

# Mind-body medicine in oncology

## 'Mind matters.' – David Spiegel

SYLVIA RODRIGUES, MB ChB, BSc (Hons), MPharmMed, MPhil (Pall Med), FCRadOnc  
Oncologist, Gauteng Oncology, Union Hospital, Alberton

Sylvia Rodrigues graduated from the medical school at the University of Pretoria in 1997 and received her training in radiation oncology at the same institution. She completed a master's degree in medical pharmacology as well as in palliative medicine. Since 2007 she has worked for Gauteng Oncology.

At the end of the 20th century cancer emerged as the second leading cause of death in the USA, exceeded only by cardiovascular disease. Taking into account the emotional and psychological trauma associated with the disease, and the fact that treatment is often as harsh as the disease itself, cancer may be second to none in terms of suffering experienced by those affected.<sup>1</sup> Conventional cancer therapy is designed to reduce the tumour burden locally by means of surgical excision and irradiation, and to eradicate primary and metastatic cancer cells by means of systemic chemotherapy. Because of the significant side-effects of such invasive methods, the emotional trauma of the diagnosis is often magnified by the physical trauma of these interventions. Oncology is therefore a specialty practice in which complementary and alternative approaches may be synergistically employed to reduce the sequelae of the disease itself and to limit the toxicity of disease management.<sup>1</sup> Mind-body medicine, a major area of complementary and alternative medicine (CAM), focuses on the interactions among the brain, mind, body and behaviour and on the powerful ways in which emotional, mental, social, spiritual and behavioural factors can directly affect health.<sup>2</sup>

### Background

CAM refers to diverse medical and health care systems, practices and products that are not currently considered part of conventional medicine and generally have limited scientific evidence.<sup>3</sup> The National Center for Complementary and Alternative Medicine (2005) suggested 5 categories of CAM: (i) alternative medical systems such as homeopathy and naturopathy, as well as culturally based systems such as traditional Chinese medicine, and Ayurvedic medicine; (ii) mind-body interventions such as art therapy, music therapy, guided imagery, yoga, prayer and meditation; (iii) biologically based systems such as diet and herbs; (iv) manipulative and body-based practices such as massage and chiropractic manipulation; (v) energy therapies such as Reiki, Qigong and magnets.<sup>2</sup> Diseases that have the most appeal for CAM therapies

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are those where conventional medicine has the least impact, such as HIV, chronic pain and cancer.<sup>4</sup> The use of CAM therapies is very high among cancer patients. It has been estimated that up to 83% of patients diagnosed with cancer use CAM,<sup>5</sup> and the incidence appears to be increasing, particularly the use of mind-body-type interventions.<sup>6,7</sup> Those that do not involve taking oral therapy may be perceived as having fewer potential adverse effects or interactions with conventional cancer treatments. Conventional practitioners possibly recommend these options or at least do not discourage patients from using them.<sup>6</sup> Cancer patients expect CAM to offer symptom management, improved quality of life, increased sense of control, hope of lessening the disease process and potential cure. CAM practitioners are also credited for incorporating emotional and overall support into their therapeutic armamentarium; this disconnection between patient expectations of their physician and their CAM practitioner fuels the demand for CAM.

Integrative medicine is a newly emerging field that strives to combine mainstream medical therapies and CAM therapies for which there are some high-quality scientific evidence of safety and effectiveness.<sup>2</sup> Integrative medicine emphasises relationship-centred care and develops an understanding of the patient's culture and beliefs to help to facilitate the healing process. It focuses on the unique characteristics of the individual person based on the interaction of mind, body, spirit and community, as health and healing are inherently unique to the individual.<sup>1</sup> Integrative medicine is gaining popularity by emphasising health and healing rather than disease and treatment,<sup>4</sup> and healing is always possible even when curing is not.<sup>1</sup>

### Issues in oncology

The diagnosis of a life-threatening illness can be devastating to patients and their families. Patients are confronted with a sense of their own mortality, which often causes acute psychological stress. A significant proportion of cancer patients suffer sufficient emotional stress to qualify for a psychiatric diagnosis, especially anxiety or depression.<sup>8</sup> While disease and treatment exert a heavy physiological toll, accompanying anxiety about diagnosis and prognosis, taxing

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medical treatments, and disruption of social, vocational and family functioning constitute a series of psychological stressors.<sup>9</sup> Patients diagnosed with cancer have many needs that often include the expectation of cure. Where cure is unlikely there can always be hope and spiritual support. Patients require symptomatic control that encompasses control of this psychological distress. To achieve all of these goals there is a need that goes beyond the role of scientific medicine.<sup>10</sup>

### Mind-body interventions

Evidence from multiple studies with various types of cancer patients suggests that mind-body interventions can improve mood, quality of life and coping, as well as ameliorate disease- and treatment-related symptoms, such as chemotherapy-induced nausea, vomiting and pain. Some studies have suggested that mind-body interventions can alter various immune parameters, but it is unclear whether these alterations are of sufficient magnitude to have an impact on disease progression or prognosis.<sup>2</sup>

### Meditation as a complementary therapy

Meditation, one of the most common mind-body interventions, is a conscious mental process that induces a set of integrated physiological changes termed the relaxation response.<sup>2</sup> The two most widely studied meditation techniques are transcendental meditation and mindfulness-based meditation. Transcendental meditation uses the repetition of a specific mantra with the intent of quieting and ultimately 'transcending' the internal mental dialogue. Mindfulness-based meditation strives to develop an objective observer role, thus creating a non-judgemental mindful state of conscious awareness.<sup>11-13</sup> Studies of meditation as a supportive care in cancer report positive results, including improvements in mood and sleep quality and reduction in stress.<sup>14</sup>

