2019

Enhancing bedside nurses' knowledge of health literacy and the likelihood of utilizing a health literacy tool in a pediatric hospital

Sherry Pass-Ivy

Enhancing Bedside Nurses' Knowledge of Health Literacy and the Likelihood of Utilizing a Health Literacy Tool in a Pediatric Hospital

by

Sherry Pass-Ivy, APRN, CNS-BC, CDE

A DNP PROJECT

Submitted in partial fulfillment of the requirements for the

Degree of Doctor of Nursing Practice

to

The School of Graduate Studies

of

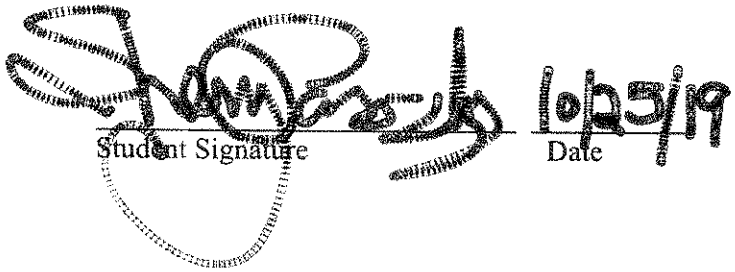
The University of Alabama in Huntsville

HUNTSVILLE, ALABAMA

2019

ENHANCING BEDSIDE NURSES' KNOWLEDGE OF HEALTH LITERACY

In presenting this DNP project in partial fulfillment of the requirements for a doctoral degree from The University of Alabama in Huntsville, I agree that the Library of this University shall make it freely available for inspection. I further agree that permission for extensive copying for scholarly purposes may be granted by my advisor or, in his/her absence, by the Director of the Program or the Dean of the School of Graduate Studies. It is also understood that due recognition shall be given to me and to The University of Alabama in Huntsville in any scholarly use which may be made of any material in this DNP project.



Student Signature Date 10/25/19

ENHANCING BEDSIDE NURSES' KNOWLEDGE OF HEALTH LITERACY

DNP PROJECT APPROVAL FORM

Submitted by Sherry Pass-Ivy 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.

11-4-2019 _____ Committee Chair

(Date)

_____ DNP Program Coordinator

11/4/2019 _____ College of Nursing, Associate Dean

_____ College of Nursing, Dean

_____ Graduate Dean

ACKNOWLEDGMENTS

First, I would like to thank Jesus Christ for without Him I could do nothing. I thank God for sustaining and giving me the strength to complete this journey. I am grateful to Dr. Louise O'Keefe, who agreed to chair my project. Dr. O'Keefe thank you for your guidance and encouragement throughout this process. I appreciate you being available via phone, email and zoom to provide timely responses to my questions. To my clinical mentor, Dr. Bobby Bellflower, thank you for your guidance long before I started this journey to obtain my DNP. I appreciate you freely sharing your time and knowledge. I would also like to thank the nurses at Le Bonheur Children's Hospital who took time out of their schedule to participated in the project.

To my mother Ella Pass, daughter Faith Ivy, niece Whitney Marion and sister Jean Marion, I cannot thank you all enough for your prayers, love and support that you have given the last two years. To my entire family, thank you all for understanding when I was unable to make family events due to completing school assignments. I love you all.

TABLE OF CONTENTS

ABSTRACT

The School of Graduate Studies

The University of Alabama in Huntsville

Degree: Doctor of Nursing Practice College: Nursing

Name of Candidate: Sherry Pass-Ivy

Title: Enhancing Bedside Nurses' Knowledge of Health Literacy and the Likelihood of Utilizing a Health Literacy Tool in a Pediatric Hospital

Background and Review of Literature: Health literacy (HL) has been acknowledged as a nationwide health challenge with over one-third of United States (U.S.) citizens having limited capability to read, comprehend and utilize health information. Nearly one in four parents have low HL resulting in inadequate skills to attain, handle, and comprehend basic health information. Children of parents with low HL experience increased hospital admissions and emergency room visits, increased non-adherence to medical treatments and poor outcomes. Promptly evaluating HL in clinical settings can assist with identifying patients at risk for unnecessary hospitalizations, poor medication adherence, and misinterpreting health information.

Purpose: The purpose of this DNP project was to educate nurses on the importance of assessing HL, educate on a validated HL tool and increase the likelihood of bedside nurses utilizing a validated HL tool. The National Action Plan to Improve Health Literacy was utilized as the framework for the project.

Methods: A quasi-experimental, pre-intervention and post-intervention education design was used to determine if there was a change in beside nurses' knowledge of HL, nurses' perception of the importance of assessing the HL level and to determine the likelihood of nurses using a

validated HL screening tool. Participants were asked to complete a pre-education survey and post-education survey. The survey results were compared using two-tailed paired sample t-test.

Results: Twenty-one nurses, whose nursing education ranged from diploma to masters prepared, participated in the pre-education survey and the education intervention. Seventeen of the twenty-one participants returned a post-education survey. The two tailed paired sample t-test showed statistically significant differences from pre- to post-educational intervention in participants' knowledge of HL. Statistically significant perceptions were also noted in the importance of assessing HL, the influence of HL education delivery, and the time commitment needed in assessing HL. Answers were favorable in the inclusion of a HL tool in the electronic health record.

Implications: Data revealed the majority of participants with five years or more nursing experience were not exposed to HL education during nursing school. Therefore, it is vital leadership provides educational opportunities to increase HL knowledge to bedside nurses. Since nurses are responsible for ensuring patients and families understand discharge teaching, they should be equipped with the tools needed to properly deliver quality individualized discharge education.

Enhancing Bedside Nurses' Knowledge of Health Literacy

Identification of Problem

Health literacy (HL) is the capacity to retrieve, comprehend, utilize and convey health-related information (Baldridge, 2012; Berkman, Davis, & McCormack, 2010; Institute of Medicine Committee on Health, 2004; Lambert & Keogh, 2014). Individuals who clearly comprehend their disease process and are capable of utilizing health information to make informed decisions regarding their health are thought to have adequate HL (Bradley-Klug, Shaffer-Hudkins, Lynn, Jeffries DeLoatche, & Montgomery, 2017). Individuals with adequate HL are positioned to advocate for their health care needs instead of being disengaged in treatment decisions (Bradley-Klug et al., 2017). HL allows parents and caregivers to make knowledgeable health decisions, participate in preventive care, as well as improve quality of health throughout the life span (Baldridge, 2012; Berkman et al., 2010; Institute of Medicine Committee on Health, 2004; Lambert & Keogh, 2014). HL has been acknowledged as a nationwide health challenge with over one-third of the United States (U.S.) citizens having limited capability to read, comprehend and utilize health information (Janisse, Naar-King, & Ellis, 2010). Research has demonstrated that in the U.S. about 26% to 36% of all adults have inadequate HL (Sand-Jecklin, Daniels, & Lucke-Wold, 2017).

The HL level of a parent or caregiver may influence interactions with his or her child's provider (Howe, Cipher, LeFlore, & Lipman, 2015). The level of parental HL is a significant factor in properly managing a child's disease (Janisse et al., 2010). A child's health outcome is influenced by his or her parent's ability to comprehend disease processes and healthcare needs (Lambert & Keogh, 2014; Otal et al., 2012). Nearly one in four parents have low HL resulting in

inadequate skills to attain, handle, and comprehend basic health information. Moreover, low HL can affect a parent's ability to administer medications correctly to his or her child (Howe et al., 2015; Janisse et al., 2010; Sand-Jecklin et al., 2017). As a result, children of parents with low HL experience increased hospital admissions and emergency room visits, increase non-adherence to medical treatments, and poor outcomes (Janisse et al., 2010; Sand-Jecklin et al., 2017). Promptly evaluating HL in clinical settings can assist with identifying patients at risk for unnecessary hospitalizations, poor medication adherence, and misinterpretation of health information (Lindquist et al., 2012; Louis, Arora, Matthiesen, Meltzer, & Press, 2017). Therefore, it is important to have practical clinical methods for evaluating hospitalized patients' and caregivers' HL level to successfully deliver quality care and provide appropriate resources (Louis et al., 2017).

Thus far, research has focused primarily on assessing and improving HL in adult patients, with little focus on parental HL of children with chronic disorders (Janisse et al., 2010). The level of parental HL has a significant impact on implementing a child's disease treatment plan (Janisse et al., 2010). Health care providers are an important source of health information for patients and caregivers. Therefore, recognizing poor HL levels and how to best educate patients and caregivers are essential in providing appropriate education (Saunders, Palesy, & Lewis, 2018). Unfortunately, health care professionals who were not afforded opportunities to engage in HL training can unknowingly form obstacles when communicating with patients and caregivers with low HL levels. The potential obstacles health care professionals can unknowingly present are the use of language that is unfamiliar to patients, delivery of instructions that are not clear and

concise and insufficient time to properly evaluate patients' or caregivers' understanding of health information (Saunders et al., 2018).

