Nursing Faculty Who Incorporate Environmental Health into the Nursing Curriculum

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Abstract

Environmental health is rooted in the foundation of nursing practice. Nurses have a key role in promoting safe environments to protect the health of all people from harmful environmental exposures, including biologic, chemical, radiological, and physical hazards. The American Nurses Association’s Scope and Standards of Nursing Practice (2010) included environmental health as a part of the practice of the registered nurse. It is imperative for nursing curriculum include environmental health to prepare future nurses to practice safely, competently, and meet the requirements of the current workforce. This evolution of curricula has not yet occurred in all nursing programs. The purpose of this study is to examine the definition of environmental health of three nursing faculty members and their motivation for the inclusion of environmental health into the nursing curriculum. Each of the three nursing faculty members included in this study have been identified by peers as having successfully incorporated environmental health into the nursing curriculum they teach.

*Key words*: nursing faculty, environmental health, ANA’s Standard 16, motivation, nursing education, nursing curriculum

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**Introduction**

A primary responsibility of the nursing profession is the protection from physical, mental, or environmental harm (Shendell, Alexander, & Huang, 2010). As the largest group of providers of health care (Memmott, Coverston, Heise, Williams, Maughan, Kohl, & Palmer, 2010), delivering over 90 percent of the healthcare across the world (Bryer, Kendall, & Magotlane, 2012) and working in nearly every heath care setting in the United States, nurses are an in an idea position to help prevent the acute and chronic conditions that are related to environmental influences.

The goal of nursing education is to prepare the nurses of the future to practice safely and competently, while meeting the requirements of the current workforce. The expectations and demands of potential employers are evolving to include the nurses’ incorporation of environmental health (EH) into their practice. Review of curriculum by nursing faculty for modifications to ensure EH inclusion in the classroom, simulation, and clinical settings may not have occurred in each nursing program. The purpose of this study is to examine the definition of environmental health of three nursing faculty members and their motivation for the inclusion of environmental health into the nursing curriculum.

**Research Problem**

Environmental health is part of the foundation of nursing practice. Florence Nightingale, (1820-1920) the founder of modern nursing is considered by many the first environmental health nurse. In *Notes On Nursing: What It Is, And What It Is Not* (1860), Nightingale instructed nurses to embrace a variety of environmental factors to enhance the health of their patients by including warmth, health in houses, food quality, cleanliness lighting, and noise reduction into their practice. Today, nurses deliver 90 percent of the healthcare across the world (Bryer, Kendall, & Magotlane, 2012) and are in pivotal roles to ensure healthy, safe, healing environments for patients, their families and communities by promoting conditions for optimal health in every health care setting and beyond.

According to the Environmental Health Nursing Initiative of the Agency for Toxic Substances and Disease Registry (ATSDR), nurses have a key role in promoting safe environments as they protect the health of all people, work with patients, families, and communities of many cultural and socioeconomic backgrounds. They are trusted with the information they provide about potential environmental hazards (biologic, chemical, radiological, and physical), and toxic exposures. Leadership organizations in nursing, including the American Nurses Association (ANA), the National League for Nurses (NLN), and the International Council of Nurses (ICN) have publically recognized the important role of nurses in promoting safe and healthy environments.

The ANA revised the Scope and Standards of Nursing Practice in 2010 to include environmental health as a part role of the registered nurse. Standard 16 of the Scope and Standards states: “The registered nurse practices in an environmentally safe and healthy manner” (p. 61). This document advocates for nurses to develop knowledge of environmental health concepts, including the promotion of practice environments that reduce environmental health risks for workers and healthcare consumers, and the assessment of practice environments for elements that can threaten health including sound, odor, noise, and light. Nurses know that the health of the environment “impacts the health of individuals, families, communities, and populations” (ANA, 2010, p. 5).

