San Jose State University

SJSU ScholarWorks

5-2019

Promoting Self-Efficacy among Head and Neck Cancer Patients

Lily Lam
California State University, Northern California Consortium Doctor of Nursing Practice

Follow this and additional works at: https://scholarworks.sjsu.edu/etd_doctoral

Part of the Other Nursing Commons

Recommended Citation

ABSTRACT

PROMOTING SELF-EFFICACY AMONG HEAD AND NECK
CANCER PATIENTS

Current survivorship visits at the Stanford head and neck oncology program are not standardized to address ongoing post-treatment sequelae. The objectives of this study help to address whether current non-standardized visits actually help to empower patients to self-manage their chronic diagnosis of head and neck cancer by measuring their self-efficacy levels before and after their post-treatment survivorship visit.

Given the convenience sampling method, 17 patients were enrolled in this quasi-experimental pilot study. Demographic information was collected for each patient: gender, ethnicity, smoker status, and age. Head and neck cancer patients would first be surveyed before and after their follow up visit using the data collection tools: Chronic Illness Management Self-Efficacy Scale or the 6-item General Self- efficacy scale. One sided t tests and ANOVA were used for to compute and examine the statistical significance of improved self-efficacy values. Current non-standardized survivorship follow- up visits designed with a written treatment summary have shown to improve self-efficacy levels. Age and smoking status were found to be statistically significant confounding factors.

Transition survivorship visits should aim to improve self-efficacy levels among head and neck cancer survivors. American Cancer Society guidelines for follow up care can guide the conversations of survivorship issues and facilitate communication between cancer specialists and community providers.

Lily Lam
May 2019

PROMOTING SELF-EFFICACY AMONG HEAD AND NECK

CANCER PATIENTS

by

Lily Lam

A project

submitted in partial

fulfillment of the requirements for the degree of

Doctor of Nursing Practice

California State University, Northern Consortium

Doctor of Nursing Practice

May 2019

APPROVED

For the California State University, Northern Consortium
Doctor of Nursing Practice:

We, the undersigned, certify that the project of the following student
meets the required standards of scholarship, format, and style of the
university and the student's graduate degree program for the
awarding of the Doctor of Nursing Practice degree.

Lily Lam
Project Author
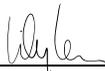
Constance Hill (Chair)   Nursing

Vasu Divi   Stanford
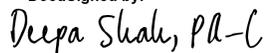
Deepa Shah   Stanford

AUTHORIZATION FOR REPRODUCTION

OF DOCTORAL PROJECT

_____x_____   I grant permission for the reproduction of this project in part or in its entirety without further authorization from me, on the condition that the person or agency requesting reproduction absorbs the cost and provides proper acknowledgment of authorship.

_____   Permission to reproduce this project in part or in its entirety must be obtained from me.

Signature of project author:_____

ACKNOWLEDGMENTS

TABLE OF CONTENTS

Page

LIST OF TABLES

Page

CHAPTER 1: INTRODUCTION

Background: Cancer as a Chronic Illness

The burden of chronic illness care and management is on the rise in the United States (Centers for Disease Control and Prevention, 2017). Concurrent chronic illnesses that may also be linked and affect multiple organ or physiological systems. Chronic illness is filled with uncertainty as the predictability of outcomes is heavily influenced by self-management, access to healthcare, resources in the community, and care coordination. Chronic illness is responsible for variable and constant disruptions from going about and proceeding with normal daily activities. Management of chronic illnesses is reliant on the understanding of the diagnoses, coping with the conditions, handling day to day disruptions, and coming to terms with living with their diagnosis.

Healthcare in the United States is heavily weighted as acute care management and short-term disease management rather than chronic illness prevention. With this focus on acute care management, the burden of chronic illness management increases. Current healthcare systems lack processes and instruments for chronic illness management, which is often difficult to implement during an acute care episode. Given the complexities involved in chronic illness management, it requires a delivery system that is comprehensive and inconclusive of community resources. It needs to be encouraging of self-management and promoting healthy behaviors across the lifespan for optimal outcomes. Shifting health care from acute focused and episodic care focus to promote preventative healthcare and healthy behaviors across the lifespan is essential to address the increasing needs of those who are chronically ill.

Cancer is defined as a chronic illness (Hebdon, Foli, & McComb, 2015). The transition from active treatment for the cancer patient to survivorship can be a period of uncertainty for the patient and their families. This is due to the "ambiguity of their illness state, treatment complexity, information gaps, and unpredictable disease course" (Hebdon et al., 2015, p.1776). The undertreated and overlooked survivorships issues specifically for head and neck cancer patients need to be addressed to promote overall positive outcomes. Multiple psychosocial, and physical sequela from active treatment is known and predictable. Survivorship includes issues related to the ability to get healthcare and follow-up treatment, late effects of treatment, second primary cancers, and quality of life (Simcock & Simo, 2016). Other survivorship issues include: dental care, trismus, hypothyroidism, swallowing, xerostomia, second cancers, smoking and alcohol, vascular injury, ototoxicity, financial, depression, and quality of life (Simcock & Simo, 2016). Multiple providers can share the responsibilities of managing the patients with head and neck cancer, which may increase the opportunity for conflicting information for the management of their chronic conditions. This can result in unnecessary duplication of imaging or other diagnostic tests, driving up the costs of healthcare, and become frustrating for the patient. As five-year survival rates continue to rise due to improvements in cancer treatment protocols and continued evidence-based practice, the number of head and neck cancer survivors needing to be managed increase.

The transition from active treatment to maintaining stability and living with the chronic illness can only happen by empowering the patient, maintaining patient-provider relationships, and continued adjustment and flexibility in management for each individual patient. The Institute of Medicine has highlighted the importance of addressing cancer survivorship issues for long term

improvement of health outcomes. One of the simple mechanisms recommended to improve quality of life of a cancer survivor is the implementation of completed cancer treatment plans in follow up visits for a cancer survivor and ongoing plan for continued surveillance (Committee on Cancer Survivorship, 2006). An effective survivorship care visit and transition plan can help with the uncertainty of cancer as a chronic illness during the transition to routine follow up. Inability to create appropriate treatment plans and continued management can lead to fragmented and gaps in care, ultimately resulting in poor outcomes.

