Telling Stories to Help Undergraduate Students Learn Concepts on Genetics

The Essential Genetic and Genomic Competencies for Nurses With Graduate Degrees underscores the importance that graduates from nursing programs are prepared to apply the concepts of genetics to clinical practice (Greco, Tinley, & Siebert, 2012). Nurse educators with limited experience in teaching genetics may benefit from resources to help bring realism and relevance to the topic of genetics in the classroom. This article highlights an educational lesson using *Telling Stories: Understanding Real-Life Genetics*, an online resource on genetics developed by the National Genetics and Genomics Education Centre in the United Kingdom (2014). *Telling Stories* illustrates real-life patients' and family members' challenges and issues of living with genetic disorders. The stories can be viewed on a computer screen or printed out as a PDF. Activities, reflection questions, links to further information on the genetic disorder, embedded links to a definition of genetic terms, and short video clips are available.

Learning Activity Description

Two sections (n = 102) of undergraduate students attending a first-semester pathophysiology pharmacotherapeutics lecture course during the Fall 2019 semester participated in the lesson. Genetics in nursing concepts was part of the course curriculum. Readings from the pathophysiology textbook were assigned as class preparation. The instructor led a brief PowerPoint® discussion on basic concepts of genetics based on the pathophysiology textbook. Students completed a five-question quiz on knowledge-level genetic concepts. The class was divided into small groups of four to five students. Each group was tasked with developing a group PowerPoint presentation on one of nine genetic disorders that would serve as a learning tool for their peers.

Students used their laptops in class to access the internet and collaborate on Google Scholar™. A handout listing the link to *Telling Stories* and other genetic websites was provided to guide the internet search for evidenced-based nursing practice related to the genetic disorder. The learning objectives were to describe a real-life patient's or family member's challenges and issues living with the genetic disorder; explain key points about the genetic disorder and how it is inherited; describe the clinical manifestations; summarize health teaching, counseling, prevention, screening, diagnostics, prognostics, referrals, monitoring and selection of treatment; and list the references used. The completed group PowerPoint presentations were posted in a discussion forum in the learning management system. During the next class, students used a handout with directed questions to review the other groups' PowerPoint presentations. NCLEX®-style questions on the genetic concepts and disorders were included in the unit and final examination.

Discussion

Student reaction on the genetics lesson was positive. Students were engaged during the activity and interested in reviewing their peers' PowerPoint presentations. The group captured the essential concepts of each individual genetic disorder and the patient's or family members' struggles of living with the genetic disorder. The students performed well on NCLEX-style questions related to genetics. Because the group assignment was an effective approach to introduce students to genetic concepts, it will be repeated in subsequent courses.

References

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