PTSD SYMPTOMS IN CANCER PATIENTS

By

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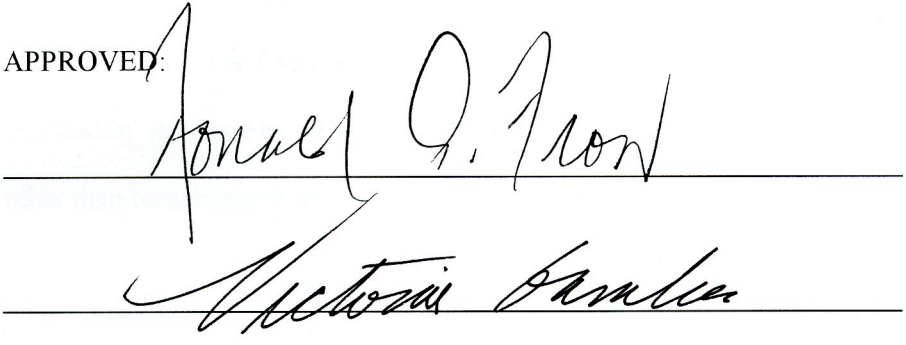

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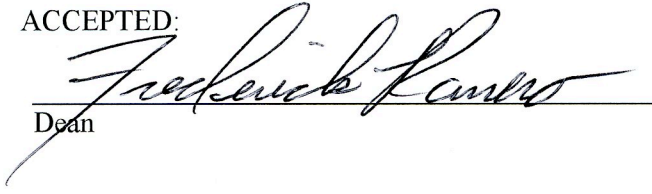

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ABSTRACT

Since the DSM-IV has included the diagnosis of a life-threatening illness to meet criterion for traumatic stressor exposure for Post-Traumatic Stress disorder (PTSD)(American Psychiatric Association, 1994), there have been several studies that have documented the presence of PTSD in breast cancer patients. This study examined the presence of PTSD symptoms in cancer patients being treated for cancer types other than breast cancer. It was believed that patients undergoing treatment for other types of cancers would report having PTSD symptoms also. The PTSD Checklist – Civilian Version was used to measure the level of stress reported by respondents. The data suggests that cancer patients in treatment for cancer types other than breast cancer do report PTSD symptoms.

TABLE OF CONTENTS

CHAPTER

LIST OF TABLES

CHAPTER 1

THE PROBLEM

Introduction

Cancer is the second leading cause of death in the United States, resulting in as many as 564,800 deaths each year (American Cancer Society, Table 2, 1998). It is estimated that there will be over 1 million new cases of cancer this year (ibid, Table 1). Research has shown that patients in treatment for cancer and cancer survivors display symptoms consistent with Post-Traumatic Stress Disorder (hereafter PTSD) (Butler et al., 1996, p.500; Dow, K.H., 1991, p.55; Kazak et al., 1997, p. 120; Andrykowski et al., 1998, p.586; Cordova et al., 1995; Jacobsen et al., 1998, p. 369). The lifetime prevalence rate for PTSD in the general population is slightly less than one percent (Helzer et al., 1987, p.1630; Allen, Jon, 1995, p.171), although up to 15% of respondents to one study reported some of the symptoms (ibid). Exposure to a traumatic event is required to qualify for a diagnosis of PTSD and "being diagnosed with a life-threatening illness" now meets the criterion for "exposure to an extreme traumatic stressor" as indicated in the *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition (DSM-IV) (American Psychiatric Association, 1994, p.424)." This development sparked a series of studies on breast cancer patients and PTSD.

Development of the Problem

Traumatic events have been known to cause severe stress reactions dating back to World War I with *shell shock* describing the subtle brain damage associated with exposure to explosions (Allen, Jon, 1995, p.170) and World War II with *combat fatigue* to describe the physical

