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Assessing patient satisfaction utilizing video education regarding febrile neutropenia in the outpatient hematology clinic versus standard verbal communication

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Assessing Patient Satisfaction Utilizing Video Education Regarding Febrile Neutropenia in the Outpatient Hematology Clinic Versus Standard Verbal Communication

by

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A DNP PROJECT

Submitted in partial fulfillment of the requirements for the
Degree of Doctor of Nursing Practice
to
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DNP PROJECT APPROVAL FORM

Submitted by Meghan Caldwell in partial fulfillment of the requirements for the degree of Doctor of Nursing Practice and accepted on behalf of the Faculty of the School of Graduate Studies by the DNP project committee.

We, the undersigned members of the Graduate Faculty of The University of Alabama in Huntsville, certify that we have advised and/or supervised the candidate on the work described in this DNP project. We further certify that we have reviewed the DNP project manuscript and approve it in partial fulfillment of the requirements for the degree of Doctor of Nursing Practice.

9/21/2021 _____ Committee Chair
(Date)

_____

_____

_____ DNP Program Coordinator

_____ College of Nursing, Associate Dean for Graduate Studies

_____ College of Nursing, Dean

_____ Graduate Dean

ABSTRACT

The School of Graduate Studies
The University of Alabama in Huntsville

Degree: Doctor of Nursing Practice

College: Nursing

Name of Candidate: Meghan Caldwell

Title: Assessing Patient Satisfaction Utilizing Video Education Regarding Febrile Neutropenia in the Outpatient Hematology Clinic Versus Standard Verbal Communication

Patients with hematologic malignancies are often at high risk for febrile neutropenia. In the outpatient setting, patients are responsible for monitoring for signs and symptoms of infection themselves and notifying providers in a timely manner. No standardized patient education plan was identified in a large academic hospital's outpatient Hematology clinic to provide this education. It was proposed that supplementing the verbal communication patients were receiving with standardized video education would improve patient's satisfaction with education regarding febrile neutropenia.

Data were collected from 72 participants split equally into a standard of care group and a post-intervention group. Patients were selected by providers at scheduled clinic appointments. All patients with neutropenia or at risk for neutropenia were eligible. Patients completed CSQ-8 questionnaires with an optional comments section. Group analysis was conducted.

It was determined that there was no statistically significant difference in patient satisfaction between the standard of care group and the patients that received video education. It was noted that there were an increased number of positive comments regarding the institution and education in the post-intervention group when compared to the standard of care group.

ACKNOWLEDGMENTS

I need to thank my family first and foremost for helping me at home and therefore allowing me to pursue this degree. I would like to thank my Faculty Chair, Dr. Haley Hoy, for being so accommodating in helping me to work this project around my growing family. I would also like to thank my Clinical Mentor, Dr. Stephen Strickland, Jr., for being willing to take on an additional responsibility with this project.

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SECTION I: DNP PROJECT

I. Identification of the Problem

Patients with hematologic malignancies are at significant risk for febrile neutropenia due to bone marrow suppression from their malignancy or treatment with chemotherapy (Kyriacou, Jovanovic & Frankfurt, 2014). According to current guidelines, immediate assessment and treatment of febrile neutropenia may decrease morbidity and mortality (Kuderer, Dale, Crawford, Cosler & Lyman, 2006). It is important that patients recognize febrile neutropenia and understand the importance of expedited assessment as patients are responsible for monitoring for signs and symptoms of febrile neutropenia in the outpatient setting (Nirenberg, Mulhearn, Lin, & Larson, 2007). Improving the time to assessment through education by improving patient education regarding febrile neutropenia is important to reduce morbidity and mortality in this vulnerable patient population (Naurois et al., 2010). This manuscript aims to outline the proposal for a project assessing patient satisfaction with febrile neutropenia education in the outpatient Hematology clinic while comparing traditional verbal methods of teaching versus traditional verbal education with the addition of pre-recorded video education.

PICOT Question

This study will be guided by the following PICOT question: Do patients at risk of neutropenic fever in the outpatient Hematology clinic have increased satisfaction with education

with the addition of pre-recorded video education when compared to traditional verbal methods of teaching when assessed over a one-month period?

Febrile neutropenia remains a topic that needs to be addressed with all patients that may be at risk due to their disease or chemotherapy regimen. The majority of patients with febrile neutropenia will present with fever outside of the clinic or hospital setting; therefore, it is imperative that patients understand the signs of febrile neutropenia and the significance of early assessment and intervention to properly report their symptoms. It is hypothesized that the addition of video patient education to the standard verbal education patients receive regarding febrile neutropenia will improve patient satisfaction scores on a CSQ-8 questionnaire as patient's ability to identify reportable symptoms and confidence to request assessment improves.

Purpose of the Project

The current system in place for patient education regarding febrile neutropenia in the outpatient Hematology clinic consists of individual providers verbally discussing the risk factors and signs/symptoms to report with patients that are, or are likely to become, neutropenic. This verbal education is not documented in the patient's chart and is not standardized amongst providers. As it currently stands, without universal education parameters, it is impossible to verify what information patients are receiving and if all patients are receiving the complete education needed.

The proposed standardized patient education plan for febrile neutropenia will build upon the education methods that are working well in the clinic at this current time per the clinic providers. When six individual providers were asked if they felt their patients were properly educated regarding febrile neutropenia, they universally reported that they did discuss febrile neutropenia with their patients when applicable. The providers reported that discussions

regarding febrile neutropenia stressed the importance of calling the office immediately for any fever 100.5 degrees Fahrenheit or greater for instructions or to report to the nearest emergency department.

Per interviewed clinic providers, the lack of a developed protocol in the clinic setting regarding patient education for febrile neutropenia is currently a weakness. There is no identified social worker, case manager, or patient education coordinator specifically utilized for the outpatient Hematology clinic setting. Providers are left providing the patient education during clinic appointments that are already cramped for time. Of the six providers questioned, all reported that verbal education is the primary method of patient education utilized. The providers reported that they rarely offered written or visual education regarding febrile neutropenia (although many patients take notes during clinic appointments).

There is a significant opportunity for improving the patient education for febrile neutropenia by standardizing the information all patients in the clinic receive. There is also an opportunity following the implementation of the education to collect patient questionnaires to assess patient satisfaction with education in order to improve the education provided in the future. The possibility of decreasing the cost of lives lost and monetary cost of febrile neutropenia by increasing education that focuses on the importance of early intervention is appealing to hospital administrators, providers, and patients alike.

Threats to providing standardized education to all patients regarding febrile neutropenia revolve around the loss of information individualized to the patient's needs. Due to the broad nature of hematologic diagnoses, universal education would not replace the providers' responsibility to provide individualized patient education but rather enhance it. By selecting patients for the video education that are at high risk for febrile neutropenia (absolute neutrophil

count (ANC) less than 1,000/microliter), it decreases the chance of unnecessarily increasing anxiety or fear in patients that are not at high risk for febrile neutropenia.