The purpose of this DNP project was to educate nurses on the importance of assessing HL, educate on a validated HL screening tool, and increase the likelihood of nurses utilizing a validated HL screening tool. It is of utmost importance for bedside nurses to accurately assess HL, because they are the principal health care professionals responsible for evaluating patients' and families' learning needs and delivering proper health information (Goggins, Wallston, Mion, Cawthon, & Kripalani, 2016). Enhancing bedside nurses' knowledge of HL and providing education on a short-validated HL tool is important, because this intervention can improve patients' and families' comprehension of education and in turn increase positive patient outcomes (Cafiero, 2013).

PICOT Question

In hospital nursing staff, how does providing education on health literacy and the use of a validated health literacy assessment tool influence nurses' perception and likelihood to use the tool within 1 month after education.

Review of Evidence

A literature search on *communication, barriers to communication, health literacy, chronic illness, parental health literacy, and nurses' knowledge of health literacy* was conducted using PubMed, CINAHL, Science Direct, and Scopus databases. As a result, 790 articles were retrieved. The search was narrowed by inclusion criterion to include *parental health literacy, health literacy, nurse knowledge, effective communication, barriers, assessment and health literacy tools* of full-text peer-reviewed articles in English from 2009-2019. The search was supplemented with

internet searches and The University of Alabama Huntsville inter-library loan. Thirty-five articles were used in the paper.

Over the past several years, there has been a growing concern with the rate of chronic childhood diseases in the U.S. (Cambric, 2017). Currently, there is approximately 15% to 18% of youths living with chronic diseases. Some of these chronic illnesses include asthma, diabetes, sickle cell anemia, obesity and cancer (Cambric, 2017). Disappointingly, 22% of parents of children with diabetes have expressed that health care providers do not communicate information in a manner that was comprehensible (Howe et al., 2015). Both accountability and responsibility lie with health care providers to confirm that patients and families are able to comprehend health information and properly perform self-care behaviors (Sand-Jecklin et al., 2017). Due to lack of knowledge as to HL restrictions, providers may not incorporate all needed interventions to fully communicate with patients and families (Sand-Jecklin et al., 2017). Unfortunately, the HL level of parents and caregivers is not assessed routinely, although low HL is linked to several negative health outcomes (Sand-Jecklin et al., 2017). Health care professionals who interact with patients and families are responsible for modifying education and communication methods to ensure comprehension of health information provided. This should be achieved by taking into account patients' and families' HL level (Sand-Jecklin & Coyle, 2014).

Barriers to Assessing Health Literacy

According to Dickens and Piano (2013), the majority of nursing and medical education programs have not incorporated HL into their curriculum, although it has been proven that a brief study session can be valuable. HL programs remain a low priority and providers believe it would be too expensive to implement a HL program (Macabasco-O'Connell & Fry-Bowers, 2011).

Moreover, some providers believe a HL program would be too difficult to implement due to language barriers (Macabasco-O'Connell & Fry-Bowers, 2011).

Louis et al. (2017) conducted a study assessing three HL screening tools. The two written validated assessment tools were the Short Test of Functional Health Literacy in Adults (S-TOFHLA) and the Rapid Estimate of Adult Literacy in Medicine- Revised (REALM-R). The third validated assessment tool was the Brief Health Literacy Screen (BHLS), which is administered verbally. The study revealed that for hospitalized patients the BHLS was the most clinically feasible tool to identify patients and family members who are at increased risk for low HL (Louis et al., 2017).

The researchers noted a few obstacles to HL screening among hospitalized patients such as patients' or caregivers' limited vision, low literacy and nurses' limited time at the bedside (Louis et al., 2017). Nurses are accountable for a great deal of documentation, in addition to their direct patient-care responsibilities (Lambert & Keogh, 2014; Louis et al., 2017). Therefore, the HL screening tool should be concise, effortless to score, and have clear reportable findings that can be integrated into the electronic health record (EHR) (Louis et al., 2017). Additionally, since limited vision and literacy were noted as barriers to administering screening tools to hospitalized patients, verbally administering a HL screening tool would circumvent these issues (Louis et al., 2017; Press et al., 2015; Press, Shapiro, Mayo, Meltzer, & Arora, 2013).

Communication

As bedside nurses are the principle health care professionals responsible for evaluating and delivering appropriate education to patients and families, effective communication is paramount (Goggins et al., 2016). Wittenberg, Ferrell, Kanter and Buller (2018) conducted a

study to investigate oncology nurses' communication and patient HL. The researchers used a cross-sectional open-ended survey with nurses who attended a COMFORT (communication, orientation and options, mindful communication, family caregivers, openings, relating and team) communication-training course. The course was designed to provide participants with a comprehensive curriculum about communication (Wittenberg et al., 2018). The survey addressed nurses' communication challenges with low HL patients and quantified nurses' occurrence of assisting with patient literacy needs, perceived amount of problems associated with communicating with low literacy patients and perception of comfort with HL support (Wittenberg et al., 2018). The survey revealed nurses had difficulty communicating with the patients whose second language was English, patients who did not complete high school and ethnic minorities (Wittenberg, et al., 2018). The survey also revealed nurses recommended health care providers become more knowledgeable of different cultural beliefs and engage in communication training, to assist with identifying non-verbal and verbal cues during interactions with patients and families (Wittenberg et al., 2018).

Lack of Knowledge

Insufficient time to participate in HL training and not considering HL as a priority are barriers to enhancing providers' knowledge of HL (Macabasco-O'Connell & Fry-Bowers, 2011) . Due to a lack of advocacy from leadership to improve HL, some health care providers believe that HL is not a challenge in their organization and that HL programs would not influence positive patient outcomes (Macabasco-O'Connell & Fry-Bowers, 2011). In 2012, the Institute of Medicine (IOM) recommended the integration of HL programs as one of the ten elements of a health literate organization. The IOM proposes that one action to improve HL would be to include it as part of

the general organizational mission and formulate a communication strategy for enhancing low HL (Dickens & Piano, 2013).

Macabasco-O'Connell and Fry-Browers (2011) performed a cross-sectional descriptive study to assess nurses' knowledge and perception of HL. The participants were nurse practitioners, clinical nurse specialists, and staff nurses. This study revealed that nurses lack sufficient knowledge of HL and the impact it plays on patient health outcomes (Macabasco-O'Connell & Fry-Bowers, 2011). Some significant findings of the study were that only 30% of nurses ask patients if they have a problem reading medical information or completing medical forms. Over 80% of the respondents revealed they never or rarely formally assess HL with a validated questionnaire and 60% stated they use their instinct to assess HL level. Furthermore, 56% of nurses stated they view assessing HL as a low priority compared to other noted patient problems (Macabasco-O'Connell & Fry-Bowers, 2011). Moreover, nurses reported that a patient's race, age, educational level and socioeconomic status often influenced their judgment of HL level (Macabasco-O'Connell & Fry-Bowers, 2011).

Grabeel and Beeler's (2018) study evaluated nurses' HL knowledge at an academic medical center in Knoxville, Tennessee. The study revealed over 80% of participants strongly agreed that it is essential for health care professionals to have a strong knowledge base of HL. However, over 71% of the participants had no HL training (Grabeel & Beeler, 2018). Enhancing nurses' knowledge about HL and offering a screening tool to measure patients' and caregivers' HL level will equip providers with tools needed to adapt education and communication to the needs of patients and families (Batterham, Hawkins, Collins, Buchbinder, & Osborne, 2016; Lynn, 2017).

Overestimation

Nurses are responsible for ensuring patients and caregivers understand about follow-up appointments, medication regimen, meal planning, and activity level post discharge (Dickens, Lambert, Cromwell, & Piano, 2013). As a result of overestimating a patient's or caregiver's HL level, nurses may deliver health information in a way that the patient or caregiver does not comprehend (Dickens et al., 2013). Unfortunately, recognizing patients or caregivers with low HL skills can be challenging; thus nurses often overestimate patients' HL level (Williams, Moeller, & Willis, 2018). Due to fear of humiliation, patients and caregivers are often reluctant to reveal their inability to read. When patients and caregivers spend the majority of their life trying to conceal their low literacy, they become very skillful at hiding it (Williams et al., 2018). Inadequate assessment of HL may lead health care providers to deliver health information in a manner that patients and caregivers do not fully understand (Goggins et al., 2016).

