Improving Safe Skin Behaviors in High School Freshman

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Nebraska Methodist College

Abstract

OBJECTIVE: Sun exposure is common among teenagers but teenagers also have poor sun protection strategies. Sun exposure during adolescence or teenage years is associated with an increased risk of skin cancer later in life. Research suggests that adolescence and childhood are optimal periods to provide information regarding skin cancer and implement a primary prevention program. This project investigates whether or not providing education on skin cancer and safe sun behaviors increases knowledge among high school freshman at a rural Midwestern High School. **METHODS:** Pretests/posttests were administered to students before education was provided and after education was provided. The pretest/posttest was a 15 question test that consisted of multiple choice or true/false questions regarding skin cancer and safe sun behavior knowledge. A dependent samples t-test was used for data analysis with a level of significance of 0.05. Data was analyzed as an aggregate, by analyzing a mean pre-test score of all individuals to the mean post-test score of all individuals. **RESULTS:** There were 27 participants in this project from which both a pretest and posttest were obtained. There was a significant difference in the scores of before education (M= 10.6, SD= 1.92) and after education (M=14.1, SD=0.91) conditions $t(26)=12.16$, $p=0.00$. **CONCLUSION:** The results/findings of this project were significant and revealed that providing education modules about skin cancer and safe sun behaviors to high school freshman increased knowledge of skin cancer and safe sun behaviors among this population.

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Improving Safe Skin Behaviors in High School Freshman

Introduction

Skin cancer is a growing health concern in the United States and is the most common form of cancer (Center for Disease Control, 2016). An estimated 10,130 individuals will die in the United States due to melanoma (Skin Cancer Foundation, 2016). Sun exposure is common among teenagers but teenagers also have poor sun protection strategies. Sun exposure during adolescence or teenage years is associated with an increased risk of skin cancer later in life. This adolescent age group spends the most time outdoors and pays the least attention to safe skin behaviors (Schuz & Eid, 2013). Another common unsafe behavior linked to skin cancer that commonly begins at this age is indoor tanning. If indoor tanning is started during adolescence or young adulthood, there is a 75% increase in risk of melanoma (Boniol, Autier, Boyle & Gandini, 2012).

Background and Significance

Skin cancer is the most common cancer in the United States with estimation that one in five Americans will develop skin cancer. More alarming is that melanoma rates are increasing in females ages 15-29 and is the second most common cancer among females in this age group (American Academy of Dermatology, 2016). Research suggests that adolescence and childhood are optimal periods to provide information regarding skin cancer and implement a primary prevention program (Nahar, 2013). However, there is little information and data regarding the success of educating high school students about skin cancer and safe skin behaviors. Although literature summarizes the need for this type of education, there is little to no

information surrounding an actual study that has been carried out. The time to provide education on skin cancer and safe skin behaviors is now.

Target Population

High school freshmen is an appropriate age group where students will understand the educational material being presented to them as well comprehend the impact that unsafe skin behaviors can have on a person's risk for developing skin cancer, which helps enhance the readiness for change among this population. Since there is increased sun exposure among this population, this creates an opportunity to initiate an educational program that educates high school students on skin cancer and safe skin behaviors to help decrease their risk of developing skin cancer.

Purpose Statement and Outcomes

The purpose of this capstone project was to provide education on skin cancer and safe sun behaviors to increase knowledge among high school freshman at a rural Midwestern High School. Intended outcomes for this project include:

Outcome 1- high school freshmen students will demonstrate increased knowledge of skin cancer after education

Outcome 2- high school freshman students will demonstrate increased knowledge of safe sun behaviors after education

Clinical Question

The clinical question guiding this capstone project was: Will providing educational modules increase high school freshman students' knowledge about skin cancer and safe sun behaviors?

Assessment of Organization

This project was conducted at a Midwestern, rural high school. This high school has approximately 300 students, with roughly 50 students in the freshman class. Facilitators at this organization included the health class educator and the school nurse. Communication was initially established with the superintendent of the rural Midwestern High School who felt that the project was pertinent to health information being presented to freshman and referred on to speak with the freshman health class instructor. The health class educator agreed that there was a need for this information and allowed time for the material to be presented.

