Internet Interventions Help Patients Newly Diagnosed With Cancer Improve Their Quality of Life

Although the National Comprehensive Cancer Network guidelines regarding the management of distress and fatigue recommend that these conditions should be “assessed and managed according to clinical practice guidelines,” these guideline documents also emphasize that both cancer-related fatigue and distress are frequently undiagnosed and untreated, due in part to a lack of community resources. In this context, a recent Swiss study of Web-based stress management for patients newly diagnosed with cancer identifies an interesting strategy for this unmet need.

Writing in the *Journal of Clinical Oncology* ([published online ahead of print January 25, 2018]. doi: 10.1200/JCO.2017.74.8491), Viviane Hess, MD, and colleagues report that their Web-based stress management program, STREAM (“Stress-Aktiv-Mindern” in German or “actively mitigating stress” in English), is feasible and effective in improving fatigue and distress. “The time shortly after diagnosis is known to be particularly stressful and full of uncertainties. It is also, however, a period busy with appointments for diagnostics and treatment. It is often difficult to fit in time for psychological face-to-face support. Therefore, an online support, that patients can use from home whenever they choose, is very appealing,” says Dr. Hess, who is the corresponding author and a medical oncologist and research professor from the University Hospital of Basel in Switzerland.

Dr. Hess randomly assigned 129 volunteers who were newly diagnosed with cancer to the Web-based intervention or a waitlist control group after stratification based on distress severity. The STREAM intervention was based on cognitive behavioral-based and mindfulness-based stress reduction techniques that were organized into 8 Web modules that were designed to be completed in 60 to 90 minutes. Module topics included an overview of stress, understanding bodily sensations during stress, thoughts and their interaction with emotions and bodily sensations, feelings and cancer-related emotions such as anxiety and worries, and communication skills. In addition to completing one module each week, participants were asked to use downloadable audio files for relaxation and guided imagery exercises each day. Therapists also provided weekly feedback to patients via e-mail.

Quality of life, fatigue, distress, anxiety, and depression were assessed at baseline, again after the intervention...
(or waiting period), and then after another follow-up period, during which time patients in the control group could participate in the STREAM program.

Adherence to the STREAM program was very good, with approximately 80% of patients in the initial STREAM group completing at least 6 of the 8 modules, and approximately 75% completing all 8. Compared with patients in the control group, those initially randomized to the STREAM intervention had significantly more favorable scores on the fatigue ($P = .002$), physical well-being ($P = .01$), and functional well-being ($P = .04$) subscales of the Functional Assessment of Chronic Illness Therapy–Fatigue (FACIT-F) questionnaire. The STREAM group also had significantly ($P = .03$) more favorable scores on the National Comprehensive Cancer Network “distress thermometer.” The researchers noted that the effects of the STREAM program were not only statistically significant, but their magnitudes were also considered to be clinically meaningful. The effect sizes (assessed by the partial eta-squared statistic) were rated as medium for the FACIT-F results and as small to medium for the distress results.

“Quality of life is inherently difficult to measure. However, a medium effect in these well-known and standardized questionnaires should be clearly noticeable for patients,” says Dr. Hess. Differences between the control group and the STREAM group on the Hospital Anxiety and Depression Scale (HADS) were significant in per-protocol analyses (comparing controls with participants who actually completed the program) but not in the intent-to-treat analysis (comparing participants assigned to the STREAM and control groups, regardless of adherence to the program).

In terms of resource use, the intervention was quite efficient; psychologists spent fewer than 14 minutes per week per patient. “Even though the (written) contact between psychologist and patient is short, it seems that it is very important for effective online support. Others have shown that adherence to therapist-guided online interventions is significantly better than to pure self-help programs,” Dr. Hess explained.

Although the STREAM program was developed in Switzerland and nearly one-half of the participants were from that country, participants were recruited via the Internet and included patients residing in Germany, Austria, and the United Kingdom.

Cathy D. Meade, PhD, RN, FAAN, senior member in the Health Outcomes and Behavior Program at the Moffitt Cancer Center in Tampa, Florida, agrees that, “Web-based tools to enhance supportive care represent an exciting way for cancer patients and their families to obtain information right in the comfort of their homes. Yet, only a handful of studies have tested online-delivered approaches. Application of this work holds great clinical relevancy for the US in light of the surge in mobile technologies, and national communication imperatives that challenge us to find better ways to make health information accessible to wider audiences.” She continues, “But this calls for developing and testing interventions among more diverse cancer treatment populations, including multicultural and multilingual populations, individuals with limited literacy, and vulnerable groups such as a growing older cancer survivor population, to name a few. Reaching patients from broader geographic (urban and rural) and lower resource settings also is crucial to impact the unacceptable level of health disparities that we now experience.”

Although Dr. Hess agrees that more research is needed and is continuing studies in this area, she emphasized that, “Online interventions have the potential to support patients who otherwise might not have been reached. It is complementary to traditional face-to-face support, which might remain the preferred approach for some patients, but is not accessible for many.”

doi: 10.3322/caac.21450