The University of Illinois and Health Science System and the University of Illinois College of Nursing conducted a study comparing nurses' estimate of patients' HL level to patients' actual HL level utilizing a validated HL tool. The study revealed that nurses overestimated patients' HL level (Dickens et al., 2013). Furthermore, findings showed that nurses' overestimates outnumbered the underestimates six to one. This study recommended that HL training become a priority for bedside nurses (Dickens et al., 2013). "The National Sample Survey of Registered Nurses' estimates 70% of nurses received their initial nursing education greater than 14 years ago, and HL was not a subject offered in nursing curricula at that time" (Dickens et al., 2013, p. 67). The survey also revealed that approximately 62% of nurses are employed by hospitals. Due to supporting evidence that nurses overestimate HL skills of patients

and caregivers, educational opportunities should be offered to health care professionals to increase their HL assessment skills (Dickens et al., 2013).

Conceptual Framework

The National Action Plan to Improve Health Literacy (The Action Plan) offers the underpinning for the nursing profession to start communicating about how to integrate HL practices in healthcare facilities (Baur, 2011).The Action Plan HL goals are:

1. Develop and disseminate health and safety information that is accurate, accessible and actionable.
2. Promote change in the health care delivery system that improve health information, communication, informed decision making, and access to health services.
3. Incorporate accurate, standards-based, and developmentally appropriate health and science information and curricula in the child care and education through the university level.
4. Support and expand local efforts to provide adult education, English language instruction, and culturally and linguistically appropriate health information services in the community.
5. Build partnerships, develop guidance, and change polices.
6. Increase basic research and the development, implementation and evaluation of practices and interventions to improve HL.
7. Increase the dissemination and use of evidenced-based HL practices and intervention. (Baur, 2011, p. 65).

The National Action Plan to Improve Health Literacy can be employed to assist nurses in building knowledge of the importance of HL and developing organizational specific plans to assess HL of patients and caregivers (Baur, 2011). These actions can aid in identifying and addressing HL barriers that can negatively affect patient care health outcomes (Baur, 2011). The National Action plan is built on the foundation that each individual has the right to health information that can assist him or her with making knowledgeable choices. The plan is also built on the basis that health services should be provided in ways that are comprehensible and potentially increase quality of life (U. S. Department of Health and Human Services, 2010). Nursing has a significant connection to HL, because nurses are responsible for the bulk of patient and health education (Baur, 2011). The Action Plan is comprised of goals and strategies that nursing leaders can modify and use to advance organization-specific action plans for HL improvement. Health care providers can support patients and caregivers in becoming more knowledgeable regarding proper health management by employing one or more approaches in The National Action Plan (Baur, 2011).

The Action Plan can be utilized as a point of reference for dialogues and assist the nursing profession in fostering understanding and improving organization-specific strategies for HL improvement (Baur, 2011). The objective is for organizations to apply the Action Plan as a HL framework to modify the aims and approaches to fit their particular situation, and agree on detailed actions to implement (Baur, 2011). It would be beneficial for organizations to decide on the approaches in the Action Plan which support what they presently perform or want to perform to enhance patient health outcomes. Once plans are developed, pilot tests will need to be executed to establish measurable and sustainable change (Baur, 2011). As organizations strive to improve

HL, it would be beneficial for them to increase educational resources for health care professionals, invest in integrating a validated HL screening tool in the EHR, and create a resource on the proper steps to change current practice (U. S. Department of Health and Human Services, 2010).

This project was guided by goal seven of the Action Plan. In using The National Action Plan as the underpinning for this DNP project, bedside nurses were offered education on evidence-based information on HL and using a validated HL literacy screening tool. The DNP student obtained Institutional Review Board (IRB) approval from the University of Tennessee Health Science Center, which is Le Bonheur Children's Hospital's IRB and The University of Alabama in Huntsville IRB (See Appendices A and B for Approval Letters from IRBs).

Setting

Le Bonheur Children's Hospital is a 255 bed tertiary children's hospital located in Memphis TN. Le Bonheur Children's Hospital is the teaching hospital for the University of Tennessee Health Science Center. Annually, the facility serves approximately 250,000 patients. The setting for this project was the medical specialty unit, which provides care to patients with chronic diseases.

Participants

Initially, the goal was to recruit fifty bedside nurses from the medical specialty unit and the intermediate care unit (step-down unit), to participate in the education sessions on HL and the use of a validated health literacy screening tool. Due to staffing needs, the intermediate care unit nurses and some of the medical specialty unit nurses were unable to attend the education sessions. Therefore, the education sessions were opened to all nurses employed by Le Bonheur Children's

Hospital, who desired HL training. Nurses from the following units participated: medical specialty, emergency room, surgery, and ambulatory care.

Data Collection

The data collection period took place between July 24, 2019 and September 9, 2019. With the assistance of nurse educators, flyers with general information about the project were posted in the nurses' lounge and emailed to nurses. Inclusion criteria for participation included: registered nurses who worked at Le Bonheur Children's Hospital who spoke and understood English.

Before the education sessions, participants were asked to take a pre-education survey, which was developed by the DNP student. The survey used quantitative measures to evaluate the participants' responses. The pre-education survey elicited responses to six multiple choice questions. The questions were structured to obtain information about the participants' knowledge of HL, perception of the importance of assessing HL level of caregivers and patients and the likelihood of utilizing a validated HL screening tool.

The DNP student explained the purpose of the project and reviewed consent with the participants. The participants' responses were blinded to the DNP student. The following procedure was used to ensure anonymity; the DNP student placed fifty numbers (1-50) in a basket, the basket was agitated and the participants were asked to randomly pull a number, and not reveal the number to the DNP student. The participants were then advised to write the number in the designated area on the survey, take a picture of the number or write the number down and put it in a safe place, because they were asked to use the same number when completing the post-education survey. The DNP student provided privacy to the participants by staying by the entrance of the conference room, while the participants completed the survey in the back of the

room. The DNP student stayed at the entrance of the conference room to greet and explain the process to other participants as they entered the room. After the participants completed the surveys, they were asked to place them face down on a table designated for the collection of the surveys. The DNP student collected the surveys at the end of the education sessions.

Intervention

This DNP project was a quality improvement project with an educational intervention designed to enhance bedside nurses' knowledge of HL, make nurses aware of the importance of assessing HL and introduce a validated HL screening tool. The project was also designed to provide education on the consequences associated with not assessing HL or inadequately assessing HL of patients and families.

Before the education sessions, the participants were given a pre-education survey to assess their knowledge of HL, perception of the importance of HL assessment and the likelihood of utilizing a HL screening tool. The answer choices were Likert Scale style: strongly agree, agree, neutral, disagree and strongly disagree (See Appendix C for Bedside Nurse Survey). After the surveys were administered, the DNP student presented an education session on a validated HL screening tool, definition of HL, the importance of HL and consequences of not assessing HL or inadequately assessing HL (See Appendix D for Teaching Outline).

The survey responses were kept confidential and no personal identifiers were used on the survey.

Data Analysis

The data collected was analyzed electronically using IBM Statistical Software Analysis Package (SPSS) version 24. Paired Sample T-Test was used as the statistical procedure to

compare pre-education survey and post education-survey results, with the specified *a* level of 0.05.

Results

Out of twenty-one participants, seventeen (81%) returned a post-education survey. The HL survey responses revealed the education intervention may have made an impact on the participants' knowledge of HL, the importance of assessing HL and the likelihood of using a validated HL screening tool. When asked "Can you define HL?" pre-education 50% of the participants with an associate degree, 61% of the participants with a bachelor of science degree, 100% of participants with a master of science degree agreed they could define HL. The post-education results revealed 100% of the participants agreed they could define HL. When asked "Do you feel it is important to assess HL level of caregivers?" pre-education 83% of the participants with an associate degree, 100% of the participants with a bachelor of science degree, 100% of the participants with a master of science degree agreed it is important to assess HL of caregivers. The post-education survey results showed 100% of the participants agreed it is important to assess the HL level of caregivers. When asked, "Do you think assessing parental HL will influence the way education is delivered?" pre-education 83% of the participants with an associate degree, 100% of the participants with a bachelor of science degree, 100% of the participants with a master of science degree agreed assessing HL would influence education delivery. Post-education 100% of the participants agreed assessing HL would influence education delivery. When asked "Do you think assessing HL level would be too time consuming?" pre-education 17% of the participants with an associate degree, 23% of the participants with a bachelor of science degree and 100% of the participant with a master of science degree agreed

assessing HL would be too time consuming. Post-education 8% of the participants with a bachelor of science degree agreed assessing HL would be too time consuming. When asked, "Do you think a validated HL screening tool should be incorporated into the electronic medical record (EMR)?" pre-education 50% of the participants with an associate degree, 77% of the participants with a bachelor of science degree and 100% of the participants with a master of science degree agreed a HL screening tool should be in the electronic medical record. Post-education 100% of the participants agreed a HL screening tool should be in the medical record. When asked, "If a validated HL tool was available, would you use it? pre-education 83% of the participants with an associated degree, 62% of the participants with a bachelor of science degree, 100% of the participants with a master of science degree and 100% of the participants with a nursing diploma, agreed they would use a HL screening tool. Post-education 100% of the participants agreed they would use a HL screening tool. The findings of the HL project were statistically significant with a p value $<.05$.