Importance of the Issue to Nursing

There are several nursing advantages to the approach chosen. The first is that the multimethod approach is more likely to address patients' educational needs than verbal education alone and less likely to miss important needs since it is a pre-recorded program. Next is that by implementing universal patient education regarding febrile neutropenia, providers can be confident that all patients at risk have received proper education without increasing the number of staff required to provide this education. Additionally, early intervention of febrile neutropenia may save the medical center money, therefore making the minimal cost associated with the increased education extremely cost effective. Furthermore, the patient education questionnaires are valuable tools to evaluate additional needs in the future.

II. Review of Evidence

Search Strategy

The search methods for this knowledge synthesis were focused on identifying peer-reviewed literature. The databases The Cumulative Index to Nursing and Allied Health Literature (CINAHL), Ovid, PubMed and Cochrane Review were utilized to initiate the search for scholarly publications pertaining to the topic. The dates of publication were limited to the last ten years to limit information to the most current available, as there regularly continue to be significant advances in medicine. All publications were limited to publications in English, with journals focusing on adult patients, and peer-reviewed journals. The key words used consisted of the following: febrile neutropenia, neutropenic fever, patient education, health education, outpatient education, video education, multimedia education, digital education, and CSQ-8.

Following completion of the search, key articles' bibliographies were reviewed to identify additional overlooked sources. Abstracts were reviewed for relevance, and full-text articles were reviewed.

Febrile Neutropenia

Neutrophils are a key component of the immune system that fight bacterial infection. Neutropenia is an absolute neutrophil count (ANC) of 1,000 neutrophils per microliter of blood or less (Neutropenia – Mayo Clinic, n.d.). The risk of febrile neutropenia is 10-30% for all patients receiving chemotherapy; however, in patients with hematologic malignancies, the risk is greater than 30% due to bone marrow involvement and bone marrow failure (Kyriacou et al., 2014).

Febrile neutropenia is considered an oncologic emergency due to the gravity of its risk (Harden, n.d.). According to Barber (2001), up to 50% of the deaths in patients with oncologic malignancies and up to 75% of deaths in patients with acute leukemia are related to infection while neutropenic. A study by Kuderer et al. (2006) revealed that the overall mortality for patients with neutropenic fever was 9.5%, and hospital stays for this diagnosis cost on average $19,110 per incident. Fortunately, advancements in antibiotic choice for neutropenic fever over time have improved the response to initial antimicrobial therapies to greater than 70% (Elting & Cantor, 2002). Despite this improvement in treatment, the morbidity and mortality of febrile neutropenia remains significant for patients and institutions.

A study by Kyriacou et al. (2014) reported that immediate assessment and initiation of treatment of febrile neutropenia is considered critical. The standard of care to decrease the incidence of sepsis in patients with febrile neutropenia is the prompt initiation of antibiotics (Nirenberg et al., 2007). One study, The European Society of Medical Oncology Clinical

Practice Guidelines, defines a timeframe for treatment by recommending starting antibiotics within 60 minutes of patient presentation (Naurois et al., 2010).

Patient Education

While many hospitals and clinics promote the utilization of neutropenic precautions (including neutropenic diet), these infection prevention practices are supported by scarce evidence (Foster, 2014). Due to the scarcity of evidence regarding the efficacy of neutropenic precautions, patient education promoting early assessment is especially important. Despite the importance of patients seeking care for febrile neutropenia quickly, a study by Nirenberg et al. (2007) showed that patients did not arrive at the emergency department for assessment of febrile neutropenia for a mean of 21 hours after identification of fever.

Per the European Society of Medical Oncology Clinical Practice Guidelines, patient recognition of the early signs of febrile neutropenia is imperative to successful treatment; patients need to be specifically taught how to monitor their temperature and report abnormalities (Naurois et al., 2010). Nirenberg et al. (2007) reported that patient education could potentially be improved by making sure the patient understands the reasoning for early intervention of febrile neutropenia and the risks of not reporting warning signs.

Client Satisfaction Questionnaire-8 (CSQ-8)

The proposed instrument to assess patient satisfaction with outpatient patient education is the CSQ-8 developed by Larsen, Attkisson, Hargreaves, and Nguyen (1979). The CSQ-8 is a shorter version of the CSQ-18 that is favored due to its brevity, as it only takes between three-and-eight minutes to complete (Larsen et al., 1979). The CSQ-8 contains eight questions regarding patient satisfaction with the answers chosen based on a four-point Likert scale (Larsen et al., 1979). The scores are summed to determine a total score, with the lowest possible

satisfaction score being 8 and the highest possible being 32 (Larsen et al., 1979). The CSQ-8 is a survey that is used in a significant number of studies and may be particularly useful due to its commonality and therefore ability to compare this patient satisfaction study with historical studies (Royse, Thyer & Padgett, 2010).

The CSQ-8 has shown both reliability and validity in previous studies. Per Larsen et al. (1979), reliability of the CSQ-8 was demonstrated utilizing internal consistency with a coefficient alpha of 0.93. The eight questions utilized in the CSQ-8 were chosen specifically for their internal consistency (Attkisson & Zwick, 1983). Larsen et al. (1979), showed content validity, face validity, and concurrent validity of the CSQ-8 at the time of the questionnaire development. Attkisson and Zwick (1983) were able to verify the concurrent validity and construct validity in their study, thus showing the reliability and validity of the tool.

While the CSQ-8 was initially tested utilizing patient satisfaction with psychotherapy and outcomes, it can be utilized for all programs and was actually developed to be a general scale for patient satisfaction (Larsen et al, 1979). In fact, per Attkisson and Zwick (1983), the CSQ-8 is the preferred method of measuring patient satisfaction. Per the developer of the CSQ-8 scale, Larsen et al. (1979), the questionnaire can be supplemented with items specific to individual programs or individual research questions.

The CSQ-8 is the ideal questionnaire to measure patient satisfaction with the implementation of a multimedia approach to patient education regarding febrile neutropenia in the outpatient Hematology clinic. A similar study was conducted by Kam et al. (2016) utilizing the CSQ-8 as the method to determine participants' satisfaction with the utilization of a portable video device to distribute surgical information to nurses. Kam et al. (2016) showed that just over 80% of participants were more satisfied with the use of the portable video media when compared

to standard communication. The proposed project utilizes the information obtained from the study by Kam et al. (2016) to base the intervention.

III. Conceptual Framework

The theoretical framework for which this intervention is constructed is based on the conceptual model of measures of satisfaction with care as discussed by Jayadevappa, Schwartz, Chhatre, Wein, and Malkowicz (2010). Satisfaction with care is important because it is directly linked to quality of care and patient outcomes (Jayadevappa et al., 2010). Lenderking (2005) stresses the importance for institutions to monitor patient satisfaction as the empowerment of the patient grows and patients have the choice to compare services offered by different institutions.

