

# Guest editorial

## Psychoneuroimmunology: mind-body medicine

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Patricia Lück is a graduate of the University of Cape Town. She is an integrative mind-body medicine practitioner in private practice, lectures medical students in palliative medicine, and until recently was Medical Director of the Hospice Association of the Witwatersrand, Johannesburg. She facilitates MBSR courses in Johannesburg with those facing life-threatening and life-limiting illness, health professionals and caregivers, as well as for general stress and well-being. Her special interest is in the use of mindfulness in medicine with chronic pain, life-limiting and chronic illness. She attended professional training in teaching MBSR for the past 5 years through the Center for Mindfulness at the University of Massachusetts Medical School, Worcester, Massachusetts, USA. She presented her MPhil research at the 2006 annual Mindfulness Conference.

This month's CME journal looks, for the first time, at the growing research discipline of psychoneuroimmunology (PNI) and its practical clinical applications in the area of mind-body medicine (MBM). The authors contributing to this journal are all doctors passionate about this exciting developing field of medicine, and although none of us are research immunologists, we are interested in the clinical ramification of PNI that studies the connection between the brain and the immune system. Theoretically this connection indicates that psychological experiences, life stressors and anxiety can influence the immune system and in due course possibly affect the disease process. There is growing evidence to support this, as shown in the following articles. The authors consider whether assisting patients in managing their psychological experience of illness, anxiety and life stressors may influence their sense of well-being and experience of the illness, and even have some influence on the disease process, especially through improved self-regulatory behavioural skills. In this age of escalating medical costs, reducing stress and improving mental health are becoming increasingly relevant to health care. Improved self-regulation benefits positive health-seeking behaviour and thus the possibility of reducing health-care costs.

As the burden of chronic disease grows, our medical expertise is called upon more and more to help manage long-term illness rather than effecting a cure. By paying more attention to the experience of the illness by the patients themselves we help them to cope better and even thrive in the face of chronic or life-threatening illness. In doing so we must acknowledge the body-mind interface as well as the interaction between the physical, psychological, emotional, and spiritual lives of our patients. This connects us all in our common humanity.

I see the enormous growth of the alternative health industry as a direct sign that patients want to feel more connected to themselves, their bodies, and their health providers, but are often not receiving this level of attention from our medical community. This opens them up to the risk of being taken advantage of in their search for healing, hope, connection and understanding of the uncertain realities they face.

PNI as a research science has been evolving over the past 30 years or more, and is expanding rapidly. This is clearly demonstrated in the wealth of research published in the current 4th edition of the textbook on psychoneuroimmunology, edited by Robert Ader, which covers the underlying science of PNI as well as the impact of behaviour

on the immune system.<sup>1</sup> According to Dr Ader, who is credited with being the father of psychoneuroimmunology, 'PNI is a convergence of disciplines – namely, the behavioral sciences, the neurosciences, endocrinology, and immunology – intended to achieve a more complete understanding of the way the interactions among these systems serve homeostatic ends and influence health and disease.' Underlying this research is the premise 'that psychosocial and stressful life events induce emotional responses that are associated with neuroendocrine and autonomic nervous system changes capable of modulating immune function and, thus, the susceptibility to and/or progression of disease.' As described by De Kooker in her article 'Mind, immunity and health', PNI explores the interaction between psychosocial events, stress, coping and immunity, while simultaneously acknowledging pre-existing biological conditions.

Numerous articles in the lay press articulate the integration of mind-body modalities, sparking the interest of all of us, but especially those facing the significant burden of disease, illness, and pain. Many articles explore various healing modalities – complementary, alternative, and traditional as well as the seeming ignorance of the medical community in being able to engage constructively in this conversation with patients and guide them in their extra-medical search for health and healing. For search they will, whether we agree with them in this or not. As Rodrigues points out in her article on MBM in oncology, it is estimated that up to 83% of cancer patients use complementary and alternative medicine. This is a vast proportion of patients who are exposing themselves to interventions that may or may not be beneficial, and may or may not do them harm or interfere with their medical treatment. Patients will seek out complementary and alternative treatments and being able to give some guidance, especially in the area of MBM, may help build the doctor-patient relationship. This in itself has been found to be a powerful tool in the healing process.

Ramjee, in 'Mind-body medicine, concepts and controversies', details some of the concepts and controversies within MBM, looking particularly at the concept of placebo. During my time as a student the placebo effect was equated to an inert process, but Ramjee challenges this concept and shows the placebo effect as a real and significant phenomenon that needs to be taken into account in our research and treatment.

The growing discipline of mindfulness-based approaches in medicine is one that is benefiting from more rigorous research. This is showing encouraging results in the area of increased well-being and the ability to perhaps influence certain changes within the brain itself, and consequently influence the immune system. Mindfulness-based applications are being used in many areas of medicine and are being presented in various forms, as detailed by Whitesman and Kenny in their respective articles 'Mindfulness in medicine' and 'Mindfulness-based cognitive therapy for depression'. In May this year the Institute for Mindfulness in South Africa will host the visit of Professor of Medicine emeritus, Dr Jon Kabat-Zinn, founder of the Mindfulness Based Stress Reduction Programme, the Stress Reduction Clinic at the University of Massachusetts, and pioneer in MBM.

Neuroplasticity is an emerging field of research that disproves the long-held view that our brain as an adult is unable to alter its organisational structure. Neuroplasticity, as briefly outlined by Ives-

Deliperi (PhD research student) in 'Mind matters', is the ability of the brain to alter its organisation due to axonal sprouting – this can be the result of direct-willed mental control.

Hypnotherapy has a long, proud, and perhaps often misunderstood tradition, but is increasingly found to have an impact on symptom resolution itself. Modlin takes us through its current applications in 'Clinical hypnosis and psychoneuroimmunology'. Despite a large body of documentation

showing hypnotherapy to be relevant and effective in managing illness, the scientific research is still sparse. Guided imagery, as discussed by Friedland, has been shown effectively to decrease stress, anxiety and anticipatory pain, and its uses in surgery are well documented.

I wish to thank Bridget Farham, my colleague from university days at UCT, for giving me this opportunity to place psychoneuroimmunology and mind-body medicine into the mind-space of the South

African medical community. I hope this issue will provide food for thought and encouragement to engage more closely with our patients and colleagues on these issues and perhaps to refer patients to a mind-body medicine practitioner where appropriate. Thank you to all the contributing authors, without whom this edition of *CME* would not have been possible.

1. Ader R. *Psychoneuroimmunology*, vols. 1 and 2, 4th ed. Amsterdam: Elsevier Academic Press, 2007.



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