Discussion

The initial goal was to recruit fifty participants. In the end, twenty-one subjects participated in the pre-education survey and education intervention, with seventeen completing the post-education survey. The findings from this project suggest HL education may have an impact on increasing knowledge of HL, perception of the importance of assessing HL level and increasing the likelihood of nurses using a HL screening tool. Pre-education responses revealed 60% of the participants stated they could define HL. Over 47% agreed it was important to assess HL. Also, over 90 % of the participants agreed assessing HL would influence delivery of health information. Responses from the pre-education surveys revealed 23% of the participants stated it

would be too time consuming to assess HL levels of parents or caregivers. The majority of participants (over 95%) stated they would use a HL screening tool if available. The findings may reflect the fact that nurses see firsthand the challenges of not having a HL screening tool available. Moreover, the findings suggest that although some nurses lack HL knowledge, they are aware of their responsibility of ensuring caregivers comprehend health information.

During the education sessions, the DNP student observed nurses discussing the need for a validated screening tool as no tool is in place to identify HL level at this time. Nurses also voiced that it would be beneficial to know the HL level of parents, to identify those who may need additional education time before discharge. Unfortunately, the DNP student was unable to hear from all nurses from the medical specialty unit and intermediate care unit. Understaffing and lack of time were noted as barriers for low attendance to the education sessions from both units.

One month after the education sessions, seventeen participants return the post-education survey. The post-education survey responses demonstrated that the education session increased knowledge of HL, changed the perception of nurses as it relates to the importance of assessing HL level, and changed the perception that utilizing a validated HL screening tool would be too time consuming.

Instrument

With the enhancement of medical advancements and technology, health care is becoming more complex. As a result, HL requirements have increased over the years for patients and caregivers to understand health information and to properly perform self-care management (Megwalu, 2016). HL should be addressed at each patient encounter including admission, diagnosis, treatment and discharge (Loan et al., 2018). To have a positive impact on HL bedside

nurses must incorporate HL assessments into daily interactions with patients and families, simultaneously creating a judgment-free and shame-free environment (Loan et al., 2018).

As part of the education intervention, the DNP student educated bedside nurses on The Brief Health Literacy Screening Tool (BRIEF). This screening tool is short, concise and can be integrated into the electronic medical record (Haun et al., 2009). The BRIEF is comprised of three questions developed by Chew and colleagues (2008) and Wallace and colleagues (2006) along with a fourth question developed by Haun and colleagues (2009) (Chew et al., 2008; Haun et al., 2009; Wallace, Rogers, Roskos, Holiday, & Weiss, 2006) (See Appendices E and F for Authors' Permission). Nurses can administer and score the BRIEF in under two minutes, with scores ranging from 4 to 20 (Haun et al., 2009). "The three levels for BRIEF scores are inadequate (scores of 4 to 12), marginal (scores of 13-16), and adequate (score of 17 to 20)" (Haun et al., 2009, p. 25). The BRIEF screening tool proved .79 sensitivity (95% confidence interval, .70-. 87) for identifying insufficient skill and .69 sensitivity 95% CI .64-.75) for identifying insufficient /marginal skills (Haun et al., 2009) (See Appendix G for BRIEF Health Literacy Screening Tool).

Barriers

An expected barrier to the education intervention was lack of time to attend the education sessions. Lack of time to attend the education sessions was noted for both medical specialty nurses and intermediate care nurses.

Limitations

This DNP project had several limitations. First, the convenience sample came from one children's hospital and may not be generalized to all children's hospitals. Secondly, the sample of nurses was small. Lastly, all participants were female.

Application to Practice

Implementing a validated HL screening tool that is short and concise into the electronic medical record would benefit both patients and caregivers with low HL (Cornett, 2009; DeWalt et al., 2011). Properly assessing patients' or caregivers' HL level is essential in identifying vulnerable patients and ensuring they understand their disease process, treatment plan and implementation of the plan of care as instructed (Cornett, 2009). Once the HL level is noted in the medical record, other health care professionals are alerted that the patient or caregiver is in need of extra assistance with health information (Haun et al., 2009). Teaching bedside nurses the importance of HL and how to properly assess HL levels will benefit all individuals caring for patients and aid in reducing health disparities (Cornett, 2009).

Implications for Professional Practice

The findings from the survey yielded valuable information for nursing leadership. Low attendance may have been due to limited exposure to HL in the past. In addition, other required training sessions were offered during this time. As a result, this education session may not have been seen as a priority.

Data from this project show nurses believe assessing the HL level of caregivers is an important element of education. Data revealed the majority of participants with five years or more nursing experience were not exposed to HL education during nursing school. Therefore, it is vital leadership provides educational opportunities for bedside nurses, to increase their HL knowledge. Since nurses are responsible for ensuring patients and families understand discharge teaching, they should be equipped with the tools needed to properly deliver quality individualized discharge education. It would greatly benefit patients for nurses to assess the HL level of caregivers. This

would increase the likelihood that education is delivered in the manner caregivers can comprehend and the plan of care is properly implemented once discharged. However, leadership must put HL as a priority along with other training sessions. This can be achieved by ensuring bedside nurses are given scheduled education time to learn about HL, provide training on a validated HL screening tool and incorporate a HL screening tool as part of the admission assessment.

Conclusion

Findings from this project revealed the participants believe assessing caregivers' and patients' HL level is an important element of discharge education. The survey responses also showed nurses are willing to use a validated HL tool if available. In addition, the majority of nurses who participated in the project did not feel assessing HL level of caregivers and patients would be too time consuming. Recognizing poor HL levels and how to best educate patients and caregivers are essential in providing appropriate education (Saunders et al., 2018).

Therefore, plans must be implemented to educate nurses and other health care providers about the importance of assessing HL level and provide resources to improve HL skills. By developing and executing a plan to better equip health care professionals on HL, the gap will be minimized between the patient's and caregiver's capability to implement the plan of care and a complex healthcare system (Loan et al., 2018).

Professional Journal Selection

The Journal of Nursing Administration

Scope of journal- According to The Journal of Nursing Administration (JONA) it provides information to nursing leadership and management in various healthcare settings such as

hospitals, clinics and home health agencies. The journal focuses on delivering health information on topics such as program development, professional trends, interdisciplinary collaboration, staffing, staffing development and community relations (Journal of Nursing Administration, (JONA) n.d.).

Aim of journal- JONA publishes peer-reviewed articles to provided nursing leadership the tools and healthcare information needed to excel in their particular practice settings, as healthcare systems change (JONA, n.d.).

Title: Enhancing Bedside Nurses' Knowledge of Health Literacy and the Likelihood of Utilizing a Health Literacy Tool in a Pediatric Hospital

Author: Sherry Pass-Ivy MSN, RN, CNS-BC, CDE

Author Affiliation: Clinical Nurse Specialist, Le Bonheur Children's Hospital, Memphis, TN

Conflict: None to declare.

ENHANCING BEDSIDE NURSES' KNOWLEDGE OF HEALTH LITERACY

Abstract

Health literacy is a nationwide health challenge with over one-third of the United States citizens having limited capability to read, comprehend and utilize health information. An educational intervention was implemented to enhance bedside nurses' knowledge of health literacy and the importance of assessing health literacy. Twenty-one beside nurses were educated on health literacy. Results reflect an increase in knowledge of health literacy and a change in the perception of the importance of assessing health literacy.

Identification of Problem

Health literacy (HL) is the capacity to retrieve, comprehend, utilize and convey health-related information (1, 3, 9, 11). Individuals who clearly comprehend their disease process and are capable of utilizing health information to make informed decisions regarding their health are thought to have adequate HL (4). HL allows parents and caregivers to make knowledgeable health decisions, participate in preventive care, as well as improve quality of health throughout the life span (1, 3, 9, 11). HL has been acknowledged as a nationwide health challenge with over one-third of the United States (U.S.) citizens having limited capability to read, comprehend and utilize health information (10). Research has demonstrated that in the U.S. about 26% to 36% of all adults have inadequate HL (18).

Nearly one in four parents have low HL resulting in inadequate skills to attain, handle, and comprehend basic health information. As a result, children of parents with low HL experience increased hospital admissions and emergency room visits, increase non-adherence to medical treatments, and poor outcomes (10, 18). Promptly evaluating HL in clinical settings can assist with identifying patients at risk for unnecessary hospitalizations, poor medication adherence, and misinterpretation of health information (12, 14). Therefore, it is important to have practical clinical methods for evaluating hospitalized patients' and caregivers' HL level to successfully deliver quality care and provide appropriate resources (14).

