

The Positive Effect of Mindfulness-Based Cancer Recovery on Cancer-Related Fatigue in a Transitional Health Management Model

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Abstract: Compared with general fatigue, cancer-related fatigue is characterized by rapid onset, high severity, substantial energy expenditure, long duration, unpredictability, and inability of relief. There has been no effective treatment for it so far, which greatly affects the patients' self-care ability and quality of life. It has been proved in previous studies that mindfulness-based cancer recovery (MBCR) can effectively alleviate the negative reactions of cancer patients such as fatigue, pain and fear during the treatment process and enhance the level of cancer recovery. In this article, we propose to intervene in cancer-related fatigue by resorting to mindfulness based on a "hospital-family transitional health management model". It is expected that this model will play a positive role in the adjuvant treatment of cancer-related fatigue because of its operability and low medical cost.

1. Introduction

Fatigue is one of the most common symptoms of cancer patients. A survey of 379 cancer patients by the Fatigue Coalition showed that 76% of the respondents felt fatigue, 54% felt nausea, 23% felt depression, and 20% felt pain. 76% of the respondents felt fatigue at least a few days a month during their chemotherapy, of which 30% felt fatigue every day [1]. Studies in China indicate that 60% of cancer patients in China feel moderate to severe fatigue [2]. Therefore, the unusual subjective sense of generalized tiredness or exhaustion related to cancer felt by cancer patients is called cancer-related fatigue. This fatigue is variable in duration and intensity, and its relief is disproportionate or unrelated to the individual's behavior and effort. In 2000, the National Comprehensive Cancer Network (NCCN) defined cancer-related fatigue as "an unusual, persistent, subjective sense of tiredness related to cancer or cancer treatment that interferes with usual functioning". This definition emphasizes the characteristics of cancer-related fatigue to distinguish it from fatigue experienced by healthy people.

For chronic diseases such as cancer-related fatigue, the establishment of a hospital-family transitional health management is conducive to the seamless transition of the “treatment” and “recovery” stages of the disease. It can ensure long-term and standardized interventions for the disease, which is conducive to the recovery and control of the disease. In the case of cancer-related fatigue, studies have shown that mindfulness have ideal intervention results. Therefore, this article is intended to explore the effect and significance of applying mindfulness on cancer-related fatigue under a transitional health management model.

2. Causes of Cancer-Related Fatigue

Compared with general fatigue, cancer-related fatigue is characterized by rapid onset, high severity, substantial energy expenditure, long duration, unpredictability, and inability of relief. The complexity of its condition is significantly different from the general fatigue felt by healthy people, and there is no effective treatment yet, which greatly affects the patients’ self-care ability and quality of life. In reality, however, a significant proportion of cancer patients who experienced fatigue in the past did not express their negative feelings to the health care providers, or their complaints were not taken seriously by the medical staff. As research on the quality of life of cancer patients continues to progress, cancer-related fatigue has received increasing attention and has become an important indicator in assessing the quality of life of cancer patients. The onset and development of cancer-related fatigue is associated with multiple physiological and psychosocial factors [3].

2.1. Physiological factors

Influence of treatment modality: The incidence and severity of fatigue caused by surgical treatment are related to the modality of anesthesia and the type of surgery. During surgery, different degrees of injury can cause different degrees of metabolic changes and stress reactions in the body. Fatigue caused by chemotherapy and radiotherapy may be related to treatment-induced anemia or accumulation of end products after cell destruction. Cancer-related fatigue caused by biological therapy is related to patient exposure to exogenous or endogenous cytokines (interferon or interleukin).

Complications: Complications arising from cancer treatment such as anemia, infection, organ failure, and malnutrition can cause cancer-related fatigue.

Neuroendocrine factors: Recent studies have found that the hypothalamus-pituitary-adrenal axis system plays a certain role in the occurrence and development of cancer-related fatigue.

2.2. Psychosocial factors

Among the many factors that cause cancer-related fatigue, psychological factors are very important. Studies have shown that depression is related to cancer-related fatigue, but the relationship between the two is complex, as fatigue can be both the cause and the result of depression.

3. Mindfulness-Based Cancer Recovery (MBCR)

Mindfulness originates from the Buddhist culture of sitting meditation and is an important part of Buddhist practice. It is a form of meditation that helps individuals to regulate their mind by awakening the practitioner’s inner focus on “the present moment” without making any judgment [4]. Mindfulness refers to both process (mindful practice) and outcome (mindful awareness). As an

awareness process consisting of intention, attention, and attitude, mindfulness-based training is often accompanied by improvement of attention, emotion regulation, and awareness.

Cancer treatment nowadays proves to be more effective in improving survival rates, but it has brought about many short-term and long-term negative effects on patients both physically and psychologically, such as depression, anxiety, insomnia, and fatigue as well. Mindfulness-based interventions can be particularly helpful in cancer diagnosis, treatment and survival. Mindfulness-based interventions have been applied to clinical cancer treatment, many scholars have made modifications to include specific elements based on their research needs and the characteristics of different cancer patients [5].