It is imperative nursing education include EH in the preparation of the future nurses to practice safely and competently, while meeting the requirements of the current workforce. The education and preparation of nursing faculty may not have included environmental health, and faculty may be hesitant to champion these changes in content they provide due to a deficit in knowledge or time constraints in a full curriculum. In addition faculty may have difficulty finding areas of insertion in an already full curriculum. It is imperative for nursing faculty to review current nursing curriculum and anticipate for modifications to the existing curriculum to ensure the inclusion of EH across classroom, simulation, and clinical settings to prepare future nurses to practice fully in the scope and practice of a registered nurse.

**Research and Analytic Questions and Rationale**

The purpose of this qualitativeresearch studyaim is to (1) understand the nurse faculty member’s (NFM)’s definition of environmental health and (2) the motivating factors of these NFM for their inclusion of EH into the nursing curriculum they teach. The analytic questions guiding these broader research questions are:

(1a) What is the NFM’s definition of EH?

(1b) What are the NFM’s understanding of the nurses’ role in EH?

(2a) What are the driving forces for the inclusion of EH in the curriculum in their institutions?

(2b) How have the recommendations of nursing leadership organizations influenced the NFM’s inclusion of EH?

(2c) How have other nurses influenced the NFM’s decision for the incorporation of EH into the curriculum?

(2d) Has the reception to the inclusion of EH by other faculty members and students influenced the NFM’s motivation for the continued inclusion of EH?

It is important to understand the faculty member’s definition of EH in order to fully understand what topics they are including into the nursing content they teach. The definition of EH may vary upon the source of the information. A search utilizing Google Scholar for the definition of EH yields no specific answers in at least the top 20 results. An additional search in Cumulative Index to Nursing and Allied Health Literature (CINHAL) with search criteria of EH and definition yields many articles on environmental issues, but none specifically defining EH were found. A brief review of some of these articles provided by the search reveal discussions on topics regarding environmental issues, such as air or water quality, but failed to specifically define EH.

A search in the ANA’s website using the search criteria of environmental health reveals that the ANA (2013), “supports the nurse’s concern with environmental health. According to Standard 16 … The registered nurse practices in an environmentally safe and healthy manner.” but again does not offer a definition for EH. The website contains information about chemical exposure in the healthcare industry with concerns regarding exposure of staff and patients and the health impact and safety in the workplace, all of which can be included in definitions of EH.

The World Health Organization (2013) defines environmental health as:

Environmental health addresses all the physical, chemical, and biological factors external to a person, and all the related factors impacting behaviours. It encompasses the assessment and control of those environmental factors that can potentially affect health. It is targeted towards preventing disease and creating health-supportive environments. This definition excludes behaviour not related to environment, as well as behaviour related to the social and cultural environment, and genetics.

Discovering the motivating factors for the faculty member’s inclusion of EH into their courses could lead to possibilities for duplication in other institutions for other faculty to promote the inclusion of EH in the nursing curriculum they teach. Bandura (1995) describes motivation as a “process of cognitive comparison of perceived performance to an adopted personal standard” (p. 7). By making self-satisfaction, the positive motivating factors, conditional on matching the standard, EH inclusion in all nursing curriculum, other NFM may be able to learn to ”give direction to their behavior and create incentives to persist in their efforts until they fulfill their goals” (p. 7) when including EH in their courses.

**Qualitative Research Method Chosen**

The qualitative research method used for this study was a collective case study, which investigates real-life case over time, via “detailed, in-depth data collection involving multiple sources of information” (Creswell, 2012, p. 97). The specific case identified was to study NFM that include EH into the nursing content they instruct. It is acknowledged that EH is not included into all nursing curriculum, despite the recommendations for inclusion of EH into the scope and practice of nurses by the ANA and other nursing leadership organizations.

