences are processed within the implicational level. There seems to have been this reason, among others, that Teasdale et al. [8] adopted some elements of mindfulness-based stress reduction (MBSR; developed by Jon Kabat-Zinn) and combined them with cognitive-behavioural therapy (CBT) techniques which was coined as mindfulness-based cognitive behaviour therapy (MBCT) [9].

Mindfulness meditations (body scanning, breath meditation, sitting meditation, walking meditation, yoga, and the like) would enhance a non-judgmental worldview and an ability for "being in the present moment" [9]. In this eight-weekly group training program, clients are involved in different in-session activities and home works which help them see thoughts and feelings as ongoing events in the mind and not actual incidents in the real outer world. In fact, by MBCT training, a grounding basis will be provided on which the person learns how to disengages themselves from unhelpful thoughts and related feelings, and simply "observes" instead of "getting lost" in ruminations, worries, and negative cognitive experiences [8]. This allows the individual to bring their attention back to the present moment that, in turn, facilitates "acceptance". One explanation for this is that being aware of the present moment and fully attentive to its thorough qualities would prepare the ground for one to be in a lucid contact with moment-by-moment 'richness' of the reality, which would, in turn, result in an enhanced well-being [10].

After testing the effectiveness of MBCT in some randomized clinical trials, Segal et al. [8] employed this therapy intervention to prevent relapse (based on a model of cognitive vulnerability to depressive relapse) [11-14] in those who suffered from recurrent major depression. They showed that decline in relapse rate in patients receiving MBCT training was more than 50%. Using MBCT along with antidepressants gives rise to less relapse over a 15-months follow-up [15,16].

Moreover, MBCT proved to be effective to reduce excessive worry or anxiety symptoms, sleep problems and enhance quality of life in both physical and psychological domains [16-18]. Moreover, empirical findings provide further evidence showing that MBCT is a useful intervention for enhancing well-being in non-clinical groups of people (e.g., university students, fire fighters, stage performers and the like) who are naturally exposed to real life stressful situations in which they experience high levels of anxiety and depression [19,20]. The results depict a picture showing that MBCT can be effective at relieving exam related anxiety and dysphoria, and enhancing quality of life in non-clinical groups as well as sub-clinically depressed individuals who may be susceptible to emotional disorders.

Underpinning cognitive mechanisms to explain such changes can be suggested. Negative, self-defeating, dysfunctional thoughts usually are thought to underpin depressive symptoms; which would potentially give rise to more negative thoughts. This vicious cycle is deemed as a source of vulnerability for relapse of depression. Research shows that mindfulness meditation training would have an improving impact on attention, executive functioning and emotion regulation [21-24]. In fact, mindfulness training package helps the trainee to gain more cognitive control over habitual unhelpful thinking pattern including rumination, worry and intrusive images [25]. To date, dozens of findings associated with this phenomenon have emerged. The evidence support a positive relationship between rumination and recall overgenerality in autobiographical memory in both normal and clinical samples [26-30]. Apart from this, research findings confirm that overgeneral retrieval in autobiographical memory is linked with poor social problem solving [31-36]. By this account, one can conclude that mindfulness plays a pivotal role in breaking the vicious cycle by improving specificity in memory retrieval and consequently reinforcing effective problem solving.

With all these in mind, mindfulness seems to have played a major part in the field of mental health over the past two decades and provided a crucial adjunct therapeutic component which has revolutionized modern models of psychotherapy. Although the widespread use of mindfulness in various therapies and for different disorders is an eye-catching phenomenon, still more research-based evidence is needed to gauge its specific effects and limitations.

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