Theoretical Framework

Bandura's (1982) exploration of self-efficacy beliefs as an element of the social cognitive theory help describes a person's willingness and motivations to be able to make the outcomes, they want by the actions they take. The self-efficacy beliefs can also be used to explain how an individual can respond to the unexpected adversary or stressful events in their lives; it can be used to describe their outlook on the outcomes of a situation and the choices that may make as a response. Self-efficacy beliefs can influence the course of actions a person may take, usually completed tasks reflect competence and confidence. Self-efficacy beliefs are formed when a person engages in activities and actions that are then interpreted to be either beneficial or missteps. They begin to develop an idea or belief that they are capable of continuing the course of action that would be interpreted as valuable. In fact, the beliefs of self-efficacy have been used to guide and frame the development of chronic diseases management.

Cancer as a chronic illness requires management over a longer period of time. A patient's health beliefs and self- efficacy can play a large role in the successful management of the psychological and physical tolls of cancer. Self-

efficacy in this regard is the theorized level of confidence a patient or their caregiver may have in managing some of the psychological and physical sequelae of active cancer treatment. Patients with measured higher levels of self-efficacy tend to be able to better self-manage their chronic illnesses (Foster et al., 2015, p.11). These patients are more self-aware of the care needed to continue moving forward and actively participate in the decision-making process in addressing the sequela of cancer treatment. Patients who are able to successful self-manage make decisions to enhance and maintain their quality of life, ultimately leading to better health outcomes. Patients who have higher levels of self-efficacy have higher levels of belief that they can alter and change their health behavior in order to promote certain outcomes.

Aim of Study

Prior cancer survivorship studies show a clear absence of succinct transitions of care for head and neck cancer patients after cancer treatment which impact their quality of life and health outcomes. The Institute of Medicine has highlighted the importance of addressing cancer survivorship issues for long-term improvement of health outcomes. Hypothesized mechanisms to increase overall survival and improved quality of life for surviving head and neck cancer patients is to empower them with the knowledge of their completed treatment plan, and to provide written expectations of follow up care in order to address issues of survivorship: acute and long-term late effects of treatment, prevention of secondary cancers, cancer surveillance for recurrence, and coordination of care. National cancer guidelines for ongoing management frame the recommendations for follow up care in cancer care as patients enter into a period of watchful waiting. Cancer as a chronic illness requires management over a longer period of

time. A patient's health beliefs and self-efficacy can play a large role in the successful management of the psychological and physical tolls of cancer. Self-efficacy in this regard is the theorized level of confidence a patient or their caregiver may have in managing some of the psychological and physical sequelae of active cancer treatment.

Current survivorship visits at the Stanford head and neck oncology program are not standardized to address ongoing post-treatment sequalae. The lack of a standard survivorship care plan allows for the flexibility of information delivered and is consequently reliant on the knowledge base of the head and neck oncologist determining what information is vital. Patients are given access to electronic chart notes that highlight a treatment summary and a written follow up care plan designed by their oncologist. Survivorship templates are being created by the American Society of Clinical Oncology to highlight key elements that should be included in care plan components such as treatment summary and follow up recommendations but are not utilized in the Stanford head and neck oncology care program. The aims of this research will help to answer if non-standardized current survivorship visits with written treatment summary and plan for head and neck cancer patients currently help to improve self-efficacy to enhance self-management of acute and long-term effects of their cancer treatments. The objectives of this study help to address whether current non-standardized visits actually help to empower patients to self-manage their chronic diagnosis of head and neck cancer by measuring their self-efficacy levels before and after their post-treatment survivorship visit.

The hypothesis was made that currently head and neck cancer patients treated in the Stanford head and neck oncology program do not exhibit higher levels of self-efficacy in the current non-standardized survivorship visit.

CHAPTER 2: LITERATURE REVIEW

Gaps in Literature

A literature review of head and neck cancer survivorship transitions and existing use of survivorship care plans revealed a number of qualitative or descriptive studies available discussing the need of a survivorship care plan among this population in order to improve quality of life issues. CINAHL database was used to search for squamous cell carcinoma of head and neck, resulted in 13 articles. A second search using the CINAHL database for key terms, cancer survivorship, and self-efficacy resulted in 20 articles. A third search for survivorship care plans resulted in 321 articles. Not all articles were related to head and neck cancer survivorship. There were limited articles, but what was noted to be true was that self-advocacy and self-efficacy are contributing factors to better health outcomes in the cancer survivor population. Given the gaps in the literature addressing the head and neck cancer population, it is pertinent to investigate if survivorship transition visits with written treatment summaries and follow up plan will improve self-efficacy and empowerment for head and neck cancer patients in the management of acute and long-term effects of cancer treatment. The articles presented in this literature review do not discuss in detail all articles related to head and neck cancer survivorship but are most pertinent for this study.

A literature review of current survivorship transition tools for head and neck cancer patients highlights the lack of a standard tool that had measurable outcomes for increasing a HNC patient's quality of life and confidence in self-management of their chronic illness. Several qualitative studies of cancer survivors address the need and importance of having a written treatment summary

as well as a follow-up plan in order to improve quality of life outcomes. There were no studies measuring head and neck cancer patient confidence in advocating for their continued health issues. The studies that are available do not address the very distinct head and neck population in Northern California. This study aims to address how the survivorship visits with written treatment plans and summaries affect self-efficacy among specifically head and neck cancer survivors.

