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Using online teaching resources to increase nursing students' knowledge and assessment skills of skin cancer

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ABSTRACT

Nurses are in an excellent position to teach the public about skin cancer prevention and perform cancer screenings. This study was designed to test an educational intervention intended to teach nursing students about skin cancer so they can reach competence and be certified by faculty to educate their patients. Similarly, students are educated and certified in other areas, namely asthma and naloxone administration. By conducting this quasi-experimental study, the researchers sought to evaluate the effectiveness of adding online skin cancer education to traditional educational methods. Using a quasi-experimental design, we assigned nursing students ($n = 146$) to either an intervention group, which received an online educational treatment, or to a control group, which did not receive any such treatment. Both groups then completed a post-test measure assessing their knowledge about skin cancer ('knowledge'), sun protective behaviours ('behavior'), and perceptions about the role of the nurse in skin cancer prevention ('role'). Participants in the intervention group had significantly higher scores on the 'behavior' and 'role' measures, suggesting that the intervention had successfully impacted these dimensions.

Video to this article can be found online at <https://doi.org/10.1016/j.sctalk.2022.100122>.

Figures and tables

Table 1

Scores for each scale: Mean (standard deviation) Likert Scale 1–5.

| Table 1 | Knowledge | Behavior | Role of the Nurse |
|--------------------|-------------|-------------|-------------------|
| Intervention group | 4.49 (0.44) | 4.59 (0.41) | 4.61 (0.44) |
| Control group | 4.37 (0.75) | 4.29 (0.71) | 4.06 (0.76) |

The mean scores on the knowledge, behavior, and role of the nurse scales for participants in the intervention and control groups are summarized in Table 1.

In Table 1, students were very knowledgeable about skin cancer from their standard curriculum.

The intervention group scored higher on the behavior and role of the nurse variables.

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Table 2
ANCOVA.

| | Knowledge | Behavior | Role of the Nurse |
|---------------------------------|---|--|---|
| Intervention and control groups | F = 2.09, <i>p</i> = .15 Not significant | F = 11.48, <i>p</i> ≤ 0.001 Significant | F = 29.25, <i>p</i> = .001 Significant |

Significance was reached in 2/3 variables. Nursing students were already knowledgeable about skin cancer from their nursing curriculum. The intervention of additional education via online resources helped to educate the nursing students on sun protective behaviours, and the importance of the role of the nurse in educating others regarding recognition and prevention of skin cancer and sun protective behaviours.

The ANCOVA results revealed that participants in the intervention and control groups did not significantly differ from one another in their scores on the knowledge scale (F-value = 2.09, *p*-value = .15). However, there was a significant difference between intervention group and control group participants in their scores on the behavior scale (F-value = 11.48, *p*-value < .001); as can be seen in Table 1, participants in the intervention group tended to have higher scores on this scale. Likewise, intervention group and control group participants differed significantly from one another in their scores on the role of the nurse scale (F = 29.25, *p*-value < .001); participants in the intervention group had higher scores on this scale as well. None of the covariates included in these models were significant predictors of any of the outcomes tested. Significance was reached in 2/3 variables.

Nursing students were already knowledgeable about skin cancer from their nursing curriculum. The intervention of additional education via online resources helped to educate the nursing students on sun protective behaviours, and the importance of the role of the nurse in educating others regarding recognition and prevention of skin cancer and sun protective behaviours.

CRediT author statement

Victoria Siegel: Conceptualization, Investigation, Methodology, Project administration, Visualization, Writing – original draft, Writing – review & editing. Geraldine Moore: Conceptualization, Investigation, Methodology, Project administration, Visualization, Writing – original draft, Writing – review & editing. Leeann Siegel: Conceptualization, Investigation, Methodology, Project administration, Visualization, Writing – original draft, Writing – review & editing.

Data availability

Data will be made available on request.

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Declaration of interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Further reading

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Dr. Victoria Siegel, Professor of Nursing at Molloy University
Education:

Graduated with a Bachelor of Science in Nursing degree from Adelphi University in 1981

Graduated with a Masters in Nursing degree as a Clinical Nurse Specialist in Neurosurgery from the University of California at San Francisco in 1986

Graduated with an EdD Education and leadership doctoral degree from Dowling College in 2009

I began my nursing career as a psychiatric nurse then practiced in critical care followed by nursing education. I have been a nurse educator since 1989. I have been researching skin cancer and sun protective behavior for 14 years. I am a board member and volunteer for the Mollie Biggane Melanoma Foundation. I am also on the

New York Skin Cancer Action Team and the Melanoma Action Committee. I continue to present to nurses and the community about how to prevent skin cancer and how nurses can recognize skin cancer and save lives. I have presented locally, nationally and internationally. I have conducted several studies including an international study, and presented my work in Ireland, Italy, the Czech Republic and most recently Spain at the 8th International Nurse Education Conference.

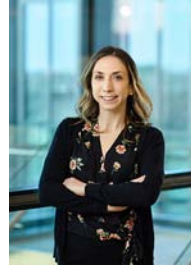


Dr. Geraldine Moore is a professor of nursing at the Molloy University, Barbara H Hagan School of Nursing. She earned both a BS and MS in nursing from Molloy College and an EdD in Educational Administration from Dowling College. She is a past recipient of the Nurse of Excellence Award from the Nassau-Suffolk Hospital Council, Health Care Hero Award from the Long Island Business News, and Distinguished Service Award from Molloy College.

Dr. Moore is a faculty moderator of the Molloy Student Nurse Association. Her extensive involvement and mentorship of Molloy nursing students has created a robust and nationally active chapter. Her continued leadership and role modeling permits students to run for national office as well as contribute motions and referendums at local and state conventions.

She is an active member of the Medical Reserve Corps of Nassau County. She has brought naloxone training to Molloy to educate and prepare students and faculty how to respond to an opioid overdose. More 2000 students have been trained and 3 lives have been saved by trained students and faculty. She is an active member of the Heart Safe Committee at Molloy University working to make Rockville Centre a designated heart safe community. She is also part of the Mother Cabrini mobile health van bring health education and screenings to underserved diverse communities.

Dr. Moore is a member of the Asthma Coalition of Long Island since 2000, serving as co-chair of the Schools Committee, a member of the Steering Committee, and past vice-chair of the Coalition. She is involved in intercollegiate asthma practice with two other colleges where they have presented at professional refereed local and national conferences and published in peer-reviewed journals.



Leeann Siegel, Ph.D., M.P.H., is currently a postdoctoral fellow in the Tobacco Control Research Branch of the National Cancer Institute. Dr. Siegel completed her Ph.D. in Health Communication at the University of Pennsylvania's Annenberg School for Communication. Prior to completing her doctoral studies, Leeann earned a master's degree in public health from the Harvard T.H. Chan School of Public Health, where she studied Social & Behavioral Studies. She also holds a Bachelor of Arts from Cornell University.