Barriers included students who were not ready to change their sun behavior, parents who were unwilling to sign consent and uncooperative or unsupportive teaching staff. Students could listen to the information presented but potentially not change any of their sun behaviors. Parents may not agree with the information being presented for this project and decline having their student be involved. This could be true for the teaching staff as well. Even though the educational material was informative, the teaching staff could disagree on the need for this type of education. Another barrier is the time that will be taken away from their curriculum in order to provide education related to this project. The high school freshman health class already has a curriculum in place, so by allowing this project to take place, they are altering or changing that curriculum.

Many adolescents start tanning for various reasons such as school dances or athletics and may not grasp the long term unintended consequences of not practicing safe skin behaviors. An unanticipated consequence of this project could possibly be an aggravated parent over the content provided.

Review of the Literature

A literature review was conducted using CINAHL Plus with Full-Text, PubMed and ProQuest databases. Key search words included adolescents, teenagers, high school students, education, teaching, indoor tanning, skin cancer. Inclusion criteria identified were articles from the last 5 years, English, child: birth-18 years and humans.

A recent research study was performed to evaluate the possibility of training high school biology teachers on cancer prevention in order to implement cancer prevention in schools. Quantitative evaluation was performed in the form of pre-test and post-test questionnaire after teachers went through a training program. 1,648 students over 82 classes were involved as well as 54 teachers who completed the training. Randomly selected cluster sampling was performed and 21 of those classes were included in the experimental group and 13 classes were selected for the control group. A total number of 18 classes were used for the experimental group (385 students) and 11 classes in the control group (236 students). Overall, the study found that the training program increased the teacher's knowledge and ability to deliver cancer prevention education to students. This information reinforced the idea that high school teachers and school can help serve as cancer prevention promoters and can serve as another outlet to help with public health concerns (Barros et al, 2014).

Results from intervention studies that were designed to modify sun exposure behavior among children in Europe, Australia and the United States were reviewed to determine the best plan to provide education programs in school regarding safe

skin practices and skin cancer. Nahar (2013) reviewed several studies and arrived at a recommendation plan. The most prominent recommendation was that skin cancer prevention programs should be carried out over several school years and that parents play a strong role in helping educate children about safe sun behaviors and skin cancer prevention (Nahar, 2013).

A study was performed to examine skin protection behaviors among a national representative sample of high school students over a 10 year period. The study reported that sunscreen use declined from 2001 to 2011 from 67.7% to 56.1% and indoor tanning device use was highest among white females at 37.4% in 2009 and 29.3% in 2011. Indoor tanning device use increased as grade level increased. This study expressed that prevention efforts of decreasing the risk of skin cancer are extremely important during childhood and adolescence (Basch, Basch, Rajan & Ruggles, 2014).

A program carried out by SkinSafe in Canada provided interactive presentations to 4,622 high school students throughout British Columbia. Baseline knowledge of skin cancer and Ultra Violet (UV) protection was assessed and documented with follow up surveys taking place one year later after students had participated in the educational, interactive presentations that discussed topics such as skin cancer, skin health and sun safety. The study found that there was an increase understanding of skin cancer development and prevention from 60.6% to 78.1%. Behavioral changes were noted as well. Students reported an increase in sunless tanning products over tanning beds from 22% to 72.4%. Understanding of

sunscreen use and UVA/UVB protection improved as well as the number of individuals who performed skin self-examinations (Haiducu & McLean, 2013).

Conceptual Framework

The conceptual framework used to guide this project was the Health Belief Model. The Health Belief Model is often used when initiating a new program and focuses on an individual taking a recommended action to avoid a negative health condition. This framework is used to help motivate individuals to make positive health choices in order to avoid a negative health consequence (see Figure 1).

