Self-Reported Assessment of Symptoms and Self-Care Within a Cohort of U.S. Veterans During Outpatient Care for Cancer

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Background: This study was undertaken as part of a feasibility study of the use of a symptom checklist and self-care assessment of veterans receiving oncology outpatient treatment within the U.S. Department of Veterans Affairs system.

Objectives: The study aimed to examine (a) symptom occurrence and severity as self-reported on the Therapy-Related Symptom Checklist (TRSC) by veterans at a cancer clinic, (b) symptom alleviation strategies and use of self-care, and (c) the relationship between symptom occurrence and severity and functional status and quality of life.

Methods: Veterans (N = 100) undergoing chemotherapy and/or radiation therapy participated in a cross-sectional study. Tools used, including TRSC, Symptom Alleviation: Self-Care Methods tool, Karnofsky Performance Status scale, and a quality-of-life measure, had good psychometric properties.

Findings: Thirteen symptoms were reported by more than 35% of patients. Top-ranked symptoms by percentage occurrence and severity were feeling sluggish, taste changes, nausea, pain, constipation, loss of appetite, numbness of fingers and toes, difficulty sleeping, weight loss, hair loss, difficulty concentrating, shortness of breath, and decreased interest in sexual activity. Occurrence and severity of symptoms had significant negative correlations with functional status and with overall quality of life. Self-care (symptom alleviation) strategies that helped were medicines, diet and nutrition, and lifestyle change. Checklist use (TRSC) facilitated patient-report of symptoms during cancer treatments; self-care strategies helped relieve symptoms.

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Cancer is the second leading cause of death in the United States, exceeded only by heart disease. An estimated 1,658,370 new cancer cases will be diagnosed in 2015 (American Cancer Society [ACS], 2015; Surveillance, Epidemiology, and End Results Program, 2013). Survival rates have increased with progress and developments in cancer treatments (ACS, 2015). However, the physical, psychosocial, symptom management, and economic burdens associated with these treatments remain for patients and their families (Akin, Can, Aydiner, Ozdilli, & Durna, 2010; Berger, 2009; Dodd, Miaskowski, & Paul, 2001; Given, Given, Sikorski, & Hadar, 2007; Heinze & Williams, 2015; Henry et al., 2008; Mitchell, Beck, Hood, Moore, & Tanner, 2007; Williams et al., 1997; Yabroff, Lawrence, Clauser, Davis, & Brown, 2004; Youngblood, Williams, Eyles, Waring, & Runyun, 1994).

No studies were identified using a population of veterans who reported symptom monitoring, symptom alleviation, and self-care during cancer treatment. Instead, oncology studies...
on veterans have focused on racial disparities in cancer care at U.S. Department of Veterans Affairs medical centers (VAMCs) (Zullig et al., 2013), treatment wait times at VAMCs (Merkow et al., 2013), navigating veterans with an abnormal prostate cancer screening test (Simon et al., 2013), and demographic variables related to treatment outcomes (Landrum et al., 2012; Wang et al., 2012). Patient-centered care in VAMCs is believed to be able to “reduce variability in cancer care” of veterans (L. Hoffman-Hogg, personal communication, April 11, 2013).

To address the gap in knowledge, the primary purposes of the current study were to examine (a) symptom occurrence and severity as self-reported on the Therapy-Related Symptom Checklist (TRSC) by veterans during outpatient cancer treatment, (b) symptom alleviation strategies and use of self-care, and (c) the relationships between symptom occurrence and severity and functional status and quality of life. A secondary purpose was to examine the psychometric properties of the TRSC as used by this sample of veterans.

**Conceptual Framework**

In this study, the conceptual framework was based, in part, on Self-Care Theory and Self-Care Deviation Theory (Meleis, 2012; Orem, 2001). The study framework specifically consisted of the concepts of symptom monitoring and symptom alleviation.

**Symptom Monitoring and Symptom Alleviation**

Gathering information about common symptoms and monitoring the success of self-reported strategies can guide healthcare providers to optimally help patients during cancer treatments of population groups, adults, and children. The primary goal for adult patients is the enhancement of the ability to perform self-care and alleviate symptoms and, in pediatric patients, for parents to provide symptom relief or alleviation during cancer treatment, which is from Orem’s (2001) dependent care concept.