Table 1
Estimated New Cancer Cases by Sex, United States, 1998*

	Total	Male	Female
All Sites	1,228,600	627,900	600,700
Oral cavity & pharynx	30,300	20,600	9,700
Tongue	6,700	4,300	2,400
Mouth	10,300	6,500	4,300
Pharynx	8,600	6,500	2,100
Other oral cavity	4,200	3,300	900
Digestive system	227,700	119,200	108,500
Esophagus	12,300	9,300	3,000
Stomach	22,600	14,300	8,300
Small intestine	4,500	2,400	2,100
Colon	95,600	44,400	51,200
Rectum	36,000	20,200	15,800
Anus, anal canal, & anorectum	3,300	1,400	1,900
Liver & intrahepatic bile duct	13,900	9,300	4,600
Gallbladder & other biliary	6,700	2,600	4,100
Pancreas	29,000	14,100	14,900
Other digestive organs	3,800	1,200	2,600
Respiratory system	187,900	104,500	83,400
Larynx	11,100	9,000	2,100
Lung & bronchus	171,500	91,400	80,100
Other respiratory organs	5,300	4,100	1,200
Bones & joints	2,400	1,300	1,100
Soft tissue (including heart)	7,000	3,700	3,300
Skin (excluding basal & squamous)	53,100	33,800	19,300
Melanomas-skin	41,600	24,300	17,300
Other non-epithelial skin	11,500	9,500	2,000
Breast	180,300	1,600	178,700
Genital system	274,000	193,600	80,400
Cervix (uterus)	13,700		13,700
Endometrium (uterus)	36,100		36,100
Ovary	25,400		25,400
Vulva	3,200		3,200
Vagina & other genital organs, female	2,000		2,000
Prostate	184,500	184,500	
Testis	7,600	7,600	
Penis & other genital organs, male	1,500	1,500	
Urinary system	86,300	58,400	27,900
Urinary bladder	54,400	39,500	14,900
Kidney & renal pelvis	29,900	17,600	12,300
Ureter & other urinary organs	2,000	1,300	700
Eye & orbit	2,100	1,100	1,000
Brain & other nervous system	17,400	9,800	7,600
Endocrine system	18,800	5,500	13,300
Thyroid	17,200	4,700	12,500
Other endocrine	1,600	800	800
Lymphoma	62,500	34,800	27,700
Hodgkin's disease	7,100	3,700	3,400
Non-Hodgkin's lymphoma	55,400	31,100	24,300
Multiple myeloma	13,800	7,200	6,600
Leukemia	28,700	16,100	12,600
Acute lymphocytic leukemia	3,100	1,700	1,400
Chronic lymphocytic leukemia	7,300	4,100	3,200
Acute myeloid leukemia	9,400	4,700	4,700
Chronic myeloid leukemia	4,300	2,500	1,800
Other leukemia	4,600	3,100	1,500
Other & unspecified primary sites	36,300	16,700	19,600

*Excludes basal and squamous cell skin cancers and in situ carcinomas except urinary bladder.

Source: [www.cancer.org/statistics/cff98/basicfacts.html]

Table 2
Estimated Cancer Deaths by Sex, United States, 1998*

	Total	Male	Female
All Sites	564,800	294,200	270,600
Oral cavity & pharynx	8,000	5,200	2,700
Tongue	1,700	1,100	600
Mouth	2,300	1,300	1,000
Pharynx	2,100	1,500	600
Other oral cavity	1,900	1,400	500
Digestive system	130,300	69,400	60,900
Esophagus	11,900	9,100	2,800
Stomach	13,700	8,100	5,600
Small intestine	1,200	600	600
Colon	47,700	23,100	24,600
Rectum	8,800	4,800	4,000
Anus, anal canal, & anorectum	500	200	300
Liver & intrahepatic bile duct	13,000	7,900	5,100
Gallbladder & other biliary	3,500	1,200	2,300
Pancreas	28,900	14,000	14,900
Other digestive organs	1,100	400	700
Respiratory system	165,600	97,200	68,400
Larynx	4,300	3,400	900
Lung & bronchus	160,100	93,100	67,000
Other respiratory organs	1,200	700	500
Bones & joints	1,400	800	600
Soft tissue (including heart)	4,300	2,000	2,300
Skin (excluding basal & squamous)	9,200	5,800	3,400
Melanomas-skin	7,300	4,600	2,700
Other non-epithelial skin	1,900	1,200	700
Breast	43,900	400	43,500
Genital system	66,900	39,800	27,100
Cervix (uterus)	4,900		4,900
Endometrium (uterus)	6,300		6,300
Ovary	14,500		14,500
Vulva	800		800
Vagina & other genital organs, female	600		600
Prostate	39,200	39,200	
Testis	400	400	
Penis & other genital organs, male	200	200	
Urinary system	24,700	15,800	8,900
Urinary bladder	12,500	8,400	4,100
Kidney & renal pelvis	11,600	7,100	4,500
Ureter & other urinary organs	600	300	300
Eye & orbit	300	200	100
Brain & other nervous system	13,300	7,300	6,000
Endocrine system	2,000	800	1,200
Thyroid	1,200	400	800
Other endocrine	800	400	400
Lymphoma	26,300	13,700	12,600
Hodgkin's disease	1,400	700	700
Non-Hodgkin's lymphoma	24,900	13,000	11,900
Multiple myeloma	11,300	5,800	5,500
Leukemia	21,600	12,000	9,600
Acute lymphocytic leukemia	1,300	700	600
Chronic lymphocytic leukemia	4,800	2,800	2,000
Acute myeloid leukemia	6,600	3,600	3,000
Chronic myeloid leukemia	2,400	1,400	1,000
Other leukemia	6,500	3,500	3,000
Other & unspecified primary sites	35,700	17,900	17,800

*Excludes basal and squamous cell skin cancers and in situ carcinomas except urinary bladder.

Source: [www.cancer.org/statistics/cff98/basicfacts.html]

symptoms (van der Kolk et al., 1996, p.118). Military psychiatrists and Veteran's Administration psychiatrists found themselves faced with cases which previous classification had no terms for. Their patients were presenting with psychosomatic reactions, minor personality disturbances, neurotic symptoms and reactions to combat stress (ibid). During and after World War II, the American Armed Forces and the Veterans Administration each developed new diagnostic classifications and in 1948 the World Health Organization included mental disorders in the *International Statistical Classification of Diseases, Injuries, and Causes of Death (ICD-6)*(ibid).