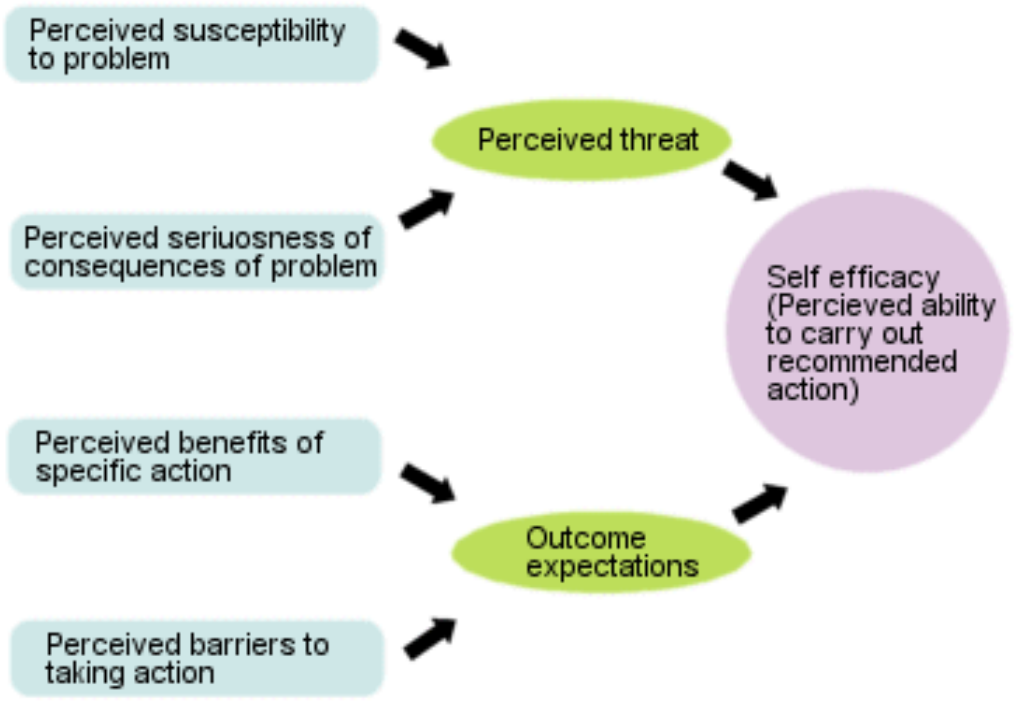

Figure 1. Health Belief Model

The first concept of this model is perceived susceptibility: what the student believes their chance is of developing skin cancer. The next concept refers to perceived severity: the student's view on the seriousness of a cancer condition. Both of these concepts are directly linked to a perceived threat, which in this case would

be skin cancer. Perceived benefit is the next concept in the model: the student's belief on whether or not practicing safe sun behaviors will help reduce their risk of skin cancer. The next concept is perceived barriers: the student's belief that the safe sun behaviors discussed can be effectively carried out. For example, the student may not have access to sunscreen or not believe that he/she will be able perform safe sun behaviors such as applying sunscreen every two hours. Perceived benefits and perceived barriers are directly linked to outcome expectations within the Health Belief Model. All of the above concepts discussed above contribute to the main idea of the Health Belief Model which is self-efficacy: the student's confidence in performing safe sun behaviors to reduce their risk of skin cancer.

This framework fits seamlessly with this capstone project. The overall goal of this project was to increase knowledge and awareness of skin cancer and safe sun behaviors among high school freshman. This in turn can help reduce their overall risk of skin cancer or contribute to avoiding a negative health consequence.

Methodology

Sample

A total of 27 students from the Midwestern, rural high school in freshman health class were involved in this project. Inclusion criteria for participants included male or female students, freshman status, enrolled in health class, and parental consent has been obtained. Exclusion criteria for participants included sophomore, junior or senior student status, not enrolled in health class, no parental consent obtained. To gain access to this population, permission was obtained from the health

class instructor (Appendix A). Parental consent was obtained from all student participants. The sampling method used was convenience sampling.

Setting

The setting for this project was a Midwestern, rural high school. This is a public high school with approximately 300 students. Average income of families in the town is $59, 197 and 96% of the population is Caucasian (City-Data, 2014). All freshmen students at this high school are required to take a health class, which was the most appropriate setting to implement this capstone project. This was in a classroom setting with the teacher of the health class present. Permission was granted by the high school health class instructor (Appendix A).