Checklist use in oncology care helps to prioritize clinical and other interventions for identified symptoms based on occurrence and severity. Checklists also help to assess improvements in outcomes (e.g., as indicated by functional status and quality of life). These concepts and processes apply not only to adult patients (Greenfield & Williams, 2014; Pamjariyakul et al., 2010; Williams, Williams, Ducey, Sears, & Tobin-Rumelhart, 2000; Williams et al., 1997; Williams, Graham, et al., 2013; Williams, Lantican, et al., 2014; Williams, Williams, Lantican, et al., 2014; Williams, Williams, Lafever-Roling, et al., 2011; Williams, Williams, & Williams, 2014; Youngblood et al., 1994), but also to pediatric patients in the care of their parents (Gonzalez, Williams, Caraballo, & Colon, 2012; Williams, Lantican, et al., 2014; Williams, Robinson, & Williams, 2013; Williams, Schmideskamp, et al., 2006; Williams et al., 2012).

**Literature Review**


**Symptom Occurrence and Severity, Functional Status, and Quality of Life**

A significant number of studies on the side effects of chemotherapy were found, but the majority focused on one or two side effects and their management (e.g., fatigue, nausea, mucositis, pain). One review article included only studies that have used scales to assess a range of side effects with 10 primary studies focused on symptom assessment and management and patients' methods of self-care (symptom alleviation) during treatments for cancer, as well as quality of life (Greenfield & Williams, 2014). This review found that several factors contribute to what cluster of side effects each patient may experience. These factors include type of disease, stage of disease, what drugs were given (used for treatment and symptom management), the dosages of these drugs, and length of treatment. Zaza, Sellick, and Hillier (2005) have noted that many side effects were uncomfortable or produced increased anxiety about further treatment. Most side effects also were controlled with medications and supportive care measures to help improve quality of life. In other studies, an emphasis was on the importance of patients actively engaging in self-care measures to relieve the burden of these side effects, both physical and psychological. The side effects reported by patients receiving chemotherapy included fatigue, nausea, sore mouth, taste change, loss of appetite, difficulty concentrating, difficulty sleeping, depression, skin changes, peripheral neuropathy, pain, constipation, and hair loss (Heinze & Williams, 2015). Of note, if patients are unable to develop effective self-care behaviors to manage these side effects, they delayed or terminated their treatment regimens prematurely (Williams & Schreier, 2004).

Studies have also documented the importance of systematic assessment of symptoms experienced during cycles of cancer treatment using patient self-report to enable healthcare professionals to more effectively manage these conditions in a timely manner so as not to threaten successful completion of therapy (ACS, 2014; Barry & Dancey, 2005; Kirkova et al., 2006). The assessment and early management eventually promoted or maintained functional status and quality of life (Williams, Graham, et al., 2013; Williams, Williams, Laffever-Roling, et al., 2011; Williams, Williams, Smith, et al., 2011). Davies (2009) stated that clinicians need to (a) assess patients and side effects through the use of patient-reported health instruments, (b) use tools that have been used in the past almost exclusively for clinical research, and (c) recognize the importance of the instruments in clinical assessment and diagnosis. That is, nurses can now use these self-report symptom checklists throughout patients’ course of treatment to identify treatment-related side effects. Eliciting this information from the patient is imperative to successfully providing individualized care to each patient (Davies, 2009). Heiman and Williams (2015) compared nurse reports to patient self-reports on a checklist and found that patients reported not only more symptoms, but also greater symptom severity.

**Self-Care and Symptom Alleviation**

In a longitudinal study, Kidd, Kearney, O’Carroll, and Hubbard (2008) discussed the use of self-care measures in patients with cancer. They referred to self-care as “actions individuals and
carers take for themselves, and their families and others to stay fit, . . . care for long-term conditions, and maintain health and well-being after an acute illness or discharge from hospital” (p. 469). This definition of self-care reflects some aspects of Orem’s (2001) definition (e.g., symptom monitoring, self-care, symptom alleviation).