Previous Literature

The previous prospective and observation outcomes study by authors Funk, Karnell and Christensen (2012) examined health related quality of life (HRQOL) among 5-year head and neck cancer survivors. They wanted to examine the long-term impact of HRQOL among head and neck cancer survivors. By identifying specific characteristics of this patient population, the authors were hoping to be able to predict and determine HRQOL among specific patients. This study used univariate analysis and multivariate regression analysis to review their data. This particular analysis method was crucial in being able to find relationships between head and neck cancer patient characteristics and HRQOL outcomes. The conclusions drawn from the statistical analysis looking at HNC long-term health outcomes were used to describe how important it is for future research to improve interventions to improve health outcomes in the various categories of eating, speech, aesthetics, social disruptions, physical health, mental health, and overall quality of life. The limitations of this study did not examine several other factors that could contribute to also worse quality of life outcomes such as socioeconomic factors, insurance, health literacy, or social support networks as well. Despite quite a large sample population in a long-term study, the sample population was drawn

from one geographic area and institution. The results of this study may not necessarily be generalizable to all HNC patients at other institutions.

In a smaller qualitative study conducted by the authors Nund, Ward, Scarinci, Cartmill, Kuipers, and Porceddu in 2014, head and neck cancer patients were interviewed to collect information from the patient perspective on speech and swallowing issues and access to services. Open ended interviews were conducted, and statements were coded into categories where participants shared similar comments. Key themes were identified in the survivorship periods to use in futures studies for exploration. Conclusions drawn from these themes and interviews had significant implications on clinical practice. The authors were able to give clear suggestions of future research and design of interventions in order to address what is patient perceived issues of speech and swallowing following cancer treatment and as well as healthcare practitioner access in managing these issues. This study looks at specifically one post-treatment sequelae head and neck cancer patients face during the management of their chronic diagnosis. This study did however account for a patient's perspective on post-treatment issues which is essential in modifying healthy behaviors and increasing compliance. Further studies would need to be conducted in order to address many other post-treatment sequelae as well.

Kenzik et al. (2016) study looks at specifically the relationship between treatment summaries with self-efficacy and healthcare use for cancer survivors. This was a cross-sectional quantitative study conducted among 12 various hospitals across five states of which all cancer patients were eligible as long as they would be able to participate in this study. The authors used the Stanford Chronic Illness Self-Efficacy scale as well as collected demographics and clinical information to assess for covariance. Three multiple linear regression analysis

were used for categorical and continuous variables. The strengths of this study were the large sample size of cancer patients was considered in this study at 12 different institutions spread across five different states. This was a quantitative study that provided information on the external validity of how transitions impact care and health outcomes. The authors of the study were able to find positive associations between verbal explanations of follow up care plans to improve self-efficacy which then provides a foundation for the hypothesis of how survivor self-efficacy could impact decreased emergency room visits and hospitalizations. The limitations of the study as indicated by the authors were of the reliance of patients to self-report receiving any of the models of care including treatment summaries, written follow up care information and verbal follow up care plans. Other limitations of this study were that it only identified quite a heterogeneous population of cancer survivors (mainly breast and prostate cancers) and those over the age of 65. This particular study does not focus on the very specific head and neck cancer population who has different and varying post-treatment physical and psychosocial sequelae than the other cancer populations.

When looking at the relationship between the post-treatment experiences of oral cavity and oropharyngeal cancer survivors, the authors Manne et al. (2016) conducted a cross-sectional study to help identify continuing needs of the oral cavity and oropharyngeal cancer survivors. These authors similar to the previous study were looking at using patient demographics and characteristics to identify any association with support and information needs. Combined data analysis was used in this studying including, t-tests for evaluating continuous variables and stepwise regression for demographic medical and psychological variables. Bivariate associations were evaluated between background variables and total information and psychosocial support needs. The authors were able to identify a

comprehensive set of priority needs in this specific cancer survivor population. Patients were found to have majority of their ongoing management care by their oncologist rather than their primary care provider. It is important for healthcare providers to realize that cancer patients would like more information regarding late and long-term effects of their treatment. This study highlights a specific head and neck cancer subset among head and neck cancer survivors in one geographic location. The authors highlight the need for written treatment summaries and the discussion regarding acute and late effects of treatment. The authors of this study do not discuss the levels of self-efficacy as an indicator of confidence levels needed to manage their ongoing issues in the survivorship period.

Building on previous studies, the authors Mayer et al. (2016) conducted a pilot randomized controlled study to compare the effectiveness of a survivorship care plan (SCP) transition visit with a SCP transition visit in addition to a coordinated follow up visit with the patient's primary care physician (Mayer et al., 2016). The authors conducted this study at the REX Cancer hospital, a community cancer center in Raleigh, North Carolina. 34 adult cancer patients were enrolled in this study; they were randomized to two arms: survivorship care plan visit with coordinated follow up with primary care providers or survivorship care plan visits only. The authors were answering the question on the patient confidence in survivorship information, the expectations for cancer survivorship care and satisfaction with care. The authors were also measuring the feasibility of the intervention as well. Descriptive statistics were used as well as Wilcoxon rank sum tests for data analysis. Mayer, et al. were able to draw conclusions that it was indeed feasible to conduct this intervention in a larger population or even more specific cancer survivor population in order to learn more information about the impact of survivorship care plan visits. Patients had increased worry with the

receipt of a survivorship care plan, but those levels of worry decreased when these patients have a follow up visit with their primary care providers. This particular study was relatively small for a randomized control trial and did not clearly state which type of cancer patients they were studying. The results of a survivorship care plan's impact on different cancer survivors are also variable in that each cancer patient population has unique needs.

Self-efficacy is a widely used theory to describe how a person's confidence and beliefs frame the actions they take to create solutions to problems they face. In the application of this social cognitive theory to patients with chronic illnesses, self-efficacy beliefs have a major influence on how motivated patients are in complying with a treatment plan. A literature review of the current survivorship care dedicated for head and neck cancer patients show that there is a gap of studies highlighting how best to improve survivorship for head and neck patient population by addressing self-efficacy. Some of the current studies available for review have been conducted to look at the health-related outcomes in terms of survivorship care planning for all cancer patient populations and generalizations from these studies cannot be applied to the very specific head and neck cancer population. There were no specific studies looking at the relationship between self-efficacy and head and neck cancer survivorship issues. Bandura's theory of self-efficacy helps frame this study to address the gap in literature looking at how confident a head and neck cancer patient is in addressing ongoing post-treatment issues via a guided survivorship transition visit with their healthcare practitioner.

