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Implementing Online Educational Modules to Introduce Specialty Disability Care to Students in Undergraduate Nursing Programs

Keegan Brunner and Molly Helton

Abstract

In 2016, 1 in 4 adults reported living with a disability in the United States; however, few nursing schools include education about how to best care for these individuals in their curricula. Studies have found that when nurses and other healthcare workers have better attitudes toward patients with disabilities, it leads to better health outcomes. The literature suggests that education and exposure are the most effective ways to increase positive attitudes toward disabled communities. This study offered Equity Access modules titled "Disability and Healthcare" and "Accessibility" developed by Duquesne University to pre-professional health students planning on pursuing Nursing degrees at a large, mid-Atlantic American university to investigate the effectiveness of online modules in educating nursing students on disability care. After completing the online modules, study participants reported greater understanding of and comfort with disability in healthcare. Based on this evidence, to create a more inclusive healthcare system and to train more culturally competent nurses, nursing programs should consider including these modules or similarly focused educational tools in their programs of study.

Introduction

There is a substantial number of individuals 18 and older living with disabilities in the United States. In the U.S., 61 million adults reported living with a disability; disabilities are most common among women, Native Americans, older adults, people whose incomes are below the federal poverty line, and people living in the South (Okoro et al., 2018). As Okoro et al. (2018) stated, "[d]espite this large population of people, individuals with disabilities face more barriers to adequate healthcare than those without disabilities" (p. 882). Studies have indicated that there is fear associated with treating those with physical disabilities, but experience with caring for these individuals has been shown to remedy these negative attitudes (Satchidanand et al., 2012). Experience with disability care helps healthcare workers to develop a better understanding of what disability means and feel more comfortable treating those individuals. Evidence has also shown that when nurses and other healthcare workers have better attitudes toward people with disabilities, their patients experience better healthcare delivery (Satchidanand et al., 2012).

Despite this evidence, very few nursing schools include specific curricula dedicated to disability care. The specialty of disability care includes health services that concentrate on and specialize in the needs, treatment, and conditions of disabled patients (Seccombe, 2007). Specifically, the undergraduate nursing program at James Madison University (JMU)—a large, public, mid-Atlantic American university—does not provide a generalized introduction to the nurse's role as an advocate for their patients with disabilities and a more inclusive healthcare system. The program does provide limited exposure to this specialty field in the pediatrics course. While this portion of the pediatrics course is a promising start, it is many students' first experience with disability in healthcare. One of the goals of this project is to persuade the School of Nursing educational team at JMU that increased exposure to disability care should be regarded as a priority in every course.

This study implemented online educational modules created by experts in disability education with the goal of increasing the cultural competency of future nurses. Within the healthcare field, cultural competency refers to a healthcare provider's understanding of how patients' unique identities might inform the care they require. Equity Access is an educational model developed by Dr. Alison Clobert and Dr. Rebecca Kronk for the University School of Nursing with collaborative help from various clinicians, scholars, people with disabilities, and community activists. The Equity Access disability education modules were piloted during the spring and summer semesters of 2019 on a group of 251 nursing students. The modules were created to "reframe the concept of disability for students, change their thinking when developing care plans, and help them see the obligation they have to make these considerations a part of their daily professional practice" (Colbert & Kronk, 2020, p. 350). Nursing students who participated in Colbert and Kronk's study were surveyed to evaluate the effect these online modules had on their perceptions and attitudes toward those with disabilities. This study can provide insight into innovative ways to teach nursing students about disability care education. While there are cultural nuances related to disability education, our study involving future health care professionals demonstrates that this form of online education is effective.

Literature Review

Due to limited research on education in disability care, further investigation is necessary. Using the PubMed search engine, the keywords "disability education in nursing curriculum," and "disability teaching in nursing education" yielded an initial 1,983 sources. Filters were then added to the search to narrow down the information to include only sources that were written in English, included the full text, and were published in an academic journal within the past ten years. After these filters were applied, the number of sources was reduced to 23. From these sources, we narrowed down the information pertinent to this study and found seven articles.

Seccombe (2007) and Satchidanand et al. (2012) concurred that increasing opportunities for nursing students to interact with those with disabilities will increase their confidence and positive attitudes when caring for this population. When students can engage with individuals with disabilities didactically and through clinical experiences, they gain confidence and understanding of disability care and advocacy. Colbert and Kronk (2020) created online learning modules that demonstrated effectiveness in increasing nursing students' knowledge and understanding

of disability. Seccombe (2007) stated that education on those with disabilities has beneficial outcomes for students in terms of better attitudes and understanding of those with disabilities and their treatment.

