

Implementing an Unfolding Case Study Through-Out the Nursing Curriculum to Increase Opioid Addiction Education: The Opioid Addicted Person and Ramifications on the Family

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Opioid use disorder (OUD) remains a national epidemic since officially being proclaimed a public health emergency in October 2017 (*Determination that a public health emergency exists*, 2017). According to the Centers for Disease Control ("Opioid Data Analysis and Resources," 2018), prescription and illegal opioid use is the main factor in overdose deaths from which 115 Americans die every day. The number of opioid involved overdose deaths has increased five-fold from 1999 to 2016 with a total of 42,249 deaths in 2016 (Hedegaard, Warner, & Minino, 2017). The sheer number of deaths due to opioid overdose are frightening, as are the number of families who become secondary victims of addiction.

Secondary victims can happen in the earliest stages of life such as during pregnancy which can result in Neonatal Abstinence Syndrome (NAS). The number of babies being born with NAS continues to rise and is as high as six out of every 1000 births (Rappleye, McHugh, & Farrow, 2017). Approximately 8 million children under the age of 18 live with an adult who has an addiction to opioids; a majority of these children are under age five (Blozen, 2013). Research shows these children often live in an unstable environment and are more at risk for abuse and becoming a drug abuser later in life (Lipari & Van Horn, 2017). Effects of OUD are not solely focused on children, but rather, OUD affects all of the addicted person's relationships (Luke, Redekop, & Jones, 2018). MentalHelp.net (2019) defines substance use disorder as a "pathological set of behaviors" that fall into four categories: 1) impaired control, 2) social impairment, 3) risky use, and 4) pharmacological indicators . A person with OUD will continue

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to use the substance regardless of work issues, money issues, arguing or violence with those close to them, neglect of those same people, losing relationships, and not meeting household responsibilities which affects countless others (Luke et al., 2018; MentalHelp.net, 2019). Due to the multitude of people affected by OUD, most healthcare professionals are likely to interact with people affected by OUD in some fashion.

Reality is that OUD will touch the careers of future generations of nurses no matter their chosen work setting. The incorporation of OUD in undergraduate nursing education is critical for the preparation of the next generation of nurses, in order to address the current and future challenges brought about by the vicious opioid epidemic. Innovative and interesting methods are needed to incorporate this information into the already full nursing curriculum. The unfolding case study is one modality to incorporate opioid education into the curriculum.

In an unfolding case study, the nursing student receives a portion of the information and needs to assess and ask questions to receive further information in order to make a clinical decision and progress through the scenario (Carter & Welch, 2016). The National League for Nursing ("NLN ACES Unfolding Cases," 2019) describes the unfolding case study "as evolving over time where further information is gained at each encounter". Research shows that the unfolding case study is a beneficial pedagogical modality allowing for the building of new information and the expansion of critical thinking much like real-life situations (Carter & Welch, 2016; Johnson & Flagler, 2013; Yousey, 2013).

Our Unfolding Case Study

An unfolding case study was developed that incorporates the entire family, centered on a person who becomes addicted to opioids after being in a car accident. The scenario includes the opioid addicted person along with the ramifications of opioid addiction on the family unit

including a pediatric and a geriatric persons. The unfolding case study includes simulations, activities such as plotting on and using growth charts, vignettes, and discussion topics. The scenario begins with all three having normal assessments allowing students to focus on assessment skills and plotting on growth charts at the beginning of the curriculum. Next, the building blocks of addiction and substance abuse are provided to prepare the student to delve further into the evolving case study. Then, the adult client is in a motor vehicle accident which requires a surgery for a fractured leg and also results in a back injury. This allows for a simulation of taking care of a post-operative client and providing education for opioid medications. The scenario progresses 6 months and the adult patient is showing signs of opioid abuse at a follow-up appointment and his son (the pediatric client) and mother (the geriatric client) are showing signs of possible abuse. Then the unfolding case study culminates at the emergency room with an addicted person in septic shock with family members being abused. Because this unfolding case study was built with a timeline, it is unique in that it can be integrated throughout the entire undergraduate curriculum from assessment to critical care (see Table 1). The scenario also has the ability to continue into the graduate program by having the Acute Care Nurse Practitioner participate as the Health Care Provider which allows the benefit of having an interdisciplinary functionality.

