

## VIEW POINT

# Mindfulness and Mental Health

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‘Mindfulness involves intentionally bringing one’s attention to the internal and external experiences occurring in the present moment, and is often taught through a variety of meditation exercises’<sup>1</sup>. It includes a kind of meta-awareness, self regulation of attention (to immediate experience) and a certain mindset e.g. being non-reactive, non-judgemental and accepting.

This practice has been derived from Buddhism which originated in India in the 6<sup>th</sup> Century BC<sup>2</sup>. The Four Noble Truths in Buddhism include the presence of suffering (Diagnosis), its cause (Aetiology), that it can be ended (Prognosis) and the Eight-Fold Noble Path (Prescription). The Eight-Fold Noble Path includes Right Speech, Right Action, Right Livelihood, Right Effort, Right Mindfulness (Sati), Right Concentration, Right Aspiration, and Right View. Mindfulness is also one of the seven factors of enlightenment. These include Mindfulness, Investigation of reality, Energy, Rapture, Tranquility, Concentration and Equanimity.

Mindfulness in the Buddhist practice is like overseeing a situation (for example, a cowherd sits in a relaxed manner and watches his cows over a distance). In the practice of mindfulness there is also a sense of restraint i.e. bare attention and avoiding to get carried away by associations, projections, evaluations, proliferations etc (distractions); focus on here and now and on being non-judgemental. There should be no craving, ill will or ignorance regarding the object of mindfulness. In order to practice or develop mindfulness one could focus on body e.g. breath, posture etc.; sensations or feelings; mind (Chitta) e.g. mental states; and phenomena (Dhammas) e.g. hindrances and aggregates.

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As ‘Buddha was essentially a psychologist’<sup>3</sup> ‘It is possible to practice Buddhist-derived meditation, and ascribe to aspects of the psychological view of the mind from this perspective, and maintain one’s beliefs and membership in other religious traditions’<sup>4</sup>. Thus, mindfulness is being applied in a variety of fields including Education and Therapy.

In Education, there is a movement for Mindful learning and teaching<sup>5</sup> with features such as, Active involvement of the student in the learning process; Student and teacher join each other as collaborative explorers in the journey of discovery; Embrace both knowledge and uncertainty with curiosity, openness, acceptance, and kind regard; Disentangle the mind from premature conclusions, categorizations and routinized ways of perceiving and thinking; Open to novelty, alertness to distinction, sensitivity to different contexts, awareness of multiple perspectives, & orientation to the present. Thus, learning becomes more enjoyable, stimulating and effective.

### **Mindfulness based therapies and their effectiveness**

In the late 1970s, Jon Kabat-Zinn (University of Massachusetts Medical Centre) set up MBSR (Mindfulness based stress reduction) clinics for a wide range of medical conditions from backache to psoriasis. These demonstrated reduction in subjective states of suffering, improvement in immune functions, acceleration in rates of healing, nurturing interpersonal relationships, and overall sense of wellbeing<sup>6</sup>. This led to the application of mindfulness for a variety of mental health problems.

Mindfulness is already assimilated in psychodynamic therapies at many levels. It is integral to well established forms of psychotherapy, as there is an emphasis on the quality of attention in psychotherapy. For example, Nina Coltart (1992)<sup>7</sup> emphasises the healing potential of bare attention in psychoanalysis.

There has also been found an augmentation of therapeutic effect i.e. a potentiating effect of mindfulness training for patients on psychodynamic exploration, as treatment times were significantly reduced during the study<sup>8</sup>. Epstein (1995)<sup>9</sup>, Brazier (2003)<sup>10</sup> and others have thus, promoted Buddhist psychotherapy.

Similarly in **Behaviour Therapy** there have been 3 waves<sup>11</sup>:

- 1<sup>st</sup> Wave of Traditional Behaviour therapy focused on overt behaviours and their relationship with their environmental events.
- 2<sup>nd</sup> Wave of Cognitive Behaviour Therapy with an emphasis on the role of thoughts.
- 3<sup>rd</sup> Wave with Mindfulness e.g. Dialectical Behaviour Therapy (DBT), Mindfulness Based Cognitive Therapy (MBCT), Acceptance and Commitment Therapy (ACT).

DBT involves becoming more aware, and hence more accepting of ones emotional experiences. It has been shown to be effective in treating symptoms of borderline Personality Disorder<sup>12</sup>; co-occurring substance dependence<sup>13</sup>; eating disorders<sup>14</sup>; and emotion dysregulation<sup>15</sup>.

In MBCT, one learns to see thought as a process and not as a fact, thus, leading to detachment. It has been found to be effective in: prevention of relapse/recurrence in major depression<sup>16</sup>; childhood disorders e.g. conduct disorders, anger problems, attention deficit hyperactivity disorder (ADHD), anxiety disorders<sup>17</sup>; adolescent externalizing disorders e.g. oppositional defiant disorder, ADHD, behaviour problems in Autism Spectrum Disorder<sup>18</sup>; and parent training<sup>19</sup>.

ACT involves accepting of experience to reduce avoidance of private experience and accomplishing goals in life that serve higher values. It has been found to be successful in: Substance abuse<sup>20</sup>; Coping with

psychosis<sup>21</sup>; Stigma and burnout<sup>22</sup>; and Worksite stress<sup>23</sup>.