The theory of Positive Deviance lays the foundation for the research of this study. Positive deviants are those that are able to create solutions to a community’s problem, while utilizing the same resources and tools that exist and available to all members of the community (Sparks, 2004). The NFM in this study have embraced EH as an essential component of nursing practice, and have incorporated EH into the nursing curriculum they teach despite shortages of time, knowledge, full curriculums, naysayers, and other barriers. The intent of this qualitative study is to understand the definition of EH and the motivating factors for the inclusion of EH of these NFM with the goal to design interventions for duplication in other institutions to facilitate inclusion of EH in the curricula of all nursing programs.

**Selection of the Research Participants**

The NFM included in this study have been purposefully chosen as they have been recognized by their peers as having mastered the inclusion of EH into the nursing curriculum despite barriers. They have championed the cause of EH inclusion with the other faculty in their institution and beyond. The mastery of successful EH inclusion makes the NFM “distinctive for their accomplishments and ordinariness”…[and}… “shed light on a specific phenomenon (EH inclusion) or issue being explored” (Cresswell, 2012, p. 147), making them ideal candidates for the qualitative research study. Each of the interview subjects are seasoned nurses with at least ten years of nursing experience and have been teaching for many years, in a variety of nursing education programs including Licensed Practical Nursing (LPN), Associate Degree Nursing (ADN) and Bachelor’s Degree (BSN) nursing programs in the United States and beyond. Each of the interview subjects has had leadership roles in nursing organizations including the Alliance of Nurses for Healthy Environments (ANHE), Pennsylvania Nurses Organization, Connecticut Nurses Association, and the National League for Nursing and have presented and published on the topic nursing and EH.

Bandura (1995) states the most effective way of building strength in confidence (self-efficacy) is success in the experiences in which one demonstrates mastery of the material. Each of the NFM in this study have been recognized, not only for the mastery of EH information and practice, but for their success for the inclusion of EH into the nursing curriculum they teach. The self-efficacy of other NFM for EH inclusion into the nursing curriculum may be developed or enhanced as they learn of the success and motivating factors of each of the NFM, providing an opportunity to view vicariously the experiences of others (Bandura, 1995).

Modeling is another method in which the self-efficacy of the model can influence the self-efficacy of others (Bandura, 1995). If the model (faculty member) demonstrates skill and knowledge (EH inclusion) and is achievable and obtainable by the others, there is a greater chance of creating change and developing the self-efficacy of others. Active involvement and leadership in ANHE of these NFM communicates their difficulties and their success to others creating beliefs in the group’s collective efficacy for the inclusion of EH into nursing curriculum and ultimately the scope and practice of every nurse.

Each of the NFM were very willing to provide information and readily accessible to the researcher. It is felt that this purposeful sample will best inform the researcher about forming a definition of EH and motivations of NFM for the inclusion of EH into the nursing curriculum.

**Data Collection**

Semi-structured recorded interviews were conducted with three NFM that have been identified as having successfully incorporated EH into the nursing curriculum they teach. The interview questions for this qualitative study are designed to obtain first-order narratives, in which the interviewees tell stories about themselves and experiences (Cresswell, 2012). The NFM interviewed are to some degree a homogenous group (nursing faculty with successful EH inclusion) will permit focused interview questions regarding EH and motivations for inclusion of EH in the nursing curriculum. The researcher is familiar to the NFM, which allowed a nonthreatening, comfortable interviewing environment. This familiarity also facilitated easy access and rapport during the interviews.

Permission was obtained for participation in the interviews and the recording from the NFM prior to initiation of the interview sessions. The interviewer ensured the NFM were aware they had the ability to voluntarily withdraw from the study at any time. The interviews were later transcribed for the purposes of this one semester course, with the recordings and transcriptions destroyed upon completion of this project.

**Data Gathering Tools**

A guide for the semi-structured interviews was created with key open-ended questions, which focused on the level of understanding on the definition of EH and the motivation for inclusion. After permission was granted by the interviewee, the interview was audiotaped for later transcription. Questions were developed with the framework of Bandura’s (1995) research on confidence, learning, mentorship, and change. The questions utilized for all three interviews were the same for consistency, and the researcher allowed ample time for reflection and answering the questions fully without interruption. Interviewee questions were answered fully and interview questions were rephrased if misunderstood or if clarification was needed.

