RESEARCH ARTICLE

PROMOTION OF SAFE MOTHERHOOD IN THE NURSING COMPETENCY-BASED CURRICULUM

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Abstract

Purpose: Nurses play a significant role in maternal health. The nursing competency-based curriculum prepares students for this role. This study identified the competencies on safe motherhood expected of graduating nursing students, determined the degree of integration of these competencies in the curriculum, and described students' perceived levels of proficiency in performing said competencies.

Design: This is a descriptive cross-sectional study. The authors deduced concepts and principles of safe motherhood in nursing based on the 2006 standard competencies. A complete enumeration of 55 graduating students of a college of nursing in a state university in Manila participated in the study.

Methods: Students rated the competencies from A: "concepts were merely introduced" to D, "threaded through" in selected courses. The level of proficiency ranged from 1: "can perform well without supervision" to 4 "cannot perform despite supervision." Ratings were analyzed using frequency counts, mode, and percentage distributions.

Findings: Seventy competencies on safe motherhood were derived. Cognitive and affective competencies on the basic nursing processes were threaded through in foundation, intervention, and intensive nursing process courses. Students could perform the cognitive and affective competencies without supervision but required assistance in performance of skills.

Conclusion: The nursing curriculum prepares students to promote safe motherhood; however, students need to improve their clinical skills to be fully competent.

Keywords: safe motherhood, nursing education, competency-based curriculum

Introduction

In 1987, the World Health Organization (WHO) launched the Safe Motherhood Initiative aiming to ensure that all women are educated, aware of, and are able to utilize access to care during pregnancy, safe childbirth, and postpartum period (WHO, 2011). WHO identified the important roles of health sciences schools in reducing maternal and infant mortality rates.

Since 1978, a state-subsidized college of nursing in the Philippines has been adapting the competency-based curriculum (CBC). Abarquez in Sana, editor. (2013) explains that CBC starts with defining the professional competences of graduates in the health professions and translating these into specific knowledge, skills, and attitudes (KSA) for students to learn in different course objectives, how they should be learned and in what settings, and how they should be assessed. CBC ensures a systematic approach in developing competence in nursing practice at the staff level position in both hospital and community settings as well as beginning opportunities for nursing research, leadership and management (Maglaya, Abaquin, et al., 2006).

In the nursing CBC, concepts on caring for the mother, child, and family across the life span are consciously embedded in courses across all year levels (Commission on Higher Education Memorandum Order [CMO] No. 14, 2009; CMO 15, 2017). Expanded opportunities to apply these concepts are also in the curriculum in form of didactics, simulations, and related learning experiences in various workplace settings (Maglaya, Abaquin, et al., 2006). This study described the nursing competencies on safe

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Table 1. *BSN courses where competencies on safe motherhood are taught*

Specific Courses (Number of Units)	Year level & semester where the course is offered
Nursing 10: Nursing Foundations I (5 units)	2, 1st Semester
N11: Nursing Foundations II (5 units)	2, 1st Semester
N12: Community Health Nursing (6 units)	2, 2nd Semester
N105: Nursing Interventions I (6 units)	3, 1st Semester
N119: Community Health Nursing II (3 units)	3, 1ST Semester
N199: Introduction to Nursing Research (3 units)	3, 2nd Semester
N121.1: Intensive Nursing Experience in the Hospital Setting (7.5 units)	4, 2nd Semester
N121.2: Intensive Community Nursing Experience (7.5 units)	4, 2nd Semester

motherhood, how graduating students perceived them to be integrated in the curriculum, and their levels of proficiency in performing them. Results of this study reflect how students can meet the competencies required of them before they start professional practice (Professional Regulation Commission, 2014). A good match reveals that the learning experience provided by the school transformed the students and led them to respond to population health needs (Frenk, Chen, et al., 2010).

Methodology

This was a descriptive research design. Schutt (2004) explained that descriptive research defines and describes a particular social phenomenon of interest. In this study, students described how they experienced the BSN curriculum in terms of their perceived levels of integration and proficiency in performing the competencies on safe motherhood. The study was conducted at the national training hospital in Manila, where the graduating students of the state university nursing school were having their internship. A complete enumeration of fifty-five fourth year nursing students was done. Administrative clearance was secured from the college administration. Informed consent was obtained from all students before requesting them to participate in the study.