The proposed project focuses on patient satisfaction with education regarding febrile neutropenia. Patient satisfaction surveys are important to clinicians to determine if the services provided are meeting the needs of their patients. Satisfaction surveys are also a way to gauge effectiveness of an intervention. Improving patient satisfaction with their education will improve overall patient satisfaction with care.

IV. Methodology

The project being proposed is a testing of healthcare delivery innovation in a single setting. The healthcare delivery proposed is a pre-recorded patient education video regarding febrile neutropenia. The setting is the outpatient Hematology clinic.

Data Collection

Patient Selection

Data is to be collected in the form of CSQ-8 questionnaires from the outpatient Hematology clinic. The outpatient Hematology clinic services approximately 250 patients presenting with a malignant hematologic diagnosis weekly (R. Boaz, personal communication,

March 6, 2017). All patients in the clinic are greater than 18 years in age. The clinic provides interpreters at no charge for patients who do not read or write in English as well as assistance for patients that are illiterate. All patients with a malignant hematologic diagnosis with an absolute neutrophil count less than 1,000/microliter at a scheduled clinic appointment or whom a provider suspects is at high risk for neutropenia (based on diagnosis or chemotherapy regimen) should be referred to the study by the clinic provider.

Distribution of Questionnaires

It is proposed that patients who meet the requirement of an ANC less than 1,000/microliter will be identified on their clinic check-out sheet by the provider. Patient satisfaction surveys will be distributed to all patients identified upon check-out from their clinic appointment. The Principal Investigator will hand identified patients a survey upon completion of checkout with a clipboard and attached pen. Per Koulaxouzidis et al. (2014), this survey only takes between 3-4 minutes to complete. A box at the waiting room exit labeled "Patient Questionnaires" will be provided for patients to leave their completed patient questionnaire anonymously. Anonymous completion of the questionnaire will help to decrease the perception that the patient is required to complete the survey and the chance that the patient would provide ratings that are falsely positive due to concern for retribution (Pollack et al., 1997).

Patient satisfaction survey results will be compared between data collected before introducing an education video regarding febrile neutropenia to identified patients and data collected following the intervention. With an average response rate of 33% for mailed paper copies being insufficient to meet the confidence level needed for statistical significance, paper copies will be handed out in clinic to help increase the response rate and decrease the cost (average response rate to surveys handed out face-to-face is 56%) (Nulty, 2008). Due to the

average age of patients with malignant hematologic conditions generally being greater than 65 years, electronic copies were not considered due to the number of patients that may not be computer savvy (Hassan & Abedi-Valugerdi, 2014). For a consumer satisfaction survey, it is typically accepted that a 5% margin of error is reasonable, and a 95% confidence level should be used (Royse et al., 2010, p. 201). With these parameters, it is estimated that a sample size of 36 patients will be required prior to and following the intervention to properly assess the patient satisfaction with education over a one-month time period.

Assessment of Data

Once data is collected, it is proposed the DNP student would enter the results for the standard of care and post-intervention group into the program SPSS. Statistical significance would be determined by utilizing a two group *t*-test due to the comparison of a standard of care group with a post-intervention group. Secondary analysis will be completed by comparing each individual question on the CSQ-8. Once completed, the DNP student would disseminate the findings via written article. It is hypothesized that patient satisfaction will increase with the addition of an educational video to the patient education process regarding febrile neutropenia.

Timeline

The most significant resource required would be the personnel hours to develop and record the patient education video, print and distribute the patient questionnaires, and to analyze the data collected from the standard of care and post-intervention questionnaires. Time would also be required to hold conversations and meetings with the key stakeholders to perfect the plan and allocate resources.

The timeline for the patient satisfaction study is five months. It is estimated that the questionnaire can be expedited through the institution's International Review Board (IRB)

process as the questionnaire already has known validity and reliability and will be collected anonymously. It is estimated that institutional IRB approval will take four weeks (based on historical timelines for similar proposals). Patient literacy review will not be necessary since the CSQ-8 is an already existing questionnaire (S. Strickland, personal communication, March 6, 2017). During the time of awaiting approval from the IRB, the PSR can be trained, and the workflow can be perfected.

Once IRB approval is obtained, questionnaires will be collected for four weeks. A one week break will be required to input the pre-intervention surveys into SPSS and implement the educational video. Surveys would then be collected for an additional four weeks. Again, it would take approximately one week to input the data for the post-intervention surveys. It would take approximately four weeks to complete the statistical analysis in SPSS and document the findings. If significant, the findings could then be distributed.

Budget

The monetary cost to utilize the CSQ-8 questionnaire in the outpatient clinic is fairly inexpensive. The budget for the development and implementation of the study and patient questionnaire can be broken down into two categories: supplies and man hours. The budget for the supplies is $567.66 as described in Appendix A. It is estimated that the amount of time it would take the Principal Investigator to distribute the surveys is minimal, as she would hand these to the patients with his/her checkout information. The estimated personnel hours for the PSRs are estimated at one hour for the duration of the study. The personnel hours for the DNP student would include researching the content for the video, determining a consensus amongst the providers in the clinic regarding content, filming the educational video, printing the surveys, inputting the survey information into SPSS and calculating the statistical significance of the

responses. The budget for man hours is $1,418 as described in Appendix A. The total budget for this project is $1,985.66.

SECTION II: DNP PROJECT PRODUCT

I. Professional Journal Selection

It is the intention of the author to utilize the new DNP Project paper template. This decision was made with the intention of submitting the final manuscript to a journal for publication. Journal publication of the DNP Project will not only help to disseminate the findings but will also assist in improving the visibility of the DNP degree and program at UAH.

Scope of Journal

The *Clinical Journal of Oncology Nursing* is a publication of the Oncology Nursing Society. The journal's target readers are nurses who work with patients with a diagnosis (or potential diagnosis) of cancer (Clinical Journal of Oncology Nursing, 2017a). The journal prefers articles that focus on the practical application of information to help improve the care of the oncology patient population (Clinical Journal of Oncology Nursing, 2017b).

Aims of Journal

The aims of the *Clinical Journal of Oncology Nursing* are specifically to "provide practical information necessary to care for patients and their families across the cancer continuum and to develop the publication skills of oncology nurses" (Clinical Journal of Oncology Nursing, 2017a, para 1). Ideally, each article should focus on implications for nursing practice and identify education resources for patients (Clinical Journal of Oncology Nursing, 2017b). Due to the aims of this journal, it is ideal for the DNP project proposed, as the project focuses on the implementation of video patient education.

Assessing Patient Satisfaction Utilizing Video Education Regarding Febrile Neutropenia in the Outpatient Hematology Clinic Versus Standard Verbal Communication

Abstract

Background

Patients with hematologic malignancies are often at high risk for febrile neutropenia. In the outpatient setting, patients are responsible for monitoring for signs and symptoms of infection themselves and notifying providers in a timely manner. No standardized patient education plan was identified in a large academic hospital's outpatient Hematology clinic to provide this education.

