VOCATIONAL REHABILITATION AND CANCER: IS VOCATIONAL REHABILITATION READY FOR THE CHALLENGES CANCER ASSUMES AS A DISABILITY?

by

Sara E. Ruckman

A Research Paper

Submitted in Partial Fulfillment of the
Requirements for the
Master of Science Degree
With a Major in

Vocational Rehabilitation

Approved: 2 Semester Credits

_____
Investigation Advisor

The Graduate School
University of Wisconsin-Stout
December, 2002

The Graduate School
University of Wisconsin- Stout
Menomonie, WI 54751

ABSTRACT

Ruckman	Sara	E
(Last Name)	(First)	(Initial)

(Writer)

Vocational Rehabilitation and Cancer: Is Vocational Rehabilitation Ready for the Challenges Cancer Assumes as a Disability?

(Title)

Vocational Rehabilitation	Dr. Robert Peters	December 2002	45
(Graduate Major)	(Research Advisor)	(Month/ Year)	(No. of pages)

American Psychological Association (APA) Publication Manual
(Name of Style Manual Used in this Study)

Traditionally the term cancer provoked images of death and dying. However, with modern advances in technology and sciences the prognosis and survival rate of cancer patients has greatly improved. Cancer patients are now able to lead normal productive lives, including working. However, even with the advances in modern technology and sciences, individuals with cancer are still affected by a variety of implications associated with cancer. Cancer affects the person in physical, psychosocial, and vocational abilities.

Recently people with cancer have started to seek the services of vocational rehabilitation professionals. In order for vocational rehabilitation professionals to properly serve individuals with the disability of cancer, they need to acquire accurate knowledge about cancer and learn the variables that accompany this disease. Vocational rehabilitation professionals need to have a full understanding of the incidence, treatments, physical, psychosocial, and vocational implications

of cancer. It is the task of vocational rehabilitation professionals to integrate all of these variables that an individual with cancer faces.

The purpose of this study was to examine the knowledge and awareness level of vocational rehabilitation students and vocational rehabilitation professionals regarding the implications of cancer. This study has four main objectives, with the first being to investigate the need for a broad knowledge regarding cancer, including incidence, types, and treatments of cancer. The second objective was to investigate if more knowledge is needed regarding the many variables that affect the individual with cancer, such as physiological, psychosocial, and vocational implications. The third objective was to investigate if attitudes, opinions, and personal biases exist with vocational rehabilitation professionals and students regarding individuals with cancer. The last objective was to investigate the willingness of vocational rehabilitation professionals and students to serve individuals with cancer.

The subjects for this study were asked to complete a self-report survey regarding their awareness and knowledge level of the implications of cancer. The subjects consisted of vocational rehabilitation students and current vocational rehabilitation professionals. The vocational rehabilitation students consisted of undergraduate and graduate students who were enrolled in the vocational rehabilitation program at the University of Wisconsin-Stout. The survey was distributed to undergraduate and graduate vocational rehabilitation classes offered at UW- Stout, during the summer and fall semester of 2002. The current vocational rehabilitation professionals consisted of past University of Wisconsin-Stout graduates. These current vocational rehabilitation professionals were mailed a survey along with a self-addressed stamped envelope, in order to return the completed survey. All subjects were made aware of the

confidentiality and voluntary nature of the survey, along with the importance of participating in the survey.

The significance of this study was to determine whether vocational rehabilitation students and vocational rehabilitation professionals have adequate and accurate knowledge regarding the implications of cancer. This study also examined if vocational rehabilitation professionals are able to properly and successfully serve the cancer clientele or if vocational rehabilitation professionals need more knowledge regarding the implications of cancer.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER ONE

Introduction

Vocational rehabilitation is a human services field designed to assist individuals with disabilities. Successful job placement and the integration of people with disabilities into the workplace are some of the central functions of vocational rehabilitation professionals (Gilbride, 2000). Since vocational rehabilitation professionals serve individuals with disabilities, they need to have accurate and unbiased knowledge of numerous disabilities. Recently, Americans with a history of cancer have started seeking out the services of vocational rehabilitation professionals. In order for the vocational rehabilitation profession to properly serve people with the disability of cancer, they need to acquire accurate knowledge about cancer and learn the variables that accompany this disease.

According to the American Cancer Society (2000), an estimated 8.4 million Americans alive today have a history of cancer. In the year 2000, an expected 1,220,100 cases of cancer were to be diagnosed (Greenlee & Murray, 2000). Currently in the United States, men are more likely than women to be diagnosed with cancer. According to the American Cancer Society (2000), men have a one in two lifetime risk of developing cancer, while women's lifetime risk is one in three. Even with the number of cancer related deaths declining, an estimated 552,200 Americans were expected to die in the year 2000, about 1,500 people a day (Greenlee & Murray, 2000).

Traditionally the term cancer provoked images of death and dying. However, with advances in technology and biomedical sciences, the prognosis and survival rate of cancer patients has greatly improved (Henderson, 1997). According to the American Cancer Society (2000), the five-year survival rate of persons diagnosed with cancer is 60%. Cancer patients now live longer

lives and even have a possibility to be considered cured. People with cancer are now able to lead normal productive lives, including working. In fact, many cancer patients are returning to work in the midst of their cancer treatment (Ziegler, 1998).

Even with advances in cancer prognosis, treatment, and technology, there still are many variables that affect an individual with cancer. There are numerous types of cancer and treatments that exist. Each type of cancer varies, along with its treatment and impairments. Impairments can range from none to major functional limitations, depending on the type of cancer and the treatment undertaken (Mellette, 1985). Cancer also is a disease perceived as having implications that can affect the person as a whole (Goldberg, 1977). Cancer affects the person in physical, psychosocial, and vocational abilities.

In order for vocational rehabilitation professionals to properly serve individuals with the disability of cancer, they must first question their own professional ability. Vocational rehabilitation professionals must have a broad knowledge of the disability of cancer. It is important to understand the incidence, treatments, physical side effects, psychosocial, and vocational implications. If proper knowledge is not acquired about cancer, this population will not be properly and successfully served in vocational rehabilitation. In order to provide accurate knowledge, coursework should be made available for pre-professionals and professionals in the vocational rehabilitation field.

Purpose of Research

The purpose of this study is to examine the knowledge and awareness level of vocational rehabilitation students and vocational rehabilitation professionals regarding the implications of cancer. The study examined if vocational rehabilitation students and vocational rehabilitation professionals have an accurate knowledge about cancer as a whole, including incidence, types,

and treatments. The study also examined the knowledge of vocational rehabilitation students and vocational rehabilitation professionals regarding the many variables associated with cancer, such as physical, psychosocial, and vocational implications. Data was collected at the University of Wisconsin-Stout during the summer and fall semester of 2002, through the use of a survey.

The significance of this study was to determine whether vocational rehabilitation students and vocational rehabilitation professionals have an adequate and accurate knowledge regarding the implications of cancer. This can then determine if vocational rehabilitation professionals are able to properly and successfully serve individuals with the disability of cancer or if more knowledge and awareness are needed in order to properly serve individuals with cancer.

Objectives

1. Investigate the need for a broad knowledge regarding cancer, including incidence, types, and treatments of cancer.
2. Investigate if more knowledge is needed regarding the many variables that affect the individual with cancer, such as physiological, psychosocial, and vocational implications.
3. Investigate if attitudes, opinions, and personal biases exist with vocational rehabilitation professionals regarding individuals with cancer.
4. Investigate the willingness of vocational rehabilitation students and professionals to serve individuals with cancer.