Although PTSD has been associated with combat stress for many years, it is also now associated with other experiences outside the range of ordinary experience, such as natural disaster, physical assault and sexual assault. The symptoms of PTSD can be delayed for many years and the traumatic event itself may be completely forgotten by the person (Allen, Jon, 1995, p.171). Still, PTSD is devastating and may become chronic in some patients causing a host of problems including adjustment problems, other psychiatric disorders, adverse consequences for family members and the need for extensive psychiatric treatment (ibid, p.170).

In 1994, the DSM-IV included "being diagnosed with a life-threatening illness" as meeting criterion for a traumatic stressor, an element necessary in the diagnosis of PTSD (American Psychiatric Association, 1994, p. 424). Since that development, there have been several studies, at least four, that have examined the prevalence of PTSD symptoms in breast cancer patients (Alter et al., 1996, p.137; Jacobsen et al., 1998, p.367; Cordova et al., 1995; Andrykowski et al., 1998, p. 587). These studies revealed that a significant number of breast cancer patients reported having symptoms of PTSD (ibid), including avoidance, arousal and reexperiencing symptoms. These findings support breast cancer as sufficient enough a stressor to trigger the development of PTSD.

Need for the Study

Although there has been notable research on PTSD symptoms in breast cancer patients, research is lacking on PTSD symptoms in patients of other cancer types. The American Cancer Society estimates there will be 1,228,600 new cases of cancer this year (1998, Table 1). Although the number of estimated breast cancer cases is significant at 180,300, the remaining cases account for an enormous portion of the population, all of whom may be at risk for PTSD as previous research suggests. With the alarming rate of new cancer cases expected each year and the devastating effects of PTSD well known to researchers (Allen, Jon, 1995, p. 173; Brett, Elizabeth, 1996, p. 121), it is essential that research in this area continue to ensure that mental health professionals are prepared when treating cancer patients and/or survivors. Exploring the prevalence of PTSD symptoms across different types of cancer will provide nursing and mental health professionals working with oncology patients a better understanding of what the patient may be experiencing mentally alongside physical complications.

Purpose of the Study

The purpose of this study was to examine prevalence of PTSD symptoms in cancer patients (other than breast cancer) and compare reported PTSD symptoms in patients with cancer (other than breast cancer) to patients with breast cancer.

Research Question

What is the prevalence rate of PTSD symptoms in cancer patients (other than breast cancer) and how does that compare with the known rate of prevalence in breast cancer patients?

CHAPTER 2

THE LITERATURE REVIEW

Introduction

Chapter two will review the pertinent literature on cancer and PTSD. The section entitled "Cancer" will review information on what cancer is, how it's diagnosed, what the current forms of treatment are and what side effects may be experienced. The section entitled "PTSD" will provide information on what PTSD is, statistics, and its symptoms. The studies on PTSD in breast cancer patients will be summarized in the last section.

Cancer

Cancer is a group of diseases that occur when cells become abnormal and divide without control or order (National Cancer Institute, 1995). Cancer can be caused by both external (chemicals, radiation, viruses) and internal (hormones, immune conditions, and inherited mutations) factors (American Cancer Society, 1998). If cells divide when new cells are not needed the extra tissue that is formed is called a tumor. Some tumors are benign which means they are non-cancerous. They can be removed, usually do not come back and do not spread to other parts of the body (ibid). Some tumors are malignant which means they are cancerous. They can invade nearby tissue and damage other organs (ibid). When the cancer cells break away from the malignant tumor and enter the bloodstream, this is called metastasis and is how cancer spreads and forms secondary tumors in other parts of the body (ibid). Cancer can be diagnosed by several procedures. Ultrasonography, mammography, aspiration (needle biopsy) and surgical biopsy are some methods used to determine the cause of a patient's signs or symptoms (ibid). According to the American Cancer Society (ACS), all cancers caused by cigarette smoking and

heavy alcohol use are completely preventable (1998). The ACS reports that scientific evidence suggests that skin cancer can be prevented by avoiding the sun and other cancers related to dietary factors can also be prevented (ibid).

Treatment. Cancer can be treated in several ways. One may undergo surgery to remove the tumor; others receive hormones or immunotherapy to treat cancer. Hormonal treatment is used to keep the cancer cells from getting the hormones they need to grow (National Cancer Institute, 1995, p.17). Two well-known cancer treatments are chemotherapy and radiation. Radiation (also called Radiotherapy) is the use of high-energy radiation, primarily x-rays, to damage and kill cancer cells (ibid, p.16). Radiation may occur from an external source (i.e.: by a machine that directs radioactive material at the area to be treated) or through implantation (radioactive material is placed directly in the area to be treated in thin plastic tubes) (ibid). Radiation is usually given every day for several weeks (ibid). Chemotherapy is the use of drugs to kill cancer cells. The type of drug or combination of drugs used depends on the type of cancer one has. The drugs may be given by mouth or injection to enter the bloodstream and travel through the body (ibid, p.17). Chemotherapy is given in cycles, usually followed by a recovery period, and can be done at home, in the doctor's office or an outpatient center of a hospital (ibid).

