Title:
Illness Script Formation in Diagnostic Reasoning Within Advanced Practice Nursing Education

Christina Nordick, DNP, MA, MSN
Leach College of Nursing, University of St. Francis, Joliet, IL, USA

Session Title:
Advanced Practice Nursing Education
Slot:
K 05: Tuesday, 31 October 2017: 9:00 AM-9:45 AM
Scheduled Time:
9:00 AM

Keywords:
Advanced Practice Education, Diagnostic Reaosning and Illness Scripts

References:
Center for Disease Control and Prevention. (2012). *National Ambulatory Medical Services Survey: 2012 summary tables.* Retrieved from http://www.cdc.gov/nchs/data/ahcd/namcs_summary/2012_namcs_web_tables.pdf

Lucey, C. (2013). *Clinical problem solving: Illness scripts.* Retrieved from https://vimeo.com/64181718

National Academy of Sciences, Engineering, and Medicine. (2015). *Improving diagnosis in health care.* National Academy Press: Washington, DC.

Abstract Summary:
Diagnostic reasoning is a critical and dynamic skill necessary for advanced practice nurses (APNs) of all specialties. This presentation focuses on the use of illness script formation as a component of developing, critiquing, and evaluating diagnostic reasoning of APN students within an advanced health assessment environment.
Learning Activity:

LEARNING OBJECTIVES	EXPANDED CONTENT OUTLINE
The learner will be able to identify the rationale for using illness script formation in diagnostic reasoning education.	The Institutes of Medicine mandates that diagnostic reasoning education be enhanced in educational preparation of all clinicians in order to reduce diagnostic error. Illness script formation used as a building block of diagnostic information can be included and incorporated throughout a graduate level education within the "three Ps" - pathophysiology, pharmacology and advanced health assessment. This inclusion facilitates diagnostic reasoning and prepares the fledgling student clinician to progress to case management.

The learner will be able to describe the diagnostic reasoning process.	The diagnostic process includes three overarching activities: information gathering, information integration and interpretation, and working diagnoses for the purpose of improving patient outcomes.
The learner will be able to identify the four parts of an illness script.	A well structured illness script is formulated by subjective and objective data focused in the realms of epidemiology, time course, pathophysiology, and clinical presentation.
The learner will be able to create an illness script using a common healthcare problem.	Participants will collaboratively work on creating an illness script of community acquired pneumonia.

Abstract Text:

Diagnostic reasoning is a critical and dynamic skill necessary for advanced practice nurses (APNs) of all specialties. In 2000, the Institutes of Medicine published *To Err is Human* which directed attention to patient safety and quality of healthcare issues. This important work was central to far-reaching quality and safety improvements across the spectrum of healthcare. In the latest treatise, *Improving Diagnosis in Healthcare,* the focus of improving patient safety and thus patient outcomes, centers on improving diagnostic error. According to the National Academy of Sciences, Engineering and Medicine [NASEM] (2015), five percent of outpatient visits result in diagnostic error; ten percent of patient deaths are attributed to diagnostic errors; and six to seventeen percent of hospital adverse events are associated with errors in diagnoses. In outpatient visits alone, 46.4 million diagnostic errors occur annually (CDC, 2012). Moreover, the leading category of APN malpractice claims with the highest total payment amounts involves diagnostic errors (NSO, 2012). Clearly, diagnostic error is a major contributor to poor patient outcomes and the quality of healthcare in the United States.

NASEM (2015) contends that healthcare professional education across all disciplines must utilize advances in the learning sciences and neurobiological understandings of cognition and thought processes. Thus, diagnostic reasoning education in advanced nursing practice must be purposefully emphasized and developed in educational settings. Specific instruction on generating data-driven diagnoses which are incorporated into the teaching learning strategies in advanced nursing practice education must be utilized. As a stepping stone to life-long learning in diagnostic reasoning, the practice of developing illness scripts is strongly urged by the Academy.

Illness scripts are a visual and organizational method of categorizing and prioritizing data points related to specific disorders. They are comprised of epidemiological information, chronicity/acute patterns, understandings of pathophysiology, and incorporation of subjective and objective clinical manifestations. Research indicates that expert clinicians and diagnosticians use illness scripts intuitively and in logical procession while discerning the presenting patient disorder. NASEM (2015) further purports that by making the process of illness script formation overt and deliberate, beginning diagnosticians can develop strategies to improve their diagnostic reasoning and thus improve patient outcomes.

One Midwestern private university has employed the process of illness script formation into the curriculum of advanced practice nursing education. Early in the program of study students focus on the data points of epidemiology, namely, demographic patterns, risk factors, and exposures related to a specific disorder. As the student progresses to advanced pathophysiology the emphasis centers on the cellular mechanism of pathology. This includes acquisition of knowledge related to typical time course of a disease, and the anatomical, physiological, immunological, epigenetic/genetic, and biochemical derangements associated with the disorder. Eventually, the student proceeds to the advanced health assessment and diagnostic

reasoning course. Within this course students learn the skills of subjective data mining, objective data acquisition and incorporation of the entire spectrum of illness script information. Students then integrate the completed illness script and apply it to patient scenarios or simulations. By following this educational teaching-learning strategy, advanced practice nursing students are more confident of their diagnostic reasoning abilities and are more prepared for progression into their patient management courses. Student satisfaction of learning objectives is enhanced and a life-long skill for improving diagnostic reasoning is gained.