The study used a survey questionnaire derived from the list of competencies stipulated in UPCN SKA 2006 for safe motherhood standards. The participants rated the competencies (1) according to their perceived degree of integration and (2) level of proficiency. The degree of integration was rated according to (A) concepts were merely introduced, (B) thoroughly integrated, (C) concepts were used as an example not only in the course but also on other courses, and (D) concepts were threaded through in all major courses (Option D). Perceived level of competence was evaluated from (1) can perform well without supervision, (2) with minimum supervision, (3) with full supervision, and (4) cannot perform despite supervision. Both ratings were summarized using frequencies, mode, and percentage distributions.

Results

The standard competencies on safe motherhood were identified in eight courses in the BSN curriculum from second to fourth years. Table 1 lists these courses, their corresponding units, year levels, and semesters where located. The competencies are in fundamental, community, and intervention nursing courses.

A total of seventy competencies on safe motherhood were derived from the curriculum. Table 2 presents the first 21 antenatal care competencies composed of six constructs distributed according to the courses, mode perceived degree of integration, and level of proficiency of respondents. Results show that integration was strongest in Construct 4 across all courses. However, no level of proficiency was recorded in these areas. The researchers verified that Construct 4 included routine activities performed by students in all settings. They explained this instance as an example of unconscious competence where the performance of certain skills became natural that there was no need to be consciously aware that they were being done (Atienza in Sana, 2013).

Table 3 presents the next 26 core competencies in management of clients on labor and due for delivery, mode degree of integration, and perceived degree of proficiency. Results show that students recognized the concepts and principles promoted in selected Nursing courses but not to the point of being "strongly threaded through" in each of the courses. Compared to the results in antenatal care, respondents reported relatively low levels of perceived proficiency in performing clinical procedures for those in labor and delivery.

Table 4 presents the last 23 core competencies in post-partum care. Figures show that competencies are clearly threaded through in all the courses enumerated. The students also rated themselves strongly in these competencies except in Construct 3 which includes actual delivery of the baby. Further analysis of the

Table 2. *Competencies in antenatal care, mode perceived degree of integration in the curriculum, and level of proficiency of students (n=55)*

Competencies in antenatal care *Given a pregnant client/population group, the student:*	Nursing Courses								**Level of Proficiency (Percent)**
	N 10	**N 11**	**N 12**	**N 105**	**N 119**	**N 199**	**N 121.1**	**N 121.2**	
Construct 1: 1. Establishes a working relationship with clients	A		D	D	D	D	D	D	1 (89.1)
Construct 2: Assesses the pregnant client's status by:									
2.Taking the history (personal, obstetrical-gynecologic, medical-surgical, nutritional)		B							1 (89.1)
3. Filling up the home-based maternal record (HBMR)		B							1 (56.4)
4. Determining expected date of confinement (EDC), age of gestation (AOG), TPAL score, gravida, para, fetal length, fetal weight, fetal heart rate		B	C						1 (87.3)
5. Performing physical exams, vital signs, nutritional status, review of systems		B	C						1 (67.3)
6. Performing urine exams for sugar and albumin content		B	C						
7.Interpreting results of diagnostic exams (pregnancy test, urinalysis, complete blood count [CBC], Pap smear, pelvimetry, KVDRL, pelvic exam, IE, ultrasound, amniocentesis, placental function tests, fetal movement count, monitoring)		B	C						
8. Determining knowledge, skills, attitudes and coping mechanisms related to pregnancy		B	C	C	C	C	C	C	1 (90.1)
Construct 3: Prioritizes psychosocial needs/nursing problems in pregnancy									
9. Common discomforts in pregnancy (morning sickness, constipation, leg cramps, hemorrhoids, varicosities)			B	C					1 (85.5)
10. Hygiene, safety and comfort, smoking, sex, alcohol and drug intake, exercises, rest, breast care, tetanus immunization			B	C					
11. Nutrition			B	C					1 (74.5)
12. Prevention of obstetric complications			B	C					
13. Coping mechanisms			B	C					
14. Results of diagnostic exams			B	C					1 (61.8)
15. Schedule of prenatal visits			B	C					
Construct 4: Utilizes appropriate technology, plans, and implements with the pregnant client nursing actions based on identified physical and psychosocial needs									
16. Individual health teachings re: common discomforts of pregnancy, hygiene, safety and comfort, nutrition, prevention of obstetric complications, drug therapy, results of diagnostic exams			B	C	C	C	C	C	1 (87.3)
17. Proper collection of urine specimen		A	C	C					
18. Demonstration of breast care and prenatal exercises			B	C	C	C		C	
19. Mothers' Class			B	C	C			C	
Construct 5: 20. Monitors/evaluates pregnant client's response to therapy/nursing interventions			B	D	C	C	C	C	
Construct 6. 21. Records accurately significant findings/observations/problems/interventions/evaluation		A	D	D			D	D	