Side Effects. Because it is hard to control cancer treatment so that it only effects and destroys cancer cells, healthy cells are also destroyed and unpleasant side effects are the result. Surgery may result in the loss of muscle and injury to nerves creating numbness, tingling, swelling, stiffness and soreness (ibid, p. 22). The side effects from hormonal treatment depend largely on the type of drug used. Tamoxifen is the most commonly used and it can create hot flashes, vaginal discharge or irritation, irregular periods and menopause (ibid, p.24). The serious side effects are blood clots and second cancer in the lining of the uterus, which are very rare (ibid). Radiation usually causes fatigue, changes in skin texture, color and sensitivity (ibid). Side effects experienced from chemotherapy depend mainly on the type of drugs the patient receives.

The symptoms that may occur include: susceptibility to infection, bruising or bleeding easily, loss of energy, hair loss, poor appetite, nausea, vomiting, diarrhea, and mouth sores (ibid, p. 23). Some of the side effects can be controlled with medicine and most are short-term and gradually go away during the recovery part of the cycle (ibid). Long-term effects, such as weakening of the heart, damage to the ovaries and occurrence of second cancers, are rare but do occur (ibid). Damage to the ovaries may make them incapable of producing hormones, which creates symptoms of menopause in women, such as hot flashes, vaginal dryness and infertility (ibid).

Post-Traumatic Stress Disorder (PTSD)

Being diagnosed with cancer and undergoing cancer treatment creates major changes in a person's life and, in turn, creates intense emotional reactions. At initial diagnosis, patients report feeling shock and disbelief, usually followed by hope, resolve and concern for their mortality (Cella et al., 1990, p.15). As noted earlier, there is substantial evidence that cancer patients and survivors present with many symptoms associated with PTSD. The etiology, statistics, and symptoms will be examined here.

PTSD is categorized as an anxiety disorder in the DSM-IV (American Psychiatric Association, 1994, p.424). It occurs after a person has survived a severe life trauma where both of the following were present:

(1) the person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others
(2) the person's response involved intense fear, helplessness, or horror. (ibid)

The concept of PTSD was introduced in the early 1980's after extensive experience treating Vietnam veterans; prior to that the terms *shell shock* and *combat fatigue* were employed to describe similar symptoms (Allen, Jon, 1995, p.170). The lifetime prevalence rate in the general population is slightly less than one percent for full syndrome PTSD (Helzer et al, 1987, p. 1630; Allen, Jon, 1995, p.171), although up to 15% of respondents reported some of the symptoms of PTSD (ibid). Women had PTSD at more than twice the rate of men and the

symptoms lasted less than 6 months in about half of the cases (ibid). PTSD is usually associated with war veterans, victims of violent crimes such as rape, and victims of sexual abuse. As noted earlier, the DSM-IV was revised to include the diagnosis of a life-threatening illness as one of the potentially traumatic events that can result in PTSD. Surviving cancer begins as a "crisis involving diagnosis and treatment that gradually becomes a chronic illness characterized by lifelong follow-up medical care, indelible psychological effects, and changes in social and employment relationships (Polinsky, Margaret, 1994, p.165)." Research documents that cancer patients may experience the three types or clusters of PTSD symptoms (reexperiencing, avoidance and arousal) which supports a link between highly stressful medical procedures and PTSD. Further explanation of those symptoms is required here.

Reexperiencing. The DSM-IV requires that the traumatic event is reexperienced by the victim in one or more of the following ways:

(1) recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions
(2) recurrent distressing dreams of the event
(3) acting or feeling as if the traumatic event were recurring (includes as sense of reliving the experience, illusions, hallucinations, and dissociative flashback episodes, including those that occur on awakening or when intoxicated)
(4) intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event
(5) physiological reactivity on exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event (American Psychiatric Association, 1994)

Patients have reported intrusive thoughts about certain cancer treatments (Heiney et al., 1994, p. 843) and Alter et al. found "reexperiencing " symptoms were the most prevalent of the three clusters (present in 37% of participants)(1996, p. 137).

Avoidance. The DSM-IV also requires the victim persistently avoids stimuli associated with the trauma and experiences numbing of general responsiveness (not present before the trauma) as indicated by three or more of the following:

(1) efforts to avoid thoughts, feelings, or conversations associated with the trauma
(2) efforts to avoid activities, places, or people that arouse recollections of the trauma
(3) inability to recall an important aspect of the trauma
(4) markedly diminished interest or participation in significant activities
(5) feeling of detachment or estrangement from others
(6) restricted range of affect (e.g., unable to have loving feelings)
(7) sense of a foreshortened future (e.g., does not expect to have a career, marriage, children, or a normal life span) (American Psychiatric Association, 1994)

Avoidance of treatment reminders have been reported in pediatric bone marrow transplant recipients (Stuber et al., 1991, p.952) and Alter et al. found that "avoidance or numbing" symptoms were present in 7% of participants (1996, p.137).