Definition of Terms

Some important terminology arises when studying vocational rehabilitation and people with the disability of cancer. The following are some of the key terms that should be recognized in order to properly understand the relationship between vocational rehabilitation and cancer.

Cancer: "An imprecise term used to describe an estimated 200 different kinds of malignant neoplasm, marked by uncontrolled growth and the spread of abnormal cells. Cancer may be lethal by invading adjacent normal tissues or by spreading to sites distant from the place of origin" (Clayton, 2000, p. 293).

Chemotherapy: "The treatment of cancer that utilizes medicines to kill cancer cells. Chemotherapy is most often used when cancer is not isolated in one spot, but has spread throughout the body "(Komaroff, 1999, p. 741).

Five- Year Relative Survival Rate: The survival of persons who are living five years after diagnosis, whether in remission, disease-free, or under treatment (American Cancer Society, 2000).

Radiation Therapy: "The treatment of cancer that utilizes radiation to kill cancer cells. Radiation is useful in treating many types of cancer when the cancer is localized to one of a few spots in the body" (Komaroff, 1999, p. 741).

Relative Survival Rate: The survival rate observed for a group of cancer patients compared to the survival rate of persons in the general population who are similar to the patient group with respect to age, gender, race, and calendar year of observation (American Cancer Society, 2000)

Assumptions

There are several assumptions apparent in this research. The first assumption is that the surveys are being answered honestly by the participants. The second assumption is that the respondents are given an adequate amount of time in order to fully understand and answer the questions being asked. The last assumption is that all the vocational rehabilitation students and vocational rehabilitant professionals given the survey will answer and return the survey.

Limitations

There are several limitations that have been identified by the researcher. One possible limit of this study is that the prospective sample of vocational rehabilitation students and professional come from one school, the University of Wisconsin-Stout. This may not be an accurate sample compared to that of the nation's vocational rehabilitation students and professionals. Another limitation is the survey results will only include the subjects who returned the survey. This may limit the original sought after number of subjects.

CHAPTER TWO

Review of Literature

Introduction

One of the major purposes of vocational rehabilitation is to assist individuals with disabilities in securing and maintaining employment (Hagner, 2000). In recent years, the focus has been on the role of vocational rehabilitation and the services provided to individuals with cancer (Bordieri & Solodky, 1992). The professionals in the vocational rehabilitation field need to focus on the numerous variables that exist with the disability of cancer, including physiological, psychosocial, and vocational factors. In the following literature review, various articles will be examined on the multidisciplinary factors important in cancer and vocational rehabilitation. An outline of some of the topics that will be discussed are the following: physiological factors of cancer, psychosocial factors of cancer, vocational factors of cancer, and finally vocational rehabilitation and cancer.

Since 1991, the rate of new cancer cases and cancer-related deaths has been declining. This is partially due to early detection, and improved treatments for cancer care. The result of early detection and improved treatments has transformed a previously fatal illness into a chronic disease (Glajchen & Blum, 2000). A diagnosis of cancer is no longer considered to be a death sentence, but with improved treatments and early detection cancer patients can lead a somewhat normal life (Ziegler, 1998). Currently, the five- year survival rate for all cancers is 60%, allowing many cancer survivors to lead a normal life, including returning to work.

Physiological Factors of Cancer

Cancer is a disease with numerous physiological implications, varying with each type of cancer. Physical disabilities resulting from cancer can be permanent or temporary, and may give a specific or general loss of function not entirely to the area of the tumor (Goldberg, 1977). Many of the physical implications of cancer are due in part to the variety of treatments and treatment agents available to the cancer patient. Thirty years ago patients who may have partaken in surgery followed by a long recuperation are today likely to be treated with an outpatient procedure (Ziegler, 1998). Today patients are treated with chemotherapy or radiation therapy in a manner of a few hours or minutes.

Even with the treatment options of chemotherapy and radiation therapy, the majority of individuals with cancer will still need to utilize the oldest form of cancer treatment, that being surgery. Approximately 60% of people with cancer will have surgery (Accommodating people with cancer, 2001). Surgery is the removal of a visible tumor and is most effective when the cancer is small and confined to a small area of the body (Olendorf, Teryan, and Boyden, 1999). In some cases surgery can result in a cure or long-term disease free survival. However in other cases, surgery alone cannot benefit the individual. For certain tumor sites, complete surgical removal of the tumor can be disfiguring, disabling, or unachievable (Tierney, McPhee, and Papadakis, 1999). It is in these cases that other treatment options need to be utilized.

According to the American Cancer Society (2000), chemotherapy is the use of drugs to destroy cancer cells. Chemotherapy can be either taken orally, intravenously by injection, or applied on the skin. Some of the common physical side effects of chemotherapy are fatigue, nausea, pain, hair loss, central nervous system problems, infection, blood clotting problems, mouth problems, diarrhea, nerve and muscle problems, kidney and bladder damage, and flu like

symptoms (Chemotherapy and you, 1999). Most of the side effects gradually diminish after treatment ends and one's body becomes healthy again, however some side effects are long-term. Some of the long-term problems that can result from chemotherapy are damage to the heart, lungs, nerves, reproductive or other organs, and the development of a second cancer (Chemotherapy and you, 1999).

According to the American Cancer Society (2000), radiation therapy, unlike chemotherapy, utilizes high-energy waves or streams of particles called radiation to treat cancer. Side effects of radiation treatment vary from patient to patient and can range from none to severe. Some of the early side effects of radiation therapy are fatigue, pain, skin changes, temporary and permanent hair loss, and loss of appetite (Radiation therapy and you, 1999). Depending on the area treated with radiation, other more serious side effects can occur. For example, radiation therapy to the chest may cause an individual to have shortness of breath and difficulty swallowing (Radiation therapy and you, 1999).

An individual with cancer must not only deal with physical effects during their treatment, but also with the onset of possible late physical side effects. Henderson (1997) indicates, that late physical side effects can appear right after treatment, or can develop many years after the initial medical treatment. Late physical side effects range from "chronic fatigue, lympedema, psycho neurological difficulties, and loss of limb, disfigurement, and stunted growth with fertility, secondary tumors, and serious damage in major organ systems" (Henderson, 1997, p. 191). The extent of late physical side effects depends upon numerous factors of the cancer survivor, including the following: age of the survivor, type of cancer, size, location, and type of tumor, and length and type of treatment (Henderson, 1997).

Psychosocial Factors of Cancer

Along with physical implications, cancer has numerous psychosocial implications. Current cancer research has shifted its focus away from the issues of death and dying and more towards the factors affecting adjustment to the disease (Bordieri & Solodky, 1992). Today, as a result of an increased rate of survivorship, an individual with cancer must learn to live with a chronic illness. Patients must confront a variety of psychosocial stressors, such as coping with physical effects of treatment, fear of recurrence, resolving problems relating to intimacy, and employment discrimination (Henderson, 1997).

One of the major psychosocial stressors for cancer patients and survivors is the fear of medical procedures and complications. It has been reported that medical procedures and the side effects that accompany them are just as traumatic as cancer, often causing an intense focus of fear and dread (Henderson, 1997). Becoming hospitalized and treated for cancer can produce intense anxieties, such as loss of privacy and regression. Also certain cancer treatments develop some concerns, such as surgery leading to loss of function and disfigurement; chemotherapy and its side effects; and radiation being feared as an unknown (Postone, 1998).