More specific to this study on symptom alleviation during cancer treatments, self-care strategies by patients and caregivers have been reported, including the use of complementary care (Deng, Cassileth, & Yeung, 2004; Gonzalez, Williams, Tirado, & Williams, 2011; Piamjariyakul et al., 2010; Williams, Balabagno, et al., 2010; Williams, Lopez, et al., 2010; Williams, Piamjariyakul, et al., 2006; Williams, Schmides-kamp, et al., 2006). A term used is “integrative therapies” (Wesa, Gubili, & Cassileth, 2008). Therefore, research on self-care methods used during cancer treatments to manage symptoms has been reported. Williams and coinvestigators cited previously have developed, used, and reported classification categories for “complementary care,” including diet and nutrition; lifestyle change; mind and body control; herbal, vitamin, and biologic treatment; prescribed medicines; and others, such as “do nothing.” These categories were used in the current study.

**Methods**

A cross-sectional, descriptive design was used. Study participants were U.S. veterans receiving chemotherapy recruited at the C.W. Bill Young VAMC in Bay Pines, Florida. Using convenience sampling, the participants included 100 veterans undergoing chemotherapy, radiation therapy, or a combination. Participants were local residents; aged at least 18 years; had received at least two weeks of cancer treatment; were able to read, write, and speak English and Spanish; and were able to sign informed consent witnessed by a study advocate. Institutional review board approval was obtained from the University of South Florida in Tampa.

**Instruments and Procedure**

Several instruments were used in data collection. All tools were administered in face-to-face interview format in a private room. Data collection was done by a trained researcher at the study site.

The TRSC is a Likert-type patient self-report instrument that measures therapy-related symptom occurrence and severity on a scale of 0 (no symptoms) to 4 (very severe). Higher total scores indicate more symptoms and greater severity. The TRSC has 25 items. Space was available for listing additional symptoms, if any. Participants checked and rated the severity of symptoms they experienced using this tool. The TRSC has 14 subscales or symptom clusters, identified through a principal components analysis (Williams et al., 1997, 2000; Williams, Lantican, et al., 2014). Six TRSC subscales have multiple items, and the remaining

**TABLE 1. Therapy-Related Symptom Checklist Symptom Severity (N = 100)**

<table>
<thead>
<tr>
<th>Subscale and Symptoms</th>
<th>Symptom Severity Ratings</th>
<th>% Occurrence</th>
<th>Rank Order</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Fatigue</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feeling sluggish</td>
<td>31</td>
<td>14</td>
<td>17</td>
</tr>
<tr>
<td>Depression</td>
<td>72</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Difficulty concentrating</td>
<td>62</td>
<td>12</td>
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<tr>
<td>Difficulty sleeping</td>
<td>57</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>Eating</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taste changes</td>
<td>47</td>
<td>19</td>
<td>14</td>
</tr>
<tr>
<td>Loss of appetite</td>
<td>56</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td>Weight loss</td>
<td>59</td>
<td>13</td>
<td>15</td>
</tr>
<tr>
<td>Difficulty swallowing</td>
<td>70</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Oropharynx</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sore mouth</td>
<td>78</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Sore throat</td>
<td>79</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>Jaw pain</td>
<td>86</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Fever</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fever</td>
<td>88</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Bruising</td>
<td>78</td>
<td>8</td>
<td>7</td>
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<tr>
<td>Nausea</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Nausea</td>
<td>49</td>
<td>17</td>
<td>19</td>
</tr>
<tr>
<td>Vomiting</td>
<td>77</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Respiratory</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cough</td>
<td>81</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Shortness of breath</td>
<td>64</td>
<td>10</td>
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<td>Pain</td>
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<td>Pain</td>
<td>54</td>
<td>14</td>
<td>12</td>
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<tr>
<td>Numbness in fingers or toes</td>
<td>57</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>Bleeding</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Hair loss</td>
<td>87</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Skin changes</td>
<td>75</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>Constipation</td>
<td>55</td>
<td>9</td>
<td>14</td>
</tr>
<tr>
<td>Sore vein</td>
<td>85</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Decreased interest in sexual activity</td>
<td>65</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