Thus far, research has focused primarily on assessing and improving HL in adult patients, with little focus on parental HL of children with chronic disorders (10). The level of parental HL has a significant impact on implementing a child's disease treatment plan (10). Health care providers are an important source of health information for patients and caregivers. Therefore, recognizing poor HL levels and how to best educate patients and caregivers are essential in providing appropriate education (19).

The purpose of this DNP project was to educate nurses on the importance of assessing HL, educate on a validated HL screening tool, and increase the likelihood of nurses utilizing a validated HL screening tool. Enhancing bedside nurses' knowledge of HL and providing education on a short-validated HL tool is important, because this intervention can improve patients' and families' comprehension of education and in turn increase positive patient outcomes (5).

Over the past several years, there has been a growing concern with the rate of chronic childhood diseases in the U.S. (6). Currently, there is approximately 15% to 18% of youths living with chronic diseases. Some of these chronic illnesses include asthma, diabetes, sickle cell anemia, obesity and cancer (6). Both accountability and responsibility lie with health care providers to confirm that patients and families are able to comprehend health information and properly perform self-care behaviors (18). Due to lack of knowledge as to HL restrictions, providers may not incorporate all needed interventions to fully communicate with patients and families (18). Unfortunately, the HL level of parents and caregivers is not assessed routinely, although low HL is linked to several negative health outcomes (18). Health care professionals who interact with patients and families are responsible for modifying education and communication methods to ensure comprehension of health information provided.

Barriers to Assessing Health Literacy

Researchers noted a few obstacles to HL screening among hospitalized patients such as patients' or caregivers' limited vision, low literacy and nurses' limited time at the bedside (14). Nurses are accountable for a great deal of documentation, in addition to their direct patient-care responsibilities (11, 14). Therefore, the HL screening tool should be concise, effortless to score, and have clear reportable findings that can be integrated into the electronic health record (EHR) (14). Additionally, since limited vision and literacy were noted as barriers to administering screening tools to hospitalized patients, verbally administering a HL screening tool would circumvent these issues (14, 16, 17).

Lack of Knowledge

Insufficient time to participate in HL training and not considering HL as a priority are barriers to enhancing providers' knowledge of HL (15). Due to a lack of advocacy from leadership to improve HL, some health care providers believe that HL is not a challenge in their organization and that HL programs would not influence positive patient outcomes (15). In 2012, the Institute of Medicine (IOM) recommended the integration of HL programs as one of the ten elements of a health literate organization (7).

Macabasco-O'Connell and Fry-Browers (2011) performed a cross-sectional descriptive study to assess nurses' knowledge and perception of HL. The participants were nurse practitioners, clinical nurse specialists, and staff nurses. This study revealed that nurses lack sufficient knowledge of HL and the impact it plays on patient health

outcomes (15). Some significant findings of the study were that only 30% of nurses ask patients if they have a problem reading medical information or completing medical forms. Over 80% of the respondents revealed they never or rarely formally assess HL with a validated questionnaire and 60% stated they use their instinct to assess HL level. Furthermore, 56% of nurses stated they view assessing HL as a low priority compared to other noted patient problems (15). Moreover, nurses reported that a patient's race, age, educational level and socioeconomic status often influenced their judgment of HL level (15).

Overestimation

Nurses are responsible for ensuring patients and caregivers understand about follow-up appointments, medication regimen, meal planning, and activity level post discharge (7). As a result of overestimating a patient's or caregiver's HL level, nurses may deliver health information in a way that the patient or caregiver does not comprehend (7). Unfortunately, recognizing patients or caregivers with low HL skills can be challenging; thus nurses often overestimate patients' HL level (21). Due to fear of humiliation, patients and caregivers are often reluctant to reveal their inability to read. When patients and caregivers spend the majority of their life trying to conceal their low literacy, they become very skillful at hiding it (21). Inadequate assessment of HL may lead health care providers to deliver health information in a manner that patients and caregivers do not fully understand (8).

The University of Illinois and Health Science System and the University of Illinois College of Nursing conducted a study comparing nurses' estimate of patients' HL level to patients' actual HL level utilizing a validated HL tool. The study revealed that nurses overestimated patients' HL level (7). Furthermore, findings showed that nurses' overestimates outnumbered the underestimates six to one. This study recommended that HL training become a priority for bedside nurses (7)

Conceptual Framework

The National Action Plan to Improve Health Literacy (The Action Plan) offers the underpinning for the nursing profession to start communicating about how to integrate HL practices in healthcare facilities (2). The National Action Plan to Improve Health Literacy can be employed to assist nurses in building knowledge of the importance of HL and developing organizational specific plans to assess HL of patients and caregivers (2). These actions can aid in identifying and addressing HL barriers that can negatively affect patient care health outcomes (2). The National

Action plan is built on the foundation that each individual has the right to health information that can assist him or her with making knowledgeable choices. The plan is also built on the basis that health services should be provided in ways that are comprehensible and potentially increase quality of life (20). The DNP student obtained Institutional Review Board (IRB) approval from the University of Tennessee Health Science Center, which is Le Bonheur Children's Hospital's IRB and The University of Alabama in Huntsville IRB (See Appendices A and B for Approval Letters from IRBs).

Setting

Le Bonheur Children's Hospital is a 255 bed tertiary children's hospital located in Memphis TN. Le Bonheur Children's Hospital is the teaching hospital for the University of Tennessee Health Science Center. Annually, the facility serves approximately 250,000 patients.

Participants

Initially, the goal was to recruit fifty bedside nurses from the medical specialty unit and the intermediate care unit (step-down unit), to participate in the education sessions on HL and the use of a validated health literacy screening tool. Due to staffing needs, the intermediate care unit nurses and some of the medical specialty unit nurses were unable to attend the education sessions. Therefore, the education sessions were opened to all nurses employed by Le Bonheur Children's Hospital, who desired HL training. Nurses from the following units participated: medical specialty, emergency room, surgery, and ambulatory care.

Data Collection

The data collection period took place between July 24, 2019 and September 9, 2019. Inclusion criteria for participation included: registered nurses who worked at Le Bonheur Children's Hospital who spoke and understood English.

Before the education sessions, participants were asked to take a pre-education survey, which was developed by the DNP student. The survey used quantitative measures to evaluate the participants' responses. The pre-education survey elicited responses to six multiple choice questions. The questions were structured to obtain information about the participants' knowledge of HL, perception of the importance of assessing HL level of caregivers and patients and the likelihood of utilizing a validated HL screening tool.

Intervention

This DNP project was a quality improvement project with an educational intervention designed to enhance bedside nurses' knowledge of HL, make nurses aware of the importance of assessing HL and introduce a validated HL screening tool. The project was also designed to provide education on the consequences associated with not assessing HL or inadequately assessing HL of patients and families.

Before the education sessions, the participants were given a pre-education survey to assess their knowledge of HL, perception of the importance of HL assessment and the likelihood of utilizing a HL screening tool. The answer choices were Likert Scale style: strongly agree, agree, neutral, disagree and strongly disagree (See Appendix C for Bedside Nurse Survey). After the surveys were administered, the DNP student presented an education session on a validated HL screening tool, definition of HL, the importance of HL and consequences of not assessing HL or inadequately assessing HL (See Appendix D for Teaching Outline). The survey responses were kept confidential and no personal identifiers were used on the survey.

Results

Out of twenty-one participants, seventeen (81%) returned a post-education survey.

The HL survey responses revealed the education intervention may have made an impact on the participants' knowledge of HL, the importance of assessing HL and the likelihood of using a validated HL screening tool. When asked "Can you define HL?" pre-education 50% of the participants with an associate degree, 61% of the participants with a bachelor of science degree, 100% of participants with a master of science degree agreed they could define HL. The post-education results revealed 100% of the participants agreed they could define HL. When asked "Do you feel it is important to assess HL level of caregivers?" pre-education 83% of the participants with an associate degree, 100% of the participants with a bachelor of science degree, 100% of the participants with a master of science degree agreed it is important to assess HL of caregivers. The post-education survey results showed 100% of the participants agreed it is important to assess the HL level of caregivers. When asked, "Do you think assessing parental HL will influence the way education is delivered?" pre-education 83% of the participants with an associate degree, 100% of the participants with a bachelor of science degree, 100% of the participants with a master of science degree agreed assessing HL would influence education delivery. Post-education 100% of the participants agreed assessing HL

would influence education delivery. When asked "Do you think assessing HL level would be too time consuming?" pre-education 17% of the participants with an associate degree, 23% of the participants with a bachelor of science degree and 100% of the participant with a master of science degree agreed assessing HL would be too time consuming. Post-education 8% of the participants with a bachelor of science degree agreed assessing HL would be too time consuming. When asked, "Do you think a validated HL screening tool should be incorporated into the electronic medical record (EMR)?" pre-education 50% of the participants with an associate degree, 77% of the participants with a bachelor of science degree and 100% of the participants with a master of science degree agreed a HL screening tool should be in the electronic medical record. Post-education 100% of the participants agreed a HL screening tool should be in the medical record. When asked, "If a validated HL tool was available, would you use it? pre-education 83% of the participants with an associated degree, 62% of the participants with a bachelor of science degree, 100% of the participants with a master of science degree and 100% of the participants with a nursing diploma, agreed they would use a HL screening tool. Post-education 100% of the participants agreed they would use a HL screening tool. The findings of the HL project were statistically significant with a p value $<.05$.