Fear of recurrence is another psychological stressor that cancer survivors must acknowledge. The fear of death and recurrence of cancer can lead to despair and fear of isolation (Postone, 1998). Often times cancer survivors feel a chronic uncertainty of life after being diagnosed with cancer. Cancer survivors fear that the cancer may redevelop or a new cancer may develop after a successful initial treatment (Henderson, 1997).

Cancer survivors' third area of adjustment involves intimacy. A recent study indicated that cancer survivors reported a higher degree of intimacy (Henderson, 1997). The cancer survivor preferred socializing with others and felt better when they could interact with others. This may

be attributed to the increased need for loved ones during the diagnosis and treatment of the cancer (Henderson, 1997). The study, however, also indicated that cancer survivors were not satisfied in their current relationship. This may be partially attributed to their high expectations developed during the cancer treatment, which then makes the post treatment interactions disappointing (Henderson, 1997).

Another major psychosocial adjustment that cancer patients face is employment discrimination. Of the Americans with a history of cancer, 25% have faced some form of job discrimination, including "required medical examinations unrelated to job efficiency, demotions, firings, unwanted transfers, social isolation and animosity at work site, and loss of benefits" (Henderson, 1997, p. 192). These types of discrimination often occur in the work place, however they are illegal according to the Americans with Disability Act (ADA). The ADA specifies that employers may not discriminate against an individual with a disability in promotion or hiring practices, provided the individual is qualified for the job (Ziegler, 1998). Even with the ADA, many individuals with cancer still suffer job discrimination leading to stress and anxiety for the individual with cancer.

Many of the psychosocial stressors that are endured by the cancer patient can also contribute to emotional dysfunction. Some of the emotions experienced during the psychosocial stressors are shock of facing their mortality, despair and hopelessness relating to no cure for cancer, anxiety about the implications on loved ones, grief relating to losses, anger about getting the disease, guilt about having contributed to the disease, loss of self- esteem, feelings of hopelessness, and becoming isolated socially (Goodare, 1994). These emotions often overwhelm the cancer patient, making them become immobilized with fear and dread.

Vocational Factors of Cancer

According to the American Cancer Society (2000), at least half of the Americans with a history of cancer are employed or are hoping to be employed. Many individuals with cancer are returning to work shortly after their diagnoses and continue to work throughout their treatment. However, some individuals are discovering that biases and discrimination exist in the workplace.

Some individuals with cancer can eventually lead a relatively normal life. Treatments are now done as an outpatient treatment and can be done in a few minutes to a few hours, allowing the person to still work productively. Many chemotherapy treatments are done on a Friday afternoon, allowing the side effects to occur on Saturday and Sunday, so the cancer patient can go to work on Monday (Ziegler, 1998). Besides advancement in treatments, there are several variables that can help to predict continued employment, such as patient's disease stage, level of physical dysfunction, job characteristics, and time flexibility (Laszlo, 1990).

Many cancer patients are not so lucky to find a job that will accommodate their treatment needs. Job discrimination is prevalent to those individuals who suffer from cancer and have suffered from cancer in the past (Morrell, 1990). Much of the job discrimination comes from fellow employees and supervisors who believe certain misperceptions. Several biases exist about cancer, the major one being that cancer is contagious. Even though research has proven that cancer is not contagious, many people still believe that cancer is contagious (Morrell, 1990). In addition to fearing cancer as contagious, many people believe that cancer is a death sentence. Many people find it difficult to be with people who are terminally ill. Being with terminally ill people forces oneself to examine and confront one's own fears of mortality (Morrell, 1990). Yet another bias is that individuals with cancer are less productive and are absent from work more. Employers also fear that there are additional costs to hiring an individual with cancer, such as

higher insurance rates (Morrell, 1990). All these biases and fears develop into employment discrimination. People who have cancer often suffer job discrimination from employers, who reject those seeking a job and dismiss, demote, fail to promote, or discontinue health and life insurance for those who have been employed before they became ill (Morrell, 1990).

Many employers are also having difficulty understanding the variability that exists with cancer, causing confusion and in turn job discrimination. Employers are having difficulty understanding that variability exists in functional capacity and prognosis of cancer (Mellette, 1985). There are many different types of cancer, each requiring different treatments and resulting in various side effects. It is because of these misunderstandings that confusion and inevitably job discrimination may occur.

Vocational Rehabilitation and Cancer

Vocational rehabilitation has been known to help people with severe disabilities, such as mental retardation, traumatic brain injuries, and other developmental disabilities (Mundy, Moore, & Mundy, 1997). However, the one disability in the past that has been ignored from vocational rehabilitation is cancer (Goldberg & Habeck, 1982). Recently, with an increase in the survival rate of cancer, a growing number of people are starting to seek out the services of the vocational rehabilitation field. With an increase in cancer clientele, it is important for the field of vocational rehabilitation to be properly prepared for this disability. However, even vocational rehabilitation professionals have been known to fall into the biases that exist about cancer.

Even with the growing amount of cancer survivors, the word cancer still produces visions or images of death to many people. Vocational rehabilitation professionals are equally vulnerable to this fatalistic notion (Goldberg & Habeck, 1982). New medical information is starting to be made available to vocational rehabilitation professionals about the different types of cancer and

treatments. This will allow vocational rehabilitation professionals to provide accurate and unbiased assistance to this growing clientele.

Literature has indicated that rehabilitation counselors have shown personal biases against individuals with cancer, resulting in a lower cancer caseload. This bias has been a primary reason that rehabilitation counselors have avoided, in the past, working with clientele with cancer (Taylor & Crisler, 1988). One of the biases held by the vocational rehabilitation field has been that the prognosis of cancer for people is so poor, that the time and expense of providing services will outweigh the benefits (Mundy, et al., 1997). Yet the rehabilitation of "persons with cancer compared to that of other disability categories (heart disease, mental disorders, diabetes, tuberculosis, and orthopedic problems) is cost effective, requiring the lowest expenditures for successful closure than other comparable disability groups" (Taylor & Crisler, 1988, p. 23). Another bias believed is that in order to provide a successful outcome for cancer clientele, it would require a great amount of effort on the part of the counselor to find employers willing to hire a person with cancer (Mundy, et al., 1997). This bias is partially motivated by the employers' own bias against people with cancer as being a burden to hire.

Although some vocational rehabilitation agencies may exhibit some biases, other agencies are trying to develop programs for people with cancer. Several state vocational rehabilitation agencies have recently started to develop programs and projects designed to serve persons with cancer. Michigan is one of the vocational rehabilitation agencies that have started to develop a relationship with cancer patients and survivors. Michigan has developed relationships with self-help groups, established links with the American Cancer Society, trained staff, and has provided information about the rehabilitation agency (Goldberg & Habeck, 1982). The Michigan agency

has proven that vocational rehabilitation needs to examine the cancer client as a whole, integrating physical, psychosocial, and vocational implications.

Conclusion

Cancer survivors endure many challenges, such as living with the emotional effects of their brush with death, learning to live with the physical effects of their treatment, and having to continue their former lives (Life after cancer, 1994). It is with all these challenges that both cancer patients and cancer survivors are seeking out the assistance of vocational rehabilitation professionals. It is the task of vocational rehabilitation professionals to integrate all the variables that an individual with cancer faces. Vocational rehabilitation needs to obtain accurate knowledge of the three variables that make up the cancer client: physical, psychosocial, and vocational.

CHAPTER THREE

Methodology

Introduction

This chapter will discuss the subjects participating in the study and how they were selected for inclusion in this study. A description of the instrument being used for this study and its content will also be analyzed. The chapter will close with some of the possible limitations of the study.