CHAPTER 3: METHODOLOGY

Design and Sample

The sampling method for this quasi-experimental study was of convenience. The idea of a transition tool and standardized head and neck survivorship clinic visit is still being established at Stanford. A simple random sampling in which patients who fit the inclusion criteria would be randomly selected to be surveyed would be ideal. However, in order to get a larger number of patients to participate, convenience sampling was most feasible. Given the convenience sampling method, 17 patients were enrolled in the study. Subjects were enrolled during October 2018 - January 2019 for data collection and screening. Demographic information was collected for each patient: gender, ethnicity, smoker status, and age (either above 65 or younger than 65). Analysis of participants' surveys were conducted from January -February 2019. The study took place at the Stanford outpatient head and neck oncology clinic. Stanford Hospital/Cancer Center IRB approval was obtained in order to enroll patients in this population. The visits were conducted by nurse practitioners and physicians. The total time of recruitment and survey conducted was approximately 10-15 minutes.

Participants

Head and neck cancer patients who have received at least two treatment modalities for head and neck cancer were eligible for participation as long as they received at least one modality of treatment at Stanford within the last five years. The sample population differs from other samples of other researchers in the literature review given the diversity of the HNC population at Stanford, a large academic tertiary center for care. Patients are coming from various socio-

economic backgrounds; confounding factors that could contribute to improving self-efficacy were considered. Patients who cannot read or understand English were excluded from this study; they can be evaluated at a later phase of the clinical trial. Head and neck cancer patients screened were able to read the waiver of authorization for consent. They needed to be able to verbalize their consent for the study. Patients who were enrolled to participate in this study were scheduled for a survivorship visit. The providers (NPs/PAs/MDs) reviewed their patients' chart at the time that they are seeing the patient in clinic via EPIC (electronic medical record system) and asked their patient if they were willing volunteer to participate in the study if they met eligibility criteria.

The general sample population consisted of 17 patients. Eight patients were older than 65, and nine patients were younger than 65. There were five females and twelve males that completed the survey. There were two Asians, thirteen Caucasians, and two Hispanics enrolled in the study. There were thirteen non-smokers and four former smokers in the survey.

Tools for Measurement

During the visit, the patients would first be surveyed using the data collection tool: Chronic Illness Management Self-Efficacy Scale or the 6-item General Self- efficacy scale. As part of the visit, HNC patients will be given a written treatment summary and continued plan of treatment (transition tool intervention) for standard care. Following the visit, participants will then be again surveyed using the data tools. The scales/tools are available for use by an individual without permission given funding from the National Institute of Nursing Research. There are easily downloaded from the Self-Management Resource Center website.

Instrument 1. The Stanford Chronic Illness Management Self-Efficacy Scale (SCIMSS) was used as a pre-and post-intervention survey for data collection. The original scale has various survey questions about the confidence of patients in several areas in a range of 1-10, 10 being totally confident. The areas of CIMSES that are specifically addressing self-efficacy and confidence in self-management of cancer as a chronic illness include: getting information about the disease, obtaining help from community, family, friends scale, communicating with physician scale, managing disease in general scale, and managing of symptoms scale. The tool has been normed on a range of a number of participants, 292-478 and have a internal consistency reliability of .77 - .92 with a test and retest reliability of .72-.89.

Instrument 2. The short form 6-item GSE (General Self-Efficacy Scale) created by Schwarzer and Jerusalem (1995) which has a Cronbach's alpha between .79 and .88 was also used for data collection. This instrument has been validated and used in assessing self-efficacy in chronic illness management. This scale was tested on 605 patients with chronic disease and has an internal consistency reliability score of .91.

Data analysis

Descriptive statistical analyses were performed on the sample groups to obtain a clear understanding of the population. One sided t tests and ANOVA were used for to compute and examine whether the follow up survivorship visits improve self-efficacy values for the head and neck patient population.

CHAPTER 4: RESULTS AND DISCUSSION

Self-Efficacy Changes

For the six SCIMSS questions and the ten GSE questions, statistical tests were performed to see if the mean responses are statistically improved for the post- versus the pre-survivorship visits scores by the patients. These are one-sided tests because we assume that the mean post responses are either greater than the pre-responses or equal.

Table 1 summarizes the results for the SCIMSS questions. For each question, the mean score (averaged over the seventeen responses) is listed along with the standard deviation. The t statistic for testing if the population mean difference is greater than zero is then displayed. The p value is the level of significance which transfers the t statistic based on a one-tailed test with 16 degrees of freedom. The same analysis is done for the average of the six GSE questions, which is in the last row.

A p value below 0.05 is considered to be statistically significant implying higher scores after counseling than before counseling. Question SCIMSS -1 was found to be statistically significant. SCIMSS -1 asks how confident patients feel they can manage their fatigue from interfering with the things they do. The average of patients' confidence levels has improved when asked about managing their fatigue. Patients do not show an overall improvement in self-efficacy with the current scheduled survivorship visit with written treatment plan via the SCIMSS scale. Given that there is no statistical significance in the average pre and post- visit self-efficacy levels as captured in the surveys, the hypothesis remains correct, patient's do not report increased self-efficacy with the current survivorship transitional follow up visit using the SCIMSS scale.

Table 2 contains the same analysis for the GSE questions. Questions GSE-2 and GSE-9 were found to be statistically significant. The average for all ten GSE questions was also found to be statistically significant. Using the GSE scale, patients do report levels of higher self-efficacy following the survivorship transition visit. The hypothesis is proven to not be true, self-efficacy levels increase with the current survivorship visits with written treatment plans using the GSE Scale.