Table 3. *Competencies in managing clients in labor and delivery, mode perceived degree of integration in the curriculum, and level of proficiency of students (n=55)*

Competencies in managing clients in labor and delivery *Given a client/population group in labor and delivery at home or in the hospital, the student:*	**N 10**	**N 11**	**N 12**	**N 105**	**N 119**	**N 199**	**N 121.1**	**N 121.2**	**Level of Proficiency (Percent)**
Construct 1: 22. Establishes a working relationship with the client in labor			B						1 (56.4)
Construct 2: Assesses the laboring client's health status by:									
23. Interviewing client to determine AOG, onset of true labor pains, show, BOW, OB history			B						1 (72.7)
24. Assisting in the determination of effacements and dilatation, station and position			B						
25. Performing Leopold's maneuvers to determine presentation, attitude, engagement, and location of the fetal back			B	C			C	C	1 (34.5)
26. Monitoring duration, interval, frequency and intensity of uterine contractions			B						1 (30.9)
27. Monitoring fetal heart rate and signs of fetal distress			B						2 (56.4)
28. Determining labor progress			B						2 (56.4)
Construct 3: Prioritizes psychosocial needs/nursing problems in pregnancy									
29. Results of assessment procedures			B						1 (69.1)
30. Coping mechanisms			B						
31. Drug therapy			B						
32. Progress of labor			B						2 (14.5)
33. Actual delivery of baby			B						1 (43.6)
Construct 4: Utilizes appropriate technology, plans, and implements with the pregnant client nursing actions based on identified physical and psychosocial needs									
34. Performs perineal care			B			C		C	1 (72.7)
35. Prepares linen/drapes, instruments and drugs for delivery			B			C		C	1 (67.3)
36. Teaches the client proper breathing and bearing down techniques			B			C		C	1 (89.1)
37.Prepares the client emotionally for delivery			B			C		C	1 (83.6)
38. Delivers the baby and the placenta correctly and aseptically			B			C		C	1 (43.6)
39. Carries out procedures to ensure well-contracted uterus (massage, cold compress, oxytocin administration)			B			C		C	
40. Assists in episiorrhapy			B			C		C	
41. Gives comfort measures (sponge bath, perineal care, diet, rest) and emotional support			B			C		C	1 (83.6)
42. Makes referrals whenever necessary			B			C		C	1 (63.6)
43. Assists in filling up Birth Certificate correctly			B			C		C	
44. Prevents complications (infection, hemorrhage)			B			C		C	1 (63.6)
Construct 5. 45. Monitors/evaluates laboring client's response to therapy/nursing interventions			B						1 (76.4)
46. Makes follow up care in the home when needed		A	D			C	C	C	
Construct 6: 47. Records accurately significant finding/observation/problems/intervention/evaluation	A		B			D		D	

Table 4. *Competencies in managing clients in post-partum care, mode perceived degree of integration in the curriculum, and level of proficiency of students (n=55)*