Description of Subjects

The subjects of this study consisted of vocational rehabilitation students and current vocational rehabilitation professionals. The vocational rehabilitation students consisted of both undergraduate and graduate students, who were currently enrolled in the vocational rehabilitation program at the University of Wisconsin-Stout during the summer and fall semester of 2002. The current vocational rehabilitation professionals consisted of past University of Wisconsin-Stout graduates.

Instrumentation

The survey is a pen/pencil self-report survey. The survey was specifically made for this study by the researcher. The survey examined students preparing for vocational rehabilitation careers and vocational rehabilitation professionals' awareness and knowledge level regarding the implications of cancer. Specifically, the survey examined vocational rehabilitation students and professionals in the following areas: general knowledge of cancer, including incidence, types, and treatments of cancer; physical implications of cancer; psychosocial implications of cancer; vocational implications of cancer; attitudes opinions, and biases associated with cancer; and willingness to serve cancer clientele. The survey consisted of five different sections, with a total

of 37 questions or statements. The first section consisted of 12 statements. The subject was asked to answer the statements by circling the corresponding number to determine their knowledge level of the statement. The second section consisted of 13 statements. The subject was asked to answer the statements by circling the number that corresponds with their response of agreeing or disagreeing. The third section consisted of 3 multiple-choice questions. The subject was asked to circle the best answer from the choices provided. The fourth section consisted of 3 multiple-choice questions. The subject was asked to circle any/all of the choices that apply to the questions. The final section consisted of 6 questions and statements. The subject was asked to answer the question by either circling yes or no for the answer.

There were no measures of validity or reliability on this survey because the instrument was specifically designed for the study. The information for this survey was developed by compiling the issues and characteristics from the literature review. The information on the survey is specific to the four previously outlined objectives regarding cancer.

Data Collection

The survey was distributed to randomly selected undergraduate and graduate vocational rehabilitation classes, offered at the University Wisconsin-Stout in the summer and fall semester of 2002. An overview of the study and the importance of the subject's involvement were noted at the top of the survey, along with the initial directions of the survey. The subjects were made aware that the survey is voluntary and the results will remain confidential. The survey was handed out after the initial directions were read aloud and was collected as the subjects finished the survey. The current vocational rehabilitation professionals were mailed a survey, along with a self-addressed stamped envelope, in order to return the completed survey. The subjects were

made aware of the confidential and voluntary nature of the survey, along with the importance of participating in the survey.

Data Analysis

All appropriate descriptive statistics was used to analyze the survey data. Specific data analyses that were used consisted of Chi- Square Tests, ANOVA, and Frequency Tables to determine whether a relationship between selected variables existed. A 0.05 level of significance was used to determine significance of variables and relationships.

Limitations

There were several methodological limitations that existed in this study. First, there were no formally developed measures of validity or reliability. Since the researcher constructed the survey, there have been no previous measures of validity or reliability on this topic with this survey. However, the information for the survey was derived form literature specific to cancer and therefore face validity exists. Another limitation occurred with the amount of surveys returned, specifically from the surveys that were mailed. There are several reasons for the low return rate of the surveys that were mailed, such as the following: the survey did not get to the intended subject's address, the survey was delayed in the mail, or the address obtained by the researcher for the intended subject was incorrect. The last methodological limitation was the survey questions themselves. The questions may have been too technical for some of the participating subjects.

CHAPTER FOUR

Results

Introduction

This chapter will present the results of the data collected from the survey, which examined vocational rehabilitation students and professionals' awareness and knowledge level regarding the implications of cancer. The demographic information and descriptive statistics will be reported. Data collected on each of the four research objectives will also be reported. The four research objectives include the following: Investigate the need for a broad knowledge regarding cancer, including incidence, types, and treatments of cancer; Investigate if more knowledge is needed regarding the many variables that affect the individual with cancer, such as physiological, psychosocial, and vocational implications; Investigate if attitudes, opinions, and personal biases exist with vocational rehabilitation students and professionals regarding individuals with cancer; and Investigate the willingness of vocational rehabilitation students and professionals to serve individuals with cancer.

Demographic Information

The subjects of this study consisted of vocational rehabilitation students and professionals. The vocational rehabilitation students consisted of both undergraduate and graduate students currently enrolled in the vocational rehabilitation program at the University of Wisconsin-Stout. The vocational rehabilitation professionals consisted of past University of Wisconsin-Stout graduates.

Two hundred surveys were mailed to past vocational rehabilitation graduates of the University of Wisconsin-Stout. A total of 82 surveys were mailed back to the researcher, resulting in a 41%

return rate of the mailed out survey. The following information is the break down of the status of the 82 mailed back surveys: 1 undergraduate student, 8 graduate students, 33 vocational rehabilitation professionals, and 40 other.

The total sample of this study consisted of 126 subjects. A frequency table was run on the data pertaining to gender, age, status, and race. The sample was comprised of 66.4% (n = 83) females and 33.6% (n = 42) males, with 1.6% (n = 2) who did not complete the gender category. The age of the sample consisted of 24.6% (n = 31) identifying the age category 18-25, 19.8% (n = 25) identifying the age category 26-33, 15.1% (n = 19) identifying the age category 34-41, 21.4% (n = 27) identifying the age category 42-49, 19% (n = 24) identifying the age category of 50 and over, and 0.8%(n = 1) did not complete the age category. The sample consisted of 24.6% (n = 31) undergraduate students, 17.5% (n = 22) graduate students, 26.2% (n = 33) vocational rehabilitation professionals, 31.7% (n = 40) other, and 0.8% (n = 1) did not complete the status category. The ethnicity of the sample consisted of 92.9% (n = 117) Caucasian, 3.1% Asian (n = 4), 0% Hispanic, 1.6% (n = 2) African American, 1.6% (n = 2) Native American, 0.8% other, and 0.8% (n = 1) did not complete the ethnicity category.

Research Objective 1

Objective 1: Investigate the need for a broad knowledge regarding cancer, including incidence, types, and treatments of cancer. An analysis of variance (ANOVA) was conducted on the information pertaining to objective number one. The results indicated that there was no significant difference among the groups of undergraduate students, graduate students, vocational rehabilitation professionals, and other.

The survey questions used to analyze objective one were located in section one, two, and three of the survey. In section one of the survey questions 1-5 were used to examine objective one, along with questions 1-3 of section two, and questions 1-3 of section four.

The following information is from section one, the knowledge portion of the survey, questions 1-5. Section one utilized a five point Likert scale, with 5 being very knowledgeable to 1 being no knowledge and 0 being undecided. Question #1: My knowledge regarding the various types of cancer; mean = 3.14, S.D. = 0.78, and p = .843. Question #2: My knowledge regarding the various treatment options for people with cancer; mean = 3.10, S.D. = 0.86, and p = 0.368. Question #3: My knowledge regarding chemotherapy as a treatment for cancer; mean = 3.25, S.D. = 0.90, and p = 0.067. Question #4: My knowledge regarding surgery as a treatment for cancer; mean = 3.18, S.D. = 0.92, and p = 0.228. Question #5: My knowledge regarding radiation therapy as a treatment for cancer; mean = 3.18, S.D. = 0.92, p = 0.297.