Objectives

This study aimed to determine patient's satisfaction with the addition of video education about febrile neutropenia when compared to traditional verbal education only.

Methods

Data were collected from 72 participants split equally into a standard of care group and an intervention group. Patients were selected by providers at scheduled clinic appointments. All patients with neutropenia or at risk for neutropenia were eligible. Patients completed CSQ-8 questionnaires. Group analysis was conducted.

Findings

It was determined that there was no statistically significant difference in patient satisfaction between the standard of care group and the patients that received video education. It was noted that there were an increased number of positive comments regarding the institution and education in the post-intervention group when compared to the standard of care group.

Introduction

Patients with hematologic malignancies are at significant risk for febrile neutropenia due to bone marrow suppression from their malignancy or treatment with chemotherapy (Kyriacou, Jovanovic & Frankfurt, 2014). According to current guidelines, immediate assessment and treatment of febrile neutropenia may decrease morbidity and mortality (Kuderer, Dale, Crawford, Cosler & Lyman, 2006). It is important that patients recognize febrile neutropenia and to understand the importance of expedited assessment as patients are responsible for monitoring for signs and symptoms of febrile neutropenia in the outpatient setting (Nirenberg, Mulhearn, Lin, & Larson, 2007). Improving the time to assessment through education by improving patient education regarding febrile neutropenia is important to reduce morbidity and mortality in this vulnerable patient population (Naurois et al., 2010).

Neutrophils are a key component of the immune system that fight bacterial infection. Neutropenia is an absolute neutrophil count (ANC) of 1,000 neutrophils per microliter of blood or less (Neutropenia – Mayo Clinic, n.d.). The risk of febrile neutropenia is 10-30% for all patients receiving chemotherapy; however, in patients with hematologic malignancies, the risk is greater than 30% due to bone marrow involvement and bone marrow failure (Kyriacou et al., 2014).

Febrile neutropenia is considered an oncologic emergency due to the gravity of its risk (Harden, n.d.). Up to 50% of the deaths in patients with oncologic malignancies and up to 75% of deaths in patients with acute leukemia are related to infection while neutropenic (Barber, 2001). The overall mortality for patients with neutropenic fever is 9.5%, and hospital stays for this diagnosis cost, on average, $19,110 per incident (Kuderer et al., 2006).

Immediate assessment and initiation of treatment of febrile neutropenia is considered critical (Kyriacou et al., 2014). The standard of care to decrease the incidence of sepsis in patients with febrile neutropenia is the prompt initiation of antibiotics (Nirenberg et al., 2007). The European Society of Medical Oncology Clinical Practice Guidelines defines a timeframe for treatment by recommending starting antibiotics within 60 minutes of patient presentation (Naurois et al., 2010).

While many hospitals and clinics promote the utilization of neutropenic precautions (including neutropenic diet), these infection prevention practices are supported by scarce evidence (Foster, 2014). Due to the scarcity of evidence regarding the efficacy of neutropenic precautions, patient education promoting early assessment is especially important. Despite the importance of patients seeking care for febrile neutropenia quickly, a study by Nirenberg et al. (2007) showed that patients did not arrive at the emergency department for assessment of febrile neutropenia for a mean of 21 hours after identification of fever.

Per the European Society of Medical Oncology Clinical Practice Guidelines, patient recognition of the early signs of febrile neutropenia is imperative to successful treatment; patients need to be specifically taught how to monitor their temperature and report abnormalities (Naurois et al., 2010). Patient education could potentially be improved by making sure the patient understands the reasoning for early intervention of febrile neutropenia and the risks of not reporting warning signs (Nirenberg et al., 2007).

The current system in place for patient education regarding febrile neutropenia in the outpatient Hematology clinic at Vanderbilt University Medical Center consists of individual providers verbally discussing the risk factors and signs/symptoms to report with patients that are, or are likely to become, neutropenic. This verbal education is not documented in the patient's

chart and is not standardized amongst providers. There is a patient handout titled "Understanding Your CBC and Cancer" that discusses neutropenia, however providers report that they do not routinely provide this handout to patients. As it currently stands, without universal education parameters, it is impossible to verify what information patients are receiving and if all patients are receiving the complete education needed.

Per interviewed clinic providers, the lack of a developed protocol in the clinic setting regarding patient education for febrile neutropenia is currently a weakness. There is no identified social worker, case manager, or patient education coordinator specifically utilized for the outpatient Hematology clinic setting. Providers are left educating the patient during clinic appointments that are already cramped for time. Of the six providers questioned, all reported that verbal education is the primary method of patient education utilized. The providers reported that they rarely offered written or visual education regarding febrile neutropenia (although many patients take notes during clinic appointments).

It is well accepted that patients may favor different cognitive learning styles and therefore offering information in more than one of the primary cognitive learning styles is optimal to maximize the effectiveness of the education (Mitchell, 2007). In fact, providing patient education in video format helps to support the Healthy People 2020 goals by utilizing information technology to improve health outcomes (Healthypeople.gov, 2015). Frentsos (2015) notes that as patients become more comfortable using technology at home, it is imperative to provide education in video format to meet patients demands and to provide appropriate literature for patients via the internet.

The CSQ-8 is the ideal questionnaire to measure patient satisfaction with the implementation of a multimedia approach to patient education regarding febrile neutropenia in

the outpatient Hematology clinic. A study by Kam et al. (2016) utilized the CSQ-8 as the method to determine participants' satisfaction with the utilization of a portable video device to distribute surgical information to nurses. Kam et al. (2016) showed that just over 80% of participants were more satisfied with the use of the portable video media when compared to standard communication.

While there are few studies that focus on patient satisfaction with education, there are many studies that focus on patient's knowledge recall with video education. A study by Keener and Winokur (2018) showed digitally recorded patient education decreased anxiety in patients starting new chemotherapy treatments and improved knowledge recall (specifically regarding the importance of monitoring for signs and symptoms of infection and notifying providers). Contradictory to this study, a review of the literature by Wilson et al. (2012) showed that when it comes to patient education, print and multimedia education were equal in practice.

The theoretical framework for which this intervention is constructed is based on the conceptual model of measures of satisfaction with care as discussed by Jayadevappa, Schwartz, Chhatre, Wein, and Malkowicz (2010). Satisfaction with care is important because it is directly linked to quality of care and patient outcomes (Jayadevappa et al., 2010). Lenderking (2005) stresses the importance for institutions to monitor patient satisfaction as the empowerment of the patient grows and patients have the choice to compare services offered by different institutions.

The goal of this study was to determine if the addition of video patient education to the standard verbal education patients receive, regarding febrile neutropenia, improved patient satisfaction (measured by scores on a CSQ-8 questionnaire).