3rd semester undergraduate

The Comprehensive Health Assessment course is placed in the third semester of the undergraduate curriculum providing the nursing student with the basic skills needed to perform complete assessments across the lifespan with a focus on the healthy client. Basic written case study vignettes are used to introduce the three focal characters that are used in the unfolding case study throughout the curriculum. During this course the vignettes are used to provide healthy

persons whom span the lifespan: a normal 33 year old adult male, a normal 72 year old geriatric female who is the adult's mother, and a four year old pediatric male who is the adult's child. These three characters can be used for practice of plotting on growth charts and writing assessments of healthy clients and will be used in future semesters to provide a comparison.

4th semester undergraduate

Promoting Health Populations and Pathophysiology-Pharmacology are two courses that occur in the fourth semester of the undergraduate curriculum. Due to the need for understanding of substance use and addiction before proceeding further into the evolving case study, this semester does not have the characters specifically incorporated but rather the basic building blocks of understanding substance use disorders. In Pathophysiology-Pharmacology, the basic information over substance use and addictions is discussed; opioids are included but not the sole focus. Promoting Healthy Populations discusses substance use statistics and influencing factors allowing the student to delve into the social aspect of substance use disorders in the local and global community. Between the two courses, knowledge gained will include physical and chemical changes in the brain from substance abuse, appropriate terms to use, ways people start using substances, influencing factors toward addiction, basic assessments to use when speaking with clients about substance abuse (such as the Screening-Brief Intervention-Referral to Treatment = SBIRT), stigma regarding substance abuse, treatment options, and ways to combat substance abuse. The knowledge gained during this semester will be of benefit in the following semesters' use of the evolving case study.

5th semester undergraduate

One of the course exemplars in the Medical-Surgical 1 course (entitled Clinical Nursing Care 1: Biophysical Processes) during the fifth semester of the undergraduate curriculum is

fractures with open reduction internal fixation (ORIF). A simulation was developed involving the adult client in the evolving case study who is on a medical-surgical floor post ORIF of the tibia and fibula and back pain due to a motor vehicle accident. He is refusing to get out of bed for meals and frequently requests his pain medication with a preference for the intravenous form over the oral form. The learners are expected to complete a head to toe assessment including vital signs and educate the client on why it is important to get up into the bedside chair for breakfast. The learners are expected to provide education on importance of ambulation, benefits of oral pain medications, and provide the oral pain medication. Discussion opportunities will arise during the debriefing session or in the classroom regarding client's going home on opioid pain medications.

6th semester undergraduate

In the sixth semester of the undergraduate curriculum, the Psychiatric course (entitled Clinical Nursing Care 2: Interactive Processes) and the Medical Surgical 2 course (entitled Clinical Nursing Care 3: Adaptive Processes) are located. For the Psychiatric course, a written case study vignette was made of the adult client in the evolving case study coming back to the doctor's office asking for more pain medication at six months post-op. The vignette contains information about the client exhibiting drug seeking behaviors and the prescription monitoring program showing multiple physicians providing opioid prescriptions. The student is expected to perform a thorough pain and functional assessment along with a substance use assessment screen such as SBIRT and/or reporting all assessment information found to the Health Care Provider (HCP). This provides the opportunity for conversations regarding prescription opioid abuse, SBIRT, prescription monitoring programs, and relaying information to the HCP. Currently, this vignette is also being worked on to become a simulation to use with the graduate program of the

Adult-Gerontology Acute Care Nurse Practitioner program with the expectation for the Nurse Practitioner to perform a thorough pain and functional assessment, look the client up in the prescription monitoring system, and provide SBIRT.