The following information is from section two of the survey questions 1-3, which asks the respondent to answer the statements by circling the corresponding number that corresponds with their response of agreeing or disagreeing. A five point Likert scale is utilized in section two, with 5 being strongly agree to 1 being strongly disagree and 0 being no opinion. Question #1: Men have a 1 in 2 lifetime risk of developing cancer; mean = 2.45, S.D. = 1.38, and p = 0.978. Question #2: Women have a 1 in 3 lifetime risk of developing cancer; mean = 2.68, S.D. = 1.40, and p = 0.556. Question #3: I feel confident in my knowledge regarding incidence, types, and treatment of cancer; mean = 2.41, S.D. = 1.05, and p = 0.123.

The following information is from section three, questions 1-3. Section three consists of 3 multiple-choice questions, in which the subject is asked to circle the best answer from the choices. A correct answer was coded as a 1, while an incorrect answer was coded as a 2.

Question #1: People with cancer are currently living longer lives. What is the 5 -year survival rate for people with cancer (20%, 40%, 60%, or 80%)? mean = 1.42, S.D. = 0.50, and p = 0.798. Question #2: How many Americans alive today have a history of cancer (500,000, 1 million, 8 million, 15 million)? mean = 1.60, S.D. = 0.49, and p = 0.551. Question # 3: What percentage of people with cancer utilize surgery as a treatment option (20%, 40%, 60%, 80%)? mean = 1.68, S.D. = 0.47, and p = 0.352.

Research Objective 2

Objective 2: Investigate if more knowledge is needed regarding the many variables that affect the individual with cancer, such as physiological, psychosocial, and vocational implications. An analysis of variance (ANOVA) was conducted on the information pertaining to objective two. The results indicated that there was a significant difference among groups of undergraduate students, graduate students, vocational rehabilitation professionals, and other.

The survey questions used to analyze research objective two were located in section one and two of the survey. In section one of the survey question 6-12 were used to examine research objective two, along with questions 4-11 of section two.

The following information is taken from questions 6-12 from section one of the survey. A five point Likert scale was utilized with 5 being very knowledgeable to 1 being no knowledge and 0 being undecided. Question #6: My knowledge regarding the long-term side effects associated with cancer treatments; mean = 2.95, S.D. = 1.01, and p = 0.017. Question #6 indicates that there is significance among the groups. See Table 1 and Table 2 for further information regarding the significance and frequency of Question #6.

Table 1: ANOVA of Knowledge of Long-Term Side Effects

		Sum of Squares	Df	Mean Square	F	Sig.
Question #6	Between Groups Within Groups Total	10.221 117.493 127.714	3 122 125	3.407 0.963	3.538	0.017

Table 2: Frequency Table of Knowledge of Long-Term Side Effects

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	1	0.8	0.8	0.8
	1	9	7.1	7.1	7.9
	2	29	22.8	23.0	31
	3	48	37.8	38.1	69
	4	34	26.8	27.0	96
	5	5	3.9	4.0	100
	Total	126	99.2	100	
Missing System		1	0.8		
Total		127	100		

Question #7: My knowledge regarding the short- term side effects associated with cancer treatments; mean = 3.12, S.D. = 0.96, and p = 0.307. Question #8: My knowledge of short-term side effects of chemotherapy, such as fatigue, nausea, hair loss, flu symptoms, and kidney and bladder problems; mean = 3.40, S.D. = 0.95, and p = 0.139. Question #9: My knowledge of long-term side effects of chemotherapy such as damage to heart, lungs, and reproductive organs; mean = 2.67, S.D. = 0.99, and p = 0.309. Question # 10: My knowledge regarding the side effects of radiation therapy, such as fatigue, pain, skin problems, hair loss, and loss of appetite; mean = 3.206, S.D = 1.01, and p = 0.081. Question # 11: My knowledge about the variety of psychosocial stressors that exist for people with cancer; mean = 3.21, S.D. = 1.02, and p = 0.385. Question #12: My knowledge regarding the various emotional implications people with cancer endure, such as despair, hopelessness, guilt, isolation, and anxiety; mean = 3.40, S.D. = 1.07, and p = 0.284.

The following information is from section two, questions 4-11. Section two asked the subject to answer the statement by circling the number that corresponds with their response of agreeing or disagreeing. A five point Likert scale was utilized, with 5 being strongly agree to 1 being strongly disagree and 0 being no opinion. Question #4: Physical side effects of cancer treatment can develop years after the initial treatment; mean = 3.01, S.D. = 1.41, and p = 0.165. Question # 5: I feel confident in my knowledge regarding the physical implications associated with cancer; mean = 2.70, S.D. = 1.16, and p = 0.112. Question # 6: Individuals with cancer are affected by fear of death and recurrence of cancer; mean = 4.20, S.D. = 0.96, and p = 0.473. Question #7: Individuals with cancer develop feelings of chronic uncertainty after the initial diagnosis; mean = 3.87, S.D. = 1.04, and p = 0.571. Question #8: I feel confident with my knowledge regarding the psychosocial implications associated with cancer; mean = 3.37, S.D. = 1.07, and p = 0.408. Question #9: Employees have difficulty understanding the variability that exists with the functional capacity and prognosis of the different types of cancer; mean = 3.44, S.D. = 1.28, and p = 0.509. Question #10: Individuals with cancer are returning to work shortly after diagnosis and working throughout treatment; mean = 3.02, S.D. = 1.23, and p = 0.078. Question #11: I feel confident with my knowledge regarding the vocational implications associated with cancer; mean = 2.74, S.D. = 1.11, and p = 0.506.

Research Objective 3

Objective 3: Investigate if attitudes, opinions, and personal biases exist with vocational rehabilitation professionals and students regarding individuals with cancer. An analysis of variance was conducted on the information pertaining to research objective number three. The results indicated that there was a significant difference among the groups of undergraduate students, graduate students, vocational rehabilitation professionals, and other.

The survey questions used to analyze research objective three were located in section two and four of the survey. In section two of the survey questions 12-14 were used to examine objective number three, along with questions 1-3 of section number four.

The following information is from section two, questions 12-14. Section two of the survey asked the subjects to answer the statements by circling the number that corresponds with their response of agreeing or disagreeing. A five point Likert scale was utilized, with 5 being strongly agree to 1 being strongly disagree and 0 being no opinion. Question # 12: As a professional I would prefer to work with people with a disability of cancer; mean = 1.921, S.D. = 1.61, and p = 0.673. Question # 13: I perceive the prognosis of cancer as so poor that I would not provide professional services; mean = 1.508, S.D. = 1.15, and p = 0.298. Question #14: I believe it is difficult to find an employer willing to hire a person with cancer; mean = 2.47, S.D. = 1.56, and p = 0.329.

The following questions are from section four of the survey, questions 1-3. The subject was asked to circle any/all of the choices that applied to the question being asked. A correct answer was coded as a 1, while an incorrect answer was coded as a 2. Question #1: Do individuals with cancer face biases and job discrimination from any of the following (employees, supervisors, co-workers, rehabilitation counselors, none)? Mean = 1.60, S.D. = 0.49, and p = 0.419. Question #2: What is/are the major myth(s) or bias (es) that exist about cancer (cancer is a death sentence, cancer is contagious, cancer makes workers less productive, or none)? mean = 1.68, S.D. = 0.47, and p = 0.015. Question #2 indicates that there is significance among the groups. See Table 3 and Table 4 for further information regarding the significance and the frequencies associated with this question.

