OBSERVING THE OUTCOMES OF INTERNET-BASED SELF MANAGEMENT EDUCATION TOOLS FOR CHRONIC PAIN PATIENTS

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INTRODUCTION / AIM

Chronic diseases, including chronic pain, affect a large portion of the population worldwide. Although not life threatening, chronic pain can threaten quality of life from minor limitations to complete loss of independence. Treatments for chronic pain are usually long term, expensive, and are mostly effective at managing rather than curing the condition. Pain is costly because it requires medical treatment and complicates treatment for other ailments. Also, pain lowers worker productivity. One study estimates that in the United States (US) alone, the national cost of pain ranges from $560 to $635 billion, larger than the cost of the nation’s priority health conditions and suggests that because of its economic toll on society, the nation should invest in research, education, and training to advocate the successful treatment, management, and prevention of pain. In Canada, a survey conducted in 2001 showed that the prevalence of chronic pain for adults older than 18 years of age was 18.9%. Pain medicine experts agree that the successful management of chronic pain requires a multi-disciplinary approach. In an early study, the beneficial effects of multidisciplinary treatment were not limited to improvements in pain, mood, and interference but also extended to behavioral variables such as return to work or use of the health care system. Many programs have shown outcome improvements by combining psychological, physical, and exercise therapies with proper medications, even reducing hospitalizations. Although such programs are effective, patients often are limited in the amount of time they can allocate to such programs, making self-management support interventions important options to better manage their chronic diseases and improve treatment outcomes. In addition, patients hoping for success with pain management programs often find themselves in a secondary struggle with health care coverage that can be an unwelcome and harmful distraction to their battle with chronic pain. For example, health insurance might not cover the physical therapy, but if it covers physical therapy, it may only cover a few sessions. Many patients may not have private insurances, and the cost of treatment becomes a major barrier for them to access proper care. In this observational study, we used an internet patient education blog and Twitter postings to provide free, accessible patient self-management education for a group of chronic pain patients. The goals were using the online tools to eliminate the financial, time and geographical barriers to care in order to improve the pain, anxiety and depression in community chronic pain population.

METHODS

A total of 200 chronic pain patients were included in this 6-month observation (fourth quarter of 2014 to first quarter 2015). Patients had access to a patient educational blog (http://mypain.ca/) and Twitter postings (https://twitter.com/search?q=zendose&src=typd) to learn how to be safely active, improve eating habits, manage stress, and review proper medication and supplement use. All patients who were enrolled had a moderate level of pain on the Numeric Pain Rating Scale.
(NPRS), (0=none; 1-3=mild; 4-6=moderate; 7-10=severe); severe level of depression on the Hamilton Depression Rating Scale (HDRS) (0-7=normal, 8-13=mild depression, 14-18=moderate depression, 19-20=severe depression); and borderline abnormal anxiety on the Hospital Anxiety and Depression scale (HADS) (8-10=borderline anxiety, 11-21=abnormal anxiety and depression; and less than 5 (0=non functioning-10=normal) on the Quality of Life scale (QOLS). Patients were evaluated at baseline and at end point. At the end of the study, patients completed The Patient Global Impression of Change (PGIC). Patients were encouraged to read the educational postings (http://mypain.ca/) about exercise, nutrition, meditation, disease management methods, evidence-based supplements, daily relaxation exercises, and overall self-management methods and the mindfulness postings on Twitter (https://twitter.com/search?q=zendose&src=typd) Patients were able to share ideas and comments on the blog by logging in with their Facebook, Google, or Twitter accounts. The #ZENDOSE posts were updated daily, and patients were encouraged to reflect on the messages for 15 minutes each day. Compliance and support emails were sent to all patients on a weekly basis during the observation period. All other elements of treatment were kept the same as baseline without any changes during the observation.

RESULTS

Modest improvements were noted in Pain, Anxiety, Depression, and Quality of Life. There was a 60% reduction in pain scores from moderate level before treatment to mild level after treatment, with a reduction of severe pain from 40% before treatment to 25% after treatment. On the depression scale, 40% scored below 20 after treatment, and reduction of severe depression was observed to be reduced from 30% before treatment to 10% after treatment. On the anxiety scale, 55% scored normal level of anxiety, and the severe group was reduced from 25% before treatment to 15% after treatment. There was a 60% improvement in quality of life. More than half (60%) of patients reported much improved on the PGIC after treatment.

