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Sherry Morrell
University of Windsor

Jody Ralph
University of Windsor

Natalie Giannotti
University of Windsor

Debbie Dayus
University of Windsor

Susan Dennison
University of Windsor

See next page for additional authors

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Authors

Sherry Morrell, Jody Ralph, Natalie Giannotti, Debbie Dayus, Susan Dennison, and Judy Bornais

Physical assessment skills in nursing curricula: a scoping review protocol

Sherry Morrell^{1,2} · Jody Ralph¹ · Natalie Giannotti¹ · Debbie Dayus¹ · Susan Dennison¹ · Judy Bornais¹

¹Faculty of Nursing, University of Windsor, Windsor, Canada, ²Queen's Collaboration for Health Care Quality: a Joanna Briggs Institute Centre of Excellence

Review objective: This review seeks to establish the current state of knowledge regarding physical assessment skills taught in nursing programs globally. It aims to explore the literature on physical assessment skills taught in nursing curricula globally, skills used by nurses in practice, skills used by students, and core physical assessment skills that are important to teach nursing students.

Keywords Curricula; education; nursing; physical assessment; student

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Introduction

Nursing programs prepare graduates to practice as entry-level nurses based on competencies established by regulatory bodies that oversee nursing licensure. Colleges and universities offer a variety of formats for nursing programs and, regardless of length of program or facility location, all offer instruction in physical assessment skills. Preparing nurses of the future includes developing a curriculum that aligns with the physical assessment skills taught in nursing programs globally.

Nursing graduates need to be competent in caring for individual patients, as well as providing population-based care. Programs are expected to comprehensively cover the essential skills to enable a graduating nurse to practice.¹ Physical assessment skills, including inspection, palpation, auscultation and percussion, are part of the ongoing assessment necessary when collecting information to determine client status.^{2,3} Furthermore, physical assessment provides the basis for planning nursing interventions that enhance safe and competent patient care.³ However, nursing schools are faced with the dilemma of deciding which physical assessment skills are necessary for the entry-level nurse, versus which skills should be learned “on the job”.⁴

Nursing curricula prepare graduates to meet current and future healthcare demands. Determining content that is considered essential knowledge and skills for nursing programs is becoming difficult.^{5,6} The impetus for selecting essential physical assessment skills is driven by the increasing complexity of patient care,^{7,8} the risk for “failure to rescue” in the clinical setting,⁹ the need to provide opportunities that solidify students’ competency and confidence in practice,¹⁰ changing care delivery models and settings, the expanding nursing scope of practice, and utilization of new technology.³ Unfortunately, the specifics of the content, depth and precise skills to be taught within the program are left to the individual nursing program to decide. There is a lack of consensus in literature regarding what physical assessments are essential to teach.⁴ Nursing programs have been criticized for trying to “teach it all” as the body of nursing knowledge continues to grow exponentially, while only a subset of the skills taught are used every day.⁹ Authors stress that students need more time to practice, not more content.^{6,9} Giddens and Eddy⁹ feel that there should be fewer skills taught, with a greater emphasis placed on interpretation and clinical judgement. They also claim it is not realistic to expect that new graduates possess every skill in all areas of nursing. Ironside¹¹ feels that it is not a question of what to include in a physical assessment course, but what to leave out. Douglas *et al.*¹² caution that is important not to base what assessment skills are relevant by the frequency of use, as this ignores factors that shape nursing assessment practices.

Correspondence: Sherry Morrell, morrells@uwindsor.ca

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Several authors believe that not providing opportunities to practice and master skills while in school may lead to a lack of application of that skill as a registered nurse^{9,12,13} and that skilled observation adds definition to and legitimizes nursing practice.¹² Kohtz *et al.*⁴ disagree, stating that the advanced skills required in specific areas should be introduced and acquired in the nurse's respective area of work where the skill will be utilized.

