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Review

Interprofessional simulation in undergraduate nursing program: An integrative review

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ABSTRACT

Objectives: Interprofessional (IP) competencies are critical for successful collaborative practice. Nurse education, through interprofessional simulation, plays a critical role in preparing nursing students achieve these competencies. Although considerable research has been conducted on this topic, a broader perspective is lacking. This review systematically appraised and synthesized evidence examining the effects of interprofessional simulation on nursing students' outcomes.

Design: An integrative review method guided this review.

Data Sources: Five databases (Cumulative Index to Nursing and Allied Health Literature, SCOPUS, PubMed, PsychINFO, and MEDLINE) were searched to locate articles published from 2010 onwards. Search and MeSH terms included: interprofessional, interdisciplinary, simulation, nurse education, nursing, and student. Thirty (30) articles were included in this review.

Results: Findings of content analysis revealed five essential themes: interprofessional communication, appreciation of interprofessional team roles, interprofessional teamwork or collaboration, self-confidence or self-efficacy, and positive attitudes or readiness toward interprofessional learning.

Conclusions: This review provides a current state of knowledge on the efficacy of interprofessional simulation in enhancing interprofessional learning and competencies in nursing students. However, more research should be done utilizing a more robust method of research and reliable assessment methods. Through interprofessional simulation experiences, nurse academe can adequately prepare nursing students for future collaborative practice. Inclusions of interprofessional simulation activities in all clinical nursing courses can help prepare nursing students achieve inter-professional learning.

1. Introduction

In a constantly changing and increasingly complex healthcare environment, nurses are expected to work efficiently and collaboratively with a team rather than operate in silos. Through collaborative health practice, health professionals from different professional backgrounds work together with patients and their families to improve patient outcomes, achieve the highest quality of healthcare, reduce healthcare costs, and ultimately, enhanced organizational outcomes (Reeves et al., 2013; Reeves et al., 2016; World Health Organization, 2010).

The need for collaborative health practices has been emphasized by various academic, health, and accreditation bodies (Canadian Interprofessional Health Collaborative, 2010; WHO, 2010). For instance, the Australian Nursing and Midwifery Federation (2014) emphasized the collaborative practice as an important domain which requires nurses to build and establish professional relationships with consumers and their families, communicates and work collaboratively with the health team, and liaise with relevant agencies and health professionals to provide health care services. The WHO (2010) acknowledged the importance of interprofessional collaboration in developing a healthcare workforce who is responsive for an increasingly complex healthcare environment as well as in the achievement of the Millennium Development Goals.

A number of interprofessional competency domains were identified, formulated, and developed across literature, and among healthcare institutions and educational entities. Six distinct competency domains were identified by the Canadian Interprofessional Health Collaborative (CIHC) such as interprofessional communication, patient/client/family/community-centered care, role clarification, team functioning, collaborative leadership, and interprofessional conflict resolution. In 2011, the Interprofessional Education Collaborative (IPEC), consisting of six professional educational organizations identified four core

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competencies essential for interprofessional collaborative practice to include: values/ethics for interprofessional practice, roles/responsibilities, interprofessional communication, and teams/teamwork. To better achieve the triple aim (improve patient care, enhance the health of populations, and reduce healthcare costs), IPEC, in 2016 strengthened and reorganized the four core competencies under the interprofessional collaboration domain rather than as one of the domains of interprofessional education. The Australian Commission on Safety and Quality in Health Care (2012) highlighted the importance of the eight learning domains of interprofessional collaborative practice that needs to be reinforced to pre-licensed health professionals as early as possible. This includes: communication, teamwork, professionalism, roles understanding, critical reflection, consumer focus, situational awareness, and ethical practice. Despite the varying competencies of the domains identified, the outcomes were common and consistent; hence the enhancement in patients' outcomes.

2. Review of Literature

Nurse education plays a major role in preparing nursing students attains interprofessional competencies for future collaborative health practice. Nurse academe is strategically positioned to prepare nursing students for future collaborative practice through interprofessional education. As such, several strategies were suggested and employed to achieve these competencies through policy formulation or policy making, curricular reengineering, and accreditation changes. The literature identified interprofessional education (IPE) as an important tool to prepare nursing students in healthcare for a professional role as healthcare providers (Murdoch et al., 2017; Reeves et al., 2013; Reeves et al., 2016; Darlow et al., 2015). Through IPE, nursing students from two or more programs engage, interact, and learn from each other with the end goal of developing interprofessional competencies essential for future collaborative practice (WHO, 2010). However, provision of maximum IPE, learning and experience for nursing students remains elusive and challenging due to myriad of factors such as cost, lack of administrative support, lack of resources, and funding (Foronda et al., 2016; Titzer et al., 2012).

