

“Thyroidfulness” from the Hand of Mindfulness?

Graciela Cremaschi*

Neuroimmunomodulation and Molecular Oncology Laboratory, Institute for Biomedical Research (BIOMED), National Research Council of Argentina (CONICET), Catholic University of Argentina (UCA), C1107AFB Ciudad Autonoma de Buenos Aires, Argentina

***Corresponding Author:** Graciela Cremaschi, Neuroimmunomodulation and Molecular Oncology Laboratory, Institute for Biomedical Research (BIOMED), National Research Council of Argentina (CONICET), Catholic University of Argentina (UCA), C1107AFB Ciudad Autonoma de Buenos Aires, Argentina.

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Derived from ancient Buddhist and Yoga disciplines, mindfulness-based interventions (MBI) are increasingly employed practices to alleviate chronic pain, symptoms of anxiety and depression, as well as to enhance immunity. Mindfulness-based approaches are most commonly managed through the use of mindfulness meditation that represents a framework of mental training to bring the focus, without judgement, on the present moment, including one’s sensations, thoughts, bodily states, consciousness, and the environment, while promoting openness and acceptance. Several studies have shown that mindfulness-based therapies are not only promising interventions for the treatment of anxiety, mood problems and pain, but they are also related to cognitive benefits for attention, learning and memory [1-3].

In addition to MBI action on neurology and psychiatry, several experimental approaches show that it can boost the immune system as described very well by Black and Slavich [3]. In fact, it was demonstrated that MBI was related to reduce markers of inflammation, increased number of CD4+ T lymphocyte count in HIV-positive adults, and increased levels of the antibody titers to influenza vaccine [3-5]. Moreover, MBI has proven to be an effective intervention to reduce psychological distress in cancer patients and more than 30% of cancer patients use MBI to promote also emotional and physical well-being [6]. Although more trials and a rigorous methodology are required to demonstrate MBI as an evidence-based practice, its usefulness as a complement to other therapeutic modalities is undoubted, to achieve an integrated approach to treatment.

The scientific basis for MBI must be found in psycho-neuroendocrine-immunology studies showing the fine balance that exists between the neuroendocrine and the immune systems in the body, to maintain health and overall homeostasis. The hypothalamic-pituitary-adrenal (HPA) axis and the immune system interaction is the most widely studied bidirectional circuit between the two systems. Thus, in response to sustained stress, the HPA axis-mediated release of glucocorticoids, acting on almost all types of immune cells, exerts immunosuppressive and anti-inflammatory functions, by both genomic and nongenomic actions [7]. Although less studied, the existence of an interaction between the thyroid axis and immunity has also been established. Increasing evidence suggests that thyroid hormones (THs), both L-thyroxine (T4) and 3,3',5-triiodo-L-thyronine (T3), are able to modulate the immune responses. This is supported by the expression of receptors for THs in cells of the immune system and by the alterations in immunity, frequently observed during physiological or pathological fluctuations of the circulating levels of THs. In general, it is considered that hypothyroidism leads to immunosuppression [8-10], while high circulating levels of THs increase immune responses [8,11,12]. In addition, chronic stress was demonstrated to induce both de impairment of immune function and to affect thyroid activity as well, as low levels of T3 and T4 were found in serum samples of chronic stressed animals respect to controls [13,14]. Moreover, restoring euthyroid conditions by T4 administration in stressed animals improved the immune function [13,15].

If MBI may downregulate the activity of the major stress axes in the body, known to influence some functions of the immune system, would MBI also help to improve the symptoms of thyroid diseases? In fact, there are some MBI programs intended for the treatment of eating disorders, and one of the most persistent symptoms of hypothyroidism is the gain of weight or the difficult to lose weight. Also, an important issue of hypothyroid status is immunosuppression and MBI practices have been shown to enhance immunity. Moreover, hyperthyroidism is related to the risk of heart disease, and MBI practices can reduce many cardiovascular disease risk factors, such as blood pressure, smoking, diabetes, obesity, among others. Depression and/or anxiety are other symptoms related to thyroid diseases, and we have already shown that MBI can be useful to deal with both of them. And the most important thing: MBI is able to reduce inflammatory immune responses as those of autoimmune disorders, and thyroid diseases are mostly autoimmune in nature.

Despite the lack of supporting evidence in this respect, there are a few reports pointing out hormonal changes related to meditation practices [16,17], and there is a recent study that evaluates thyroid function in the practice of MBI to improve well-being for other disorders [18]. Nevertheless, future studies are necessary to ascertain the benefits of MBI intervention on thyroid health.

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