Arousal. The final cluster of symptoms present in PTSD are the arousal symptoms. The DSM-IV requires that symptoms of increased arousal (not present before the trauma) be represented by two or more of the following:

(1) difficulty falling or staying asleep
(2) irritability or outbursts of anger
(3) difficulty concentrating
(4) hypervigilance
(5) exaggerated startle response (American Psychiatric Association, 1994)

Jacobsen et al. found that cancer survivors presented with symptoms of arousal, including insomnia, difficulty concentrating and increased irritability (1998, p.370) and Alter et al. found that 11% of participants reported arousal symptoms (1996, p. 137).

The evidence for cancer patients reporting the presence of all three clusters of PTSD symptoms supports the link between highly invasive, stressful medical procedures and the development of PTSD.

The Presence of PTSD in Cancer Patients

To date, at least four studies have been done examining the prevalence of PTSD symptoms in adults diagnosed with and treated for cancer. These studies have focused on women who have been diagnosed and treated for breast cancer. Following will be a brief summary of the studies and their findings.

Cordova et al. examined the frequency and correlates of PTSD symptoms in 55 women who had undergone treatment for breast cancer (1995, p.983). Using the PTSD Checklist – Civilian Version (PCL-C), telephonic interviews were conducted to gather information. The study revealed that between 5% to 10% of participants merited a DSM-IV diagnosis of PTSD (ibid, p. 984). This study also examined demographic factors and found that PTSD prevalence is associated with younger age, less education, and lower income (ibid, p.985). The study suggests that PTSD symptoms are fairly common in breast cancer survivors.

Andrykowski et al. conducted a similar study, conducting telephonic interviews on 82 women posttreatment for breast cancer (1998, p. p.587). The women completed the PCL-C and the Structured Clinical Interview for DSM-IV, Nonpatient Version, PTSD Module (SCID-NP-PTSD)(ibid). Their study revealed a 6% (5 of 82 women) prevalence rate for current PTSD and a 4% (3 of 82) rate for lifetime PTSD using the SCID-NP-PTSD (ibid). Using the PCL-C, the prevalence rate for current PTSD was 5% (4 of 82) (ibid). The study suggests that breast cancer can serve as a stressor sufficient enough to trigger the development of PTSD.

Jacobsen et al conducted a study recently that tested PTSD symptoms after bone marrow transplant for breast cancer survivors. Bone marrow transplantation is an invasive form of treatment, possibly increasing the degree of life threat. Forty three women participated in the study, all of whom had completed a bone marrow transplant at least 2 months previously (1998, p.367). The study found that between 12% and 19% of participants were likely to meet DSM-IV criteria for a diagnosis of PTSD (ibid). It was also noted that women who were less educated,

had more advanced disease and stayed in the hospital longer reported more symptoms of PTSD (ibid). The study concluded that the development of PTSD is related to the degree of life threat.

Alter et al assessed PTSD symptoms in 27 women, the majority of them diagnosed with breast cancer (81%) (1996, p.138). PTSD symptoms were assessed using the *Structured Clinical Interview for DSM-III-R* modified to reflect the DSM-IV criteria for PTSD (ibid). The results indicated that 4% met criteria for PTSD diagnosis. A larger number reported some symptoms of PTSD (37% for reexperiencing symptoms, 7% for avoidance symptoms and 11% for arousal symptoms)(ibid).

Summary

Cancer is a life-threatening disease that affects a vast portion of the population. The treatments are sometimes invasive and long-term. The effects it has on an individual physically are debilitating. In recent years, researchers have studied the way cancer affects a person emotionally and have found a correlation between breast cancer and PTSD symptoms. Recognizing this relationship is very important for oncology nurses and social workers when treating cancer patients. This study strives to broaden the base of knowledge about PTSD and cancer even further.

CHAPTER 3

METHODOLOGY

Introduction

The purpose of this study is to examine the level of stress endured by cancer patients and measure the patients reported symptoms against the DSM-IV criteria for PTSD. The results will be compared to existing information gathered on breast cancer patients to examine the similarities and differences. The research question is "What is the prevalence rate of PTSD symptoms in cancer patients (other than breast cancer) and how does that compare with the known rate of prevalence in breast cancer patients?"

Research Design

This study utilized a descriptive design approach with data being gathered cross-sectionally. Descriptive research does not give value to sets of relationships between events, it simply describes the facts and characteristics of a given phenomenon, population or area of interest (Miriam and Simpson, 1995 p. 61). The researcher does not manipulate variables or control the environment in which the study takes place (ibid). This study collected facts on the various levels of stress and specific symptoms the patients were experiencing by means of the *PTSD Checklist- Civilian Version.*

Sample and Population

The population of interest in the study was adults, male and female, age 18 and over, currently in treatment for cancer. Participants were selected randomly at an outpatient cancer treatment center at the University Medical Center in Tucson, Arizona. Thirty individuals participated in the survey. Results from 28 respondents were used in data analysis as two

individuals did not fill out the survey completely. Nine (32%) respondents were male and 19 (68%) were female. The ages of participants in the study ranged from 28 to 67, and the mean age of the respondents was 55.5 years.