It was intended to complete each of the three interviews face-to-face in a comfortable setting for all parties. One participant (#2) had been out of the country and had a short window of availability. This interview was completed over the telephone with some transmission difficulties, making transcription of the interview difficult at a few non-key points. Conducting the interview over the phone, with the concern of limited communication due to the inability to view non-verbal communication to assist in the interview did not seem to interfere with the interview progress (Cresswell, 2012).

**Data Analysis**

Transcripts were transcribed word for word and transcriptions checked for accuracy by the author. The individuals interviewed did not have an opportunity to review the transcripts of their interviews. Interrater reliability was performed with a peer researcher that had no knowledge of EH, so key terms and concepts were identified, checked for applicability and defined in order to coordinate communication among coders. The peer researcher first reviewed the transcripts independently, prior to joint review. The transcripts were reviewed for codes, clusters developed, and themes emerged from the interviews and then entered into tables for evaluation and comparison. The goal of data analysis is “to illuminate the experiences of those who have lived them by sharing the richness of lived experiences and cultures” (Speziale & Carpenter, 2003) was the goal of this research study. Each of the interviews captured the lived experiences of the three NFM as they worked towards the inclusion of EH into the nursing curriculum.

**Limitations**

Limitations of this study include: small sample size (N=3) and the limited type of nursing programs (associate degree and bachelor degree nursing) represented by the sample. There are other levels of entry into nursing practice that are not reflected in the interviews of this study, including diploma and accelerated nursing programs. The faculty members interviewed for this study are all from the Northeast area of the United States, namely Connecticut, Maryland, and Pennsylvania. Further interviews with additional faculty members from other education institutions throughout the United States may provide valuable information toward their acquisition of EH knowledge and their motivation of NFM for the inclusion of EH into the nursing curriculum.

Another limitation of this qualitative research study, is that nursing programs are accredited by a many sources including the National League for Nursing (NLN), American Association of Colleges of Nursing (AACN), Commission on Collegiate Nursing Education (CCNE), and the National League for Nursing Accrediting Commission (NLNAC). The faculty members interviewed in this study do not represent each of the possible accrediting bodies. Review of the accrediting materials from each of these leadership organizations regarding their position for the inclusion of EH in the nursing curriculum should be completed and included into a study to assess any influence the accrediting body may have towards the inclusion of EH in the nursing curriculum.

Leadership organizations are abundant across the nursing profession, including just about one for every nursing specialty. As previously noted, one of the largest and well known nursing organizations, the ANA included EH as part of the scope of practice for the registered nurse in 2010. The interviews reveal that the ANA inclusion of EH assists these NFM with the inclusion of EH when collaborating with other faculty members (Author’s Interview #2). A review of the position towards EH inclusion into nursing’s scope and practice by other nursing leadership organizations, both large and small, with their effect on nurse faculty motivation for the inclusion of EH should be included in this study.

All of the interviewees were purposively selected by members of the ANHE as leaders in the inclusion of EH into the nursing curriculum. In fact, two interviewees were members of ANHE’s Steering Committee. Each faculty members are very active in the ANHE workgroups, are aware of the resources available from ANHE, and were involved in the creation and development of these resources. These individuals were enthusiastic and supportive of the inclusion of EH, resulting in potential bias in their responses. There are many other resources for EH information, including those that are peer reviewed and sponsored by the United States government, which were not queried in this study.

A final limitation seen for this study may be author bias. The interpretation of findings may be shaped by the author’s EH background and as an active member of ANHE workgroups and ANHE’s steering committee.