Other examples of the effectiveness of mindfulness based therapies include:

- Mindfulness based eating awareness training (MB-EAT:<sup>24</sup>)
- Mindfulness based relapse prevention (MBRP:<sup>25</sup>)
- Mindfulness based relationship enhancement (MBRE:<sup>26</sup>)
- Treatment of adolescent sex offenders<sup>27</sup>
- Treatment of addictive behaviours<sup>28</sup>
- MAP (Mindful Attention Program) for the treatment of ADHD; a project of the Santa Barbara Institute (UCLA) for Consciousness Studies<sup>29</sup>

There is also a study of the impact of therapist practicing mindfulness oneself. In a randomised comparative trial of the clinical outcomes of over 120 patients who received psychotherapy from 18 psychotherapists in training, patients seen by 9 therapists (with mindfulness training) did significantly better symptomatically than the patients seen by the other 9 therapists<sup>30</sup>.

Mindfulness based therapies have now been demonstrated to be effective in a variety of mental health problems such as, anxiety disorders (including phobias, panic and obsessive compulsive disorder), depression, anger and emotion dysregulation, binge eating & other behavioural problems, substance misuse, suicidal behaviour, trauma, relationship issues and so on<sup>31</sup>. However, there have also been reports of adverse effects<sup>32</sup> as well such as, symptoms of restlessness, anxiety, depression, guilt and hallucinosis in vulnerable (e.g. traumatised) individuals in intensive retreats.

The findings in a meta-analysis by Baer (2003)<sup>1</sup> suggest that mindfulness-based interventions may be helpful in the treatment of several disorders. She also points out that there are methodological flaws in the studies

on these interventions and because of their promising nature, more rigorous studies are highly recommended.

### Measuring instruments

There are already some scales available for measuring mindfulness, for example, The Mindful attention and Awareness Scale (MAAS: <sup>33</sup>), The Toronto Mindfulness Scale (TMS: <sup>34</sup>), The Kentucky Inventory of Mindfulness Skills (Kims: <sup>35</sup>), and The Freiburg Mindfulness Inventory (FMI: <sup>36</sup>).

### Mechanisms implicated

As regards the mechanisms involved in mindfulness and its effectiveness there appear to be a number of theories. Some of these are briefly outlined below.

- In a study on Zazen meditators, there was a failure to respond to repeated clicks by habituation of autonomic responses (e.g. momentary blocking of alpha frequencies). Thus, they seem to react to stimuli as if for the first time <sup>37</sup>.
- The act of becoming consciously aware of the stream of awareness has the immediate effect of rendering the dominant EEG patterns stronger & more coherent <sup>38</sup>. Mindfulness leads to two, ordinarily incompatible, developments: boost of the fast wave activity that is associated with alert states, along with particular kinds of slow wave activity associated with expansion of awareness, creativity and deep relaxation <sup>31</sup>. For example, while resting, meditators (Tibetan method) were found to have significantly greater gamma band (40 c/s) activity relative to slower activity and synchrony than controls.
- In the frontal lobes of the brain, asymmetrical activation, favouring one side more than the other, is consistently associated with specific mental states in the neurophysiology literature. For example, greater left sided activation has been associated with positive emotion (happiness), enhanced immune function and in those who participated in 8 week

training in MBSR i.e. mindfulness based stress reduction <sup>39</sup>.

- There are reports that in subjects practicing mindfulness meditation there is an increased thickness of at least two parts of the brain i.e. middle prefrontal area, bilaterally and a related neural circuit, the insula (more on right side). The degree of thickness correlated with the time spent on practicing mindfulness meditation<sup>40</sup>.
- There are individual differences in the neural correlates of voluntary emotion regulation. These are related to endogenous regulatory processes in everyday life. Some individuals when attempting to voluntarily downregulate negative affect using cognitive strategies are poor performers as reflected in less ventromedial prefrontal cortex activation and more amygdala activation and show a flatter slope of the cortisol rhythm, mainly due to higher evening levels of cortisol <sup>41</sup>. Chronic stress can lead to several changes <sup>42</sup> e.g. increase in the ability of the amygdala to learn and express fear associations, deficiency in the hippocampus function (depriving the subject of the contextual information needed to recognise an environment as safe), and reduction in the ability of the prefrontal cortex to control fear. Thus, a vicious cycle is created in which increased fear and anxiety lead to more stress, which leads to further dysregulation. However, prefrontal activity can be augmented pharmacologically, physiologically (e.g. repetitive trans-cranial magnetic stimulation, deep brain stimulation) and psychologically such as through mindfulness meditation.
- According to the 'dynamicist' view of top-down control, spatio-temporal trajectories of neural activity emerge from complex nonlinear neural interactions and follow the rules of dynamical theory <sup>43</sup>. These large-scale coherent neuronal ensembles (e.g. which emerge during Focused Attention on breath) can influence other local neuronal processes

(e.g. evoked by an external distractor) by entraining local ensembles<sup>44,45</sup>. The brain goes through a succession of large-scale brain states, with each state becoming the source of top-down influences for the subsequent state. Such large-scale integrative mechanisms may participate in the regulatory influence of meditative states.

- Mindfulness leads to Dechaining i.e. loosening of strong associations e.g. in phobia<sup>46</sup>. Mindfulness also leads to Decentring or disidentification from the activities of our minds as our relationship to our experiences change<sup>31</sup>.
- There are 7 common factors between Mindfulness, secure attachment & prefrontal functions: Regulation of body systems, Balancing emotions, Attuning to others, Modulating fear, Responding flexibly, Exhibiting insight, and Empathy. There are two other prefrontal functions found in mindfulness but, so far, not studied in secure attachment: Being in touch with intuition and morality<sup>4</sup>
- Other mechanisms implicated include improvement in patterns of thinking, reduction in negative mindsets, capacity to combat emotional dysfunction, and improved capacity to regulate emotion<sup>4,31,47</sup>.

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