*a* — none; 1—mild; 2—moderate; 3—severe; 4—very severe

**Notes:**

1. Percentage occurrence (1–13 only)
are single-item subscales. For example, the fatigue subscale has a cluster of four symptoms (i.e., feeling sluggish, difficulty sleeping, difficulty concentrating, and depression), and the eating subscale includes four symptoms (i.e., taste changes, loss of appetite, weight loss, and difficulty swallowing). The adult TRSC has good psychometric properties, including concurrent, construct, and discriminant validity and internal consistency reliability (alpha coefficients were all greater than 0.8) (Williams et al., 1997, 2000, 2001, 2015; Williams, Graham, et al., 2013; Williams, Williams, Lavefer-Roling, et al., 2011). Completion of the TRSC—Children by patient self-report takes about five minutes or less.

Based on the TRSC tool, the Symptom Alleviation: Self-Care Methods (SA:SCM) tool was used to record the participants’ reports of self-care strategies to alleviate reported symptoms. Depending on the total number of symptoms reported on the TRSC, completion of the SA:SCM takes about 5–15 minutes. Verbatim responses were recorded by the interviewer in columns on the SA:SCM form named “self-care methods,” “helped,” and “did not help.”

A Spanish version of the TRSC was developed by Gonzalez et al. (2011) using the translation procedure for instruments as described in the literature (Brislin, 1970; Jones & Kay, 1992; Miller, 2001). The English TRSC and the SA:SCM were translated by a bilingual speaker into Spanish, followed by back-translation into English by another bilingual speaker. The two discussed and resolved the few differences and agreed on the final form of the Spanish version. This final version was piloted with five Hispanic patients with cancer. In this study, the Cronbach alpha was 0.87 for the Spanish version of the TRSC and 0.89 for the SA:SCM (Gonzalez et al., 2011).

A health and demographic form was used to record sample characteristics, including diagnoses, type and date the treatments were started, and chemotherapy drugs and doses used.

On the Karnofsky Functional Status scale, higher scores indicate higher functional status. Functional status is based on the ability to carry on normal activity, ability to work, and whether any assistance is needed. This scale has good psychometric properties and is used extensively in clinical research, including cancer (Firat, Boussarma, Gore, & Byhardt, 2002; Karnofsky & Burchinal, 1991; Piamjariyakul et al., 2010; Williams, Balabagno, et al., 2010; Williams et al., 1997, 2000; Williams, Graham, et al., 2011; Williams, Lopez, et al., 2010; Williams, Piamjariyakul, et al., 2006; Williams, Williams, Smith, et al., 2011). Recognizing the importance of the instruments in clinical assessment and diagnosis was addressed using Pearson correlation analyses. A secondary study purpose on the psychometric properties of the TRSC was addressed using analyses, such as Cronbach alpha, exploratory factor analysis, and descriptive statistics.

**Findings**

The 100 veterans who participated in this study were being treated with chemotherapy, radiation therapy, or with a combination of chemotherapy and radiation therapy for various types of cancer at different stages. The diagnoses included lung, prostate, bladder, renal, colon, rectal, esophageal, head and neck, colorectal, pancreatic, multiple myeloma, leukemia, lymphoma, astrocytoma, ovarian, and breast cancers. The mean age was 66 years (SD = 7.28, range = 47–84); 94% were men; 50% were married; 50% reported having a primary caregiver at home; 71% had one or more children; and 83% were Caucasian, 10% were African American, 4% were Hispanic, and 2% were Native Americans. Forty percent reported a religious affiliation; 40% had completed high school, 35% had some college education, and 25% had a bachelor’s degree or higher. The spouses had similar education backgrounds. Only 10% of the participants were employed full- or part-time in a variety of professions and occupations.

