

A physicians 'quality of presence' – a vital therapeutic tool



'The faculty of voluntarily bringing back a wandering attention, over and over again, is the very root of judgment, character, and will. No one is master of himself if he have it not. An education which should improve this faculty would be the education par excellence.'
– William James

An Italian study showing that diabetic patients of physicians with high empathy had a significantly lower rate of acute metabolic complications than those of physicians with moderate and low empathy scores, is one of several recent scientific reports supporting the use of 'mindfulness' in clinical practice.^[1]

Not only does mindfulness – a centuries-old discipline based on meditative practice and defined as 'an awareness of present experience with acceptance' – improve outcomes across disciplines, but it also improves the 'happiness' quotient of its practitioners.^[2] In a presentation on enhancing the doctor-patient relationship at the 16th National Family Practitioners Conference in Observatory, Cape Town, in early May this year, Dr Simon Whitesman, an integrative medicine physician, outlined some compelling neurobiological research in support of mindfulness-based interventions.

Whitesman, a co-director of the Mindfulness-Based Stress Reduction programme at the Cape Town Medi-Clinic, and chairperson of the Institute for Mindfulness in South Africa, said that besides it being 'difficult to argue with a functional MRI, excluding oneself from 'the mindful embrace' was a sure way of joining the 76% of GPs recently found to 'burn out' annually in the Western Cape. He said that over the past 30 years there had been a dramatic increase in the clinical application of mindfulness, with literature supporting its usefulness across populations and in all contexts.

Whitesman cited an Emory University study of 14 meditation practitioners using breath-focused meditation while undergoing MRI scanning last year.^[3] It found that during 'mind wandering', the default mode activity areas of the brain were activated v. the salience network regions during **awareness** of mind wandering. Elements of the executive function



Dr Simon Whitesman (photo by Chris Bateman).

network were activated during shifting and/or sustained attention. Activations of these cognitive phases were also found to be modulated by lifetime meditation experience. (Participants pressed a button when they realised that their mind had wandered and returned their attention to their breathing).

Being 'in the moment' helps to heal patients

The Italian 2012 empathy study concluded that physician empathy ('presence' or 'being with') was 'significantly associated' with clinical outcome for patients with diabetes mellitus – and should be considered an important component of clinical competence. Conversely, being on 'automatic pilot' (e.g. mindlessly churning out patients every 15 minutes in 'default mode') may account for some deviations from professionalism and errors in judgement and technique.^[4] These studies build on a 2008 Rochester University probe into self-monitoring in clinical practice ('a challenge for medical educators').^[5] This probe found that self-monitoring allowed the recognition of cognitive biases, technical errors and emotional reactions, and 'may facilitate self-correction and development of therapeutic relationships'. Whitesman said that cognitive neuroscience was uncovering structural and functional changes during

mental training to improve attentiveness, curiosity and presence. Such training involved cultivating attention, self-awareness and compassion for self and others, some of the consequences of which are experiencing information as novel, thinking of 'facts' as conditional, and seeing situations from multiple perspectives.

EEG on Buddhist monk astonishes researchers

Whitesman speaks of a veteran Buddhist monk and former molecular biologist, Matieu Ricard, who has been described as among the 'Olympic athletes of the mind'. His EEG showed his neural networks to be functioning 2 - 3 times beyond the baseline standard deviations in terms of amplitude and oscillations in the gamma range, which equates to about a 30 times difference compared with controls. Researchers at the Center for Investigating Healthy Minds (Waisman Center, University of Wisconsin-Madison),^[6] led by renowned neuroscientist Dr Richard Davidson, asked Ricard to meditate on 'unconditional loving-kindness and compassion'. They immediately noticed powerful gamma activity – brain waves oscillating at roughly 40 Hz – indicating intensely focused thought. Gamma waves are usually weak and difficult to see. Those emanating from Ricard were easily visible, even in the raw EEG output. Moreover, oscillations from various parts of the cortex were synchronised – a phenomenon that sometimes occurs in patients under anaesthesia. Davidson is reported as having said that the researchers had 'never seen anything like it'. Worried that something might be wrong with their equipment or methods, they brought in more monks, as well as a control group of college students inexperienced in meditation. The monks produced gamma waves that were 30 times stronger than those of the students'. In addition, larger areas of the meditators' brains were active, particularly in the left prefrontal cortex, the area responsible for positive emotions. Davidson realised that the results had important implications for ongoing research into the ability to change brain function through training.^[7]

Most people spend most of their time in the default network, thinking about something other than what they are currently doing – an evolutionary-driven process.

In a Harvard University study, developed using smartphone technology, a large cohort of respondents was asked their thoughts, feelings and actions; it found that people were thinking about what was **not** happening almost as often as they were thinking about what **is** – and that doing so typically made them unhappy.^[2] The researchers concluded that the ability to think about what is not happening is a cognitive achievement that comes at an emotional cost.

In another Waisman Center study, 4-year-old kindergarten children who took part in a three-month 'Kindness Curriculum' displayed enhanced response times on computer measures of attention (measuring accuracy and response times to target stimuli). They also had larger gains in social competence and greater improvement on a more complex working memory task than kids who did not receive the curriculum. Whitesman described these results as 'quite extraordinary,' showing that the brain could be trained towards greater coherence and health.^[6]

He said that practising intrapersonal (internal) and interpersonal attunement in GP and other practices was essential to create a receptive environment to 'what we say and what is being said,' adding that, 'how we are, is as important as what we know'. Lasting change in medical practice had to happen first in the hearts and minds of physicians themselves. Present-centred awareness was the thread that linked the brain-self to 'the other' in service of a more integrated and compassionate clinical

encounter; 'we up-regulate our capacity to attend to others,' he said.

Mindfulness connects patient to the physician

Asked by Professor Gboyega Ogunbanjo, the president of the South African Academy of Family Physicians, what a primary care physician who managed to 'practise this [mindfulness] quite well' would do upon encountering a patient in 'default mode,' Whitesman replied, 'If I'm deeply present with you, what will happen more and more is that you will become present'. He said that qualitative reports on the practice of mindfulness reported an 'extraordinary effect' on patients who 'literally felt a shift in the relationship in the room'. 'The proof is in the pudding. Furthermore, we want to train people to optimise and improve this capacity dramatically for themselves as the practice and principles of mindfulness are simple, universal, broadly applicable and humane. Ultimately, we want to affect disease outcomes.' He speculated that an MRI of a Buddha would show highly coherent neural networks, functioning together with minimal effort and at high frequency. 'Interestingly,' these networks orientated in the pre-motor and motor areas of the insular cortex; 'in other words, we have a more coherent, integrated brain which disposes us to act in service of others, which is the basis of compassion,' Whitesman added.

Stellenbosch University's of Faculty of Medicine and Health Sciences, in collaboration with the Institute for

Mindfulness of South Africa, will begin offering a postgraduate certification in mindfulness-based interventions from next month. Part-time, highly participatory and practical, it is aimed at doctors, psychologists, counsellors (lay or pastoral), nurses, social workers, coaches, occupational therapists, medical educators and administrators. Anyone outside of these categories will be considered on a person-by-person basis. It has 4 modules, each 8 - 10 weeks in duration, and the methods of learning include residential training retreats and distance learning strategies (see www.mindfulness.org.za).

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