Respondents were classified under 6 groups for the type of cancer they are being treated for. They are as follows: Genital system, 4 of 28 (14.3%); Lymph system, 4 of 28 (14.3%); Bone/Bone marrow, 4 of 28 (14.3%); Digestive system, 5 of 28 (17.8%); Breast, 7 of 28 (25%); Other, 4 of 28 (14.3%). Sixty and seven-tenths percent of respondents were receiving chemotherapy; 3.6% were receiving a bone marrow transplant; 35.7% were receiving a combination of treatments. No respondents were receiving radiation exclusively. Forty-three percent were receiving treatment for the first time and 57% have received treatment before and the cancer has recurred.

Assumptions and Limitations

A limitation of this study was that the sample of participants was taken from one location and may not be as strong a representation of the general population as a sample from several locations. Another limitation is that the sample is from an outpatient clinic and does not include patients that have had to be hospitalized due to their illness and are receiving their treatment on an inpatient basis. Also, the sample size was relatively small. Ethnicity was not accounted for and it was assumed that participants responded honestly.

Instrumentation

The survey began with a cover letter that explained the purpose of the survey, informing participants that participation was voluntary and anonymous. It instructed them not to put their name on the survey and to complete both pages.

The second page of the survey was intended to collect demographic data, such as age and gender. There were also questions related to type of cancer being treated and type of cancer treatment being received. One question addressed whether this is the first time being treated for cancer or not.

The instrument chosen for investigation in this study was the PTSD Checklist, Civilian Version (PCL-C) for DSM-IV. This instrument was created by Frank Weathers, Brett Litz, Jennifer Huska and Terence Keane at the National Center for PTSD, Boston Veterans Administration Medical Center in November, 1994. There are three versions of the PCL: the PCL-M, with reexperiencing symptoms written specifically for military experiences; the PCL-C, with reexperiencing symptoms written generically to apply to any traumatic event; and the PCL-S, which specifies what the traumatic event was and when it occurred. The PCL-C is the test utilized in two of four studies discussed in Chapter 2. A copy of the instrument package is found in Appendix A.

Weathers et al. (1993) tested the reliability, validity and diagnostic utility of the PCL. Their conclusions are as follows:

1. The PCL is an easily administered self-report rating scale for assessing the 17 DSM-III-R symptoms of PTSD.
2. The PCL has excellent test-retest reliability over a 2-3 day period.
3. Internal consistency is very high for each of the three groups of items corresponding to the DSM-III-R symptom clusters as well as for the full 17-item scale.
4. The PCL correlates strongly with other measures of PTSD, such as the Mississippi Scale, the PK scale of the MMPI-2, and the Impact of Event Scale, and also correlates moderately with level of combat exposure.
5. Used as a continuous measure, the PCL has good diagnostic utility. In Vietnam combat veterans, a cutoff of 50 on the PCL is a good predictor of a PTSD diagnosis based on the SCID PTSD module.
6. Principal components analysis revealed one large factor, consisting primarily of reexperiencing and hyperarousal items, and one much smaller factor, consisting of emotional numbing items. (ibid)

Another test of psychometric properties of the PCL was done by Blanchard et al. Their study concluded that the PCL has value as a screening device for presence of PTSD (1996). The overall correlation between the PCL self-reports and the CAPS clinician reports was 0.929, indicating 86% common variance (ibid). The correlation for individual items is less significant. For 7 of the 17 items, correlation coefficients indicate over 50% variance. For two items, psychogenic amnesia and hypervigilance, the correlation coefficients are below 0.5, which is significant (ibid). The findings caution sensitivity to gender differences.

Procedure

The data was collected during the weeks of October 16th through the 30th, 1998. Subjects consisted of 28 patients currently receiving treatment in the outpatient bone marrow transplant clinic or the outpatient chemotherapy clinic at the University Medical Center (UMC) in Tucson, Arizona. Patients were at the clinic for their scheduled treatment. UMC staff passed out surveys randomly to patients who were interested/willing to participate. Participants were given as much time as they needed to complete the survey. Each survey contained a cover letter explaining the purpose of the study, informing participants the information gathered was anonymous and that participation was voluntary. UMC staff collected surveys when completed and returned to this researcher at the end of the two weeks.

