

CLINICAL PRACTICE

Threading disability content throughout a baccalaureate nursing curriculum

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ABSTRACT

Approximately one billion people, or 16% of the world's population, live with some form of disability, including physical, intellectual, developmental, or mental health-related disabilities. The Centers for Disease Control and Prevention (CDC, 2025) defines disability as any condition of the body or mind that may make it more difficult for an individual to perform certain activities or interact with the world around them. Individuals with disabilities experience significant health disparities and are more likely to experience obesity, tobacco use, and chronic health conditions such as cardiovascular disease and diabetes. In addition, people with disabilities encounter numerous barriers within the healthcare system, including limited access to care, inconsistent or fragmented healthcare providers, and social determinants of health such as food insecurity and residence in food deserts. Autism spectrum disorder (ASD) is a neurological and developmental condition that affects approximately 1 in 34 children (CDC, 2026). Given the prevalence and diversity of disabilities, nurses are likely to encounter individuals with disabilities across virtually every healthcare setting and stage of life. Therefore, it is essential that nursing students develop the knowledge, skills, and confidence necessary to recognize and address the unique healthcare needs and barriers experienced by this population. The purpose of threading disability content throughout the nursing curriculum is to provide students with foundational knowledge regarding the broad spectrum of physical, intellectual, developmental, neurological, and mental health disabilities while preparing them to deliver safe, equitable, patient-centered care. Upon graduation and licensure, registered nurses (RNs) will care for individuals with disabilities across all age groups, healthcare settings, and demographic populations. Consequently, a working knowledge of disability and disability-related healthcare needs is an essential component of nursing education. The National Organization of Nurses with Disabilities (NOND, 2023) identified significant gaps in disability-related content within nursing education and noted that there is no single standardized approach to incorporating disability education into nursing curricula. Gaps are particularly evident in content addressing intellectual, developmental, and emotional disabilities. Integrating disability-focused content throughout the nursing curriculum can help address these educational gaps and better prepare future nurses to provide competent, inclusive, and equitable care to individuals with disabilities. Preparing nursing students to effectively care for people with disabilities is essential to advancing health equity and strengthening the future of healthcare.

Key Words: Autism, Clinical practice, Disability, Education, Nursing curriculum

1. INTRODUCTION

Nearly 61 million Americans report having a disability.^[1] This represents 1 in 4 adults. Disabilities have a wide range of categories including physical (vision, speech, hearing, mobility) to mental (neurological, intellectual, psychiatric) to emotional (anxiety, depression). Focusing more specifically

on the recent increase in incidence of autism spectrum disorder (ASD) to 1 in 31 children^[1] and the lack of available resources for marginalized patients, the importance of nurses understanding on how to properly care for these patients is vital. Health care outcomes are shown to be poorer for children and adults with autism. Adults with autism experience

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difficulties in accessing the health care services and in turn people with autism experience premature mortality.^[2] Children on the spectrum have close to four times higher odds of having health care needs that are unmet when compared to children without disabilities and children with other disabilities have nearly two times higher odds of having unmet health care needs.^[2] Nurses are key to understanding these barriers in care and providing these patients with the proper care and resources.

Given the national nursing licensure exam asks questions about disabilities that are often woven into scenarios specific to medical conditions, patient assessments, or medication administration,^[3] it is important to introduce students to disability curriculum. Nursing curriculum has lacked content on disabilities including clinical rotations that focus on individuals with disabilities – cognitive and physical.^[4] Furthermore, disabilities are often life-long, so it is necessary that nurses know how to intervene and implement care for all types of disabilities and demographics.

The purpose of threading disability content through a baccalaureate nursing curriculum is to introduce nursing students to the wide range of physical, mental, and emotional disabilities. Nursing students will eventually graduate, pass their licensure exam, and practice as a Registered Nurse (RN) requiring a working understanding of disabilities of all age and demographic people. National Organization of Nurses with Disabilities^[5] found there is no single approach when developing disability content and there are major gaps in content particularly in intellectual and emotional content.