Design

A pre-/posttest descriptive design was used for this capstone project. This type of design fits best with the project outcomes by allowing students to answer questions about skin cancer and sun safe behaviors that may lead to increased risk of skin cancer before and after receiving educational material on the subject matter.

Procedures

After gaining informed consent (Appendix C) from the parents or guardians of all participants, project implementation took place over a 3 day-period. Each educational session over the 3 days was approximately 40 minutes. The initial step was administration of the pretest to freshman students in health class to determine their level of knowledge of skin cancer and safe sun behaviors. Over the next 3 days, educational material was presented by the primary investigator. Educational material (found at http://mfne.org/ysii/elearn/story.html) included online learning

modules, interactive case studies, class room discussion, comprehensive quiz and a team-based trivia game (Appendix E). Permission was granted to use online educational material (Appendix B). Varied information was presented over the 3 day period. On the first day, students participated in interactive case studies presented by the primary investigator. On day 2, students engaged in classroom discussion on skin cancer and safe sun behaviors facilitated by the primary investigator. At the end of day 3, the posttest was administered to freshman students in health class. Students also participated in a team-based online trivia game pertaining to educational material presented over the last few days.

Data Collection

The data collection tool (quiz from Melanoma Skin Foundation of New England) (Appendix D) is available at no cost through eLearning at http://mfne.org/ysii/elearn/story.html. No previous established tools could be found to measure skin cancer knowledge that were deemed appropriate for this project. The data collection tool from the Melanoma Skin Foundation of New England is an appropriate tool and was altered with the help of a statistician to improve reliability of the instrument.

Questions from the tool were altered from fill in the blank questions to multiple choice or true/false for ease of data entry. Questions were also altered to be more tailored to the subject of skin cancer and/or safe sun behaviors. Enrollment in the eLearning program which is necessary to access learning modules and quizzes requires no cost and permission was received via email from the Event and Program

Manager to use the quiz for data collection with regards to this specific research project (Appendix B).

Data was collected through pre-/posttest where students respond to questions about knowledge of skin cancer and safe sun behaviors (Appendix D). The pre-/posttest consists of direct questions that are appropriate for high school freshman students' comprehension. Should any of the students needed clarity on what a question is asking the primary investigator was present to provide clarification. Pre-/posttests specifically consist of questions regarding knowledge about skin cancer and sun safe behaviors. The pre-tests were administered the first day of the project before education was provided. The post-test was administered at the end of day 3 after all education had been provided. Each test was scored by number of correct answers. Each correct answer has a value of one and incorrect answer a value of zero. Correct answers were added together and used towards the overall test score of each student. This data collection method helped demonstrate whether or not freshman students improved their knowledge related skin cancer and sun safe behaviors after receiving education.

Ethical Implications

To ensure confidential record keeping, pre/post tests administered to freshman students did not require the disclosure of names on the pre-/posttests. Data was kept in a password protected laptop in which only the primary investigator had access. Currently, no conflicts of interest were identified or related to this project. The primary investigator also had no professional conflicts related to the project. Due to the nature of this project which is education driven, conflict of

interest is minimal to non-existent. This was a purely education driven project thus personal risks to the subjects were relatively low. Possible risk was emotional upset of a student due to having lost a family member or friend to skin cancer.

Informed Consent

To protect human subjects involved in this project, informed consent was obtained by every participant. Informed consent was sent home with each participant and required the signature of both the parent/guardian and the participant. The informed consent discussed the purpose of the project, procedures, risks/benefits, confidentiality, costs, whom to contact and other details regarding the project (Appendix C). Informed consent had to be obtained in order for freshman students to participate in the project. If informed consent was not obtained, freshman students had the option to use classroom time as a study hall instead.