Table 3: ANOVA of Major Myths of Cancer

		Sum of Squares	df	Mean Squares	F	Sig.
Question # 2	Between Groups Within Groups Total	2.256 24.944 27.200	3 121 124	0.752 0.206	3.648	0.015

Table 4: Frequency Table of Major Myths of Cancer

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	40	31.5	32.0	32.0
	2	85	66.9	68.0	100.0
	Total	125	98.4	100.0	
Missing	System	2	1.6		
Total		127	100.0		

Question #3: In what ways do people with cancer suffer from job discrimination (not being hired, not being promoted, being demoted, being fired, or no discrimination)? mean = 1.642, S.D. = 0.48, and p = 0.002. Question #3 indicates that there is significance among the groups. See Table 5 and Table 6 for further information regarding the significance and frequencies for this question.

Table 5: ANOVA of Cancer and Job Discrimination

		Sum of Squares	df	Mean Square	F	Sig.
Question # 3	Between Groups Within Groups Total	3.361 24.899 28.260	3 119 122	1.120 0.209	5.355	0.002

Table 6: Frequency Table of Cancer and Job Discrimination

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	44	34.6	35.8	35.8
	2	79	62.2	64.2	100.0
	Total	123	96.9	100.0	
Missing	System	4	3.1		
Total		127	100.0		

Research Objective 4

Objective 4: Investigate the willingness of vocational rehabilitation students and professionals to serve individuals with cancer. An analysis of variance was conducted on the information pertaining to research objective number four. The results indicated that there was a significant difference among the groups of undergraduate students, graduate students, vocational rehabilitation professionals and other.

The survey questions used to analyze research objective four were located in section five of the survey. In section five of the survey, questions 1-6 were used to examine objective number four. The subjects were asked to answer the question by circling yes or no for their answer. The following information is from section five, questions 1-6. A yes answer was coded to a 1, while a no answer was coded to a 2. Question #1: Do you consider cancer a disability? mean = 1.322, S.D. = 0.47, and p = 0.934. Question # 2: Do you know anyone who has a history of cancer? mean = 1.056, S.D. = 0.23, and p = 0.989. Question #3: Have you provided services to an individual with cancer? mean = 1.57, S.D. = 0.50, and p = 0.000. If so how many? mean = 2.58, S.D. = 1.26, and p = 0.444. Question #3 indicates significance among the groups with a significance level of 0.000. See Table 7 and Table 8 for further information regarding the significance and frequency of this question.

Table 7: ANOVA of Services Provided to Individuals With Cancer

		Sum of Squares	df	Mean Square	F	Sig.
Question # 3	Between Groups Within Groups Total	6.677 23.670 30.347	3 120 123	2.226 0.197	11.284	0.000

Table 8: Frequency Table of Services Provided to Individuals With Cancer

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	53	41.7	42.7	42.7
	2	71	55.9	57.3	100.0
	Total	124	97.6	100.0	
Missing	System	3	2.4		
Total		127	100.0		

Question #4: Are you willing to provide services to an individual with cancer? mean = 1 and S.D. = 0.00. This indicates a 100% response rate of a 1, meaning all the surveyed individuals indicated a willingness to serve individuals with cancer. Question #5: Do you feel you need more information/ knowledge in order to properly serve individuals with cancer? mean = 1.07, S.D. = 0.26, and p = 0.384. Question #6: I am confident I have enough knowledge to counsel an individual with cancer; mean = 1.752, S.D. = 0.43, and p = 0.273.

Conclusion

The data that was collected from the survey analyzed vocational rehabilitation students and professional's awareness and knowledge level regarding the implications of cancer. The data indicated that the subjects felt as if they had an average level of knowledge and awareness regarding the implications of cancer. The data illustrated that perhaps the subjects had slightly more knowledge and awareness regarding psychosocial implications of cancer versus physical and vocational implications of cancer. Regarding willingness to work with individuals with cancer, all the subjects indicated a willingness to provide services to an individual with cancer. The data also indicated that the majority of the subjects do feel they need more information/ knowledge in order to properly serve individuals with cancer.

The data analysis of the survey indicated that there is little difference among the groups of undergraduate students, graduate students, vocational rehabilitation professionals, and other. There were four questions that did pose some significance and differences between the groups.

But, overall there is little difference in knowledge and awareness level regarding the implications of cancer between the groups.

CHAPTER FIVE

Conclusions

Introduction

This chapter will present the conclusions that were reached based upon the data analysis of the survey. Implications and recommendations will also be concluded based upon the data analysis of the survey. The purpose and objectives of the study will be reexamined, drawing any significant conclusions.

The purpose of this study is to examine the knowledge and awareness level of vocational rehabilitation students and vocational rehabilitation professionals regarding the implications of cancer. Four main objectives have been identified for this study. The first objective is to investigate the need for a broad knowledge regarding cancer, including incidence, types, and treatments for cancer. The second objective is to investigate if more knowledge is needed regarding the many variables that affect the individual with cancer, such as physiological, psychosocial, and vocational implications. The third objective is to investigate if attitudes, opinions, and personal biases exist with vocational rehabilitation professionals and students regarding individuals with cancer. The last objective is to investigate the willingness of vocational rehabilitation professionals and students to serve individuals with cancer.

The significance of this study is to determine whether vocational rehabilitation students and professionals have an adequate and accurate knowledge regarding the implications of cancer. This can then determine if vocational rehabilitation professionals are able to properly and successfully serve individuals with cancer or if more knowledge and awareness are needed in order to serve individuals with cancer.

Conclusions

The main purpose of this study was to determine if vocational rehabilitation students and professionals are able to properly and successfully serve individuals with cancer. In order to do this, both vocational rehabilitation professionals and students need to have an adequate and accurate knowledge regarding the various implications of cancer, including the physiological, psychosocial, and vocational implications. In order to fully examine this knowledge and awareness level of vocational rehabilitation students and professionals regarding the implications of cancer, a survey was created and administered to undergraduate and graduate students currently enrolled in a vocational rehabilitation program as well as current vocational rehabilitation professionals.

The results of the survey indicate that the overall knowledge and awareness level of both vocational rehabilitation students and professionals is at an average level. The results of the survey indicate that there is little difference of awareness and knowledge between vocational rehabilitation students and professionals. This indicates that the vocational rehabilitation students and professionals surveyed feel they can indeed serve individuals with cancer. However, this does not indicate that individuals with cancer will be served at the highest and most effective level that is needed in order to provide success.

The survey asked multiple questions regarding the general knowledge of cancer. The surveyed individuals revealed an average level of knowledge regarding the incidence, types, and treatments of cancer. Knowledge in this area of cancer assists the vocational rehabilitation professional in determining the correlating physical, psychosocial, and vocational implications of cancer. General knowledge can also help to enlighten vocational rehabilitation professionals as

to the normal life individuals with cancer can lead and the likelihood of a client to return to work. This is consistent with research from Ziegler. Ziegler (1998) rationalized that a diagnosis of cancer is no longer considered a death sentence and that that cancer patients can lead a somewhat normal life, including returning to work. It is with this general knowledge that vocational rehabilitation professionals can provide a sense of hope to clients, especially regarding the client's ability to return to work. With adequate awareness regarding a general knowledge of cancer, vocational rehabilitation professionals can give clients a sense of hope that they can lead a normal life and return to work.

The survey also asked questions concerning the physiological implications of cancer. The surveyed individuals indicated an average knowledge level regarding the physical implications associated with cancer, such as the long-term and short-term side effects associated with the treatment options of chemotherapy, radiation therapy, and surgery. It is important for vocational rehabilitation professionals to be prepared in this area of cancer in order to properly prepare the client for current and future problems that may occur, due to the physical implications of cancer treatment. This is consistent with research regarding the physiological factors of cancer. Henderson (1997) indicated that physical side effects not only appear right after the treatment, but also can develop many years after the initial medical treatment. If not properly educated regarding the physical side effects of treatments, poor decisions and choices could be made regarding the rehabilitation of the individual with cancer. This in turn could result in more struggles for the client. It is with this in mind, that vocational rehabilitation students and professionals need to have a high and accurate knowledge regarding the physical implications of cancer.