Discussion

Twenty-one subjects participated in the pre-education survey and education intervention, with seventeen completing the post-education survey. The findings from this project suggest HL education may have an impact on increasing knowledge of HL, perception of the importance of assessing HL level and increasing the likelihood of nurses using a HL screening tool. Pre-education responses revealed 60% of the participants stated they could define HL. Over 47% agreed it was important to assess HL. Also, over 90 % of the participants agreed assessing HL would influence delivery of health information. Responses from the pre-education surveys revealed 23% of the participants stated it would be too time consuming to assess HL levels of parents or caregivers. The majority of participants (over 95%) stated they would use a HL screening tool if available. The findings may reflect the fact that nurses see firsthand the challenges of not having a HL screening tool available. Moreover, the findings suggest that although some nurses lack HL knowledge, they are aware of their responsibility of ensuring caregivers comprehend health information.

One month after the education sessions, seventeen participants return the post-education survey. The post-education survey responses demonstrated that the education session increased knowledge of HL, changed the perception of

nurses as it relates to the importance of assessing HL level, and changed the perception that utilizing a validated HL screening tool would be too time consuming.

Barriers

An expected barrier to the education intervention was lack of time to attend the education sessions. Lack of time to attend the education sessions was noted for both medical specialty nurses and intermediate care nurses.

Limitations

This DNP project had several limitations. First, the convenience sample came from one children's hospital and may not be generalized to all children's hospitals. Secondly, the sample of nurses was small. Lastly, all participants were female.

Implications for Professional Practice

The findings from the survey yielded valuable information for nursing leadership. Low attendance may have been due to limited exposure to HL in the past. In addition, other required training sessions were offered during this time. As a result, this education session may not have been seen as a priority.

Data from this project show nurses believe assessing the HL level of caregivers is an important element of education. Data revealed the majority of participants with five years or more nursing experience were not exposed to HL education during nursing school. Therefore, it is vital leadership provides educational opportunities for bedside nurses, to increase their HL knowledge. Since nurses are responsible for ensuring patients and families understand discharge teaching, they should be equipped with the tools needed to properly deliver quality individualized discharge education. It would greatly benefit patients for nurses to assess the HL level of caregivers. This would increase the likelihood that education is delivered in the manner caregivers can comprehend and the plan of care is properly implemented once discharged. However, leadership must put HL as a priority along with other training sessions. This can be achieved by ensuring bedside nurses are given scheduled education time to learn about HL, provide training on a validated HL screening tool and incorporate a HL screening tool as part of the admission assessment.

Conclusion

Findings from this project revealed the participants believe assessing caregivers' and patients' HL level is an important element of discharge education. The survey responses also showed nurses are willing to use a validated HL tool if available. In addition, the majority of nurses who participated in the project did not feel assessing HL level of caregivers and patients would be too time consuming. Recognizing poor HL levels and how to best educate patients and caregivers are essential in providing appropriate education (19). By developing and executing a plan to better equip health care professionals on HL, the gap will be minimized between the patient's and caregiver's capability to implement the plan of care and a complex healthcare system (13).

References

1. Baldridge C. Health literacy. Oklahoma Nurse. 2012; 57(3): 7-7.
2. Berkman N D, Davis T. C, & McCormack L. Health literacy: What is it? Health Communication. 2010; 15: 9-19.
3. Institute of Medicine Committee on Health Literacy. Health literacy: A prescription to end confusion. Washington D.C, national Acaemies Press (US), 2004.
4. Lambert V, & Keogh D. Health literacy and its improtance of effective communication. Nursing Children & Young People, 2014; 35(4): 31-37.
5. Bradley-Klug K, Shaffer-Hudkins E, Lynn C, Jefferies DeLoatche, K, & Montgomery J. Initial development of the health literacy and resiliency scale: Youth version. Journal of Communication in Healthcare. 2017; 10(2): 100-107.
6. Janisse H C, Naar-King S, & Ellis D. Brief report: Parent's health literacy among high-risk adolescents with insulin dependent diabetes. Journal of Pediatric Psychology. 2010; 35(4): 436-440.
7. Sand-Jecklin K, Daniels C S, & Lucke-Wold N. Incorporating health literacy screening into patinet's health assessment. Clinical Nursing Research. 2017; 26(2): 176-190.
8. Lindquist L A, Go L, Fleisher J, Jain N, Friesema E, & Baker D W. Relationship of health literacy to intentional and unintentional non-adherence of hospital discharge medictions. Journal of General Internal Medicine. 2012; 27(2): 173-178.
9. Louis A J, Arora V M, Matthiesen M I, Meltzer D O, & Press V G. Screening hospitalized patients for low health litercy: Beyound the REALM of possibility? Education Behavior. 2017; 44(3):360-364.
10. Saunders C, Palesy D, & Lewis J. Systematic review and conceptual framework for health literacy training in health professions education. Health Professions Education. 2018; 13-29.
11. Cafiero M. Nurse practitioners' knowledge, experience, and intention to use health literacy strategies in clinical practice. Journal of Health Communication. 2013; 18: 70-81.
12. Cambric M N. The relationship between chronic health conditions and health literacy, resiliency and support/self-advocacy in youth. 2017. https://scholarcommons.usf.edu/etd/7005/

13. Press V G, Matthiensen M I, Ranadive A, Hariprasad S M, Meltzer D O, & Arora V M. Insights into inpatients with poor vision: A high value proposition. Journal of Hospital Medicine. 2015; 10(5): 311-313.
14. Press V G, Shapiro, M I, Mayo A M, Meltzer D O, & Arora V M. More than meets the eye: Relationship between low health literacy and poor vision in hospitalized patients. Journal of Health Communication. 2013; 197-204.
15. Macabasco-O'Connell A, & Fry-Bowers E K. Knowledge and perceptions of health literacy among nursing professionals. Journal of Health Communication. 2011; 16(9): 295-307.
16. Dickens C, Lambert B L, Cromwell T, Piano M R. Nurse overestimation of patients' health literacy. Journal of Health Communication. 2013; 18(1): 62-69
17. Williams R, Moeller L, & Willis S. Barriers and enablers to improved access to health information for patients with low health literacy in the radiotherapy department. Radiography. 2018; 24: 11-15.
18. Googins K, Wallston K A, Mion L, Cawthon C, & Kripalani S. What patient characteristics influence nurses' assessment of health literacy? Journal of Health Communication. 2016; 12: 105-108.
19. Baur C. Calling the nation to act: Implementing the national action plan to improve health literacy. Nursing Outlook. 2011; 59(2): 63-69.
20. United States Department of Health and Human Services. Office of Disease Prevention and Health Promotion. National action plan to improve health literacy. 2010. https://health.gov/communication/hlactionplan/pdf/health_literacy_action_plan.pdf
21. Loan L A, Parnell T A, Stichler J F, Boyle D K, Allen P, VanFosson C A, & Barton A J. Call for action: Nurses must play a critical role to enhance health literacy. Nursing Outlook. 2018; 66(1): 97-100.

References

Baldridge, C. (2012). Health literacy. *Oklahoma Nurse, 57*(3), 7-7.

Batterham, R. W., Hawkins, M., Collins, P. A., Buchbinder, R., & Osborne, R. H. (2016). Health literacy: Applying current concepts to improve health services and reduce health inequalities. *Public Health, 132*, 3-12. doi:10.1016/j.puhe.2016.01.001

Baur, C. (2011). Calling the nation to act: Implementing the national action plan to improve health literacy. *Nursing Outlook, 59*(2), 63-69. doi:https://doi.org/10.1016/j.outlook.2010.12.003

Berkman, N. D., Davis, T. C., & McCormack, L. (2010). Health literacy: What is it? *Journal of Health Communication, 15*, 9-19. doi:10.1080/10810730.2010.499985

Bradley-Klug, K., Shaffer-Hudkins, E., Lynn, C., Jeffries DeLoatche, K., & Montgomery, J. (2017). Initial development of the health literacy and resiliency scale: Youth version. *Journal of Communication in Healthcare, 10*(2), 100-107. doi:10.1080/17538068.2017.1308689

Cafiero, M. (2013). Nurse practitioners' knowledge, experience, and intention to use health literacy strategies in clinical practice. *Journal of Health Communication, 18 Suppl 1*, 70-81. doi:10.1080/10810730.2013.825665

Cambric, M. N. (2017). The relationship between chronic health conditions and health literacy, resilienccy and support/self-advocacy in youth. Retrieved from https://scholarcommons.usf.edu/etd/7005/.