**Symptom Occurrence and Severity**

Table 1 shows that 35% or more (range = 35%–69%) of patients reported 13 symptoms on the TRSC, which also had the top-ranked symptom severities. These symptoms were feeling sluggish, taste changes, nausea, pain, constipation, loss of appetite, numbness of fingers and toes, difficulty sleeping, weight loss, hair loss, difficulty concentrating, shortness of breath, and decreased interest in sexual activity. The mean number of reported symptoms was 8.53 (SD = 5.43, range = 1–19).

Overall, participants reported mean severity scores greater than 1 on nine symptoms. In this study, “mean severity” conservatively included scores of 0. Therefore, if the severity calculation is based on scores 1–4 alone, the mean severity score would be about one point higher. All 25 TRSC symptoms were reported by the veterans with varying frequencies and severities. Four additional symptoms (i.e., diarrhea, hyperacidity, dizziness, and sore nose) were reported by a few participants in this study.
Symptom Alleviation and Use of Self-Care

Table 2 shows the most frequently reported self-care strategies in the categories of medicines (prescribed, over-the-counter); diet and nutrition (e.g., diet change, small frequent feedings, spices, nutritional supplements); and lifestyle change (e.g., rest, naps). Herbal, vitamin, and biologic treatments were least used; two reported use of vitamins for weight loss. On the SA:SCM tool, participants reported the self-care methods used, as well as whether the methods helped or did not help in managing target symptoms. The majority of responses (more than 90%) affirmed the helpfulness of most self-care methods used. Few methods were reported as “not helpful.”

Symptom Occurrence and Severity as Related to Functional Status and Quality of Life

Number and severity of symptoms correlated negatively with the scores on the Karnofsky Functional Status scale (–0.41 and –0.36, respectively; p < 0.01). Symptom measures had modest but statistically significant negative correlations with overall quality of life (r = –0.21 and r = –0.22, respectively; p < 0.05). These findings

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**TABLE 2. Response Frequencies on Six Self-Care Strategy Categories (N = 100)**

<table>
<thead>
<tr>
<th>Subscale and Symptoms</th>
<th>Diet and Nutrition</th>
<th>Lifestyle Change</th>
<th>Spiritual, Mind, and Body Control</th>
<th>Herbal and Vitamin Treatment</th>
<th>Medication</th>
<th>Other*</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatigue</td>
<td>3</td>
<td>55</td>
<td>27</td>
<td>–</td>
<td>30</td>
<td>9</td>
<td>–</td>
</tr>
<tr>
<td>Feeling sluggish</td>
<td>3</td>
<td>41</td>
<td>6</td>
<td>–</td>
<td>–</td>
<td>2</td>
<td>52</td>
</tr>
<tr>
<td>Depression</td>
<td>–</td>
<td>2</td>
<td>7</td>
<td>–</td>
<td>9</td>
<td>1</td>
<td>19</td>
</tr>
<tr>
<td>Difficulty concentrating</td>
<td>–</td>
<td>4</td>
<td>10</td>
<td>–</td>
<td>–</td>
<td>4</td>
<td>18</td>
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<tr>
<td>Difficulty sleeping</td>
<td>–</td>
<td>8</td>
<td>4</td>
<td>–</td>
<td>21</td>
<td>2</td>
<td>35</td>
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<tr>
<td>Eating</td>
<td>71</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>14</td>
<td>15</td>
<td>–</td>
</tr>
<tr>
<td>Taste changes</td>
<td>24</td>
<td>–</td>
<td>1</td>
<td>–</td>
<td>1</td>
<td>4</td>
<td>30</td>
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<tr>
<td>Loss of appetite</td>
<td>21</td>
<td>1</td>
<td>–</td>
<td>–</td>
<td>2</td>
<td>5</td>
<td>29</td>
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<tr>
<td>Weight loss</td>
<td>17</td>
<td>3</td>
<td>–</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>27</td>
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<td>–</td>
<td>–</td>
<td>10</td>
<td>2</td>
<td>21</td>
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<tr>
<td>Oropharynx</td>
<td>7</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>22</td>
<td>8</td>
<td>–</td>
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<tr>
<td>Sore mouth</td>
<td>4</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>10</td>
<td>6</td>
<td>20</td>
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<tr>
<td>Sore throat</td>
<td>2</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>9</td>
<td>2</td>
<td>13</td>
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<tr>
<td>Jaw pain</td>
<td>1</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>3</td>
<td>–</td>
<td>4</td>
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<tr>
<td>Fever</td>
<td>–</td>
<td>1</td>
<td>–</td>
<td>–</td>
<td>3</td>
<td>11</td>
<td>–</td>
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<tr>
<td>Fever</td>
<td>–</td>
<td>1</td>
<td>–</td>
<td>–</td>
<td>3</td>
<td>2</td>
<td>6</td>
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<td>–</td>
<td>–</td>
<td>–</td>
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<tr>
<td>Nausea</td>
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<td>1</td>
<td>–</td>
<td>48</td>
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<tr>
<td>Nausea</td>
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<td>1</td>
<td>–</td>
<td>38</td>
<td>–</td>
<td>45</td>
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<tr>
<td>Vomiting</td>
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<td>–</td>
<td>–</td>
<td>10</td>
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<td>12</td>
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<tr>
<td>Respiratory</td>
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<td>3</td>
<td>–</td>
<td>19</td>
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<td>–</td>
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<tr>
<td>Cough</td>
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<td>–</td>
<td>1</td>
<td>–</td>
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<tr>
<td>Shortness of breath</td>
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</tr>
<tr>
<td>Constipation</td>
<td>10</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>25</td>
<td>–</td>
<td>35</td>
</tr>
<tr>
<td>Sore vein</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Decreased interest in sexual activity</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Overall total</td>
<td>99</td>
<td>77</td>
<td>43</td>
<td>2</td>
<td>209</td>
<td>86</td>
<td>516</td>
</tr>
</tbody>
</table>