Data Analysis

A pre-/posttest design using dependent samples t-test was used for data analysis with a level of significance of 0.05. Data was analyzed as an aggregate, by analyzing a mean pre-test score of all individuals to the mean post-test score of all individuals. Data analysis was performed in Excel where all data was stored. Data for was coded 1 for a correct answer and 0 for an incorrect answer. Each pre-/posttest had a random number assigned to match the subject should individualized data be needed at a later point in time.

Results

There were 28 participants in this project. One participant was not present on day 3 for the posttest, which left a total of 27 participants from which both a pretest and posttest were obtained. The pretest and posttest mean scores are shown (see figure 2).

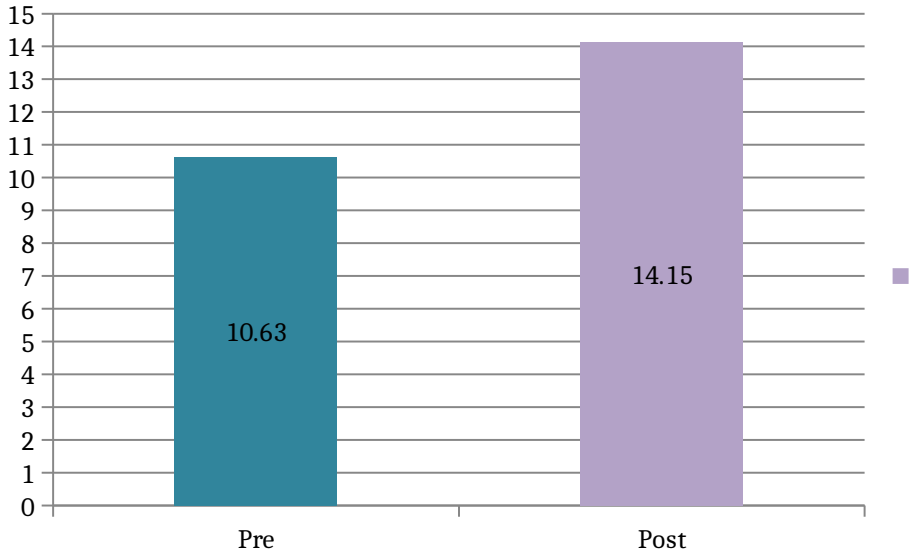

Figure 2. Pretest and Posttest Mean Scores

It is apparent that the mean score from the pretest to posttest increased favorably which helps support the outcomes of this project. A dependent t-test was conducted to compare knowledge of skin cancer and safe sun behaviors before education and after education. There was a significant difference in the scores of before education (M= 10.6, SD= 1.92) and after education (M=14.1, SD=0.91) conditions t(26)=12.16, p=0.00. The results suggested that providing education increases knowledge of skin cancer and safe sun behaviors among high school freshman.

Discussions/Conclusions

Summary of Results

This project took place in spring 2017 at a rural Midwestern High School. Informed consent forms were sent home with the targeted population at the beginning of the school semester in February 2017. Once informed consent forms were obtained, a date was agreed upon in March with the primary researcher and health class instructor to begin capstone project. The capstone project took place over 3 health class periods, approximately 40 minutes each. Data from the project was then analyzed over the next month along with organizing results and findings. The results/findings of this project were significant and revealed that providing education modules about skin cancer and safe sun behaviors to high school freshman increased knowledge of skin cancer and safe sun behaviors among this population.

Impact on Practice

School nurses and high school educators are in a key position to provide education on skin cancer and safe sun behaviors to high school students. This project can help communicate important information about skin cancer and safe sun behaviors and the impact it can potentially have for high school individuals. High schools and school nurses have a unique role/opportunity to provide education on skin cancer and safe sun behaviors to reduce skin risk of developing skin cancer. This project will expectantly help serve as a starting point for implementing skin cancer and safe sun behavior education in schools. Sustainability will confidently be achieved by providing all educational material to the health class instructor at the

project site. The health class instructor sat in on educational sessions throughout the capstone project. This will provide the health class instructor with the tools needed to continue with education for students on skin cancer and safe sun behaviors. Contact information of the primary investigator was made available to the health class instructor should he/she have any questions or need assistance with educational material.