Table 1

SCIMSS (Post -Pre)

Questions	Mean	St. Dev.	t	p
SCIMSS-1	**0.235**	**0.437**	**2.22**	**0.021**
SCIMSS-2	0.176	0.529	1.38	0.094
SCIMSS-3	-0.176	0.809	-0.90	0.809
SCIMSS-4	0.059	0.429	0.57	0.290
SCIMSS-5	0.059	0.748	0.32	0.375
SCIMSS-6	-0.059	0.243	-1.00	0.834
SCIMSS-Average	0.049	0.275	0.74	0.236

Note. SCIMSS-1(in bold) is statistically significant (p <0.05).

Table 2

GSE (Post-Pre)

Questions	Mean	St. Dev.	t	p
GSE-1	0.059	0.429	0.57	0.290
GSE-2	**0.176**	**0.393**	**1.85**	**0.041**
GSE-3	0.000	0.000	-------	-------
GSE-4	0.000	0.500	0.00	0.500
GSE-5	-0.059	0.243	-1.00	0.834
GSE-6	0.059	0.243	1.00	0.166
GSE-7	0.000	0.000	-------	-------
GSE-8	0.059	0.243	1.00	0.166
GSE-9	**0.235**	**0.437**	**2.22**	**0.021**
GSE-10	0.059	0.429	0.57	0.290
GSE-Average	**0.059**	**0.087**	**2.79**	**0.007**

Note. GSE-2, GSE-9, and GSE-Average highlighted in bold is statistically significant (p <0.05)

Demographic Effects

Age

Demographic factors were examined to look at the effect made on any improvements in self-efficacy. The first factor analyzed was age. The age of the seventeen patients is partitioned into two groups. The first group consists of eight patients who are older than 65. The second group consists of nine patients who are younger than 65.

In Table 3, for each of the six SCIMSS questions as well as the averages over the six questions, the means for the two age groups are listed, as well as the respective standard deviations. The next column is the t statistic for testing the

null hypothesis that the population means for the two groups are equal, against the alternative hypothesis that the two population means differ. The p value (also known as the level of significance) is based on the t distribution with 15 degrees of freedom. A p value below 0.05 is considered to be statistically significant. None of the SCIMSS responses are determined to be affected by the age factor. Age was not a confounding factor when looking at increased self-efficacy levels following a survivorship visit using the SCIMSS scale.

Table 4 consists of the same analysis for the GSE questions. On question GSE-9, the older patients tended to record statistically greater improvements than the younger patients. That specific question is bolded. Age was a confounding factor in improved self-efficacy levels following a transitional survivorship visit for patients older than 65 using the GSE scale. Patients who are younger than 65 do not have a reported increase in self-efficacy level following their survivorship visit.

Conclusions can be made that age influences reports of self-efficacy levels if we consider the statistical significance of the averages on pre and post-test were unchanged on SCIMSS and higher on the GSE survey.

Table 3
SCIMSS (Age)

	Mean		St. Dev.		t	p
Questions	Older	Younger	Older	Younger		
SCIMSS-1	0.250	0.222	0.463	0.441	0.13	0.901
SCIMSS-2	0.000	0.333	0.000	0.707	-1.33	0.203
SCIMSS-3	-0.125	-0.222	0.354	1.093	0.24	0.813
SCIMSS-4	0.000	0.111	0.000	0.601	-0.52	0.609
SCIMSS-5	-0.125	0.222	0.835	0.667	-0.95	0.355
SCIMSS-6	0.000	-0.111	0.000	0.333	0.94	0.362
SCIMSS-Average	0.000	0.093	0.236	0.313	-0.68	0.505

Table 4
GSE (Age)

	Mean		St. Dev.		t	p
Questions	Older	Younger	Older	Younger		
GSE-1	0.125	0.000	0.354	0.500	0.59	0.565
GSE-2	0.000	0.333	0.000	0.500	-1.88	0.079
GSE-3	0.000	0.000	0.000	0.000	-------	-------
GSE-4	0.000	0.000	0.535	0.500	0.00	1.000
GSE-5	-0.125	0.000	0.354	0.000	-1.07	0.303
GSE-6	0.000	0.111	0.000	0.333	-0.94	0.362
GSE-7	0.000	0.000	0.000	0.000	-------	-------
GSE-8	0.000	0.111	0.000	0.333	-0.94	0.362
GSE-9	**0.500**	**0.000**	**0.535**	**0.000**	**2.82**	**0.012**
GSE-10	0.125	0.000	0.354	0.500	0.59	0.565
GSE-Average	0.063	0.056	0.074	0.101	0.16	0.876

Note. GSE-9 highlighted in bold is statistically significant (p <0.05).

Gender

Gender was compared as a factor in affecting the responses. There were five females and twelve males in the survey. In Table 5, the means for both genders are listed along with the pooled standard deviation. The t test statistic is listed with the corresponding p value. The p value is based on the t distribution with 15 degrees of freedom. On none of the SCIMSS questions was gender found to be a statistically significant factor in affecting the differences. The same is true for the SCIMSS averages. The same analysis was done for the GSE questions in Table 6. No statistically significant effects due to gender were found. Gender did not play a role in improved self-efficacy levels following a survivorship visit with written treatment summary.