Evidence has shown that patients with an array of disabilities, including physical, intellectual, communication, developmental and sensory, receive substandard care when compared to patients without disabilities. One of the major factors in this lack of care is insufficient training and education of health care providers regarding disability. Even though the need for this education has been clearly identified, minimal progress has been made to implementing this education.^[6]

Preparing nursing students to be able to provide optimal care for patients with disabilities is a priority goal. Healthy People's (2030) overarching goals can be reached by educated nurses being providing competent care to all patients.

- Attain healthy, thriving lives and well-being free of preventable disease, disability, injury, and premature death.
- Eliminate health disparities, achieve improved health for all people, and attain health literacy to improve the health and well-being of all.
- Create social, physical, and economic environments that promote attaining the full potential for health and well-being

for all.

- Promote healthy development, healthy behaviors, and well-being across all life stages.^[7]

The overall purpose of this paper is to demonstrate effectiveness in how disability content was threaded through a nursing curriculum to better prepare nursing students to care for the disabled.

2. METHODS

The inclusion of additional disability content is part of the regular ongoing nursing curriculum for the entire program (i.e., sophomore, junior, senior). Faculty members sought university internal review board's approval and were exempted from review. In this baccalaureate midwestern American program, there were approximately 200 sophomore-level, 180 junior-level, and 180 senior-level students that were exposed to this new content. The threading took two complete academic years. The two content specialists met with each course faculty member to orient them on the modules, answer any questions, and provide an overall foundation of the content being inserted into the course.

McIntosh^[8] found that one midwestern (American) nursing school introduced disability content, specifically autism, less than 5 minutes throughout the entire curriculum. Using this data, two faculty disability experts met with midwestern school of nursing faculty to complete current curriculum review. The review showed approximately ten minutes of disability content throughout the five-semester nursing program with faculty enthusiastically supporting the need for additional content.

2.1 Curriculum threading

Threading of disability content started with sophomore level courses (i.e., Health Appraisal Across the lifespan and Fundamental Nursing Skills) continued to the junior level courses (i.e., Adult Health 1 & 2, Pediatrics, Psychiatric Mental Health) and completed with the senior level courses (Leadership & Management, Adult Health 4). Course (and content expert) faculty discussed what content would best fit for the demographic covered in each course. Then, faculty developed modules that included PowerPoint (PP) slides, lectures (i.e., voice overs), required readings, and assignments. Selected modules included faculty-developed videos highlighting a standardized patient (SP) roll playing an autistic adolescent. Lastly, a structured, building case study, was added through each course (and semester) culminating in the final senior-level leadership course. Videos highlighted what was in the case study – pairing both teaching strategies together. Both the videos and the case studies rolled out the challenges of an autistic adolescent that also dealt with other

forms of disabilities (i.e., hearing impaired, attention-deficit hyperactivity disorder).

Because the Health Appraisal Across the Lifespan course covered all age groups, it made sense to focus on the adolescent age group with a focus on a neurodevelopmental disorder disability (e.g., autism spectrum disorder). The Fundamental Nursing Skills course, the focus is on beginning nursing skills including communication techniques, therefore faculty taught interventions on caring for a nonverbal (NV) patient. Entry level nursing courses set the foundation by sharing basic techniques, interventions, patient-centered care, and safety. Faculty's goal was to arm students with the necessary information to care for an autistic adolescent.

2.2 Faculty positionality

The following paragraphs provide a concise description of the content experts identifies as they shape how we approached our work in curriculum development. Our positionality and expertise informed both the instruction and the overall development of curriculum. It is important to note that the authors content that patient-centered care, compassionate human connection, and effective advocacy are essential to the delivery of equitable, high-quality healthcare. These principles should guide nursing practice for all patients, irrespective of race, ethnicity, religion, socioeconomic status, or financial resources. Furthermore, the authors believe that schools of nursing have an ethical and professional responsibility to develop curricula that adequately prepare graduates to provide safe, competent, patient-centered, and equitable care to all individuals. Curricular content should therefore encompass the knowledge, skills, cultural awareness, and clinical competencies necessary for graduates to recognize and appropriately respond to the diverse needs of the populations they will serve.

