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Advanced Diagnostic Content in Nurse Practitioner and Physician Assistant Programs

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ABSTRACT

Nurse practitioners and physician assistants who provide care to patients use advanced skills frequently. This work explores curricular content pertaining to procedural skills and diagnostic and laboratory tests in nurse practitioner (NP) and physician assistant (PA) programs. A descriptive, cross-sectional design was used. Data collection consisted of an online survey with responses from 106 of 297 NP programs and 47 of 125 PA programs. Kruskal-Wallis test demonstrated significant differences between NP and PA programs. Opportunities exist for NP and PA educators to improve congruence between perceived importance and amount of time spent on educational activities in NP and PA curriculums.

Keywords: advanced diagnostic skills, curriculum, nurse practitioner, physician assistant

INTRODUCTION

The education of nurse practitioners (NPs) and physician assistants (PAs) is dynamic and challenging due to the nature of their work following graduation. Changes in health care access are expanding the roles and responsibilities of NPs and PAs in the United States.[1] Practice requirements for many NPs and PAs currently involve the use of procedural skills, such as laceration repair, punch biopsies, etc, and the ordering of diagnostic tests, such as electrocardiograms (EKGs) or X-rays. The 2012 National Sample Survey of Nurse Practitioners[2] reported that 48% of the NP workforce is employed in primary care settings and, of those NPs in primary care, 11% work in clinics with no physician onsite. Within the total NP workforce, 75% reported that they order, perform, and interpret laboratory tests, X-rays, EKGs, and other diagnostic studies.[2] Graduates of NP programs have described gaps between the amount of procedural content in their educational programs and the frequency of use of those procedures in primary care settings.[3,4]

The 2014 annual report from the Physician Assistants Education Association includes timely information on the PA workforce, the number of accredited PA programs, and salary levels of PAs in various specialty and primary care agencies. Missing from the report are any data related to possible gaps in how PAs are educated relative to their work environment.[5] National guidelines for the NP curriculum do not identify specific procedural skills or the ordering or interpretation of diagnostic tests required for inclusion in the curriculum.[6] However, the Accreditation Review Commission on Education for the Physician Assistant[7] provides more detailed instruction to accredited PA programs on the required minimum skills needed for PAs to practice effectively after graduation. Under the curriculum guidelines of the commission, specific requirements state that PA students must have instruction and practice in technical skills and procedures. NP educators have noted that time constraints within an overly populated graduate nursing curriculum have made it difficult to add more content into existing NP programs. Less is known from the PA literature whether this education-practice gap exists and, if so, whether it is similar to that seen in NP education.

It remains unclear on what the impact of doctoral education within the NP role will have on patient-focused outcomes. What is clear is that NPs trained at the doctoral level will be required to have a significant increase in the total number of hours devoted to clinical training. The increase in the clinical hour requirement for NPs may create a window of opportunity for NP educators to address potential gaps in the NP curriculum as it relates to procedural skills and the use and interpretation of diagnostic tests.

BACKGROUND

NPs and PAs are an integral part of the health care delivery system. The Government Accountability Office[8] reported the fastest rate of increase for all types of primary care providers over the past decade came from NPs (9.4%), followed by PAs (3.8%). As of 2014, more than 100,000 NPs and 80,000 PAs work in primary and specialty care areas throughout the United States. According to the 2009-2010 American Academy of Nurse Practitioners national sample survey, only 26% of respondents practiced in settings where a physician was onsite 100% of the time[9] and the majority of NPs (67%) deliver primary care services.[10] The American Academy of Physician Assistants 2010 report indicated that 31% of the 83,466 PAs in clinical practice work in primary care with an additional 10% employed in internal medicine practices.[11] The increase in the number of NPs and PAs in the health care workforce has been coupled with an increase in the volume of patient visits, the types of services provided by NPs and PAs, and a broader utilization of NPs and PAs in hospital-based services such as trauma and critical care units.[12,13]

The inclusion of NPs and PAs in a variety of clinical settings has highlighted the need for preparation in the correct use of procedural skills and diagnostic and laboratory tests to carry out safe, high-quality patient care. The literature is scant with only a few studies suggesting that gaps exist for NPs in their educational preparation of procedural skills and diagnostic and laboratory tests within the primary care setting.[3,4] NPs educated in acute care have curriculum requirements that include education on invasive procedures (eg, intubation, chest tube placement), so it is possible that the education-practice gap is narrower for acute care NPs who work in hospital settings.[12]

An assessment of PA performance as a part of a hospitalist team revealed that PAs ordered and interpreted EKGs and chest X-rays more than 1 or 2 times per week.[14] PAs who work within a hospitalist program reported that they would be willing to take reduced pay if allowed to complete a 1-year residency program postgraduation aimed at increasing their skills within the acute care setting.[14] It should be noted that accredited PA programs have a specific competency within the domain of medical knowledge that specifies the PA student must demonstrate the ability to select and interpret appropriate diagnostic or laboratory studies. Although similarities and differences exist between NP and PA educational programs, it is not unreasonable to assume that novice NPs and PAs share a desire to have congruency between their current NP and PA curriculums (respectively) and what is considered relevant in the clinical setting postgraduation.

Changing demographics, increases in health care access, and an impending physician shortage in primary care will have a major impact on NPs and PAs in the practice setting. Understanding the key components of NP and PA curriculums will help further the dialogue on how graduates of both types of programs can better meet the health needs of the current population.

The purpose of this study was to describe curricular content pertaining to procedural skills and diagnostic and laboratory tests among NP and PA programs.

RESEARCH QUESTIONS

1. Are there differences between the amount of time spent on various procedural skills and diagnostic and laboratory tests between NP and PA programs?
2. Are there perceived differences in the importance of teaching various procedural skills and diagnostic and laboratory tests between NP and PA programs?

METHODS

The institutional review board at Washburn University approved our study in 2011. The study used a