

MATERIALS AND METHODS

Subjects and Setting

A convenient sample was recruited from an outpatient oncology clinic in a large Midwestern university-affiliated hospital in the United States. One hundred and twenty-six patients who had been experiencing cancer pain for more than a month and who were over the age of 18 were invited to participate. Of these 126 patients, 88 (70%) accepted. In this sample, 34% ($n = 30$) were male and 66% ($n = 58$) were female, and ages ranged from 25 to 80 with a mean (SD) of 55.1 (11.6) years. Of these participants, 59% ($n = 52$) were retired, and 84% ($n = 74$) were married. The majority of the participants were Caucasian (98%, $n = 86$).

Forty-nine percent ($n = 43$) had a high school or high school equivalent education, and 32% ($n = 28$) had received a college education. Seventeen percent ($n = 15$) had experienced pain related to cancer for 1 to 3 months, 16% ($n = 14$) had experienced cancer pain for 3-6 months, 14% ($n = 12$) had experienced pain for 6-12 months, 34% ($n = 30$) had experienced pain for 1 to 3 years, and 19% ($n = 17$) had experienced pain for more than 3 years.

Measures

Use of coping

Use of coping was measured by the Coping Behaviors Instrument, the first part of which was derived from the Coping Strategies Questionnaire (CSQ).⁴ The original CSQ, a 42-item self-reporting scale, was developed to assess the use of six cognitive coping strategies and one behavioral strategy in a sample of patients with chronic low back pain: diverting attention (distraction), reinterpreting pain sensations, using coping self-statements, ignoring pain sensations, praying or hoping, catastrophizing, and increasing activity levels. These coping strategies were found to be significantly related to specific measures of adjustment to chronic pain in a sample of patients with chronic low back pain.⁴ For the current study, seven items representing each of the above coping strategies were selected from the original CSQ. In addition, based on the Agency for Health Care Policy and Research¹⁵ guidelines, nine additional coping items were added to the instrument: reporting pain to clinicians,

using pain medications, using heat, using cold, getting a massage, relaxing, using imagery, exercising, and using hypnosis.

Each item was rated on a 7-point scale, from 0 (never used it) to 6 (used it all the time), according to how often the subject had used that particular strategy during the past week when he/she felt pain. A cognitive coping score was computed by summing the eight scores of diverting attention (distraction), reinterpreting pain sensations, using coping self-statements, ignoring pain sensations, praying or hoping, catastrophizing, using imagery, and using hypnosis. A behavioral coping score was computed by summing the eight scores of increasing activity levels, reporting pain to clinicians, using pain medications, using heat, using cold, getting a massage, relaxing, and exercising. The internal consistency alpha was 0.72 for cognitive coping, 0.71 for behavioral coping, and 0.79 for the entire instrument in the current study. The Content Validity Index of this instrument ranged from 0.78 to 0.84. The construct validity was established by factor analysis.⁷

Level of distress

Psychological distress was assessed by the 5-item version of the Mental Health Inventory (MHI-5).¹⁶ The items address anxiety, depression, loss of behavioral or emotional control, calmness, and happiness during the past week. Possible responses for all items ranged from 1 (all of the time) to 6 (none of the time). Scores for being calm and happy were reversed before computing the distress score. A distress score was computed by summing these five items. The MHI-5 has been used for 9 years to assess psychological distress and well-being and has been accepted as a reliable and valid measure, with reliabilities (Cronbach alpha) ranging from 0.93 to 0.95.^{16,17} In the present sample, the internal consistency alpha was 0.84. The Content Validity Index of this measure ranged from 0.72 to 0.81.

Self-efficacy expectancies

There is no standardized instrument for assessing self-efficacy because self-efficacy is domain specific.¹⁰ Assessment of self-efficacy involves people's ratings of their beliefs about their ability to perform a behavior. An instrument was developed for this study, in which patients were asked to rate their perceived