Method of Analysis

Two methods of scoring were used for the PCL-C. To get a Total Severity Score, all responses were added up. This is known as the cutoff method. Scores of 50 or higher were considered significant or symptomatic. The PCL-C was also scored using the symptom cluster method, which looks specifically at symptom clusters required by the DSM-IV for a diagnosis of PTSD. A response of "moderately" or above (response 3 through 5) is symptomatic and anything below "moderately" (1 and 2) is non-symptomatic. To get a diagnosis of PTSD according to the DSM-IV, respondents must endorse at least 1 'B' item (question #'s 1-5), 3 'C' items (question #'s 6-12) and 2 'D' items (question #'s 13-17) as symptomatic. Demographic information was added up for total scores and means.

CHAPTER 4

PRESENTATION AND ANALYSIS OF THE DATA

Findings

On the basis of the PCL-C responses, 6 of 28 (21.4%) respondents score high enough to be diagnosed with PTSD. Using the recommended cutoff score of 50 or more, prevalence of current PTSD was 14.28% (4 of 28 respondents). Using the symptom cluster method, 21.4% (6 of 28 respondents) present with PTSD symptoms. All four respondents meeting the cutoff score criterion also met the symptom cluster criterion for PTSD. The two respondents meeting only the symptom cluster criterion had cutoff scores of 44 and 40. Means, standard deviations and ranges for PCL-C scales are shown in Table 3.

TABLE 3. Descriptive Statistics for PCL-C Scales

Scale	Total Severity Score			Number of Symptoms Reported		
	Mean	SD	Range	Mean	SD	Range
Total	36.71	8.99	25-67	5.96	3.10	2-16
Intrusion	9.93	3.49	5-21	1.54	1.33	0-5
Avoidance/Numbing	15.29	3.63	9-24	2.57	1.37	0-6
Arousal	11.5	2.86	7-22	1.86	1.29	0-5

As shown in Table 3, the average participant experienced between five and six PTSD symptoms. Of the three symptom clusters, avoidance/numbing symptoms were the most frequently reported with a mean cutoff score of 15.29 and a mean number of symptoms reported being 2.57. The questions that were most frequently rated as problematic by the respondents

were: "feeling as if your future somehow will be cut short" (avoidance/numbing, 75%), "trouble falling or staying asleep" (arousal, 60.7%), "feeling very upset when something reminded you of a stressful experience from the past" (intrusion, 50%) and "feeling distant or cutoff from other people" (avoidance/numbing, 50%). The least frequently reported symptoms were: "repeated, disturbing dreams of a stressful experience from the past," "having physical reactions when something reminded you of a stressful experience from the past," "avoiding activities or situations because they reminded you of a stressful experience from the past," "feeling emotionally numb or being unable to have loving feelings for those close to you," and "being 'superalert' or watchful or on guard." These all had the same prevalence rate of five or 17.85%.

Of the six respondents that present with a diagnosis of PTSD, five are female and one is male. None of them are being treated for breast cancer. Two of them are being treated for the first time; four of them are experiencing a recurrence of cancer. Four respondents are being treated with chemotherapy only; two of them are receiving a combination of treatments. These six respondents also reported avoidance symptoms most frequently.

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

With the rate of cancer and cancer related deaths on the rise, the research on how cancer affects patients is also increasing. Four previous studies have looked at the way cancer treatment affects a patient's mental status, specifically at the prevalence of PTSD (Cordova et al., 1995; Andrykowski et al., 1998; Jacobsen et al., 1998; Alter et al., 1996). Those studies focused on patients that underwent treatment for breast cancer (ibid). This study examined the level of PTSD present in patients undergoing outpatient treatment for cancer and focuses on those not diagnosed with breast cancer. Of the 28 respondents, only 7 were in treatment for breast cancer. And none of the breast cancer respondents presented with PTSD. The purpose of this study was to examine the level of PTSD present in cancer patients undergoing treatment at the time of the survey and compare the results to the previous studies. The test instrument used was the PCL-C, which consists of 17 questions directly related to the DSM-IV criteria for PTSD. Respondents also provided some demographic data and information about their cancer and type of treatment they were undergoing.

It was hypothesized that patients undergoing treatment for cancer types other than breast cancer would present with PTSD symptoms as well. There were 28 respondents, six of whom met criteria for symptom cluster and four who scored over 50 on the cutoff method.

Conclusions

Of the 28 respondents, six met criteria for all three symptom clusters required for a diagnosis of PTSD and none of them were in treatment for breast cancer. These results support

the hypothesis that PTSD may affect cancer patients undergoing treatment for cancer types other than breast cancer.

This study's results were slightly higher than previous studies with the percentage of respondents meeting criteria for PTSD being 21. The results of the past studies are as follows:

Researcher	Sample Size	% w/ PTSD
Cordova et al, 1995	55	5-10
Andrykowski et al., 1998	82	5 (cutoff), 6 (symptom cluster)
Jacobsen et al., 1998	43	12-19
Alter et al.,	27	4

There are several possible explanations for the higher rate of PTSD reported in this study. First, these results may indicate that undergoing treatment for cancer types other than breast cancer make the patient more susceptible to PTSD. This would require further research to confirm. Second, these patients were currently in treatment for cancer, while in all of the past studies the patients were not currently in treatment. The requirements were as follows: completed treatment at least 2 months previously (Jacobsen et al, 1998); without treatment for 6-72 months (Andrykowski et al., 1998); completed treatment an average of 4.6 years previously (Alter et al., 1996); 6-60 months post-completion (Cordova et al., 1995). This may indicate that PTSD may be more prevalent while the patient is undergoing treatment and less prevalent when treatment is over, regardless of cancer type. The final explanation for the higher scores could be due to the test instruments used. Three of the past studies used the PCL-C in addition to other tests; this study used only one test instrument. Perhaps using more than one instrument results in a lower reported rate of PTSD.