A few studies have examined the scope and depth of physical assessment skills taught in nursing education. Birks *et al.*¹⁴ suggest that there is a need for different approaches to teaching core skills. Several authors think there is a disconnect between the education received by nursing students and the actual skills used in practice.^{3,9,12} Additionally, Fennessey and Wittman-Price³ stress that being competent in performing physical assessment skills is essential for making clinical decisions.³ Douglas *et al.*¹² go as far as to posit if nursing education is even meeting the needs of the healthcare sector. Giddens¹⁵ has similar concerns, stating that nurse administrators report that new graduates do not meet competency expectations.

There are concerns that students in clinical placements during their program are not even using the physical assessments they have been taught. A study by Yokoyama *et al.*¹⁶ conducted in the Philippines revealed that the only physical assessment skills the students used, while in clinical placements, were taking vital signs, inspection and auscultation of the chest and the abdomen. Another study by Douglas *et al.*¹² at an Australian University found that students routinely used only five out of Giddens 126 assessment skills. The students performed evaluation of breathing, assessment of capillary refill, palpation of temperature in the extremities, and assessment of mental status/level of consciousness using the Glasgow Coma Scale at every assessment. Another 10 skills were regularly or frequently used. Levelling of nursing programs and access to technology may vary across countries, further adding to differences in curricula and nursing practice patterns.

Physical assessments are an essential skill performed by nurses in practice. Research studies have compared the skills used in practice to skills taught in nursing programs. A survey done by Giddens¹⁷ found that nurses at a university-affiliated hospital in the United States use a limited number of skills when performing a physical assessment, only 30 of a

possible 126 skills on a routine basis. The same survey was repeated in Australia by Birkes *et al.*¹⁴ and they found that only 13 of the 126 skills were regularly used. Cicolini *et al.*¹⁸ modified the survey to include only the 30 physical assessment skills that are required by nursing education in Italy. Their results revealed that nurses practicing in Italy commonly used 20 out of the 30 physical assessment skills. In 2017, Kohtz *et al.*⁴ replicated Giddens's 2007 study, once again in the United States. They found that 30 skills were used routinely while 79 of the 126 skills were never used in the clinical setting. Thus, the issue of what is being taught versus what is being practiced remains. Interestingly, in 2007, 30 skills were used in practice, and in 2017 this remained the same. Furthermore, 27 of the 30 skills were the same in both studies.⁵

An initial preliminary search was completed to explore the questions of interest. A search of MEDLINE and CINAHL provided 43 articles related to the topic. Therefore, it is important to explore what physical assessment skills are taught in nursing curricula globally and to examine the skills being used by nurses in practice routinely. This information will aid nursing educators in determining which physical assessment skills are essential to teach in nursing curricula and which are not. A scoping review will examine emerging evidence and provide an overview of this important topic.¹⁹

Inclusion criteria

Participants

The review will consider studies that include physical assessment skills taught to students in any undergraduate tertiary degree program that prepares students to become a registered nurse (RN). This includes university or college programs that lead to a Diploma of Nursing, Bachelor of Nursing, Bachelor of Science in Nursing or Associate Degree Nursing.

Concept

The concept of interest is physical assessment skills taught to nursing students in any year of a university or college undergraduate nursing program worldwide. Physical assessments will include techniques or skills. Nursing students will include any undergraduate nursing students in any year of a university or college nursing program that leads to the above-mentioned certification.

Context

The context is global nursing curricula.

Types of studies

This scoping review will consider both experimental and quasi-experimental study designs including randomized controlled trials, non-randomized controlled trials, before and after studies and interrupted time-series studies. In addition, analytical observational studies including prospective and retrospective cohort studies, case-control studies and analytical cross-sectional studies will be considered for inclusion. This review will also consider descriptive observational study designs including case series, individual case reports and descriptive cross-sectional studies for inclusion.

Qualitative studies that focus on qualitative data including, but not limited to, designs such as phenomenology, grounded theory, ethnography, qualitative description, action research and feminist research will also be considered. In addition, systematic reviews that meet the inclusion criteria, and text and opinion papers will also be considered for inclusion. Studies published in all languages will be included. Studies published from 2008 to 2018 will be used as health assessments need to reflect advancements in health care.