Methods

Participants

The setting for the study was an outpatient adult Hematology clinic at a large academic institution. All patients with a malignant hematologic diagnosis with an absolute neutrophil count less than 1,000/microliter at a scheduled clinic appointment or whom a provider suspected to be at high risk for neutropenia (based on diagnosis or chemotherapy regimen) were eligible for this study. Patients were identified at scheduled clinic visits by their clinic provider (convenience sampling). All participants were greater than 18 years in age. The clinic provides interpreters at no charge for patients who do not read or write in English as well as assistance for patients that are illiterate, therefore these populations were included.

Measure

The instrument used to assess patient satisfaction with outpatient patient education is the CSQ-8 developed by Larsen, Attkisson, Hargreaves, and Nguyen (1979). The CSQ-8 is a shorter version of the CSQ-18 that is favored due to its brevity, as it only takes between three and eight minutes to complete (Larsen et al., 1979). The CSQ-8 contains eight questions regarding patient satisfaction with the answers chosen based on a four-point Likert scale (Larsen et al., 1979). The scores are summed to determine a total score, with the lowest possible satisfaction score being 8 and the highest possible being 32 (Larsen et al., 1979). The CSQ-8 has shown both reliability and validity in its development.

Data Collection

Following approval by the Institutional Review Board, patients who met the study requirement were identified by their provider during their scheduled clinic appointment. Patients were invited by their clinic provider to participate. Patients that agreed to participate were

introduced to the study's Principal Investigator and were provided with the waiver of consent and a patient satisfaction survey for the standard of care group and the waiver of consent, the patient education video to watch on a provided tablet, and a patient satisfaction survey for the intervention group. Participants were allowed to ask questions prior to discharge from the clinic. Upon completion of the survey, participants placed their survey in a locked collection box.

Data Analysis

IBM SPSS version 7.1.1 was used to generate statistics. Statistical significance was determined utilizing a two group *t*-test. Secondary analysis was completed by comparing each individual question on the CSQ-8 questionnaire. Qualitative analysis of the comments was completed.

Results

During a two month period, 72 individuals completed surveys (36 in the standard of care group and 36 in the post-intervention group). The median age for the standard of care group was 57 years old and the post-intervention group was 62 years old. There was no statistically significant difference in sex for either group. All participants were English speaking, which is consistent with the general population of the clinic.

The CSQ-8 results were analyzed. The standard of care group had a mean CSQ-8 score of 30.11, a median score of 32, and a range of 9-32. The post-intervention group had a mean CSQ-8 score of 30.31, a median score of 32, and a range of 24-32. There was no statistically significant difference in the patient satisfaction scores between the standard of care group and the post-intervention group ($p = .825$). Secondary analysis showed that there was no statistically significant difference between the groups on any individual question on the survey.

The standard of care group had an outlier with a CSQ-8 score of 9. The CSQ-8 score of 9 was well below any other CSQ-8 result. This survey had a comment on the bottom that stated "We had never even heard of neutropenia before" indicating that this score is not an erroneous value.

Findings from the study did not indicate a statistically significant difference in the level of satisfaction with education between the patients that watched the additional education video and those who received standard of care. However, in the comments section, there were notably more positive comments in the post-intervention group (7 comments) versus the standard of care group (2 comments) and zero negative comments in the post-intervention group versus one in the standard of care group. Positive comments in the post-intervention group regarding the video specifically included "video was very informative", "video excellent!", and "everything is very good". The other four comments in the post-intervention group were positive comments about the institution. The standard of care group had two positive comments about the institution and one negative comment stating "we had never even heard of neutropenia before". Therefore, it is determined that there is a qualitative advantage in satisfaction in the post-intervention group.

Discussion

While there are no historical studies specific to patient satisfaction with video education regarding neutropenia, this study was based off a historical study by Kam et al. (2016) who showed a statistically significant increase in satisfaction of nurses, based on CSQ-8 scores, when video education was used versus standard of care. This study did not support the findings by Kam et al. (2016) as the results were not statistically significant; however, this study did show a qualitative improvement in patient satisfaction based on patient comments.

It is suggested by Lenderking (2005) that improving patient satisfaction may encourage retention in the institution. By adding the video education, we saw a qualitative increase in positive comments about the institution including one comment that directly stated that patient could have received therapy closer to his/her home but chose therapy at this institution due to his/her satisfaction. This information directly supports the position of Lenderking (2005).

While there was not a statistically significant improvement in patient satisfaction with the video education, there was a qualitative increase in patient satisfaction based on patient comments. While there was no indication that video education should replace standard verbal education regarding neutropenia in the clinic, it may still be beneficial to provide additional education for some individual patients. Additionally, providing standardized video education for all patients at risk for neutropenia would ensure that every patient receives the minimum education needed and charting that this information was provided would be simple.

Limitations

The current study took place with a small sample. As each patient was identified by his/her own individual provider, it was found that certain providers were more thorough in identifying patients and presenting the study than others. Many patients that may have been eligible were likely missed. Some patients in the clinic that were neutropenic had multiple appointments during the data collection period and were excluded from participating more than once. Other than optional age and gender, no patient demographics were collected. The study design was a group analysis *t*-test rather than a paired *t*-test, therefore it was not assessed if individual patients found value in the added video education. The study did not analyze patients' knowledge regarding neutropenia, but rather their satisfaction with the education. Statistical significance could not be established between the two groups.

A larger study in the future assessing patient knowledge with the standard of care and post-intervention group could be beneficial. A larger study in the future assessing patient satisfaction with video education utilizing a paired *t*-test model may help to identify if specific individual patients were more satisfied with the extra video education.

Conclusion

While the results were not shown to be statistically significant in favor of patient video education, there was a notable qualitative increase in patient satisfaction in the post-intervention group based on patient comments. It was also suggested through the assessment of patient comments that improving patient education may increase patient satisfaction with the institution and therefore improve patient retention. There was also evidence that the providers in the clinic were historically providing adequate education, as the scores were very high in each group.

There are several potential advantages to providing video education for patients in addition to verbal communication outside of the patient's satisfaction. One advantage to providing video education is that it ensures all patients at risk have received proper education without increasing the number of staff required to provide this education. Another potential advantage to video education is the ability to document that individual patients have received a standardized education plan. Additionally, video education could be added to the institution's patient portal for those who wish to access the information from home.

Threats to providing standardized education to all patients regarding febrile neutropenia revolve around the loss of information individualized to the patient's needs. Due to the broad nature of hematologic diagnoses, universal education would not replace the providers' responsibility to provide individualized patient education but rather enhance it.