The first author a Registered Nurse (RN) with 30-plus years of nursing experience including in acute care settings (i.e., emergency department, critical care, medical-surgical) collaborated with the second author in how to conceptualize content material. The author is an expert in ASD and has conducted research including in an ASD camp setting. This has resulted in multiple articles on how nurses (i.e., school, acute) can better work with individuals diagnosed on the spectrum. The author is a professor with 21 years of experience in instruction at a university. She earned a master's in nursing leadership and a doctorate in education.

The second author a RN has 20 years of nursing experience in pediatrics working in acute care and community settings. The author is an expert in pediatric content and has been a faculty member in higher education for 15 years often

collaborating with school nurses. She has written articles sharing her expertise in nursing interventions with autistic individuals. She earned her master's in nursing.

Prior to developing course content, authors did extensive literature research in how to best work with different types of disabilities. A comprehensive literature review was completed through Google Scholar, PubMed, and Education Resources Information Center (ERIC) between 2015 and 2025. Key words included, but not limited to, 'nursing interventions,' 'disability,' 'epilepsy,' 'diabetes,' 'asthma,' 'depression,' 'bipolar,' 'multiple sclerosis,' 'ADHD,' 'dyslexia,' 'blindness,' 'hearing impaired,' 'deaf,' 'visually impaired,' 'intellectually impaired,' 'paralysis,' 'cerebral palsy,' 'muscular dystrophy,' and 'trauma.'

3. RESULTS

Once students completed the module requirements, they participated in several activities including an open-note quiz, case study, and discussion. Students did earn a grade for activities with 100% compliance from all. Once the activity grade was posted, the students accessed a feedback survey, related specifically to this content only. They were queried on the effectiveness of the content topic, outcomes, teaching strategies, and improvement suggestions. Overwhelmingly, students rated the module "good" to "very good" – overall a 4.75 (out of 5.0) on a Likert Scale. Students shared comments related to the newly added content including, "my brother has autism and this allowed me to better understand his behaviors," "out of all the information from this class, this is really great, very interactive which is how I learn best," and "I cannot wait until the next course so that I can learn what happens to our young guy (from this case study)."

Clinical assignments were done with a heightened awareness, attempting to include patients with disabilities. Allowing students to clinically practice what they just learned didactically helped with retaining of knowledge and nursing interventions. Faculty reached out to new clinical sites, including a neurodivergent clinical, that allowed students to observe adolescents on the spectrum working to improve their activity of daily living, hygiene, and overall basic skill sets.

Threading remaining content throughout the curriculum used the same process beginning with meeting with individual course faculty. Table 1 shows detailed information for each course including Adult Health (1 & 2) that takes a deep dive into different disabilities (e.g., epilepsy, blindness, hearing impaired, cerebral palsy, traumatic brain injury). Pediatric students completed clinicals at a camp for autistic children. Students learned different behavioral techniques, interventions, and how to develop healthcare schedules and social

stories. Senior level students completed the case study, highlighted resources (i.e., healthcare, financial, and social) for adolescent and parents. Senior level content, case study, and interventions progressively got more challenging due to its application, complexity, and clinical component.