Methods

The proposed review will be conducted in accordance with the Joanna Briggs Institute methodology for scoping reviews.¹⁹

Search strategy

The search strategy aims to find both published and unpublished studies. An initial limited search of both PubMed (MEDLINE) and CINAHL has been undertaken using the MeSH (Medical Subject Headings) terms: students, nursing; physical assessment; and education, nursing. MeSH terms were used to search in both the titles and abstracts. A full search strategy is detailed in Appendix I. The analysis of the text words and index terms used to describe articles will inform the development of a search strategy which will be tailored for each information source. The reference list of all studies selected for critical appraisal will be screened for additional studies.

Information sources

The databases to be searched include: PubMed, CINAHL and Scopus. The trial registers to be

searched include: Cochrane Central Register of Controlled Trials. The search for unpublished studies will include: PapersFirst, ProQuest Dissertations and Theses Sciences and Engineering Collection, Google Scholar, OpenGrey and Open Access Theses and Dissertations.

Study selection

Following the search, all identified citations will be collated and uploaded into Zotero (Corporation for Digital Scholarship and Roy Rosenzweig Center for History and New Media, VA, USA) and duplicates removed. Titles and abstracts will then be screened by two independent reviewers for assessment against the inclusion criteria for the review. Studies that could potentially meet the inclusion criteria will be retrieved in full and their details imported into Joanna Briggs Institute System for the Unified Management, Assessment and Review of Information (JBI SUMARI). The full text of selected studies will be retrieved and assessed in detail against the inclusion criteria. Full-text studies that do not meet the inclusion criteria will be excluded and reasons for exclusion will be provided in an appendix in the final report of the scoping review. The results of the search will be reported in full in the final report and presented in a Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)²⁰ flow diagram. Any disagreements that arise between the reviewers will be resolved through discussion, or with a third reviewer.

Data extraction

Data will be extracted from papers included in the scoping review by two independent reviewers using the standardized Joanna Briggs Institute data extraction tool in JBI SUMARI (see Appendix II). The data extracted will include specific details about the population, concept, context, study methods and key findings relevant to the review objective. Any disagreements that arise between the reviewers will be resolved through discussion, or with a third reviewer. Authors of papers will be contacted to request missing or additional data, where required.

Data presentation

The extracted data will be presented in a descriptive format that aligns with the objective of this scoping review, which is to explore the literature for information related to physical assessment skills taught in

nursing curricula globally and the skills used by nurses in practice. The extracted results will be organized under categories that reflect the questions of interest, such as: i) physical assessment skills taught in curricula, ii) physical assessment skills used by nurses in practice, iii) physical assessment skills used by students, and iv) important core physical assessment techniques. A summary of each article will include the author(s), year of publication, country of origin, purpose, population, sample size, methodology, concepts of interest, outcomes and key findings relating to the scoping review questions.

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Appendix I: Search strategy for CINAHL and PubMed

MeSH terms: students, nursing: pupil nurses; student, nursing; nurses, pupil; nurse pupil; nursing student; nursing students

Physical assessment: examination, physical; examinations, physical; physical examinations; physical examinations and diagnoses

Education, nursing: nursing education; educations nursing; nursing educations

Search under both TI and AB. No date restrictions

1. “physical examin*” OR “physical assessment” OR “physical assessment skills” OR “physical assessment techniques” OR “Physical examination”
2. “student nurses” OR “Nursing students” OR “student nurse” OR “nursing student”
3. “nursing curriculum” OR “nursing program” OR “nursing education”
4. S1 AND S2 AND S3

Appendix II: Data extraction instrument

Scoping review details	
Scoping review title	
Review objective/s	
Review question/s	
Inclusion/exclusion criteria	
Population	
Concept	
Context	
Types of study	
Study details and characteristics	
Study citation details (e.g. uthor/s, date, title, journal, volume, issue, pages)	
Country	
Context	
Participants (details e.g. age/sex and number)	
Details/results extracted from study (in relation to the concept of the scoping review)	
1) What physical assessment skills are being taught in nursing curricula	
2) Whether these skills are being used by nurses in clinical practice	
3) What physical assessment skills students use throughout the nursing program	
4) What are the core physical assessment skills that are important to teach in nursing	