*For example, “do nothing”

Note. Bolded numbers indicate frequencies on each subscale and self-care category.
show that a greater occurrence and severity of symptoms on the TRSC were related to lower functional status and lower quality of life, providing further evidence of the concurrent and construct validity of the TRSC in a sample of veterans.

Psychometric Properties of the Checklist

Based on the 100 completed TRSCs at one VAMC outpatient clinic, the following conclusions were noted. Compared to the TRSC calibration study (Williams et al., 1997, 2000) in which the mean age of respondents was 56.6 years (SD = 12.8 years), the mean age of veterans in the current study was older at 66 years (SD = 7.28 years). The Cronbach alpha was 0.8839 in the veterans group, similar to the calibration study, where the Cronbach alpha was 0.8746. In the TRSC calibration study, the coefficient alphas of three subscales (i.e., the fatigue, eating, and oropharynx subscales) were 0.75, 0.76, and 0.78, respectively, among veterans in this study. The Cronbach alphas on the same subscales in the current study were 0.75, 0.73, and 0.75, respectively. In addition, in an exploratory factor analysis for the sample of veterans, the TRSC accounted for 79% of the sample variance in the current study, as compared to 79% in the calibration study. The findings in this sample of veterans show that the TRSC has good psychometric properties.

Discussion

A large number of veterans receiving cancer treatment reported the occurrence and severity of 13 symptoms on the TRSC; similar studies on veterans were not available for comparison. However, these findings are consistent with other studies on adults undergoing oncology outpatient treatments in the general population, including Caucasians, as well as various racial, ethnic, and economic groups (Berger, 2009; Given et al., 2007; Heinze & Williams, 2015; Henry et al., 2008; Williams et al., 1997, 2001; Williams, Graham, et al., 2013; Williams, Lantican, et al., 2014; Williams, Piamjariyakul, et al., 2006; Williams, Williams, Lafever-Roling, et al., 2011; Williams, Williams, Smith, et al., 2011), as well as those in other countries (Gonzalez et al., 2011; Piamjariyakul et al., 2010; Williams, Balabagno, et al., 2010; Williams, Lopez, et al., 2010). The findings from the studies on the TRSC demonstrate the commonality of symptoms experienced by veterans during cancer treatment with those of other patients in the general population and that a large number of patient-reported symptoms are experienced by patients during cancer treatments.