Limitations and Suggestions for Improvement

Although the project demonstrated significant improvement in knowledge of skin cancer and safe sun behaviors, there were a few limitations to the project. The sample size was small consisting of only 27 participants. Another limitation was that the project was only carried out on freshman students versus high school students of various ages. Another limitation was the lack of research that was available to support the study. Although this was a limitation, it also is a positive in that it indicates the need for this type of research. To improve this study, it would be helpful to have a larger sample size as well as possibly expand the project to all high school students versus narrowing in on freshmen level students.

Suggestions for Future Clinical Projects or Research

There are various suggestions for future clinical projects or research. First, it would be positive to have a larger sample size. This would help increase the validity of the findings and demonstrate the need for this type of education should it heed the same outcomes of this project. It would also be interesting to expand this research beyond freshmen level students to that of all levels of high school students as well as expand beyond rural schools to urban schools as well. Informed consent

was not an issue with this particular project but had it been, it may be helpful to hand out consent forms as early as possible to allow ample time for return.

References

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Appendix A: Site Permission for Capstone Project

Soaring to Excellence
ARLINGTON
PUBLIC SCHOOLS

705 N. 9th St. • P. O. Box 580 • Arlington, NE 68002 • Fax (402)478-4176 • www.apseagles.org • AA/EOE

October 17, 2016

To Whom It May Concern,

Kelsie Kratochvil has contacted me regarding her capstone project on sun safety and skin cancer. I have granted her permission to come into my 9th health classroom this spring at Arlington High School.

If you have any questions please feel free to contact me.

Sincerely,

Sara Horner
Arlington Public School
402-478-4171
Sara.horner@apseagles.org

Lynn Johnson
Superintendent
Secondary Principal
lynn.johnson@apseagles.org
(402) 478-4173

Aaron Pfingsten
Assistant Secondary Principal/AD
aaron.pfingsten@apseagles.org
(402) 478-4171

James Shada
Elementary Principal
james.shada@apseagles.org
(402) 478-4171

Jacqueline Morgan
jacquelin.morgan@apseagles.org
(402) 478-4121

Appendix B: Permission for Use of eLearning

From: Kelsie Kratochvil [mailto:kelsiesk@hotmail.com]
Sent: Friday, September 30, 2016 1:59 PM
To: Amy Mason
Subject: Re: Your Skin Is In

Hi Amy,

So far I am loving the free eLearning Curriculum. I am planning on using the quiz in the eLearning curriculum as a pre/post test for students in my research study. I wanted to double check and make sure that was okay with you guys. My plan is to administer the quiz at the beginning to gauge their existing knowledge on the topic, provide the eLearning eduational material, and then provide the same quiz at the end to see if knowledge improved. Just wanted to double check and make sure that was all okay! Thanks again!

Kelsie Kratochvil

From: Amy Mason <amason@mfne.org>
Sent: Wednesday, September 14, 2016 10:17 AM
To: kelsiesk@hotmail.com
Subject: Your Skin Is In

Hi Kelsie,

Great to hear from you and thank you for registering for our Your Skin Is In program. I hope you had a chance to check out the free eLearning Curriculum and will be able to use it Nebraska Methodist College! If you wanted to sign up under the "College" portion of the program (instead of selecting "Other" when you register) you will see there is a toolkit you can download with ideas of what you can do on your campus. There is also a $1,000 scholarship application for college students to apply for after they have promoted sun safety on their campus.

Please let me know if I can answer any questions!
Best,
Amy

Amy Mason
Event and Program Manager
Melanoma Foundation of New England
One Concord Farms
490 Virginia Road, Suite 11
Concord, MA 01742
978-371-5613
www.mfne.org

From: Amy Mason <amason@mfne.org>
Sent: Friday, September 30, 2016 1:01 PM
To: 'Kelsie Kratochvil'
Subject: RE: Your Skin Is In

Absolutely and that sounds like a great idea! Thank you for checking in, have a great weekend!

Amy Mason
Event & Program Manager
Melanoma Foundation of New England
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Melanoma Information & Support | Melanoma Foundation of ...

www.mfne.org

The Melanoma Foundation of New England is a non-profit organization providing information, advocacy, and support for melanoma patients and caregivers.