Two written case study vignettes regarding the pediatric and the geriatric client were created to be used in the Medical Surgical 2 course which covers the lifespan. The student will be provided with the normal assessments and growth charts from the assessment course in the third semester along with current assessments of both clients in which abnormal findings are present. The geriatric client will have lost weight and have a low BMI and the pediatric client will have stalled on growth and regressed in mile markers such as reverted back to bed wetting. The student is expected to identify the abnormalities in the assessment, plot on the growth charts, compare growth charts and note changes, surmise failure to thrive in both clients, and assess for reasons for the failure to thrive. It is important that the two courses work together during this semester as the timing of the discussions in both courses need to be coordinated with the psychiatric course work completed before the medical surgical course so the information about the adult's drug seeking behavior be known.

Due to its critical nature and prevalence with the opioid epidemic, it is important to note that Neonatal Abstinence Syndrome is already in another course this semester, the Traditional Care of Families and Populations course (Maternal-Child course).

7th semester undergraduate/Graduate Program

A simulation was created of the adult client in the evolving case study who comes into the emergency department with septic shock due to endocarditis from an infection from heroin injection use. This simulation can be used in the undergraduate Critical Care Course (entitled Clinical Nursing Care 4: Complex Processes) alone during the seventh semester of the

undergraduate curriculum, in the Acute Care Nurse Practitioner course alone with the Nurse Practitioner functioning as the Health Care Provider, or in combination of these two courses as an interdisciplinary simulation.

The simulation begins with the emergency room nurses receiving a male client who appears to be in shock. The client has track marks on his arms and a decreased level of consciousness. After laboratory tests, diagnostic tests, and history from the client's mother who is present (the geriatric client in the evolving case study) it is confirmed that the patient is in septic shock due to endocarditis from an infection from heroin injection use. To assure the students look at the social aspect of opioid abuse while immersed in the acute phase of care, the client's mother has large bruising on her arm and asks for money to get home because her young grandchild (the pediatric client in the evolving case study) has been left home alone. The student is expected to complete assessment of the client, follow orders of getting blood for the labs, IV, etc, handle any airway needs, help with interpretation of laboratory results, recognize the abuse of the client's family, and help the family. The Critical Care Course often does simulation with an interdisciplinary team including physicians or nurse practitioners along with other disciplines thus an intubation can be added with the student expected to assist with this task. This simulation contains a rich variety of discussion topics for the debriefing to include the advancement of oral opioid abuse to heroin abuse, recognizing sepsis and shock, looking at social aspects of a situation and possibly recognizing abuse during an acute incident, and using resources to get help. The simulation also is a culmination of many concepts taught in the Critical Care Course such as sepsis, shock, intubation, and ventilator management.

Conclusion

We are incorporating this evolving case study into our current curriculum. The entire evolving case study was incorporated into an elective advanced assessment course. However, the simulations were converted to written case study vignettes as this course did not have simulation time built in. Use of the characters across time was beneficial in the course as it allowed for comparisons between assessments. Rich discussions were had due to the wide array of topics brought up in the evolving case study. Pathophysiology-Pharmacology and Health Populations has incorporated the background information into the curriculum for several semesters which has assisted in providing the base for the students to build their knowledge upon regarding addiction.

The final simulation of the client who arrives at the emergency department in septic shock has been run numerous times with the Adult-Gerontology Acute Care Nurse Practitioner Acutely Ill 3 course. The results of the simulations and debriefings increased awareness of substance use and the ramifications on the family. It was noted that the Nurse Practitioners were able to provide the acute care for the client including intubation; however, the social aspect of effects on the family was not noticed by all completing the simulation. Fortunately the simulated geriatric client was able to provide repeated cues to the Nurse Practitioners regarding the need to get home to her young grandson who was home alone, not having money, and being sure the bruising was obvious. Several of the Nurse Practitioner groups did notice the social indications regarding the possible abuse and/or neglect of the geriatric and pediatric clients. A variety of possibilities were suggested to work with the social issues which ranged from asking a nurse to attend to the family, calling a social worker, to calling the victim advocate. The simulation provided rich conversation in the debriefing regarding both the social and acute care sides to the

opioid problem. This simulation is being considered to be used as a comprehensive final exam for this final course of the Acute Care Nurse Practitioner tract. We will continue to implement the evolving case study into our curriculum to provide the much needed opioid education.

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