Chew, L. D., Griffin, J. M., Partin, M. R., Noorbaloochi, S., Grill, J. P., Snyder, A., . . . Vanryn, M. (2008). Validation of screening questions for limited health literacy in a large VA

outpatient population. *Journal of General Internal Medicine, 23*(5), 561-566. doi:10.1007/s11606-008-0520-5

Cornett, S. (2009). Assessing and addressing health literacy. *Online Journal of Issues in Nursing, 14*(3), 1-1.

DeWalt, D. A., Broucksou, K. A., Hawk, V., Brach, C., Hink, A., Rudd, R., & Callahan, L. (2011). Developing and testing the health literacy universal precautions toolkit. *Nursing Outlook, 59*(2), 85-94. doi:https://doi.org/10.1016/j.outlook.2010.12.002

Dickens, C., Lambert, B. L., Cromwell, T., & Piano, M. R. (2013). Nurse overestimation of patients' health literacy. *Journal of Health Communication, 18*(1), 62-69. doi:10.1080/10810730.2013.825670

Dickens, C., & Piano, M. R. (2013). Health literacy and nursing: An update. *American Journal of Nursing, 113*(6), 52-58. doi:10.1097/01.NAJ.0000431271.83277.2f

Goggins, K., Wallston, K. A., Mion, L., Cawthon, C., & Kripalani, S. (2016). What patient characteristics influence nurses' assessment of health literacy? *Journal of Health Communication, 21*, 105-108. doi:10.1080/10810730.2016.1193919

Grabeel, K. L., & Beeler, C. J. (2018). Taking the Pulse of the University of Tennessee Medical Center's Health Literacy Knowledge. *Medical Reference Service Quarterly, 37*(1), 89-96. doi:10.1080/02763869.2017.1404399

Haun, J., Noland-Dodd, V., Varnes, J., Graham-Pole, J., Rienzo, B., & Donaldson, P. (2009). Retrieved from https://pdfs.semanticscholar.org/3250/e3245ac3250b3254a3258c3254ea3201c3263e36423f36412c36447ce.pdf.

Howe, C. J., Cipher, D. J., LeFlore, J., & Lipman, T. H. (2015). Parent health literacy and communication with diabetes educators in a pediatric diabetes clinic: A mixed methods approach. *Journal of Health Communication, 20*, 50-59. doi:10.1080/10810730.2015.1083636

Institute of Medicine Committee on Health, L. (2004). In L. Nielsen-Bohlman, A. M. Panzer, & D. A. Kindig (Eds.), *Health literacy: A prescription to end confusion.* Washington (DC): National Academies Press (US)

Janisse, H. C., Naar-King, S., & Ellis, D. (2010). Brief report: Parent's health literacy among high-risk adolescents with insulin dependent diabetes. *Journal of Pediatric Psychology, 35*(4), 436-440. doi:10.1093/jpepsy/jsp077

Journal of Nursing Administration. (.n.d.). About the Journal. Retrieved September 25, 2019, from https://journals.lww.com/jonajournal/Pages/aboutthejournal.aspx

Lambert, V., & Keogh, D. (2014). Health literacy and its importance for effective communication. Part 1. *Nursing Children & Young People, 26*(3), 31-37. doi:10.7748/ncyp2014.04.26.3.31.e387

Lindquist, L. A., Go, L., Fleisher, J., Jain, N., Friesema, E., & Baker, D. W. (2012). Relationship of health literacy to intentional and unintentional non-adherence of hospital discharge medications. *Journal of Genernal Internal Medicine, 27*(2), 173-178. doi:10.1007/s11606-011-1886-3

Loan, L. A., Parnell, T. A., Stichler, J. F., Boyle, D. K., Allen, P., VanFosson, C. A., & Barton, A. J. (2018). Call for action: Nurses must play a critical role to enhance health literacy. *Nursing Outlook, 66*(1), 97-100. doi:10.1016/j.outlook.2017.11.003

Louis, A. J., Arora, V. M., Matthiesen, M. I., Meltzer, D. O., & Press, V. G. (2017). Screening hospitalized patients for low health literacy: Beyond the REALM of possibility? *Health Education & Behavior, 44*(3), 360-364. doi:10.1177/1090198116661478

Lynn, J. W. (2017). Assessing provider and staff knowledge of health literacy and satifaction with a health literacy assessment tool in a primary care practice. Retrieved from https://scholarcommons.usf.edu/etd/7005/.

Macabasco-O'Connell, A., & Fry-Bowers, E. K. (2011). Knowledge and perceptions of health literacy among nursing professionals. *Journal of Health Communication, 16*(9), 295-307.

Megwalu, U. C. (2016). Health Literacy: A brief primer for the otolaryngologist. *Otolaryngology–Head and Neck Surgery, 156*(3), 395-396. doi:10.1177/0194599816683664

Otal, D., Wizowski, L., Pemberton, J., Nagel, K., Fitzgerald, P., & Walton, J. M. (2012). Parent health literacy and satisfaction with plain language education materials in a pediatric surgery outpatient clinic: A pilot study. *Journal of Pediatric Surgery, 47*(5), 964-969. doi:10.1016/j.jpedsurg.2012.01.057

Press, V. G., Matthiesen, M. I., Ranadive, A., Hariprasad, S. M., Meltzer, D. O., & Arora, V. M. (2015). Insights into inpatients with poor vision: A high value proposition. *Journal of Hospital Medicine, 10*(5), 311-313. doi:10.1002/jhm.2342

Press, V. G., Shapiro, M. I., Mayo, A. M., Meltzer, D. O., & Arora, V. M. (2013). More than meets the eye: Relationship between low health literacy and poor vision in hospitalized patients. *Journal of Health Communication, 18 Suppl 1*, 197-204. doi:10.1080/10810730.2013.830346

Sand-Jecklin, K., & Coyle, S. (2014). Efficiently assessing patient health literacy: The BHLS instrument. *Clinical Nurse Research, 23*(6), 581-600. doi:10.1177/1054773813488417

Sand-Jecklin, K., Daniels, C. S., & Lucke-Wold, N. (2017). Incorporating health literacy screening into patients' health assessment. *Clinical Nursing Research, 26*(2), 176-190. doi:10.1177/1054773815619592

Saunders, C., Palesy, D., & Lewis, J. (2018). Systematic review and conceptual framework for health literacy training in health professions education. *Health Professions Education.* doi:https://doi.org/10.1016/j.hpe.2018.03.003

U.S. Department of Health and human Services. Office of Disease Prevention and Health Promotion. (2010). *National Action Plan to Improve Health Literacy.* Retrieved from https://health.gov/communication/hlactionplan/pdf/Health_Literacy_Action_Plan.pdf

Wallace, L. S., Rogers, E. S., Roskos, S. E., Holiday, D. B., & Weiss, B. D. (2006). Brief report: Screening items to identify patients with limited health literacy skills. *Journal of General Internal Medicine, 21*(8), 874-877. doi:10.1111/j.1525-1497.2006.00532.x

Williams, R., Moeller, L., & Willis, S. (2018). Barriers and enablers to improved access to health information for patients with low health literacy in the radiotherapy department. *Radiography, 24*, S11-S15. doi:https://doi.org/10.1016/j.radi.2018.06.010

Wittenberg, E., Ferrell, B., Kanter, E., & Buller, H. (2018). Health literacy: Exploring nursing challenges to providing support and understanding. *Clinical Journal of Oncology Nursing, 22*(1), 53-61. doi:10.1188/18.Cjon.53-61

Table 1

Participants Characteristics (n=21)

Characteristics	*n*	Percentage
Gender		
Female	21	100
Ethnicity		
African American	8	38.1
Caucasian/White	12	57.1
Hispanic or Latino	1	4.8
Yrs. of Nursing Experience		
0-1	2	9.5
1-5	7	33.3
5-10	2	9.5
10-20	4	19.0
20-30	3	14.2
>30	3	14.2
Basic Nursing Education		
ADN (Associate Degree in Nursing)	6	28.6
BSN (Bachelor of Science in Nursing)	13	61.9
MSN (Master of Science. in Nursing)	1	4.8

Participants Characteristics (*n*=21)

Characteristics	*n*	Percentage
Diploma	1	4.8
School Curriculum Included Health Literacy		
Yes	7	33.3
No	14	66.7

Table 2

Health Literacy Questions

	Pre-Education *n* (%)	Post-Education *n* (%)
Can Define HL		
Strongly Agree		
Agree	12 (60)	17 (100)
Important to Assess HL		
Strongly Agree		
Agree	10 (47.6)	17 (100)
Assessing HL Influences Education Delivery		
Strongly Agree		
Agree	19 (90.5)	17 (100)
Assessing HL Is Too Time Consuming		
Strongly Agree		
Agree	5 (23.8)	1 (5.9)
Electronic Medical Record Should Include HL Screening Tool		
Strongly Agree		
Agree	14 (66.7)	17 (100)
Would Use a HL Tool if Available		
Strongly Agree	20 (95.2)	17(100)

Note: There were 21 participants who took the pre-education survey and attended the education session. Seventeen participants return the post-education survey.