Recommendations

The results of the present study have several implications for clinical practice. First, clinicians need to be aware of the possible presence of PTSD in cancer patients. Clinicians should be knowledgeable of DSM-IV criteria for PTSD. A thorough diagnostic evaluation should

be conducted to determine actual presence of PTSD. The PTSD symptoms triggered by the cancer treatment may bring up past issues of trauma. It is important for the clinicians to be aware of when symptoms are a direct result of the treatment (the side effect of insomnia) or caused by PTSD symptoms the patient may be suffering from (sleeplesssness due to nightmares of the cancer treatment).

Several questions remain to be addressed in future research. First, future research should focus on what interventions are most effective in preventing and treating PTSD during and after cancer treatment. Also, whether or not exposure to previous trauma makes a patient more susceptible to PTSD during/after cancer treatment warrants further research. Future researchers may want to do a similar study using a larger sample size and multiple test instruments to confirm what specific cancer types render the highest rates of PTSD. Comparing patients that are in treatment to those post-treatment may be helpful.

In conclusion, the present study supports the previous view that cancer treatment is sufficient enough a stressor to promote development of PTSD in cancer patients. It also supports the hypothesis that patients in treatment for other types of cancer report PTSD symptoms as well, possibly exceeding the base rate of symptoms in the general population. The numbers in this study are even a little higher than the numbers in previous studies. The reason for this must be addressed by future research.

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APPENDIX A

INSTRUMENT PACKAGE

October 16th, 1998

Dear Participant,

My name is Kathleen Kniffen and I am a graduate student at Ottawa University in Phoenix, Arizona. I am working towards a Master's degree in Counseling. I am doing my Master's research project on how Post-traumatic Stress Disorder affects cancer patients. The information gathered will be used to evaluate the presence of trauma stress in cancer patients and will aid nurses, counselors and social workers when treating them.

The second page of the survey refers to "stressful experiences." Please answer the questions using your current experience with cancer as the "stressful experience."

Participation in the survey is completely voluntary. The information gathered is anonymous. Please ***do not*** put your name on the survey.

Thank you for taking the time to complete the survey!

Kathleen Kniffen
Ottawa University Graduate Student

Please complete ***both*** pages.

Are you: Male_____ Female_____

Age_____

Type of cancer being treated for: _____

Type of cancer treatment receiving: (Check all that apply)

Chemotherapy _____

Radiation _____

Bone Marrow Transplant _____

Is this your first occurrence of cancer? Yes ____ No _____

Please continue ⇨

PCL-C

Instructions: Below is a list of problems and complaints that people sometimes have in response to stressful life experiences. Please read each one carefully, then circle one of the numbers to the right to indicate how much you have been bothered by that problem in the past month.

	Not at all	*A little bit*	*Moderately*	*Quite a bit*	*Extremely*
1. Repeated, disturbing *memories, thoughts, or images* of a stressful experience from the past?	1	2	3	4	5
2. Repeated, disturbing *dreams* of a stressful experience from the past?	1	2	3	4	5
3. Suddenly *acting or feeling* as if a stressful experience from the past *were happening again* (as if you were reliving it)?	1	2	3	4	5
4. Feeling *very upset* when *something reminded you* of a stressful experience from the past?	1	2	3	4	5
5. Having *physical reactions* (e.g., heart pounding, trouble breathing, sweating) when *something reminded you* of a stressful experience from the past?	1	2	3	4	5
6. Avoiding *thinking about or talking about* a stressful experience from the past or avoiding *having feelings* related to it?	1	2	3	4	5
7. Avoiding *activities or situations* because *they reminded you* of a stressful experience from the past?	1	2	3	4	5
8. Trouble *remembering important parts* of a stressful experience from the past?	1	2	3	4	5
9. *Loss of interest* in activities that you used to enjoy?	1	2	3	4	5
10. Feeling *distant or cut off* from other people?	1	2	3	4	5
11. Feeling *emotionally numb* or being unable to have loving feelings for those close to you?	1	2	3	4	5
12. Feeling as if your *future* somehow will be *cut short*?	1	2	3	4	5
13. Trouble *falling or staying asleep*?	1	2	3	4	5
14. Feeling *irritable* or having *angry outbursts*?	1	2	3	4	5
15. Having *difficulty concentrating*?	1	2	3	4	5
16. Being "*superalert*" or watchful or on guard?	1	2	3	4	5
17. Feeling *jumpy* or easily startled?	1	2	3	4	5

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