### Hypnosis and guided imagery

Although its mechanisms of action have not been fully characterised, recent neuroimaging studies suggest that hypnotic phenomena are associated with brain

activity within brain structures involved in the regulation of consciousness. Hypnosis and guided imagery have potential applications in relieving cancer-related pain and symptom-related distress.<sup>13</sup> In a trial of 58 women with advanced breast cancer, Spiegel *et al.* demonstrated that supportive group therapy resulted in a statistically significant reduction in pain sensation and suffering over 10 months of follow-up and that the addition of hypnosis provided a further reduction in pain sensation.<sup>15</sup> Guided imagery, hypnosis and relaxation training have been effective in diminishing anticipatory nausea and vomiting in patients receiving chemotherapy, reducing anxiety and distress caused by invasive medical procedures and decreasing pain caused by aversive medical procedures.<sup>16</sup> However, these interventions have not demonstrated efficacy in moderating chronic pain in cancer populations or alleviating post-chemotherapy nausea and vomiting. The continued threat of cancer and pain can perpetuate an existential crisis characterised by feelings of uncertainty, fear of pain and death, and experiences of individual and social suffering. The pain is not necessarily physical but may also involve feelings of being out of control. Guided imagery may provide a vehicle for patients to make sense of their experiences with cancer and may provide a means of repairing this ruptured relationship with the body.<sup>17</sup>

### Yoga

Yoga derives from the Ayurvedic medical system and enables the student to move slowly and safely into the asanas (postures), concentrating initially on relaxing the body, breathing fully, and developing awareness of sensations in the body and thoughts in the mind.<sup>13</sup> Yoga produces the relaxation response characterised by decreased sympathetic and increased parasympathetic activity.<sup>18</sup> Studies have supported its benefits for stress management, anxiety reduction, and insomnia.<sup>13</sup> A small pilot study of yoga in early breast cancer survivors revealed psychological improvements in participants, with a positive impact on mood, quality of life and stress. However, there were no significant physical improvements in the yoga participants versus the controls.<sup>19</sup> A similar pilot study of metastatic breast cancer

patients found yoga to be helpful in boosting daily invigoration and a sense of acceptance. There were also trends for improvement in pain and relaxation.<sup>18</sup> No adverse events were related to yoga participation in these small pilot studies.

### Prayer

In a survey of over 31 000 adults 45.2% indicated that they used prayer for health reasons.<sup>20</sup> Prayer is typically viewed as a religious practice, a form of communication between individuals and divine or spiritual beings. Research indicates that prayer is a coping strategy that is often intimate and private, and very important to many patients.<sup>21</sup> It is a valuable resource that can influence one's perception of cancer,<sup>22</sup> and cancer survivors have been found to pray for health more than all other populations without cancer.<sup>23</sup> While it is inconclusive as to whether prayer contributes to physiological healing, there is growing empirical evidence indicating that personal prayer is associated with positive emotional outcomes.<sup>20</sup>

### Psychosocial interventions

Psychosocial interventions span a range of approaches, many involving multiple components such as education regarding cancer and its treatment, provision of emotional support, training in coping skills, challenging unhelpful thoughts and relaxation training.<sup>24</sup> Short-term psychological interventions, particularly those with cognitive behavioural components, improve mood and quality of life in cancer patients.<sup>25</sup> However, the long-term effects of such interventions have not been studied extensively. Some trials have suggested a survival benefit for patients receiving psychosocial interventions, while other trials have found no such benefit.<sup>26-28</sup>

### Music and art therapy

The objectives of music and art therapy are to use the creative process to allow awareness and expression of an individual's deepest emotions. For many years music therapists have served the needs of hospitalised patients by helping to alleviate isolation, anxiety, fear, and sometimes boredom associated with

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lengthy hospital stays. Studies specific to cancer care have identified pain management, nausea control, and psychosocial concerns, such as depression and anxiety, as targets for music therapy intervention.<sup>29</sup>

Art therapy is a clinical intervention based on the belief that the creative process involved in the making of art is healing and life enhancing. It is used to help patients or their families to increase awareness of self, cope with symptoms, and adapt to stressful and traumatic experiences. Some cancer patients may prefer art as they may be uncomfortable with conventional psychotherapy or find verbal expression difficult. Art therapy has been used in a variety of clinical settings and populations, although few studies have explored its use in cancer symptom control.<sup>30</sup>

### Conclusions

In the ever-changing world of cancer care, exploring treatment approaches that are holistic and emphasise the patient's role in the healing process is essential.<sup>31</sup> It is a plausible hypothesis that if a patient feels better and spiritually at ease then the abovementioned approaches may help the physical recovery. Based on the study of several systematic reviews and randomised controlled trials, a number of mind-body interventions may have a role in the management of cancer and cancer treatment-related symptoms. The judicious use of complementary therapies together with conventional therapies within a therapeutic and empathic doctor-patient relationship may also help to ensure that the patient is treated as a whole person.

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### In a nutshell

- Up to 83% of patients with cancer diagnoses use CAM.
- Integrative medicine emphasises relationship-centred care and develops an understanding of the patient's culture and beliefs to help to facilitate the healing process.
- Cancer patients require symptomatic control that encompasses control of their psychological distress.
- Evidence from multiple studies with various types of cancer patients suggests that mind-body interventions can improve mood, quality of life and coping, as well as ameliorate disease and treatment-related symptoms, such as chemotherapy-induced nausea and vomiting and pain.
- These interventions include meditation, hypnosis and guided imagery, yoga, prayer, psychosocial interventions and music and art therapy.