MBCR is a training program for cancer patients, which includes knowledge of cancer and psychology. It encourages cancer patients to face the disease, pay attention to the present moment, accept change and uncertainty, and gently re-know and embrace themselves, which can effectively improve the somatic and psychological symptoms of cancer patients. MBCR was founded based on the three founders' practice of applying their own experience in meditation and yoga exercises to cancer patients. The inherent principles aim to use meditation, yoga and other techniques to help cancer patients. The MBCR weekly group meeting time is only 1.5-2 hours, which is based on practical experience and takes into account the realities of cancer patients. The program also requires participants to practice 45 minutes every day at home, including 15 minutes of yoga and 30 minutes of meditation [6]. The MBCR program focuses more on symptoms of cancer patients, such as sleep problems, pain, and fear of cancer recurrence, and incorporates cognitive coping strategies based on the principles of cognitive-behavioral therapy.

Currently, many empirical studies at home and abroad have shown that MBCR can effectively alleviate the negative reactions of cancer patients during treatment and improve the level of cancer recovery, especially for breast cancer patients. Hoffman et al. carried out mindfulness-based interventions for breast cancer patients from stage I to III, followed by a follow-up study three months after the training, and the results showed that mindfulness can help breast cancer patients alleviate a range of negative reactions generated during treatment [7]. Wurtzen et al. studied 336 cases of breast cancer patients and found that breast cancer patients who underwent mindfulness-based interventions experienced alleviation in anxiety and depressive symptoms and maintained a good level of treatment outcome at subsequent follow-up surveys (6 and 12 months) [8]

4. Effect of Hospital-Family Transitional Health Management Model on Cancer Recovery

The treatment and recovery of cancer patients is a long and continuous process, and the discharge of patients does not mean the end of the disease. The cancer-related fatigue, as a high probability symptom that affects cancer patients most and hurts them most, deserves our attention. The transitional health management model is a health service model that extends hospital nursing services to patients' families, which is a new health management concept. In recent years, the transitional health management model has been applied in the clinical treatment and recovery of cancer patients, aiming to help patients effectively cope with the health problems after they return home, so that they can be safely transferred from hospital to home. The extension of hospital care to home care proves to have good effects. At present, most of the interventions for the cancer-related fatigue at home and abroad focus on clinical treatment during patients' hospitalization, with less interventions after discharge. However, patients stay in the hospital for only a short period of time during chemotherapy, and effective nursing interventions after discharge will be suspended. As a result, patients cannot receive good care during the recovery period after discharge, which increases the risk of negative prognosis. In contrast to conventional health management, the transitional

health management focuses on out-of-hospital patient care. Functional training and health guidance for patients after discharge can effectively promote their functional exercises and lifestyle change, which also has certain positive significance for their recovery. The internet-based platform plays an important role in the recovery of cancer-related fatigue based on the transitional health management model, and also solves the problem of spatial and temporal constraints for the continuous implementation of the mindfulness-based training. Shen et al. conducted a randomized controlled study with 80 transitional breast cancer survivors from Tianjin Medical University Cancer Hospital, in which the control group received routine follow-up and care, and the observation group received an 8-week online mindfulness-based cancer recovery intervention through the WeChat mini programs. The results showed that the stress perception, cancer-related fatigue, and anxiety of the observation group dropped significantly after intervention [9].

5. Conclusion

Cancer-related fatigue exerts a serious impact on the patient's cognition and mood, and even on the normal treatment. It is easy to be diagnosed but difficult to be treated. At present, interventions for cancer-related fatigue are divided into non-pharmacological interventions and pharmacological interventions. Simple non-pharmacological interventions are difficult to achieve the desired effect and it is often necessary to integrate both pharmacological and non-pharmacological interventions. In Western medicine, doctors mainly use some central stimulants or corticosteroids, which have inaccurate efficacy and huge adverse drug reactions. In contrast, MBCR emphasizes a holistic view of thinking, with low operational costs and few side effects, so it can be considered as one of the important treatment modalities for cancer-related fatigue.

The effectiveness of mindfulness in the treatment of cancer-related fatigue has been explored in a number of previous studies, but effective implementation of mindfulness-based interventions requires a relatively long period of implementation duration as well as continuity of implementation. There are no previous studies exploring the continuity of such interventions in health management. Therefore, the author suggests to apply the emerging transitional health management model in the recovery of cancer-related fatigue, and proposes to carry out MBCR based on the "hospital-family transitional health management model". In particular, with the widespread use of mobile Internet, information technology has created the possibility for the continuity of MBCR and made it more operable. It is expected that this model will play an active role in the adjuvant treatment of cancer-related fatigue.

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