Table 5

Self-Efficacy (Gender)

Questions	Mean		St. Dev.		t	p
	Female	Male	Female	Male		
SCIMSS-1	0.200	0.250	0.447	0.452	-0.21	0.838
SCIMSS-2	0.000	0.250	0.000	0.622	-0.88	0.391
SCIMSS-3	-0.200	-0.167	0.447	0.937	-0.07	0.941
SCIMSS-4	0.000	0.083	0.000	0.515	-0.36	0.727
SCIMSS-5	-0.400	0.250	0.894	0.622	-1.73	0.102
SCIMSS-6	0.000	-0.083	0.000	0.289	0.63	0.535
SCIMSS-Average	-0.067	0.097	0.253	0.279	-1.13	0.275

Table 6

GSE (Gender)

Questions	Mean		St. Dev.		t	p
	Female	Male	Female	Male		
GSE-1	0.000	0.083	0.000	0.515	-0.36	0.727
GSE-2	0.000	0.250	0.000	0.452	-1.21	0.243
GSE-3	0.000	0.000	0.000	0.000	-------	-------
GSE-4	0.200	-0.083	0.447	0.515	1.07	0.301
GSE-5	-0.200	0.000	0.447	0.000	-1.63	0.123
GSE-6	0.000	0.083	0.000	0.289	-0.63	0.535
GSE-7	0.000	0.000	0.000	0.000	-------	-------
GSE-8	0.000	0.083	0.000	0.289	-0.63	0.535
GSE-9	0.200	0.250	0.447	0.452	-0.21	0.838
GSE-10	0.000	0.083	0.000	0.515	-0.36	0.727
GSE-Average	0.020	0.075	0.045	0.097	-1.20	0.246

Smoking Status

The effect of non-smokers and former smokers were also examined. There were thirteen non-smokers and four former smokers in the survey. Using a similar analysis to that done for age and gender, we find that question SCIMSS-4 was statistically different in that former smokers had a larger improvement. All the SCIMSS questions showed larger improvements for former smokers, although SCIMSS-4 was the only one which was found to be statistically significant. SCIMSS -4 looked at how confident a patient feels that they can keep other symptoms or health problems from interfering with things they want to do. For patients who were former smokers, following their survivorship follow-up visit,

they have increased confidence in managing their other symptoms and health problems. The overall SCIMSS average was also determined to be statistically significant. This offers insight that patients who are former smokers do report higher levels of self-efficacy after their survivorship follow up visits; therefore, visits can be amended to highlight this specific subset of head and neck cancer patients.

For the GSE questions, only GSE-2 was found to be statistically significant with former smokers having a larger improvement. Question 2 of the GSE survey measures how true a patient feels that they can find a way and means to get what they want if someone opposes them. Following a survivorship visit, former smokers show improved confidence levels; they appear to feel more empowered in discussing what they need from someone else.

Table 7

Self-Efficacy (Smoker)

| | Mean | | St. Dev. | | | |
| | | | | | t | p |
Questions	Non-Smoker	Former Smoker	Non-Smoker	Former Smoker		
SCIMSS-1	0.154	0.500	0.376	0.577	-1.53	0.144
SCIMSS-2	0.154	0.250	0.555	0.500	-0.33	0.744
SCIMSS-3	-0.308	0.250	0.855	0.500	-1.32	0.207
SCIMSS-4	**-0.077**	**0.500**	**0.277**	**0.577**	**-3.03**	**0.008**
SCIMSS-5	-0.077	0.500	0.641	1.000	-1.49	0.155
SCIMSS-6	-0.077	0.000	0.277	0.000	-0.58	0.568
SCIMSS-Average	**-0.038**	**0.333**	**0.227**	**0.236**	**-3.05**	**0.008**

Note. SCIMSS-4 highlighted in bold is statistically significant ($p < 0.05$).

Table 8

GSE (Smoker)

	Mean		St. Dev.		t	p
Questions	Non-Smoker	Former Smoker	Non-Smoker	Former Smoker		
GSE-1	0.077	0.000	0.277	0.816	0.33	0.748
GSE-2	**0.077**	**0.500**	**0.277**	**0.577**	**-2.22**	**0.041**
GSE-3	0.000	0.000	0.000	0.000	-------	-------
GSE-4	0.000	0.000	0.577	0.000	0.00	1.000
GSE-5	-0.077	0.000	0.277	0.000	-0.58	0.568
GSE-6	0.077	0.000	0.277	0.000	0.58	0.568
GSE-7	0.000	0.000	0.000	0.000	-------	-------
GSE-8	0.000	0.250	0.000	0.500	-2.10	0.052
GSE-9	0.308	0.000	0.480	0.000	1.35	0.197
GSE-10	0.077	0.000	0.494	0.000	0.33	0.748
GSE-Average	0.054	0.075	0.088	0.096	-0.44	0.663

Note. GSE-2 highlighted in bold is statistically significant (p <0.05).

Ethnicity

For ethnicity, there were three ethnic groups represented in the sample. There were two Asians, thirteen Caucasians, and two Hispanics. For each question, Tables 9 and 10 show the means for the three ethnic groups along with the pooled standard deviation. The statistical test that the three ethnic population means are equal is the analysis of variance (ANOVA). The test statistic is an F. The p value is obtained from the F distribution with 2 and 14 degrees of freedom.

None of the SCIMSS or GSE questions were statistically significant. Ethnicity was not a factor that played a contributing role in affecting the levels of self-efficacy following a follow up visit.

Table 9

SCIMSS (Ethnicity)

Questions	Mean			St. Dev.	F	p
	Asian	Caucasian	Hispanic			
SCIMSS-1	0.000	0.308	0.000	0.445	0.732	0.498
SCIMSS-2	0.000	0.231	0.000	0.555	0.264	0.771
SCIMSS-3	0.000	-0.231	0.000	0.858	0.111	0.896
SCIMSS-4	0.000	0.077	0.000	0.457	0.043	0.958
SCIMSS-5	0.000	0.077	0.000	0.798	0.014	0.986
SCIMSS-6	0.000	0.077	0.000	0.257	0.137	0.873
SCIMSS-Average	0.000	0.064	0.000	0.292	0.074	0.929

Table 10

GSE (Ethnicity)