Because “mean severity” conservatively includes scores of 0, patient scores may appear lower if calculation were based on scores of 1–4. For example, shortness of breath has a mean score of 0.84, but the mean score of those reporting the symptom as present and of concern to them is 2.53, a more than “moderate” concern. Because the number of participants is 100, the mean scores of symptom concerns of patients actually reporting a 1 or greater can be calculated as 100 times the mean severity rating in the table divided by the absolute number of patients with a symptom occurrence (e.g., 100 x 0.84 / 36 = 2.33). Symptom severity scores of 4 were reported less frequently than the other ratings; however, a patient’s option to rate a symptom as “very severe” is an important feature of the TRSC. Patient-reported symptom occurrence and severity provides the care provider with information to prioritize care (Davies, 2009; Williams, Graham, et al., 2013; Williams, Williams, Smith, et al., 2011). Some symptoms also occurred less frequently (in less than 35% of patients). However, when any patient experiences and reports a symptom on the TRSC, the oncology care provider should evaluate and provide intervention as needed. When a healthcare provider uses the TRSC in the clinical setting as an assessment tool for a patient, appropriate interventions and education in self-care management are provided to manage any or all of the symptoms reported on the checklist. In addition, the outcomes of those interventions and management strategies also need to be monitored and documented (Davies, 2009; Melnyk & Fineout-Overholt, 2010; Mitchell et al., 2007; Oncology Nursing Society, 2015; Polit & Beck, 2012).

Zaza et al. (2005) have reported that side effects can be uncomfortable or produce anxiety about further treatment. Williams and Schreier (2004) also have noted that if patients are unable to develop effective self-care behaviors to manage side effects, they may delay or terminate their treatment regimens prematurely. Studies have emphasized the importance of patients actively engaging in self-care measures to relieve the burden of physical and psychological side effects (Greenfield & Williams, 2014).

In this study, veterans used various self-care methods for symptom alleviation and reported that most methods used were perceived as helpful, consistent with studies in the general population. The total number of methods reported by these 100 veterans is 516 (about five methods per symptom). The most helpful self-care strategies were in the categories of medicines, diet and nutrition, and lifestyle changes.

Implications for Practice and Research

In this study, a large number of patient-reported symptoms were experienced by veterans during cancer treatments. Therefore, the care of U.S. veterans with cancer, particularly in the monitoring and management of reported symptom occurrence and severity during treatment, is an urgent area of focus for healthcare providers.

A systematic tracking and assessment of patient-reported symptoms during therapy with a calibrated checklist like the TRSC is important (Davies, 2009). Williams, Graham, et al. (2013) showed that the use of the checklist in healthcare delivery at a cancer center had significant effects on patient quality of life, symptom management, and functional status. That is, such tracking enabled oncology care providers to identify and prioritize symptoms needing intervention, as well as focus on patient self-care strategies

<table>
<thead>
<tr>
<th>Implications for Practice</th>
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<tbody>
<tr>
<td>- Facilitate patient report of symptoms during cancer treatment using the Therapy-Related Symptoms Checklist.</td>
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<tr>
<td>- Use the Symptom Alleviation: Self-Care Methods tool for helpful self-care alleviation strategies.</td>
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<tr>
<td>- Teach patients to perform appropriate, effective self-care, which may influence adherence to treatments and better outcomes.</td>
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</table>
to alleviate symptoms experienced at home. Williams, Williams, Lafever-Roling, et al. (2011) showed that healthcare providers enhanced the performance of symptom alleviation among patients with interventions that included teaching and counseling of patients about symptom management, and patient satisfaction and quality of life were enhanced. Conducting similar, related studies would have significant implications for the enhancement of quality oncology care for U.S. veterans and others.

Conclusion

Patient report of symptoms during cancer treatments in the VAMC setting was facilitated by the use of the TRSC. Patients used symptom alleviation strategies to help relieve symptoms during cancer treatment. The ability to perform appropriate, effective self-care methods to alleviate the symptoms experienced during treatment may influence adherence to and completion of the recommended treatment regimen.

References