APPENDIX A

Author Guidelines for the *Clinical Journal of Oncology Nursing*

For CJON Authors

The mission of the *Clinical Journal of Oncology Nursing (CJON)* is to (a) provide practical information necessary to care for patients and their families across the cancer continuum and (b) to develop the publication skills of oncology nurses. Articles are to be clear, concise yet comprehensive, and well referenced; they should provide practical information, implications for practice, and identify patient education resources, if appropriate. **Articles focused on treatments that have not yet received U.S. Food and Drug Administration (FDA) approval will not be accepted unless under review by the FDA; if accepted, articles will be held and published at the time of approval.**

Manuscripts are accepted for consideration with the understanding that they are contributed solely to this journal, that the material is original, and that the material has not been published previously. All manuscripts will be reviewed for originality by CrossRef's CrossCheck product. Manuscripts found to plagiarize the work of others will be prohibited from publication in *CJON* or the *Oncology Nursing Forum*. All submitted articles are subject to a double-blind peer review. Articles will be considered but not guaranteed for inclusion as a continuing nursing education activity. Quality improvement projects are encouraged to address the Standards for Quality Improvement Reporting Excellence (SQUIRE).

Manuscript Preparation

Papers must be prepared using standard American Psycological Association manuscript format (APA, 6th ed., 2009). Length should be no more than 3,000 words (12–15 pages), exclusive of tables, figures, insets, and references. Articles longer than 3,000 words will not be considered for review and will be returned to the author for revision. Authorship opportunities also are available for *CJON*'s columns, which range from 1,000-1,500 words.
Manuscripts should be uploaded to Manuscript Central. Assistance is available by emailing pubCJON@ons.org.

Authors/Contributors: Each author should have participated sufficiently in manuscript preparation. Contributions, such as those who provide technical help, general support, etc., should be listed in an acknowledgment. Proper credit must be given so that it is transparent to readers who has been involved in the manuscript development. *CJON* endorses the International Committee of Medical Journal Editors (ICMJE) recommendations for authorship. All authors must disclose financial relationships.
Title Page: Titles should be brief, specific, and descriptive. The full names of all of the article's authors, as well as their degrees, titles, affiliations, and financial disclosures, if applicable, should be included.
Abstracts: An abstract is required for all manuscripts. All abstracts must be double spaced and include no more than 200 words. The following headings should be used.

- Background
- Objectives
- Methods
- Findings

Key words: Please supply three to six key words. For examples, visit the MeSH Browser.
Implications for Practice: Provide three concise implications for nursing practice and patient education as reported in the article.
Case Studies: Authors are encouraged to include case studies as appropriate to better showcase real-world application of the article's content to readers.
Artwork: Original art should be included to create interest and augment learning. Reprinted or adapted art also is acceptable with accompanying online and print permission from the copyright owner. Examples of art that require permission include photographs taken at an institution or of patients and previously published figures and tables. See this flowchart to determine whether your art requires permission.

- *Tables:* Each should be typed on a separate page at the end of the text.
- *Figures:* Figures should be professionally drawn or computer generated and included on separate pages at the end of the manuscript.
- *Photographs:* High-resolution (300 dpi) black-and-white or color photographs can be submitted electronically in most common file formats.

References: The reference list (not a bibliography) must be typed and double spaced and follow APA format (in text and reference list). Use APA's recommended formats for electronic references. Authors are responsible for the accuracy of all reference citations and are expected to have read and verified all of the listed references.
Resources: Space may be available to include a list of resources for readers interested in additional information on your topic. If possible, please include this content with the manuscript.

Manuscript Submission

Authors should do the following when submitting a manuscript to *CJON* via Manuscript Central.

- Include information for all contributing authors in Manuscript Central.
- Include a title page, abstract, and three implications for practice. *Note*. The title page should include the names, credentials, affiliations, and funding for all of the authors.
- Complete the copyright transfer and financial disclosure form, which transfers the article's copyright to the Oncology Nursing Society. All authors must complete this form so that the manuscript can proceed to peer review. If the manuscript is not accepted, copyright will transfer back to the authors.
- Send permission letters for online and print use for previously published and copyrighted material. If you are unsure if your table or figure requires permission, contact pubCJON@ons.org.

Receipt of all manuscripts will be acknowledged.

Review Process: Manuscripts will undergo a double-blind peer-review process, which takes approximately six weeks. Reviewers' comments will be shared with authors. Accepted manuscripts are subject to editorial revision for clarity, punctuation, grammar, syntax, and conformity to journal style and length. When necessary, substantive revisions will be done by the author based on feedback from the editor and peer reviewers. The author will have an opportunity to review the final manuscript before publication.
NIH Funding: Authors receiving government funding are required to comply with all of the terms of the NIH Public Access Policy, including submitting their funded articles to NIH for posting on PubMed Central.

Online Versus Print Publication: Selection of articles for print versus online publication is at the discretion of the editor.

(Clinical Journal of Oncology Nursing, 2017b)

APPENDIX B

University of Alabama IRB Letter

THE UNIVERSITY OF
ALABAMA IN HUNTSVILLE

☒ Expedited (see pg 2)
☐ Exempted (see pg 3)
☐ Full Review
☐ Extension of Approval

December 2nd 2017
Meghan Caldwell
College of Nursing
University of Alabama in Huntsville

Dear Ms. Caldwell,

The UAH Institutional Review Board of Human Subjects Committee has reviewed your proposal, *Assessing patient satisfaction utilizing video education regarding febrile neutropenia in the outpatient hematology clinic versus standard verbal education,* and found it meets the necessary criteria for approval. Your proposal seems to be in compliance with this institutions Federal Wide Assurance (FWA) 00019998 and the DHHS Regulations for the Protection of Human Subjects (45 CFR 46).

Please note that this approval is good for one year from the date on this letter. If data collection continues past this period, you are responsible for processing a renewal application a minimum of 60 days prior to the expiration date.

No changes are to be made to the approved protocol without prior review and approval from the UAH IRB. All changes (e.g. a change in procedure, number of subjects, personnel, study locations, new recruitment materials, study instruments, etc) must be prospectively reviewed and approved by the IRB before they are implemented. You should report any unanticipated problems involving risks to the participants or others to the IRB Chair.

If you have any questions regarding the IRB's decision, please contact me.

Sincerely,

Bruce Stallsmith
IRB Chair
Professor, Biological Science

Expedited:

☐ Clinical studies of drugs and medical devices only when condition (a) or (b) is met. (a) Research on drugs for which an investigational new drug application (21 CFR Part 312) is not required. (Note: Research on marketed drugs that significantly increases the risks or decreases the acceptability of the risks associated with the use of the product is not eligible for expedited review. (b) Research on medical devices for which (i) an investigational device exemption application (21 CFR Part 812) is not required; or (ii) the medical device is cleared/approved for marketing and the medical device is being used in accordance with its cleared/approved labeling.

☐ Collection of blood samples by finger stick, heel stick, ear stick, or venipuncture as follows: (a) from healthy, nonpregnant adults who weigh at least 110 pounds. For these subjects, the amounts drawn may not exceed 550 ml in an 8 week period and collection may not occur more frequently than 2 times per week; or (b) from other adults and children, considering the age, weight, and health of the subjects, the collection procedure, the amount of blood to be collected, and the frequency with which it will be collected. For these subjects, the amount drawn may not exceed the lesser of 50 ml or 3 ml per kg in an 8 week period and collection may not occur more frequently than 2 times per week.