Appendix A

UTHSC IRB Approval Letter

THE UNIVERSITY OF TENNESSEE
HEALTH SCIENCE CENTER

Institutional Review Board
910 Madison Avenue, Suite 600
Memphis, TN 38163
Tel: (901) 448-4824

June 25, 2019

SHERRY IVY
UTHSC - VC-AFSA - Library

Re: 19-06665-XM
Study Title: Enhancing Bedside Nurses' Knowledge of Health Literacy and the Likelihood of Utilizing a Health Literacy Tool in a Pediatric Hospital

Dear Ms. IVY:

The Administrative Section of the UTHSC Institutional Review Board (IRB) has received your written acceptance of and/or response dated June 21, 2019 to the provisos outlined in our correspondence of June 18, 2019 concerning the application for the above referenced project.

The IRB determined that your application is eligible for **exempt** review under 45 CFR 46.104(d) (1). Your application has been determined to comply with proper consideration for the rights and welfare of human subjects and the regulatory requirements for the protection of human subjects. In accord with 45 CFR 46.116, informed consent may be altered, with the cover statement used in lieu of an informed consent interview. The requirement to secure a signed consent form is waived under 45 CFR 46.117(c) (2). Willingness of the subject to participate will constitute adequate documentation of consent. Therefore, this letter constitutes full approval of your application (version 1.1) as submitted including:

- Consent Disclosure Statement;
- Flyer; and
- Survey.

All of the above were stamped IRB-approved June 25, 2019. You must use the date-stamped versions of the study documents. Date-stamped materials are available in the *Informed Consent* and *Other Project Documents* folders in iMedRIS.

This study may not be initiated until you receive approval from the institution(s) where the research is being conducted.

In the event that volunteers are to be recruited using solicitation materials, such as brochures, posters, web-based advertisements, etc., these materials must receive prior approval of the IRB.

Any alterations (**revisions**) in the protocol, consent cover statement, or survey must be promptly submitted to and approved by the UTHSC Institutional Review Board prior to implementation of these revisions. In addition, you are responsible for reporting any unanticipated problems, including reportable adverse events, involving risks to subjects or others in the manner required by the local IRB policy. Lastly, you must

request to close your project when you have completed data analysis. All of the above should be submitted to the IRB via the appropriate form in iMedRIS.

Sincerely,

Donna Stallings

Signature applied by Donna L Stallings on 06/25/2019 12:47:32 PM CDT

Donna Stallings, CIM
IRB Administrator
UTHSC IRB

Appendix B

UAH IRB Approval Letter

Date: 1 July 2019

_X_ Expedited (see pg 2)
__ Exempted (see pg 3)
__ Full Review
__ Extension of Approval

PI: Sherry Pass-Ivy
PI Department: College of Nursing
The University of Alabama in Huntsville

Dear Sherry,

The UAH Institutional Review Board of Human Subjects Committee has reviewed your proposal titled: *Enhancing Bedside Nurses' Knowledge of Health Literacy and the Likelihood of Utilizing a Health Literacy Tool in a Pediatric Hospital* and found it meets the necessary criteria for approval. Your proposal seems to be in compliance with these 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,

Ann L. Bianchi

Ann L. Bianchi
IRB Chair
Associate Professor, College of Nursing

OFFICE OF THE VICE PRESIDENT FOR RESEARCH
Von Braun Research Hall M-17 Huntsville, AL 35899 T 256.824.6100 F 256.824.6783

Appendix C

Bedside Nurse Survey

Assessing bedside nurses' knowledge of health literacy (HL) and the likelihood of utilizing a validated health literacy-screening tool that is integrated into the electronic medical record.

Gender: _____

Race/Ethnicity: (please circle one)

A) African American /Black

B) Caucasian/White

C) Hispanic or Latino

D) Asian

E) Native American

F) Pacific Islander

G) Hawaiian

H) Other/Multi-race

Years of nursing experience_____

What was your basic nursing education? (Please circle one)

A) LPN (License Practical Nurse)

B) ADN (Associate Degree in Nursing)

C) BSN (Bachelor of Science in Nursing)

D) MSN (Master of Science in Nursing)

Did nursing school curriculum include HL? _____YES or _____

Please select your answer to each question below.

1. Can you define HL?
    a. Strongly Agree
    b. Agree
    c. Neutral
    d. Disagree
    e. Strongly Disagree
2. Do you feel it is important to assess HL levels of caregivers and patients?
    a. Strongly Agree
    b. Agree
    c. Neutral
    d. Disagree
    e. Strongly Disagree
3. Do you think assessing parental HL level will influence the way education is delivered?
    a. Strongly Agree
    b. Agree
    c. Neutral
    d. Disagree
    e. Strongly Disagree
4. Do you think assessing HL level would be too time consuming?
    a. Strongly Agree
    b. Agree
    c. Neutral
    d. Disagree
    e. Strongly Disagree
5. Do you think a validated HL screening tool should be incorporated into the electronic medical record (EMR)?
    a. Strongly Agree
    b. Agree
    c. Neutral
    d. Disagree
    e. Strongly Disagree
6. If a validated HL tool were available, would you use it?
    a. Strongly Agree
    b. Agree
    c. Neutral
    d. Disagree
    e. Strongly Disagree

Appendix D

Teaching Outline

- What is Health Literacy (HL)?
- Consequences of not assessing HL
  - Unintentional non-adherence
  - Negative patient outcome
- Benefits of Assessing Health
  - Decrease hospitalization
  - Decrease emergency room visits
  - Increased adherence to medication regimen and treatment plan
  - Engagement in decision making
- HL Screening Tool
  - Validated tool
  - Concise and short
  - Easily integrated into chart
  - Administered verbally
  - Easily scored

Appendix E

Author's Permission

From: Sherry Ivy <Sherry.Ivy@lebonheur.org>

Sent: Tuesday, February 26, 2019 7:44:56 PM

To: Lisa Chew

Subject: Brief Health Literacy Assessment

Hello Dr. Chew

I am emailing to request your permission to use your 3 question health literacy assessment tool in my DNP project. The goal is to teach bedside nurses about the validated tool and the importance of assessing health literacy . May I have your permission to use the tool in my presentation for my DNP project?

Thank you

Sherry Pass-Ivy

DNP student

The University of Huntsville in Alabama

Lisa Chew lchew@uw.edu

Re: Brief Health Literacy Assessment

Yes...please use the survey...

Appendix F

Author's Permission

From: Sherry Ivy [mailto:Sherry.Ivy@lebonheur.org]

Sent: Wednesday, February 27, 2019 9:16 AM

To: Haun, Jolie N. <Jolie.Haun@va.gov>

Subject: [EXTERNAL] BRIEF Health Literacy Screening Tool

Good morning Dr. Haun,

My name is Sherry Pass-Ivy. I am a DNP student at The University of Alabama in Huntsville. The goal of my scholarly DNP project is to enhance bedside nurses' knowledge on health literacy and educate them on the BRIEF health literacy tool. May I have your permission to use the tool in my paper and to teach bedside nurses on the tool?

Thank you

Sherry Ivy APRN, CNS- BC, CDE

Advanced Practice Registered Nurse/Clinical Nurse Specialist

Hello –

The BRIEF health literacy tool is open source. You are welcome to use the tool. I only request you cite our work if you present or publish your work.

Thank you and good luck!

Jolie Haun, PhD EdS

Director of Implementation & Dissemination

Research Health Scientist

Rehabilitation Outcomes Research Section

8900 Grand Oak Circle

Tampa, FL 33637-1022

Jolie.Haun@va.gov

Phone: (813) 558-7622

FAX: (813) 558-7616

Appendix G

BRIEF Health Literacy Screening Tool (BRIEF)

Please circle the answer that best represents your response.

1. How often do you have someone help you read hospital materials?

    1. Always
    2. Often
    3. Sometimes
    4. Occasionally
    5. Never

2. How often do you have problems learning about your medical condition because of difficulty understanding written information?
    1. Always
    2. Often
    3. Sometimes
    4. Occasionally
    5. Never

3. How often do you have a problem understanding what is told to you about your medical condition?
    1. Always
    2. Often
    3. Sometimes
    4. Occasionally
    5. Never

4. How confident are you filling out medical forms by yourself?
    1. Not at all
    2. A little bit
    3. Somewhat
    4. Quite a bit

5. Extremely