The survey also asked questions regarding the psychosocial implications of cancer. Individuals with cancer must cope with a variety of psychosocial stressors, such as physical effects of treatment, fear of recurrence of cancer, and intimacy issues. The individuals surveyed indicated an average to above average level of knowledge regarding psychosocial implications of cancer. Although those surveyed indicated this area as their most knowledgeable, it is crucial that psychosocial implications of cancer be fully understood. Psychosocial implications need to be discussed with the individual with cancer in order to provide proper services, such as arranging support group services or professional counseling. It also becomes important that not only are issues of death and dying addressed, but also other psychosocial issues such as adjustment to the disease. This is consistent with Bordieri & Solodky (1992), who rationalized that current cancer research has shifted its focus away from the issues of death and dying and more towards the factors affecting adjustment to the disease. A full knowledge of the psychosocial issues of cancer is essential in order to provide proper services. If psychosocial implications are not all fully addressed conflicts will arise, leading to an increase in problems for the client. The vocational rehabilitation process will function smoother if an adequate and accurate knowledge of psychosocial implication is known.

Surveyed individuals also revealed an average level of knowledge concerning the vocational implications of cancer. Knowledge regarding vocational implications allows the vocational rehabilitation professional to educate the client regarding the various employment issues they may sustain. This is consistent with research compiled from Morrell. Morrell (1990) stated that job discrimination is prevalent to many individuals who suffer from cancer and have suffered from cancer in the past. With proper education, individuals with cancer can advocate for themselves and possibly end any myths and confusion that employers and co-workers may have

about cancer. By dealing with vocational issues, conflicts can be avoided at the client's worksite, which can result in the client's success. It is important for vocational rehabilitation professionals to have accurate knowledge regarding vocational implications.

Those individuals surveyed revealed that they do not have any personal biases regarding individuals with cancer and show a high interest in serving individuals with cancer. In fact all those surveyed indicated an interest in serving cancer clientele. These notions of personal biases and willingness to serve are inconsistent with research gathered by Taylor and Crisler. Taylor and Crisler (1988) stated that rehabilitation counselors have shown personal biases against individuals with cancer, which has resulted in a lower caseload of individuals with cancers. The research gathered by the surveyed individuals regarding their strong desire to serve individuals with cancer is encouraging. This desire to serve indicates that even with all the implications that exist with the disability of cancer, that vocational rehabilitation professionals and students are willing to serve this challenging disability. The research did, however indicate that there is a significance and difference regarding those who have provided services to individuals with cancer. This is most likely due to the fact that some of the subjects currently are vocational rehabilitation professionals and have served a variety of clientele as opposed to the students who have not served clientele.

Recommendations

The research indicates that although vocational rehabilitation students and professionals have an average level of knowledge and awareness regarding the implications of cancer. However, both groups indicated that more information and knowledge is needed in order to properly serve individuals with this disability. In order for this to be achieved, more college level education and professional education need to occur. This will provide more knowledge and awareness to

vocational rehabilitation students and professionals, as well as providing better services for individuals with cancer.

College level classes on cancer need to be made available for students majoring in vocational rehabilitation. Specific classes such as physical disabilities need to cover the disability of cancer. Other classes such as job placement need to cover the vocational issues that individuals with cancer endure during the employment process. Classes that cover legal issues and the ADA also need to address the disability of cancer and the discrimination individuals with cancer endure.

Rehabilitation agencies also need to provide continuing education for current vocational rehabilitation professionals. A partnership with hospitals or cancer clinics could provide the best possible education regarding the general knowledge of cancer. Cancer clinics or hospitals can also provide the latest information and research regarding treatments and the variety of implications associated with the treatments.

It is with these recommendations of providing more education to both vocational rehabilitation students and professionals, that more knowledge and awareness can be achieved regarding the implications associated with cancer. This can then help ensure that individuals with cancer will receive proper and successful services from the vocational rehabilitation field.

REFERENCES

Accommodating people with cancer. (2001). Retrieved April 20, 2001 from the World Wide Web: www.jan.wvu.edu

American Cancer Society. (2000). *Statistics*. Retrieved March 26,2001 from the World Wide Web: www.cancer.org

Bordieri, J. E., & Solodky, M. (1992). Congruity of perceived psychosocial needs of individuals with cancer. *Rehabilitation Counseling Bulletin*, 36 (2), 120- 126.

Chemotherapy and you: A guide to self-help during cancer treatment. (1999). Retrieved April 10, 2001 from the World Wide Web: www.cancernet.com

Clayton, T. L. (Ed.). (2000). *Taber's cyclopedia medical dictionary* (18th ed.). Philadelphia: F.A. Davis Company.

Gilbride, D. (2000). Employers' attitudes toward hiring persons with disabilities & vocational rehabilitation services. *Journal of Rehabilitation,* 66 (40), 17-24.

Glajchen, M., & Blum, D. (2000). Cancer pain management and the role of social work: Barriers and interventions. *Health & Social Work*, 20 (3), 200-207.

Goldberg, R. T. (1977). Vocational rehabilitation: Outlook for persons with cancer. *Rehabilitation Literature*, 38(10), 310-320.

Goldberg, R. T., & Habeck, R. (1982). Vocational rehabilitation of cancer clients: Review and implications for the future. *Rehabilitation Counseling Bulletin*, 26 (1), 18-26.

Goodare, H. (1994). Counseling people with cancer: Questions and possibilities. *Advances: The Journal of Mind- Body Health*, 10 (2), 4-18.

Greenlee, R. T., & Murray, T. (2000). Cancer statistics, 2000. *Cancer Journal*, 50 (1), 7-12.

Hagner, D. (2000). Primary and secondary labor markets: Implications for vocational rehabilitation. *Rehabilitation Counseling Bulletin*, 44 (1), 22-30.

Henderson, P. A. (1997). Psychosocial adjustment of adult cancer survivors: Their needs and counselor interventions. *Journal of Counseling & Development*, 75 (3), 188-195.

Komaroff, A. L. (Ed.). (1999). *Harvard medical school family health guide*. New York: Simon & Schulster.

Laszlo, J. (1990). Why some cancer patients can stay on the job. *Cancer News*, 44 (2), 17-20.

Life after cancer. (1994, June). *Harvard Women's Health Watch*, 1 (10), 6.

Mellette, S. J. (1985). The cancer patient at work. *Cancer Journal Clinical*, 35 (6), 360-373.

Morrell, J. J. (1990). AIDS and cancer: Critical employment discrimination issues. *Journal of Corporation Law*, 15(4), 849-893.

Mundy, R. R., Moore, S. S., & Mundy G. D. (1997). A missing link: Rehabilitation counseling for persons with cancer. *Journal of Rehabilitation*, 58 (2), 47-49.

Olendorf, D., Teryan, C., & Boyden, K. (Ed.). (1999). *The gale encyclopedia of medicine* (Vol. 2). Detroit: Gale.

Postone, N. (1998). Psychotherapy with cancer patients. *American Journal of Psychotherapy*, 52 (4), 412- 425.