DISCUSSION / CONCLUSIONS

Rehabilitation in chronic disease/pain requires a multidisciplinary approach. Self-management support interventions are becoming more common as a structured way of helping patients learn to better manage their chronic diseases, including chronic pain. Because chronic diseases affect the whole person (body, mind, and spirit), patient-centered complementary and integrative medicine therapies that acknowledge patients’ roles in their own healing processes have the potential to provide more efficient and comprehensive pain management. There is evidence that patient education for self management can improve the outcomes in chronic diseases. A report of 10 studies involving 6,074 people with various chronic diseases, such as arthritis, depression, and chronic pain revealed that self-management programs led to modest, short-term improvements in pain, disability, fatigue, self-rated health, depression, and quality of life when compared to usual care. Evidence also suggests that self-management programs not only helped improve health status but also reduced hospitalizations. In a controlled trial at community-based sites comparing treatment subjects with wait-list control subjects, patients (N=952) 40 years of age or older with heart disease, lung disease, stroke, or arthritis demonstrated improvements at 6 months in weekly minutes of exercise, frequency of cognitive symptom management,
communication with physicians, self-reported health, health distress, fatigue, disability, and social/role activities limitations, demonstrating that an intervention designed specifically to meet the needs of a heterogeneous group of chronic disease patients, including those with comorbid conditions, was feasible and beneficial beyond usual care. Mindfulness medication-based therapies alone are being increasingly used as interventions for psychiatric disorders, rheumatoid arthritis, substance abuse disorders, and chronic pain. A meta-analysis of 65 studies reviewed the outcomes of chronic pain programs and reported a 20% average reduction in pain. Reduction rates in other studies have ranged from 0% to 60. Chronic pain comes at a cost whether from lost wages, social stigma, or ineffective health-care coverage. One study found that the annual cost of pain was greater than the annual costs of heart disease ($309 billion), cancer ($243 billion), and diabetes ($188 billion). Despite the success of self-management programs for chronic diseases, many patients do not have the financial support/coverage for allied health services needed in a multi-disciplinary pain program. For example, many find that their health insurance will not cover some or all of their chronic pain treatment or that they must face a bewildering array of obstacles to having their treatment covered. In general, traditional face-to-face self-management patient education programs are effective in the management of chronic diseases. However, innovative low-cost and effective methods for disseminating self-management techniques to a large proportion of patients are necessary given the increasing burden caused by inactivity and chronic disease. Internet cognitive therapy behavioral therapy could serve as a complement for those with chronic pain who prefer this treatment and have difficulties accessing specialist treatment facilities. In one such study that assessed whether Internet-based intervention would have an effect on the symptoms of chronic back pain, the results showed that the treatment had an effect on catastrophizing and quality of life. This supports an earlier study, which showed significant reductions in catastrophizing, increased control over pain, and ability to decrease pain. Previous findings have shown that people experiencing pain are more likely to engage in online resources, including sharing their pain experiences and remedies for pain on social networking sites. In fact, evidence shows that patients are beginning to rely on the Internet more frequently as a source of health information but still want to discuss such information with their health providers. Evidence also suggests that combining high-reading level written material with more accessible video material can improve its impact among patients with less education. One information communication technology that has not been well explored in rehabilitation is social media, such as Blogs, Facebook, and Twitter. A recent systematic review of ten studies considered efficacy of interventions, such as online health social network websites (n=2), research health social network websites (n=3), and multi-component interventions delivered in part via pre-existing popular online social network websites (Facebook: n=4 and Twitter: n=1). The review revealed significant improvements in outcome measures related to health behavior change (effect sizes ranging from -0.05 (95% CI -0.45 to 0.35) to 0.84 (95% CI 0.49-1.19). Although social media sites are attractive for disseminating public health messages, they remain underused by health care professionals despite their low cost and wide reach. There is evidence that brain hard wiring can change with meditation rather quickly, suggesting that it may serve as an effective adjunct therapy. In our observation, the #ZENDOSE (a daily mindfulness short reflection practice) and Mypain.ca were efforts to get patients’ brains busy with the self-management activities that would change their passive disease-controlled situation to active self-controlled situation in an effort to improve
outcomes in patients who could not afford multi-disciplinary treatments in clinic settings. Internet-based self-management patient education may serve as a complement for chronic pain patients who prefer this treatment and have difficulties accessing specialized treatment facilities. This observation, using Twitter and a blog, showed modest improvement in patients’ chronic pain, anxiety, depression and quality of life using internet based patient self-management education tools. These results highlight the need for more studies in this area.