Table 1. Description of course content

Course	Module Content	Case Study/Clinical
Health Appraisal Across the Lifespan (Sophomore Level) Student Reflection - Videos reiterating information provided - Questions asking students to identify aspects and behaviors associated with ASD from videos. - Requested input on students feeling of caring for a patient with disabilities and ASD following the completion of module.	PP: Disabilities - Assorted Disabilities Definitions - Causes - Statistics (adolescents) - Nursing Interventions - Support for Parents PP: Assorted Disabilities - Definitions - Prevalence - Causes - Statistics - Comorbidities - Impact of Disabilities in Adolescents PP: Addressing Safety Concerns - Diagnosis/Manifestation - Unique Safety Concerns for all Disabilities - Medications - Sensory Dysfunction - Nutrition - Motor Challenges - Frustration - Multidisciplinary Care - Unique Safety Concerns for Nurses - Solutions - Importance of caregiver input and questions to ask - Communication techniques - Creating safe environment - Reducing stress	Case study - Pre-module/Post-module questions regarding knowledge base and experience with disabilities as well as feeling on importance of this material. - Occurrence - How to prepare patient with a disability for appointment - Importance of communication with parents. Questionnaire regarding triggers and preferences - Techniques to use to reduce stress and anxiety - Preferred pain scale - Progression of assessment - Referrals and Resources - Pre-module/Post-module questions regarding knowledge base and experience with disabilities as well as feeling on importance of this material. - Occurrence Clinical - Assign patient with disability - Explore new clinical sites (i.e. autism clinics, disability services, developmental disability clinics) - Visual Aide Use
Fundamental Nursing Skills (Sophomore Level) Student Reflection What was the major healthcare issue- acute and chronic - that needed addressed with this patient? What feelings did you experience when the referrals you made for your patient did not go as planned?	PP: Care of NV Patient - Types of Nonverbal Patients - Recognizing Signs of Discomfort and Agitation - Providing Care - Communication - Tools for Communication - Communication Board Example	- How to prepare patient with a disability for appointment - Importance of communication with parents. Questionnaire regarding triggers and preferences - Techniques to use to reduce stress and anxiety - Preferred pain scale - Progression of assessment - Referrals and Resources - Visual Aide Use
Adult 1 & 2 (Junior Level) Psychiatric Mental Health Nursing (Junior Level) Student Reflection What could have been done differently in the video to better the experience for the adolescent? How could the nurse better communicate with the family? What discharge instructions are needed?	PP: Disability Overview - Disability Definition - Types - Causes - Statistics - Adult Impact - Nursing Interventions - Communication - Mobility Issues PP: Neurodivergent/ASD - Autism definition - Impacts - Causes - ASD diagnosis/manifestations - Common comorbidities - Unique safety concerns - Communication - Medication - Medication side effects - Sensory dysfunction - Motor challenges - Frustrations - Stimming - Triggers and risks of stimming - Unique safety concerns for nurses - Solutions - Videos providing information about the neurodivergent aspect of the brain	Case Study - Pre-module/Post-module Questions - Parent input - Decreasing Stress during surgery or procedure - Communication and comfort techniques - Identifying different types of interventions for different types of disabilities Case Study - Critical Thinking/Rationale: - Pre-Module and Post-Module Questions - Stimming - How to react to stimming - How to calm patient - Best way to perform assessment - Safety measures - Education of family on comorbidities - Medications - Medication side effects - Outcomes of medication Clinical - Assign a patient with multiple disabilities - Visual Aide Use
Pediatrics (Junior Level) Student Reflection What should you share with parents about early diagnosis and interventions? What resources are available for the family that just learned of a child's diagnosis?	PP: Disabilities and Autism Spectrum Disorder (Pediatrics) - Spectrum differences - Different Types of Pediatric Disabilities (i.e. hearing impaired, social anxiety) - Causes - Impact on children, adolescents - Social issues - Communication issues - Behaviors - Diagnostic criteria - Nursing interventions, implications, & considerations	Case Study Critical Thinking/Rationale - Pre-Module and Post-Module Questions - Signs and symptoms - Early intervention - Evaluation intervals - Assessing for signs - Family and child support - Assessment techniques - Stimming intervention - Plan management Clinical - Specialty Summer Camps for children, adolescents or adults with disabilities - Visual Aide Use
Leadership & Management/Adult 4 (Senior Level)	PP: Different Disabilities and Autism Spectrum Disorder (Adults) - Review of Autism - Common comorbidities - Unique safety concerns - Autistic adult's communication styles - Medication - Medication side effects - Sensory and motor challenges - Social issues - Safety issues - Videos highlighting unique challenges of adults with ASD	Case Study - Pre-Module and Post-Module Questions - Putting it all together - Case Study that builds on multiple disabilities including physical and neurodivergent