	Mean			St. Dev.	F	p
Questions	Asian	Caucasian	Hispanic			
GSE-1	0.000	0.077	0.000	0.457	0.043	0.958
GSE-2	0.000	0.231	0.000	0.406	0.494	0.620
GSE-3	0.000	0.000	0.000	0.000	-------	-------
GSE-4	0.000	-0.077	0.500	0.494	0.043	0.956
GSE-5	0.000	-0.077	0.000	0.257	0.137	0.873
GSE-6	0.000	0.077	0.000	0.257	0.137	0.873
GSE-7	0.000	0.000	0.000	0.000	-------	-------
GSE-8	0.000	0.308	0.000	0.445	0.137	0.873
GSE-9	0.000	0.308	0.000	0.445	0.732	0.498
GSE-10	0.000	-0.077	0.000	0.257	0.137	0.873
GSE-Average	0.000	0.069	0.050	0.090	0.527	0.601

This study demonstrates that current survivorship follow- up visits designed with a written treatment summary have shown to improve self-efficacy levels among head and neck cancer patient survivors. Further analysis looking at the effect of several demographics such as age, gender, smoking status and ethnicity, showed that patients older than 65 had increased levels of self-efficacy (increased confidence in their ability to make decisions and manage their own care) as well as those who were former smokers. Ethnicity and gender had no increased self-efficacy levels following their scheduled survivorship follow up visits.

It is important to remember that Bandura's theory of self-efficacy when looking at the results of this study. A patient's self-efficacy level is their

willingness and motivations to be able to make the outcomes they want and have the confidence to take the actions they need to complete. Previous survivorship studies have shown that patients feel more confident that they can make the necessary decisions in their own healthcare choices when they receive adequate information about their previous treatment and expectations of what is to come in the future. This study shows that current survivorship visits at Stanford outpatient clinics for the head and neck cancer population do provide the necessary information to improve self-efficacy levels.

Summary

Seventeen Stanford head and neck cancer patients were given questionnaires prior to and after their routine schedule survivorship follow up visit. The survey consisted of two sets of self-evaluation questions. There were six questions in the Self-Efficacy for Managing Chronic Disease (SCIMSS) category and ten questions in the General Self-Efficacy (GSE) category. The responses were scored ranging from one to four.

An analysis was performed on each of the questions to statistically test if the population mean scores improved before and after their survivorship transition visit with written treatment summary. The analysis was also performed on the averages for the two categories. Demographics were also tested to see how they factored into an effect on the improvement of self-efficacy scores.

Demographics such as age, gender, ethnicity, and smoking status were also looked at to see if these factors had a role in impacting reported self-efficacy levels. For demographics, we find that age had a statistically significant effect on question GSE-9 with older patients tending to have a greater improvement. Gender had no effect on improved scores. Former smokers had a statistically

greater improvement for questions SCIMSS-4 and GSE-2 as well as the average SCIMSS score compared to non-smokers. Ethnicity had no effect.

Questions SCIMSS-1 and GSE-2 were found to have statistically significant improvements at the 5% significance level. The mean average improvement for GSE was also determined to be statistically significant. Therefore, the hypothesis was proven to be incorrect; current survivorship visits have found to be statistically significant in improving self-efficacy of the head and neck cancer survivors.

CHAPTER 5: CONCLUSION

The aim of this study was to evaluate how the current survivorship visits at Stanford head and neck oncology clinic improve self-efficacy levels of the head and neck cancer survivors. The results of the study support the current non-standardized survivorship follow up visits to improve self-efficacy levels for the head and neck survivor. Healthcare practitioners who completed these survivorships follow up visits with written treatment plans and follow up care incorporate recommended follow up guidelines for the head and neck cancer survivor.

This study can serve as a pilot study for the Stanford head and neck cancer program; it contains a small number of participants. A larger number of participants can be recruited when further evaluation of a standardized survivorship follow-up visit is conducted. This study was conducted in a short duration of time but can be expanded in future studies for repeat measurements on levels of self-efficacy. An area of potential study could examine how serial survivorship follow ups impact the levels of self-efficacy of head and neck cancer survivors. Additional studies can be completed based on this study result to look at the levels of self-efficacy change from diagnosis, throughout treatment and subsequently after head and neck cancer treatment.

The results of this study aim to answer the Healthy People 2020 initiative to increase the proportion of cancer survivors who are living 5 years or longer after diagnosis (U.S. Dept of Health and Human Services [HHS], 2018). The 2005 IOM report has made several recommendations in terms of survivorship care; it recognized that the quality of care after cancer treatment is lacking and this can contribute to a lower number of cancer survivors living more than 5 years after

diagnosis. There is a gap in the coordination of care between specialists and generalists. This can drastically impact the quality of care and unique needs of patient issues after active cancer treatment.

Mechanisms to ensure increase overall survival and improved quality of life for surviving head and neck cancer patients is to empower them with the knowledge of their completed treatment plan and provide the expectations of follow up care in order to address issues of survivorship. Transition survivorship visits should aim to improve self-efficacy levels among head and neck cancer survivors. American Cancer Society guidelines and recommendations for follow up care can guide the conversations of survivorship issues and facilitate communication between cancer specialists and community providers such as the primary care physicians. Healthcare professionals and head and neck cancer programs need to consider ways to promote higher self-efficacy levels when designing their standardized follow up visits.

Advanced Practice Providers are at the forefront in leading oncology survivorship. Advanced nursing healthcare practitioners have a large role in improving the multi-disciplinary care of our cancer survivors. Unclear expectations of the primary care providers in the long-term management of cancer survivors creates a gap in practitioners available to provide this essential patient care service. Advanced practice nurses with advanced training in oncology are ideal healthcare practitioners who can bridge the gap between the oncology team and the primary care team to provide optimal care for cancer survivors. They can enhance communication between the various providers, help to implement cancer survivorship guidelines, as well as manage acute and chronic post-treatment sequelae for the cancer survivor in order to ensure there are higher number of cancer survivors at 5-year survival.

REFERENCES

REFERENCES

Bandura, A. (1997). *Self-efficacy: the exercise of control*. New York: W.H.Freeman.