Radiation therapy and you: A guide to self-help during cancer treatment. (1999). Retrieved April 10, 2001 from the World Wide Web: www.cacnernet.com

Taylor, C., & Crisler, J. (1988). Concern of persons with cancer as perceived by cancer patients, physicians, and rehabilitation counselors. *Journal of Rehabilitation* 54, 23-28.

Tierney, L. M., McPhee, S. J., & Papadakis, M. A. (Ed.). (1999). *Current medical diagnosis & treatment* (38th ed.). Stanford: Appleton & Lange.

Ziegler, J. (1998). When cancer comes to work. *Business and Health*, 16 (7), 34-37.

Appendix A: Survey Letter

My name is Sara Ruckman and I am a student at the University of Wisconsin Stout, pursuing my Master's Degree in Vocational Rehabilitation. I am conducting a research project to determine the knowledge and awareness concerning the implications of cancer.

You have been selected as part of my sample. The information that I am gathering will be kept strictly confidential. There are no identifiers, so it is not possible to link your name with your response. Your participation is completely voluntary. You have the right to refuse to participate and you have the right to discontinue from participation at any time during the study, however I would greatly appreciate your participation.

When the study is complete the findings will be available upon request. If you have any questions please contact Sara Ruckman at 715-835-7649 or Dr. Bob Peters at 715- 232- 1983.

I hope you will participate and return your completed survey in the enclosed envelope as soon as possible.

Sincerely

Sara Ruckman

Appendix B: Survey

I understand that by returning this survey, I am giving my informed consent as a participating volunteer in this study. I understand and agree that any potential risk of this survey is small. I am aware that the information being gathered will be kept strictly confidential and that this survey contains no identifying information. You have the right to refuse to participate and that your right to withdraw from participation at anytime during the study will be respected with no coercion or prejudice.

Note: Questions of concerns about the research study should be addressed to Sara Ruckman at (715) 835-7649, the researcher or Dr. Bob Peters at (715) 232- 1983, the research advisor. Questions about the rights of research subjects can be addressed to Sue Foxwell, Human Protections Administrator, UW- Stout Institutional Review Board for the Protections of Human Subjects Research, 11 Harvey Hall, Menomonie WI 54751, (715) 232- 1126.

The following survey will examine students preparing for Vocational Rehabilitation careers and Vocational Rehabilitation Professionals' awareness and knowledge level regarding the implications of cancer.

Please complete the following information to aid in the statistical analysis of the survey. All information will remain confidential.

Gender:
____Female ____Male

Age:
____18-25 ____26-33 ____34-41 ____42-49 ____over 50

Status:
____Undergraduate Student ____Graduate Student ____Vocational Rehabilitation Professional ____ Other

Race/ Ethnicity:
____Caucasian ____African American

____ Asian ____ Native American

____Hispanic ____ Other

Please answer the following statements by circling the corresponding number to your knowledge level, with a range of 5 being very knowledgeable to 1 being no knowledge and 0 being undecided.

	Very Knowledgeable				no knowledge	undecided
1. My knowledge regarding the various types of cancer.	5	4	3	2	1	0
2. My knowledge regarding the various treatment options for people with cancer.	5	4	3	2	1	0
3. My knowledge regarding chemotherapy as a treatment for cancer.	5	4	3	2	1	0
4. My knowledge regarding surgery as a treatment for cancer.	5	4	3	2	1	0
5. My knowledge regarding radiation therapy as a treatment for cancer.	5	4	3	2	1	0
6. My knowledge regarding the long-term side effects associated with cancer treatments.	5	4	3	2	1	0
7. My knowledge regarding the short-term side effects associated with cancer treatments.	5	4	3	2	1	0
8. My knowledge of short-term side effects of chemo-therapy, such as fatigue, nausea, hair loss, flu symptoms, and kidney and bladder problems.	5	4	3	2	1	0
9. My knowledge of long-term side effects of chemotherapy, such as damage to heart, lungs, and reproductive organs.	5	4	3	2	1	0
10. My knowledge regarding the side effects of radiation therapy, such as fatigue, pain, skin problems, hair loss, and loss of appetite.	5	4	3	2	1	0
11. My knowledge about the variety of psychosocial stressors that exist for people with cancer.	5	4	3	2	1	0
12. My knowledge regarding the various emotional implications people with cancer endure, such as despair, hopelessness, guilt, isolation, and anxiety.	5	4	3	2	1	0

Please answer the following statements by circling the number that corresponds with your response, with 5 being strongly agree to 1 being strongly disagree and 0 being no opinion.

	Strongly Agree				Strongly Disagree	No Opinion
1. Men have a 1 in 2 lifetime risk of developing cancer.	5	4	3	2	1	0
2. Women have a 1 in 3 lifetime risk of developing cancer.	5	4	3	2	1	0
3. I feel confident in my knowledge regarding incidence, types, and treatment of cancer.	5	4	3	2	1	0
4. Physical side effects of cancer treatment can develop years after the initial treatment.	5	4	3	2	1	0
5. I feel confident in my knowledge regarding the physical implications associated with cancer.	5	4	3	2	1	0
6. Individuals with cancer are affected by fear of death and recurrence of cancer.	5	4	3	2	1	0
7. Individuals with cancer develop feelings of chronic uncertainty after the initial diagnosis.	5	4	3	2	1	0
8. I feel confident with my knowledge regarding the psycho-social implications associated with cancer.	5	4	3	2	1	0
9. Employees have difficulty understanding the variability that exists with functional capacity and prognosis of the different types of cancer.	5	4	3	2	1	0
10. Individuals with cancer are returning to work shortly after diagnosis and working throughout treatment.	5	4	3	2	1	0
11. I feel confident with my knowledge regarding the vocational implications associated with cancer.	5	4	3	2	1	0
12. As a professional I would prefer to work with people with a disability of cancer.	5	4	3	2	1	0
13. I perceive the prognosis of cancer as so poor that I would not provide professional services.	5	4	3	2	1	0
14. I believe it is difficult to find an employer willing to hire a person with cancer.	5	4	3	2	1	0

Please circle the best answer for the following questions:

1. People with cancer are currently living longer lives. What is the 5- year survival rate for people with cancer?
   A. 20%
   B. 40%
   C. 60%
   D. 80%

2. How many Americans alive today have a history of cancer?
   A. 500,0000
   B. 1 million
   C. 8 million
   D. 15 million

3. What percentage of people with cancer utilize surgery as a treatment option?
   A. 20%
   B. 40%
   C. 60%
   D. 80%

Please circle any/all of the choices that apply to the following questions.

1.Do individuals with cancer face biases and job discrimination from any of the following?
   A. Employees
   B. Supervisors
   C. Coworkers
   D. Rehabilitation Counselors
   E. None

2. What is/are the major myth(s) or bias(es) that exist about cancer?
   A. Cancer is a death sentence
   B. Cancer is contagious
   C. Cancer makes workers less productive
   D. None

3. In what ways do people with cancer suffer from job discrimination?
   A. Not being hired
   B. Not being promoted
   C. Being demoted
   D. Being fired
   E. No discrimination

Please answer the following questions:

1. Do you consider cancer a disability? Yes No

2. Do you know anyone who has a history of cancer? Yes No

3. Have you provided services to an individual with cancer? Yes No
   If so, how many?
   ____1-2 ____3-4 ____4-5 ____6+

4. Are you willing to provide services to an individual with cancer? Yes No

5. Do you feel you need more information/ knowledge in order to properly serve individuals with cancer? Yes No

6. I am confident I have enough knowledge to counsel an individual with cancer. Yes No