☐ Prospective collection of biological specimens for research purposes by noninvasive means. Examples: (a) hair and nail clippings in a nondisfiguring manner; (b) deciduous teeth at time of exfoliation or if routine patient care indicates a need for extraction; (c) permanent teeth if routine patient care indicates a need for extraction; (d) excreta and external secretions (including sweat); (e) uncannulated saliva collected either in an unstimulated fashion or stimulated by chewing gumbase or wax or by applying a dilute citric solution to the tongue; (f) placenta removed at delivery; (g) amniotic fluid obtained at the time of rupture of the membrane prior to or during labor; (h) supra- and subgingival dental plaque and calculus, provided the collection procedure is not more invasive than routine prophylactic scaling of the teeth and the process is accomplished in accordance with accepted prophylactic techniques; (i) mucosal and skin cells collected by buccal scraping or swab, skin swab, or mouth washings; (j) sputum collected after saline mist nebulization.

☐ Collection of data through noninvasive procedures (not involving general anesthesia or sedation) routinely employed in clinical practice, excluding procedures involving x-rays or microwaves. Where medical devices are employed, they must be cleared/approved for marketing. (Studies intended to evaluate the safety and effectiveness of the medical device are not generally eligible for expedited review, including studies of cleared medical devices for new indications).

☐ Research involving materials (data, documents, records, or specimens) that have been collected, or will be collected solely for nonresearch purposes (such as medical treatment or diagnosis).

☐ Collection of data from voice, video, digital, or image recordings made for research purposes.

☒ Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Exempt

☐ Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as (a) research on regular and special education instructional strategies, or (b) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods. The research is not FDA regulated and does not involve prisoners as participants.

☐ Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interviews, or observation of public behavior ı in which information is obtained in a manner that human subjects cannot be identified directly or through identifiers linked to the subjects and any disclosure of the human subject's responses outside the research would NOT place the subjects at risk of criminal or civil liability or be damaging to the subject's financial standing, employability, or reputation. The research is not FDA regulated and does not involve prisoners as participants.

☐ Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement) survey procedures, interview procedures, or observation of public behavior if (a) the human subjects are elected or appointed public officials or candidates for public office, or (b) Federal statute(s) require(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter. The research is not FDA regulated and does not involve prisoners as participants.

☐ Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects. The research is not FDA regulated and does not involve prisoners as participants.

☐ Research and demonstration projects which are conducted by or subject to the approval of department or agency heads, and which are designed to study, evaluate, or otherwise examine: (i) public benefit or service programs; (ii) procedures for obtaining benefits or services under those programs;(iii) possible changes in or alternatives to those programs or procedures; or (iv) possible changes in methods or levels of payment for benefits or services under those programs. The protocol will be conducted pursuant to specific federal statutory authority; has no statutory requirement for IRB review; does not involve significant physical invasions or intrusions upon the privacy interests of the participant; has authorization or concurrent by the funding agency and does not involve prisoners as participants.

☐ Taste and food quality evaluation and consumer acceptance studies, (i) if wholesome foods without additives are consumed or (ii) if a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture. The research does not involve prisoners as participants.

1 Surveys, interviews, or observation of public behavior involving children cannot be exempt.

APPENDIX C

Vanderbilt University Medical Center IRB Letter

Human Research Protections Program – HRPP
Supporting the work of the IRB and Providing HRPP Oversight

VANDERBILT

RE: IRB #180345 "Assessing Patient Satisfaction Utilizing Video Education Regarding Febrile Neutropenia in the Outpatient Hematology Clinic Versus Standard Verbal Communication"

Dear Meghan E Caldwell, ACNP-BC:

A designee of the Institutional Review Board reviewed the Request for Exemption application identified above. It was determined the study poses minimal risk to participants. This study meets 45 CFR 46.101 (b) category (2) for Exempt Review.

Any changes to this proposal that may alter its exempt status should be presented to the IRB for approval prior to implementation of the changes. In accordance with IRB Policy III.C, amendments will be accepted up to one year from the date of approval. If such changes are requested beyond this time frame, submission of a new proposal is required.

DATE OF IRB APPROVAL: 6/1/2018
Sincerely,
Maya Alexandra Salberg BS
Institutional Review Board
Health Sciences Committee #1
Electronic Signature: Maya Alexandra Salberg/VUMC/Vanderbilt :
(3dcb076519312779e57723a1e4c8049d) **Signed On**: 06/08/2018 11:13:47 AM CDT

APPENDIX D

Budget for Supplies

Item	Cost	Location to Purchase
Paper	$27.99 for box	www.officedepot.com
Ink	$89.99	www.officedepot.com
Pens	$5.99 for 60	www.officedepot.com
Clipboards	$6.69 for 3	www.officedepot.com
Survey Collection Box	$23.99	www.amazon.com
SPSS Grad Pack	$35.95	www.studentdiscounts.com
IPad	$329.00	www.apple.com
Total	$519.60	
Total after sales tax (9.25%)	$567.66	

Budget for Man Hours

Man Hours	Number of Hours	Pay per Hour	Total Pay
PSR	1	$18	$18
DNP Student	35	$40	$1,400
Total			$1,418

APPENDIX E

Waiver of Consent

This study involves research, the purpose of which is to determine if patients prefer verbal education or video education regarding febrile neutropenia.
The survey takes about 2-3 minutes to complete.
You must be 18 years of age or older to participate.
If you agree to participate you will answer 8 short questions.
Voluntary completion of the survey serves as your consent.
There are no foreseeable risks or discomforts to participating in the study.
Your name will not be associated with your responses and strict confidentiality of records will be maintained.
Participation is voluntary, and refusal to participate will involve no penalty or loss of benefits.
There are no costs to participate, you may withdraw at any time.
There will be approximately 70 participants.
If you have any questions about the research and research participant's rights, you may contact the Principal Investigator, Meghan Caldwell, ACNP-BC, Meghan.E.Caldwell@Vanderbilt.edu or 615-936-8422.

Your voluntary completion of this survey serves as your consent to participate.

The Client Satisfaction Questionnaire (CSQ)

Please help us improve our program by answering some questions about the education you received regarding neutropenia at the VUMC Hematology Clinic. We are interested in your honest opinions, whether they are positive or negative. *Please answer all of the questions.* We also welcome your comments and suggestions. Thank you very much, we appreciate your help.