**Findings**

The goal of this qualitative research study was to explore the definition of EH and the motivating factors for the inclusion of EH information of the three NFM interviewed. Each of the NFM members were actively involved in the ANHE, as members of the Steering Committee, work groups, and utilizing the many available resources. Each of the faculty members have worked tirelessly towards the inclusion of EH into the nursing curriculum with varying success, individually, with other faculty members, and ultimately with EH threaded into the nursing curriculum. Themes developed from the faculty members interviews included the benefits of mentors, involvement in a professional organization and positive reinforcement from a variety of sources served to aid the motivation for these faculty members for the inclusion of EH in the nursing curriculum.

**Definition of Environmental Health**

Environmental Health is an integral part of the scope and practice of the professional nurse (Author’s Interview #1, #2, #3). The interviews do not provide a clear, concise definition of EH, nor a concise definition of the role of the nurse in EH. Per the interviewees, the definition of EH include: factors external to the body (Author’s Interview #2, #3) and impacting health (Author’s Interview #2, #3). The interviews provide components of the role of the nurse in EH to include advocate and educator (Author’s Interview #1, #2, #3), maintaining a safe environment (Author’s Interview #1), maintaining health (Author’s Interview # 2, #3), and linking disease with exposure (Author’s Interview #1, #2, #3).

**Source of Environmental Health Knowledge**

Each of the NFM interviewed are seasoned nurses, having graduated from nursing school at least ten years ago. EH was not included in their original preparation for nursing, but some began to see an association with health issues and exposures to substances of concern (Author’s Interview #2, #3). The knowledge and passion for EH has been awakened by their interaction with mentors from the ANHE, most notably Dr. Barbara Sattler of the University of San Francisco (Author’s Interview #1, #2, #3), Brenda Afzal of the University of Maryland (Author’s interview #3), and Dr. Jeanne Leffers from Dartmouth College (Author’s Interview #2).

**Role of Nursing Leadership Organizations**

The Alliance of Nurses for Healthy Environments was formed in 2008 by a group of nurse leaders for individual nurses and nursing organizations that are interested in EH issues. The mission of ANHE is to “promote healthy people and healthy environments by educating and leading the nursing profession, advancing research, incorporating evidence based practice and influencing policy” ([ANHE,](http://www.envirn.org) 2013). ANHE provides webinars, work group calls, and other sources of education, including an online textbook. Networking and sharing help faculty members build their knowledge, and network, problem solve, and provide social relationships that can assist in developing and increasing one’s sense of efficacy (Bandura, 1995). The accessibility of these nursing leaders have provided inspiration and valuable assistance for the NFM as they built curriculum, worked with peers, and presented EH content (Author’s interview #1, #2, #3). The ANHE webinars and workgroup calls offer opportunities to hear of the success stories of others as they work to thread EH into the nursing curriculum. Experiencing the success of others vicariously can promote self-efficacy, especially if the subject feels on the same level, for example having similar education, tools or resources (Bandura, 1995).

**Inclusion of Environmental Health into Individual Program Curriculum**

EH has not been threaded into the curriculum in many nursing programs, resulting in faculty members working independently for inclusion of EH in current curriculum. The NFM interviewed for this study, have worked tirelessly with their peers at their institutions to champion for EH inclusion by serving as a mentor and providing resources. The 2010 addition of EH in the ANA’s Standard 16 of *Nursing:* *Scope and Standards of Practice* provided increased credibility for the NFM, while convincing other faculty of the merit of EH inclusion into the nursing curriculum. This updated version of the scope and practice of the professional nurse was cited as a powerful motivator for acceptance by other nursing faculty, and helping to “push things forward at the university and the college” (Author’s Interview #2) and stamp of approval (Author’s Interview #3). The ANA’s publication and those of other nursing leadership organizations, did not play a role in the interviewees’ initial decision to include EH content in their curriculums as they were already in the trenches, working towards EH inclusion prior to these publications. It appears that only through a change in the curriculum will EH be adopted consistently across programs and threaded throughout a nursing program’s curriculum by all faculty members (Author’s Interview #2).