In recent years, simulation-based learning activities as a teaching modality have been found particularly useful in the delivery of IPE and learning among healthcare and nursing students. In particular, interprofessional simulation has been found to enhance interprofessional competencies in nursing students. Failla and Macauley (2014) defined interprofessional simulation as a simulation experience where healthcare workers from different professions working together using a near representation of an actual patient care situation to achieve shared and transformative learning.

Previous literature has identified a variety of outcomes of interprofessional simulation. Such outcomes include: creation of knowledge through shared learning, improved decision making, enhanced team cohesiveness and collaboration, increased team performance, and improved patient care (Gough et al., 2012; Foronda et al., 2016; Failla and Macauley, 2014; Smithburger et al., 2013). Simulation studies increased nursing students' understanding of the role of each health professionals and enhanced their professional competence, self-efficacy, leadership skills, problem solving skills and communication skills (Foronda et al., 2016; Granheim et al., 2018; Williams et al., 2015; Watters et al., 2015).

While there is evidence of growing interprofessional simulation literature around the world, a broader perspective on this topic is scarce. Therefore, this review aimed to systematically appraise and synthesize evidence examining the effects of interprofessional simulation on nursing students' outcomes. This is a vital step in order to determine the extent to which interprofessional simulation can be used as a teaching tool in nursing education.

3. Methods

The framework of Whittemore and Knafl (2005) guided this review in order to describe the current knowledge on the impact of interprofessional simulation on nursing students' outcomes. Considered to be the broadest review approach, this approach allows the combination and integration of studies with different methodologies, both experimental and non-experimental methods, to provide understanding of the topic under scrutiny. This approach consisted of five distinct stages: identification of problem, searching of literature, evaluation of data, analysis of data, and presentation of data.

3.1. Search Strategies

Identification of relevant studies was conducted through searching of electronic databases. The primary databases utilized for search of the literature were: Cumulative Index to Nursing and Allied Health Literature, SCOPUS, PubMed, PsychINFO, and MEDLINE using the following Search and MeSH terms: interprofessional, interdisciplinary, simulation, nursing, education, and student. Additional searches of the literature were undertaken through the reference lists of the articles reviewed. Fig. 1 shows the flow diagram utilized in searching and selection of the relevant literature.

3.2. Inclusion and Exclusion Criteria

Articles were considered for review if the primary objective of the research were to evaluate the influence of utilizing interprofessional simulation on nursing students' outcomes. The following criteria were used for inclusion in this review: (1) peer-reviewed, (2) published in English language and (3) published from 2010 onwards. Types of studies included in the review were: quantitative (experimental, quasi-experimental, and descriptive studies), qualitative studies, and or combination of the two being a mixed-method design.

3.3. Search Outcomes

The initial search resulted in five hundred eighty two (582) papers. This number diminished to four hundred fifty nine (459) after removing for duplicates. One hundred five (105) were subjected to full text screening after a review of titles and abstracts found that three hundred fifty four (354) articles did not met selection criteria. Finally, a full text reading of the remaining articles resulted in thirty (30) studies that were considered appropriate for review. The process followed to identify relevant articles is demonstrated in Fig. 1.

3.4. Appraisal of Methodological Quality and Level of Evidence

To appraise the methodological quality of the quantitative and qualitative articles included in the review, the authors utilized the Mixed Methods Appraisal Tool (MMAT) (Pluye et al., 2011). This appraisal tool was designed for appraisal of quality of systematic reviews that include quantitative, qualitative and mixed methods studies.

To determine the level of evidence for each study, the hierarchy of evidence developed by Melnyk et al. (2005) was used. The hierarchy of evidence were classified into seven (7) levels: Level I (evidence from systematic reviews or meta-analysis of relevant clinical trials), Level II (evidence derived from at least one well-delineated randomized controlled trial), Level III (well-delineated clinical trials without randomization), Level IV (well-delineated cohort and case-control studies), Level V (systematic reviews of descriptive and qualitative studies), Level VI (evidence derived from a single descriptive or qualitative study), and Level VII (the opinions of authorities or report of expert committees).