Ethical Considerations

The Institutional Review Board approved the study's participant pool, which was made up of 113 first-semester pre-professional health students at James Madison University enrolled in the Foundations of Nursing course. The perceived risk for participants was mild discomfort from analyzing personal biases and sensitive subject material. Safeguards in place to protect against risks included being able to email the professors of the course. The researchers were also available to the students as a resource to speak to if any individuals were psychologically distressed during the study. In the pre-surveys and post-surveys, there was an open-ended question to assess the participants for adverse events by asking about the study experience and providing space to describe any adversity they faced. Our study benefited participants by granting them access to educational tools which have demonstrated improvement in healthcare providers' attitudes toward people with disabilities. This study also benefited participants by teaching them best practices in caring for individuals with disabilities and improving their cultural competency.

The entire study, including the modules and data collection, was online. For this study, no deception was used. Additionally, no video, audio, or recording of any person in any way was obtained. To maintain privacy, the participants' names and emails were not recorded on the pre-survey and post-survey; the study was completely anonymous. To access the online modules on https://equityaccess.org/, participants needed to create an account. However, they did not need to use their name when signing up, which ensured that privacy was maintained. The participants' survey entries were completely anonymous on Qualtrics; therefore, the researchers did not know who entered what information. The Qualtrics account was password-protected to maintain confidentiality.

Methods

This project involved implementing two Equity Access modules into the first-semester nursing student curriculum. These Equity Access modules (Colbert & Kronk, 2020) are titled "Disability and Healthcare" and "Accessibility." The modules were accompanied by a pre-survey and a post-survey which we wrote and administered. The purpose of these surveys was to determine the effectiveness the modules had in introducing students to disability care. Both surveys evaluated whether the modules prompted the students to reflect on their own implicit biases and confidence levels when it came to caring for people with varying abilities.

The disability modules were required for all students participating in the Foundations of Nursing course; however, participation in the research study was voluntary. Due to an error made during the module administration, the completion of the modules for participants was also optional. Through the assignment, students were provided a Letter of Informed Consent describing the research project, which provided a confirmation of consent and links to the modules and surveys. Students accessed the link from the Letter of Informed Consent to an online pre-survey that they completed prior to taking the online modules. Students who did not want to participate in the study did not fill out this survey. Students took both online modules and then submitted documentation proving completion of the Equity Access modules via the Canvas assignment. The Equity Access modules were to be completed outside of class time, and students were given a week to complete these modules on their own. The total time commitment was about one hour, depending on how quickly the participants moved through the two modules.

After they completed the modules, participants clicked the link provided on the Canvas page for the post-survey and completed it in its entirety. The surveys prompted subjects with a question asking them to rank their comfort with the specific subject material on a scale of 1–10. The mean scores for each question on the pre-survey was compared to its corresponding question on the post-survey. A *t*-test was run to determine if there was a statistically significant difference in the pre-survey and post-survey data. The data assessed was the mean of the entire participant pool, not of individuals. There was an opportunity for students to provide comments on the modules about what they learned or found absent in these modules.

Results

To determine if the online Equity Access modules were effective in educating participants on disability in healthcare, we had participants rank their comfort with disability in healthcare before and after completing the modules. The participants ranked their comfort on a scale of 1–10 with 1 being the least comfortable and 10 being the most comfortable. Table 1 shows questions from the pre-surveys and post-surveys and the corresponding average of answers. We then calculated the mean for each question asked. This data can be found under "Overall Average." The average increase in comfort between the pre-survey and post-survey calculated was 2.923 points.

Figure 1 shows an increase in the comfort levels of participants after completing the online modules. The data demonstrates that there is increased comfort with every topic posed to the research group.

The alternative hypothesis of the data is that the online modules are effective in educating participants on their objectives and therefore increase the comfort level with course material among the students who take the online modules. The null hypothesis states that the online modules are not effective in educating participants on their objectives and do not increase the student's comfort level after taking the online modules. The *p*-value is 0.0000017 with a .05 confidence interval. Therefore, we reject the null hypothesis and accept the alternative hypothesis, which denotes that the online modules do cause an increase in the students' comfort from the pre-survey to the post-survey. With this statistical evidence, we can conclude that there is a positive correlation between completing the online disability modules and the students' comfort surrounding the questions related to persons with disabilities.