4. DISCUSSION

Disability content was successfully integrated through a mid-western nursing school curriculum. Faculty keen on new addition to their individual courses and expressed gratitude for incorporating material likely tested on National Council Licensure Examination (NCLEX).^[3] Student questionnaires determine the content efficacy and a unique approach to teaching with a very “interactive” approach. Developing community partnerships (i.e., clinical sites), where students can interact with individuals with disabilities, was essential in establishing their clinical experience. Students often highlight these clinical experiences as “the best in the school” because of the all-inclusive approach of examining communication, safety, biases, etc. in one clinical.

Learning about diverse disabilities allows nursing students to replace broad assumptions with tailored clinical interventions, as demonstrated when caring for ASD patients. Autistic individuals often experience severe sensory sensitivities and communication differences that can make a standard hospital environment overwhelming and terrifying. When nursing students are trained in neurodiversity-affirming care, they learn to implement specific adjustments—such as dimming fluorescent lights, minimizing sudden noises, explaining procedures step-by-step before touching the patient, and utilizing visual aids. This specialized knowledge prevents behavioral distress, builds vital trust, and ensures that underlying medical issues are accurately assessed rather than being masked or overshadowed by sensory overload.

Similarly, specific education regarding patients with other types of disabilities such as being hearing impaired is critical to eliminating dangerous communication barriers and ensuring patient safety. Without proper training, a nurse might default to shouting or assume a patient can read lips perfectly, both of which frequently lead to critical misunderstandings about symptoms or discharge instructions. Educated nursing students learn to proactively implement accessible communication strategies, such as securing certified sign language interpreters, utilizing assistive listening devices, positioning themselves in direct light for clear visibility, and using written or digital communication tools. By understanding the distinct cultural and practical needs of the Deaf and hard-of-hearing communities, future nurses can guarantee informed consent and deliver equitable, safe care.

Understanding the diverse experiences and healthcare needs of individuals with disabilities is an essential component of contemporary nursing education. Nursing students must be prepared to recognize how physical, sensory, intellectual, developmental, cognitive, and psychiatric disabilities may influence communication, mobility, health literacy, access to

care, clinical assessment, treatment participation, and overall health outcomes. Developing this knowledge enables future nurses to provide safe, individualized, patient-centered care while recognizing and addressing barriers that may contribute to health disparities. All, of which, were incorporated into the modules and case studies of disability threading.

Limitations

While the threading provides valuable preliminary insights, a primary limitation is its sample scope, which relies on a small group of participants. Consequently, the findings may not fully capture the diverse perspectives, learning styles, and experiences of the broader student population. To enhance the generalizability and robustness of these conclusions, future review should incorporate a larger and more varied student cohort from several academic semesters.

5. CONCLUSION

Giving the propensity of disabilities in the general population, nursing students will be faced with interactions daily. Nursing curricula should be intentionally designed and continuously adapted to incorporate education, awareness, and meaningful exposure to disabilities across the continuum of nursing education. Integrating disability-focused content and clinical considerations into nursing preparation can better equip students with the knowledge, skills, and confidence necessary to provide safe, equitable, and patient-centered care to individuals with diverse disabilities. Education regarding disabilities, including appropriate nursing assessments, interventions, communication strategies, and advocacy, should be considered a foundational component of all nursing curricula to ensure that graduates are adequately prepared to meet the needs of the diverse populations they will encounter in professional practice.

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AUTHORS CONTRIBUTIONS

Dr. McIntosh and Mrs. Wendel were responsible for oversight of threading of content including review of literature, development of modules, assignments, case studies, etc.

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The authors declare that there is no conflict of interest.

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DATA SHARING STATEMENT

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