RE: Your Skin Is In

AM Amy Mason
Wed 10/5, 1:55 PM
You

Reply

Yes of course!

Amy Mason
Event & Program Manager
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490 Virginia Road
Concord, MA 01742
p 978-371-5613
www.mfne.org

Don't miss this year's Shades of Hope gala where we will be celebrating a sun safe lifestyle! Join us Friday, November 18 at the Four Seasons Boston for a wonderful evening!

From: Kelsie Kratochvil [mailto:kelsiesk@hotmail.com]
Sent: Wednesday, October 05, 2016 1:38 PM
To: Amy Mason
Subject: Re: Your Skin Is In

Hi Amy,

The last question I have for you, I promise! My instructor wanted me to check with you and make sure it is okay I use the quiz but change the format of a few questions. Specifically the question that pertains to writing questions out. Instead of having kids write the answers out (ex. ABCDE for moles), I was going to format it to be multiple choice. Just wanted to check and make sure it is okay to alter the format of a few questions!

Thanks,
Kelsie Kratochvil

Appendix C: Informed Consent

NEBRASKA METHODIST COLLEGE
THE JOSIE HARPER CAMPUS

INFORMED CONSENT Non-Medical
Parental Consent for Child's Participation

TITLE: Improving Safe Skin Behaviors in High School Freshman

PROJECT DIRECTOR: Kelsie Kratochvil
PHONE # 402-677-3434

Department: DNP Student

WHAT IS THE PURPOSE OF THIS PROJECT?
Your child is invited to be in a Doctor of Nursing Practice Capstone Project about providing education about skin cancer and safe sun behaviors. Your child was selected as a possible participant because she/he is a freshman in Health Class.

The purpose of this Capstone Project is to implement education on skin cancer and safe sun behaviors to increase knowledge and awareness among high school freshman.

HOW MANY PEOPLE WILL PARTICIPATE?
Approximately 25 students will take part in this project.

HOW LONG WILL I BE IN THIS PROJECT?
Your child's participation in the project will last over three days during the freshman Health Class. Each educational session will take approximately 40 minutes.

WHAT WILL HAPPEN DURING THIS PROJECT?

- Your child will receive a pre-test on the first day of class which asks questions regarding his/her knowledge on skin cancer and safe skin behaviors. Your child's name or any other materials that will identify you or your child will not be reported. I will collect pre/posttest quizzes but your child's name will not be included.
- Over the next 3 days I will provide educational material about skin cancer and safe sun behaviors through interactive case studies, classroom discussion, team-based trivia and quizzes.

- At the end of day 3, a post-test (the same test as day 1) will be completed by your child with questions regarding his/her knowledge of skin cancer and safe skin behaviors.
- The quiz is anonymous, which means there is no way to identify which quiz your child filled out. We will ask them not to write their names on the quiz.

WHAT ARE THE RISKS OF THE PROJECT?
There are no risks in participating in this project. Your child's grade in health class will not be impacted by their participation or non-participation in this project.

WHAT ARE THE BENEFITS OF THIS PROJECT?
Your child will not benefit academically from participating in this project. However, your child may gain increased knowledge and understanding of safe skin practices, which may improve their future safe skin behaviors.

WHAT ARE THE ALTERNATIVES TO PARTICIPATING IN THIS PROJECT?
If you choose not to have your child participate in the project, your child will be given reading time in class or time to work on other school work.

WILL IT COST ME ANYTHING TO BE IN THIS PROJECT?
Your child will not have any costs for participating in this project.

WILL I BE PAID FOR PARTICIPATING?
Your child will not be paid for participating in this project.

WHO IS FUNDING THE PROJECT?
Nebraska Methodist College and project team are not receiving payments from other agencies, organizations, or companies to implement this capstone project.

ARE MY RECORDS CONFIDENTIAL?
The records of this project will be kept private to the extent permitted by law. In any report about this project that might be published, you or your child will not be identified. Data gathered for this project may be reviewed by government agencies and the Nebraska Methodist College Institutional Research Board.