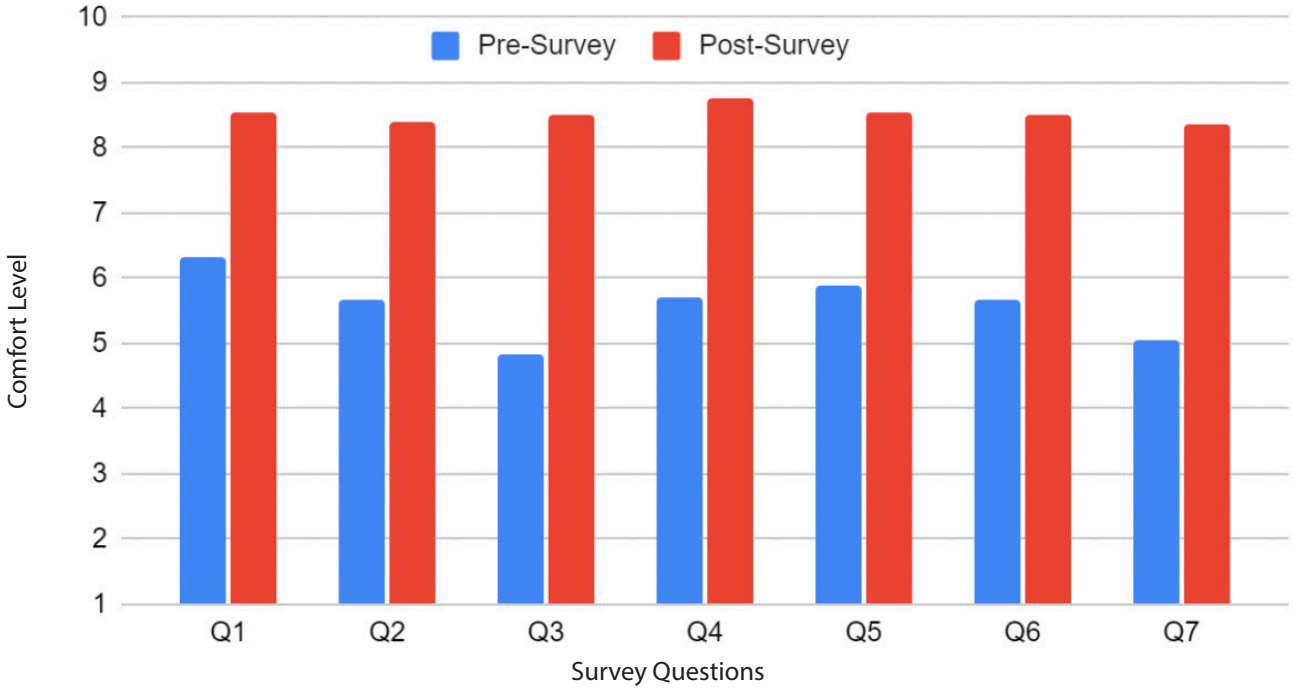
Table 1. *Participant Comfort in Pre- and Post-Survey Results*

Survey Questions	Pre-Survey	Post-Survey	Change in Comfort Level
Q1 - How comfortable are you in defining and understanding disability?	6.32	8.53125	2.21125
Q2 - How comfortable are you in identifying professional nursing and healthcare values related to the care of people with disabilities?	5.68	8.40625	2.72625
Q3 - How comfortable are you in comparing and contrasting the medical model of disability and the social model of disability?	4.82	8.5	3.68
Q4 - How comfortable are you in defining and understanding accessibility related to disability?	5.7	8.75	3.05
Q5 - How comfortable are you in understanding and describing the health disparities that exist for people with disabilities?	5.88	8.53125	2.65125
Q6 - How capable are you in recognizing the role of the healthcare system and providers in creating or exacerbating those disparities?	5.66	8.5	2.84
Q7 - How comfortable are you at listing specific nursing competencies related to the care of people with disabilities?	5.04	8.34375	3.30375
Overall Average	5.585714286	8.508928571	2.923214286

Discussion

The researchers concluded that the online Equity Access modules effectively taught the modules' set objectives. Overall, students reported a greater understanding and comfort when confronted with disability in healthcare after completing the modules. Across the board, there was an increase in the comfort level of the students by an average of 2.923 for each question. Additionally, with a *p*-value of 0.0000017, our data was statistically significant between the pre-survey and the post-survey. The optional free-response question had several positive responses and no negative comments or reports of technical issues. One student stated, "This was a very interesting experience and I have learned a lot, and my eyes are more open, especially for those with disabilities." Another student commented, "I think this is a very important topic to explore and integrate into our education."