Competencies in managing clients in pot-partum care *Given a postpartum client/population, the student:*	**N 10**	**N 11**	**N 12**	**N 105**	**N 119**	**N 199**	**N 121.1**	**N 121.2**	**Level of Proficiency (Percent)**
Construct 1: 48. Establishes a working relationship with the postpartum client			B		D			D	1 (87.3)
Construct 2: Assesses the postpartum client's health status by:									
49. Determining date and time of delivery			B		D	C	C	D	
50. Monitoring uterine involution by fingerbreadth			B		D	C	C	D	1 (49.1)
51.Determining amount, pattern and color of lochia			B		D	C	C	D	1 (50.9)
52. Monitoring vital signs and bodily changes			B		D	C	C	D	1 (90.9)
53. Determining emotional responses/coping mechanisms to the recent delivery and the birth of the baby			B		D	C	C	D	1 (80.00)
54. Knowledge, skills, and attitudes towards breastfeeding			B		D	C	C	D	1 (90.9)
Construct 3: Prioritizes psychosocial needs/nursing problems in pregnancy									
55. Nutrition			B		D	C	C	D	
56. Hygiene, comfort and safety (rest and exercises)			B		D	C	C	D	
57. Sexuality			B		D	C	C	D	
58. Family planning/responsible parenthood			B		D	C	C	D	
59. Maternal and infant bonding			B		D	C	C	D	
60. Breastfeeding			B		D	C	C	D	
61. Emotional responses			B		D	C	C	D	
62. Prevention of complications			B		D	C	C	D	
Construct 4: Utilizes appropriate technology, plans, and implements with the pregnant client nursing actions based on identified physical and psychosocial needs									
63. Measuring uterine involution by fingerbreadth			B			C	C	D	1 (49.1)
64. Taking vital signs regularly			B			C	C	D	1 (90.9)
65. Giving health teachings re: breastfeeding, breast care, nutrition, proper hygiene, rest, exercises, postpartum check-up, sex, family planning, care of the newborn)			B			C	C	D	1 (92.7)
66. Giving emotional support			B			C	C	D	
67. Making referral whenever necessary			B			C	C	D	1 (72.7)
Construct 5. 68. Monitors/evaluates laboring client's response to therapy/nursing interventions			B					D	
Construct 6. 69. Records accurately significant findings/observation/problems/interventions/ evaluation		A	D				D	D	
Construct 7. 70. Demonstrates leadership in promoting safe motherhood and responsible parenthood in the care of the community or population group.					B	C	C	C	

curriculum, duration of rotation, and nature of activities explained that students perceived themselves able to perform these skills not only because they have been doing them since they were in second year but also because concepts and skills related to safe motherhood were iteratively learned in several courses.

Discussion

The study identified 70 basic competencies in the promotion of safe motherhood in the nursing competency-based curriculum. Competencies related to interpersonal communication skills and rapport building with client from antenatal to post-partum care, including family planning were constantly threaded through in Nursing Foundations I and II, Maternal and Child Nursing, Community Health Nursing I, Nursing Interventions I, Nursing Research, Intensive Hospital and Community Nursing. These competencies are stipulated as programs outcomes for nurses (Maglaya, Abaquin, et al., 2006; CHED, 2017) affirming respondents' acquisition of knowledge, skills, and values required in the PQF (PRC, 2014). On the other hand, clinical procedures requiring evaluation and appropriate technology were integrated in few courses. Consequently, to the perceived levels of proficiency, students reported they could perform these psychomotor and affective competencies well but with supervision. These results are consistent with Fitts' cognitive phase of skills acquisition where the basic concepts and procedural knowledge of a given competence are known by learners. In terms of actual execution, respondents needed stronger conceptual links with practice to reach the associative phase where they can perform the skills in real setting (McCarthy, 2012). Results suggest that graduating students have acquired the "what to know" but need reinforcement on "what to do with what they know" (Fitts as cited in Patrick, 1997). This further means that respondents were not able to reach adaptation referring to the stage where students should perform a given clinical procedure accurately, gracefully, within the expected allowable time, and across all clinical conditions, and settings (Sana, ed., 2013).

Conclusion and Recommendation

Graduates of nursing schools in the Philippines are trained to achieve target competencies especially addressing maternal and child health. This study described competency-based curriculum in nursing that is especially designed to prepare nurses for this transformative role. However, this goal could not be completely achieved if nurses are only proficient in their intellectual and attitudinal role expectations.

The study recommended that students are given more expanded opportunities, from words and images, online resources, simulations, and performance in workplace settings with real technology to master clinical procedures. Christie, Carey, et al., (2015) and Tripathy and Sinha (2016) in their separate studies in India and Australia trained health care workers using practical knowledge with technology in their workplace settings and reported marked improvement in their safe motherhood competencies.

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