Any information that is obtained in connection with this project and that can be identified with your child will remain confidential and will be disclosed only with your permission or as required by law. Confidentiality will be maintained by means of identification numbers in place of child's name. Data will be kept in a safeguarded laptop that only the investigator will have access to.

If a report or article about this project is written, the project results will be described in a summarized manner so that your child cannot be identified.

IS THIS PROJECT VOLUNTARY?
Your child's participation is voluntary. Your child may choose not to participate or may discontinue participation at any time without penalty or loss of benefits to which your child is otherwise entitled. The decision whether or not to participate will not affect you or your child's current or future relations with Nebraska Methodist College.

WHOM MAY I CONTACTS IF I HAVE QUESTIONS?
You may ask any questions you have now or later.

The Primary Investigator for this project is:
Kelsie Kratochvil
402-677-3434 during the day and after hours..

- You may call this number if you have questions or concerns about this project.

If you have questions regarding your rights as a participant, you may contact a member of the NMC Institutional Research Board at (402) 354-7263 (ask to speak with the IRB Chair). You may also call this number with problems, complaints, or concerns about the project. Please call this number if you cannot reach project staff, or you wish to talk with someone who is an informed individual who is independent of the project team.

General information about being a research subject can be found on the Office of Human Research Protections (OHRP) website:
http://www.hhs.gov/ohrp/index.html.

Your signature indicates that this capstone project has been explained to you, that your questions have been answered, and that you voluntarily agree to permit your child to participate. You will receive a copy of this form.

Child's Name: _____

_____ _____
Signature of Person Authorized to Provide Permission for the Child Date

Your signature indicates that this capstone project has been explained to you, that your questions have been answered, and that you voluntarily agree take part in this study.

_____ _____
Child's Signature Date

Appendix D: Pre-/Posttest

1. Which is the deadliest form of skin cancer?

A. Melanoma

B. Basal Cell Carcinoma

C. Squamous Cell Carcinoma

2. What do the letters ABCDE represent when looking at your moles?

A. Asymmetry, Black, Color Variability, Definition, Evolution

B. Asymmetry, Border Irregularity, Character, Diameter, Enlargement

C. Asymmetry, Border Irregularity, Color Variability, Diameter, Evolution

D. Asymmetry, Black, Character, Definition, Enlargment

3. True or False: Melanoma is the 2nd most common cancer in those ages 15-29.

_____

4. **Which factors increase your risk of melanoma?**

A. Number of moles on the skin

B. Skin type

C. Family history (genetics)

D. Exposure to UV rays

E. All of the above

5. True or False: Melanoma can occur in your eyes.

_____

6. True or False: If melanoma spreads, it can be deadly.

_____

7. If caught early, melanoma can usually be cured:

A. 99% of the time

B. 50% of the time

C. 25% of the time

D. 5% of the time

8. What are three ways you can protect your skin?

A. Only wear sunscreen occasionally, wear a wide brim hat, wear protective clothing

B. Avoid tanning beds, wear sunscreen with SPF 30+ and UVA/UVB protection, limit sun exposure between the peak hours of the day 10:00am-2:00pm

C. Only put on sunscreen if sunburned, go outdoors between peak hours of the day 10:00am-2:00pm, wear protective clothing

D. Only use tanning beds occasionaly, wear dark colored clothing, seek shade

9. True or False: Getting a tan from the sun is safe.

_____

10. **True or False: Tanning Beds are a good source of Vitamin D**

. _____

11. True or False: There is no danger in using tanning beds in salons that state their beds have UV safe rays.

_____

12. True or False: All sunglasses come with UV protection.

_____

13. How often should you reapply sunscreen?

A. Every 20 minutes

B. Every 5 hours

C. Every 2 hours

D. Once is enough

14. True or False: Damage from UV rays is reversible.

_____

15. When I apply sunscreen it should have SPF 30+ and should:

A. Include ABC/DEF protection

B. Have a fragrance

C. UVA and UVB protection

D. Be spray only

Appendix E: Educational Modules