Figure 1. *Pre-Survey vs. Post-Survey Comfort Scores*



Based on this feedback and evidence, these online modules are an effective educational tool that JMU should utilize to fulfill its mission to "[e]ngage students, faculty and communities through dynamic and innovative nursing education, practice, and scholarship to influence health in our world" (*BSN Program Student Handbook,* 2021). This is one step nursing programs can take to become better advocates for future patients and their loved ones. Inclusion and representation are essential. By including this specialty care education, the JMU School of Nursing could influence other nursing programs to do the same. Encouraging new and diverse voices can solve some of the problems that cause barriers to adequate healthcare and support people who have been left out of these conversations for too long.

Limitations

There was miscommunication among the research team regarding how to implement the modules. Because of this, both the modules and surveys were listed as optional. The original intent was for modules to be required as curriculum with only the surveys as optional. This resulted in lower-than-expected participation and less data to work with. There was also more participation in the pre-survey than in the post-survey. Instead of the 113 responses for both the pre-survey and post-survey that had been anticipated, researchers received only 50 pre-survey and 32 post-survey responses. Additionally, there are three total modules that Equity Access provides; however, due to a concern about the project being too long for students, only two modules were included in this study. This could have impacted the effectiveness of the modules as only some of the information available was accessed by the participants.

The modules also gave participants the option to progress through them without reading or watching the provided materials. If participants finished the modules without actively following the information, this could have impacted the effectiveness of the modules. Because students were not observed while taking the modules, researchers could not verify whether students actively engaged with the material.

Another limitation noted was that the only participants for this study were first-semester pre-professional health students. Because they were in their first semester, the participants had not been exposed to most of the nursing school curriculum and were less experienced at the time the modules were taken. There is a possibility that students could learn the same material later in their nursing education, which would make the modules redundant and therefore less effective.

Recommendations for Practice

The literature identified possible barriers to educating nursing students on disability care. One mentioned

that there are not enough nursing faculty who have education in this specialty care, and faculty therefore do not feel comfortable teaching the subject (Colbert & Kronk, 2020). Utilizing resources that do not require professors to have expertise in this field—such as these online modules—could help bypass this barrier. Additionally, there are other resources online through the National League for Nursing (n.d.) that focus on equipping professors with the knowledge and tools to lead students on dignified care for people with disabilities.

To increase exposure to a diverse patient population, nursing professors should teach case studies which include patients with disabilities in their discussion of standard patients. This specialty care could also be incorporated into simulation practices with careful planning and inclusion of people with disabilities (Smeltzer et al., 2018). By integrating disability care into more conversations and practice, nursing students will be more prepared to take care of any patient they may encounter during their careers.

This type of cultural competence is not a requirement in most nursing curricula, which is another barrier to consider. This suggests that disability care is not a priority and is often overlooked when organizing course materials. To remedy this, nursing schools and their institutions could consider this specialty care with the importance that it merits due to the number of people with disabilities.

Conclusion

Evidence has shown that when nurses and other healthcare workers have been educated about and exposed to patients with disabilities, they feel more confident in their ability to provide patients with the care they need. Furthermore, this education leads to better healthcare delivery for patients and decreases some barriers to high-quality healthcare. Our study indicates that the Equity Access online modules provide an accessible and effective way to integrate disability care into nursing curricula. To create a more inclusive healthcare system and to train more culturally competent nurses, JMU and other nursing schools should include these modules and other disability education resources in their programs of study.

Authors' Notes

Keegan Brunner

Keegan Brunner ('22) graduated from James Madison University with his Bachelor of Science in Nursing along with a minor in Honors Interdisciplinary Studies. He began his nursing career at the University of Virginia Medical Center (UVAMC) in the Medical Intensive Care Unit. Since then, he has become an operating room nurse at the UVAMC with plans to acquire his Perioperative Nurse Certification before returning to graduate school to receive a Nurse Practitioner degree.

Molly Helton

Molly Helton ('22) completed her time at JMU with her Bachelors of Science in Nursing and a double minor in Chronic Illness and Honors Interdisciplinary Studies. She started her nursing career at Duke University Hospital (DUH) on the Cardiothoracic Step Down Unit. Since then she has transferred to the Cardiac Intensive Care Unit at DUH. Molly's career goals include remaining in critical care and eventually returning to school to acquire a Nurse Practitioner degree.

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