CIRCLE YOUR ANSWER

1. How would you rate the quality of service you received?

4 Excellent	3 Good	2 Fair	1 Poor

2. Did you get the kind of service you wanted?

1 No, definitely not	2 No, not really	3 Yes, generally	4 Yes, definitely

3. To what extent has our program met your needs?

4 Almost all of my needs have been met	3 Most of my needs have been met	2 Only a few of my needs have been met	1 None of my needs have been met

4. If a friend were in need of similar help, would you recommend our program to him/her?

1 No, definitely not	2 No, I don't think so	3 Yes, I think so	4 Yes, definitely

5. How satisfied are you with the amount of help you received?

1 Quite dissatisfied	2 Indifferent or mildly dissatisfied	3 Mostly satisfied	4 Very satisfied

6. Have the services you received helped you to deal more effectively with your problems?

4 Yes, they helped a great deal	3 Yes, they helped somewhat	2 No, they really didn't help	1 No, they seemed to make things worse

7. In an overall, general sense, how satisfied are you with the service you received?

4 Very satisfied	3 Mostly satisfied	2 Indifferent or mildly dissatisfied	1 Quite Dissatisfied

8. If you were to seek help again, would you come back to our program?

1 No, definitely not	2 No, I don't think so	3 Yes, I think so	4 Yes, definitely

Age (optional) _____ **Sex (optional)** _____

WRITE COMMENTS BELOW

APPENDIX F

Script to be used for Verbal Recruitment of Participants

You have been identified as a patient with neutropenia or who is at risk of becoming neutropenic in the future due to your diagnosis or proposed treatment plan. There is currently a study being conducted in the Vanderbilt Hematology Clinic to assess patient's satisfaction with the education provided to patients on neutropenia. One group of patients will receive the standard education currently provided in the clinic and will be asked to complete a brief survey on their satisfaction with education on neutropenia. Another group of patients will receive the standard education currently provided in the clinic followed by a 5-7 minute video on neutropenia and then asked to complete a brief survey on their satisfaction with education on neutropenia. The goal of the study is to identify the method in which patient's are most satisfied with the education provided in clinic to better serve patients in the future. If you choose to participate in this study, no patient identifiers will be collected and your participation in the study is strictly voluntary. There are no direct benefits to you or compensation for agreeing to participate in this study. There will be no retribution for declining participation in this study. Are you interested in participating in this study today?

APPENDIX G

Data

Standard of Care Group

Total	Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Age	Sex
9	1	1	1	1	1	1	1	2		
21	2	1	3	3	3	3	3	3		
24	3	3	3	3	3	3	3	3		
24	3	3	3	3	3	3	3	3	37	F
28	4	4	3	4	3	3	3	4		
29	3	4	4	4	4	3	3	4	33	M
29	4	4	3	4	4	3	4	3		F
30	4	3	3	4	4	4	4	4	67	F
30	4	4	3	4	4	3	4	4	57	M
30	4	3	3	4	4	4	4	4	35	F
31	4	3	4	4	4	4	4	4	49	M
31	3	4	3	4	4	4	4	4	75	M
32	4	4	4	4	4	4	4	4	20	M
32	4	4	4	4	4	4	4	4	74	F
32	4	4	4	4	4	4	4	4	66	M
32	4	4	4	4	4	4	4	4	50	M
32	4	4	4	4	4	4	4	4	64	M
32	4	4	4	4	4	4	4	4	66	M
32	4	4	4	4	4	4	4	4	23	M
32	4	4	4	4	4	4	4	4	61	M
32	4	4	4	4	4	4	4	4	70	F
32	4	4	4	4	4	4	4	4	70	M
32	4	4	4	4	4	4	4	4	58	F
32	4	4	4	4	4	4	4	4	56	F
32	4	4	4	4	4	4	4	4	68	M
32	4	4	4	4	4	4	4	4	45	M
32	4	4	4	4	4	4	4	4		
32	4	4	4	4	4	4	4	4	23	F
32	4	4	4	4	4	4	4	4	62	F
32	4	4	4	4	4	4	4	4	61	M
32	4	4	4	4	4	4	4	4	32	M
32	4	4	4	4	4	4	4	4	29	F
32	4	4	4	4	4	4	4	4		
32	4	4	4	4	4	4	4	4	71	F
32	4	4	4	4	4	4	4	4	40	F
32	4	4	4	4	4	4	4	4	27	F

Post-Intervention Group

Total	Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Age	Sex
24	4	2	3	3	3	3	3	3		
24	3	3	3	3	3	3	3	3	27	M
24	3	3	3	3	3	3	3	3		
25	3	3	4	3	3	3	3	3		
25	3	3	3	3	3	3	4	3		
25	3	3	3	3	3	3	3	4	72	M
29	3	3	3	4	4	4	4	4	62	F
29	4	4	4	4	1	4	4	4	58	M
29	4	3	4	3	4	4	4	3	62	M
30	3	4	3	4	4	4	4	4		
30	4	3	3	4	4	4	4	4	70	F
31	4	4	3	4	4	4	4	4		
31	4	4	4	4	4	3	4	4	38	M
31	3	4	4	4	4	4	4	4	60	F
32	4	4	4	4	4	4	4	4		
32	4	4	4	4	4	4	4	4	71	F
32	4	4	4	4	4	4	4	4		F
32	4	4	4	4	4	4	4	4	66	M
32	4	4	4	4	4	4	4	4	47	M
32	4	4	4	4	4	4	4	4	52	F
32	4	4	4	4	4	4	4	4	28	M
32	4	4	4	4	4	4	4	4	33	M
32	4	4	4	4	4	4	4	4	77	F
32	4	4	4	4	4	4	4	4	76	M
32	4	4	4	4	4	4	4	4	63	F
32	4	4	4	4	4	4	4	4	65	M
32	4	4	4	4	4	4	4	4	63	M
32	4	4	4	4	4	4	4	4	64	M
32	4	4	4	4	4	4	4	4	42	M
32	4	4	4	4	4	4	4	4	54	M
32	4	4	4	4	4	4	4	4	27	F
32	4	4	4	4	4	4	4	4	50	M
32	4	4	4	4	4	4	4	4	23	F
32	4	4	4	4	4	4	4	4	80	M
32	4	4	4	4	4	4	4	4	63	F
32	4	4	4	4	4	4	4	4	64	F

APPENDIX H

Data by Question

Question Number	Standard of Care Group Mean	Standard of Care Group Median	Post-Intervention Group Mean	Post-Intervention Group Median	p Value
1	3.75	4	3.78	4	0.830
2	3.69	4	3.72	4	0.855
3	3.67	4	3.75	4	0.518
4	3.83	4	3.81	4	0.810
5	3.81	4	3.75	4	0.691
6	3.72	4	3.81	4	0.498
7	3.78	4	3.86	4	0.469
8	3.83	4	3.83	4	1.000
Total	30.11	32	30.31	32	0.825

APPENDIX I

Comments by Group

Standard of Care Group Comments

Awesome staff. Great bunch of people.
Dr. Strickland has made a difficult situation much easier to manage because of his patience and willingness to keep me informed.
We had never even heard of neutropenia before.

Post-Intervention Group Comments

Vanderbilt is a great hospital to go to for anyone.
Video excellent!
Everything is Very Good
We could have had the consolidation therapy back in Memphis, but we choose here :)
Very Good service and treatment
Video was very informative
Highly recommend Vanderbilt. Awesome Doctors and staff.

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