**Motivating Factors for the Inclusion of EH into the Nursing Curriculum**

Positive reinforcement and recognition as an EH expert positively effects the motivation of these NFM to continue the work for the inclusion of EH in the nursing curriculum. For example, being a resource for faculty while providing information for inclusion into specific content areas such as obstetrics and pediatrics resulted in the adoption of EH information into those content areas provided a simple win for the interviewees (Author’s Interview #2, #3). Positive reinforcement from leadership in the academic institution also positively effects the motivation for the continued work of these nurse faculty members, including a dean (Author’s Interview #1), college president (Author’s Interview #2), and division director (Author’s Interview, #3). Recognizing that current students are the future of the nursing profession, the faculty members identify the need to have EH included into current nursing curriculum, “Feedback that I received…from the students motivates me to continue.” (Author’s Interview #1) and “They see not only how it impacts the patients they care for and their families” (Author’s Interview #2). Working with students that understand the connection of environmental concerns and the impact on health provide for the reinforcement to the faculty members, “It makes me very happy that their positive response does push me forward to know that I’ve done the right thing as far as for inclusion” (Author’s Interview #3). One faculty member noted a program graduate wishing to take a leadership role in their health care institution was working to establishing a drug disposal program and contacted their former teacher for ideas and resources (Author’s Interview #3).

**Implications for Practice**

Registered nurses in every role and area of practice need to provide nursing care that protects the health of patients, co-workers, communities, families, and themselves from environmental health risks. Every nurse in every clinical setting must know how to recognize, assess, modify, control, and mitigate factors that can adversely affect the health of their patients, community, and future generations. It is the responsibility of the faculty of each nursing program to ensure that its graduates possess this knowledge and skill. For example, Hill, Butterfield, and Kuntz (2010) found that nearly 10% of the public health nurses reported that they had frequently been asked for “basic information on environmental health and data information on health effects potentially related to hazards” (p. 14).

All nursing faculty must be aware of the inclusion of EH into the scope of practice by the ANA and other nursing leadership organizations, including the International Council of Nurses (ICN) and the NLN. Every nursing program must make a commitment for the inclusion of EH, review their current curriculum for specific areas of inclusion, and obtain commitment from all faculty members for the inclusion of EH into the identified content areas they teach.

It is anticipated the National Council of State Boards of Nursing (NCSBN) will have EH as part of the tested content in the National Council Licensure Examination for Registered Nurses (NCLEX-RN) in the next few years. Environmental health must be included into the content taught in programs of nursing to ensure each student’s successful preparation for this competency assessment prior to entry into nursing practice.

**Conclusion**

Environmental Health must be in every nurse’s knowledge base and skill set for use in every clinical setting to protect patients, co-workers, families, communities and themselves from potentially harmful exposure. Environmental health must be included into the curriculum of each and every program of nursing, (accelerated, diploma, associate degree & bachelor degree), and at each entry level (RN, ADN, BSN). Greater understanding of the factors, which contribute to the successful facilitation of the inclusion of EH, should be identified and replicated in other nursing programs.

This study also reinforces the positive attributes of active participation in a professional organization, including networking and sharing of accomplishments as well as the positive benefits of mentors. The NFM of this study clearly possess confidence in their ability for EH inclusion despite naysayers and other obstacles, thus demonstrating strong self-efficacy which has contributed to their positive outcomes of EH inclusion both large and small. ANHE is a valuable tool available for education, networking and mentors, which provides consistent resources for EH inclusion for all nursing faculty and enhances the collective effort of all those engaged in the inclusion of EH in the nursing curriculum. Future research should focus on analyzing positive interventions that address the barriers to EH inclusion and enhance the facilitation of EH inclusion in nursing curriculum, including what works and under which circumstances. Nursing faculty must be able to work together for the inclusion of EH into the nursing curriculum to realize “the shared destiny they desire and to preserve a habitable environment for generations to come” (Bandura, 1995, p. 2).

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