Centers for Disease Control and Prevention. Chronic disease prevention and health Promotion. Retrieved from https://www.cdc.gov/chronicdisease/overview/index.htm.

Foster, C., Breckons, M., Cotterell, P., Barbosa, D., Calman, L., Corner, J., Fenlon, D., Foster, R., Grimmett, C., Richardson, A., Smith, P. (2015). Cancer survivors' self-efficacy to self-manage in the year following primary treatment. *Journal of Cancer Survivorship, 9*(1), 11-19.

Funk, G. F., Karnell, L. H., & Christensen, A. J. (2012, February 2012). Long-term health-related quality of life in survivors of head and neck cancer. *Arch Otolaryngology Head Neck Surgery*, *128*(2), 123-133. Retrieved from http://dx.doi.org/10.1001/archoto.2011.234

Committee on Cancer Survivorship. (2006). *From cancer patient to cancer survivor: Lost in transition*. Washington, D.C.: National Academies Press.

Greenfield, M., Stovall, S., Hewitt, E., Ganz, M., Greenfield, Sheldon, Stovall, Ellen, American Society of Clinical Oncology. (2005). *From cancer patient to cancer survivor: Lost in transition*. Washington, DC: National Academies Press.

Hebdon, M., Foli, K., & McComb, S. (2015). Survivor in the cancer context: A concept analysis. *Journal of Advanced Nursing, 71*(8), 1774-1786.

Kenzik, K. M., Kvale , E. A., Rocque, G. B., Demark-Wahnefried, W., Martin , M. Y., Jackson, B. E., Meneses,K., Partridge, E.E., Pisu, M. (2016). Treatment summaries and follow-up care instructions for cancer survivors: improving survivor self-efficacy and health care utilization. *The Oncologist*, *21*(7), 817-824. Retrieved from http://dx.doi.org/10.1634/theoncologist.2015-0517

Manne, S., Hudson, S. V., Baredes , S., Stroup, A., Myers Virtue, S., Paddock , L., & Kalyoussef, E. (2016). Survivorship care experiences, information, and support needs of patients with oral and oropharyngeal cancer. *Head & Neck*, *38*, E1935-1946. Retrieved from http://dx.doi.org/10.1002/hed.24351

Mayer , D. K., Deal , A. M., Crane, J. M., Chen, R. C., Asher , G. N., Hanson , L. C., Wheeler, S., Gerstel, A., Green, M., Birken, S., Rosenstein , D. L. (2016). Using survivorship care plans to enhance communication and cancer care coordination: Results of a pilot study. *Oncology Nursing Forum*, *43*(5), 636-645. Retrieved from http://dx.doi.org/10.1188/16.ONF.636-645

Nund, R. L., Ward, E. C., Scarinci, N. A., Cartmill, B., Kuipers, P., & Porceddu, S. V. (2014). Survivors' experiences of dysphagia-related services following head and neck cancer: Implications for clinical practice. *International Journal of Language & Communication Disorders, 49*(3), 354-363.

Simcock, R., & Simo, R. (2016). Follow-up and survivorship in head and neck cancer. *Clinical Oncology, 28(7),* 451-458. Retrieved from https://doi.org/10.1016/j.clon.2016.03.004

United States Department of Health and Human Services. (2018, March 18).

Cancer: Objectives. Retrieved from

https://www.healthypeople.gov/2020/topics-

objectives/topic/cancer/objectives

APPENDICES

APPENDIX A: SELF-EFFICACY FOR MANGING CHRONIC
DISEASE 6-ITEM SCALE

Self-Efficacy for Managing Chronic Disease 6-item Scale

We would like to know how confident you are in doing certain activities. For each of the following questions, please choose the number that corresponds to your confidence that you can do the tasks regularly at the present time.

1. How confident do you feel that you can keep the fatigue caused by your disease from interfering with the things you want to do?

    not at all confident 1 2 3 4 5 6 7 8 9 10 totally confident

2. How confident do you feel that you can keep the physical discomfort or pain of your disease from interfering with the things you want to do?

    not at all confident 1 2 3 4 5 6 7 8 9 10 totally confident

3. How confident do you feel that you can keep the emotional distress caused by your disease from interfering with the things you want to do?

    not at all confident 1 2 3 4 5 6 7 8 9 10 totally confident

4. How confident do you feel that you can keep any other symptoms or health problems you have from interfering with the things you want to do?

    not at all confident 1 2 3 4 5 6 7 8 9 10 totally confident

5. How confident do you feel that you can the different tasks and activities needed to manage your health condition so as to reduce your need to see a doctor?

    not at all confident 1 2 3 4 5 6 7 8 9 10 totally confident

6. How confident do you feel that you can do things other than just taking medication to reduce how much your illness affects your everyday life?

    not at all confident 1 2 3 4 5 6 7 8 9 10 totally confident

Scoring

The score for each item is the number circled. If two consecutive numbers are circled, code the lower number (less self-efficacy). If the numbers are not consecutive, do not score the item. The score for the

APPENDIX B: GENERAL SELF-EFFICACY SCALE

General Self-Efficacy Scale (GSE)

About: This scale is a self-report measure of self-efficacy.

Items: 10

Reliability:
Internal reliability for GSE = Cronbach's alphas between .76 and .90

Validity:
The General Self-Efficacy Scale is correlated to emotion, optimism, work satisfaction. Negative coefficients were found for depression, stress, health complaints, burnout, and anxiety.

Scoring:

	Not at all true	Hardly true	Moderately true	Exactly true
All questions	1	2	3	4

The total score is calculated by finding the sum of the all items. For the GSE, the total score ranges between 10 and 40, with a higher score indicating more self-efficacy.

References:
Schwarzer, R., & Jerusalem, M. (1995). Generalized Self-Efficacy scale. In J. Weinman, S. Wright, & M. Johnston, *Measures in health psychology: A user's portfolio. Causal and control beliefs* (pp. 35-37). Windsor, UK: NFER-NELSON.