

Research Article**STUDENTS VIEWS IN TRAINING PRE-SERVICE COMPETENT NURSE USING SEQUENCING IN THE NORTH WEST REGION OF CAMEROON: A QUANTITATIVE RESEARCH*****Mou Bridget Sen and Mary Bi Shu Atanga**

Department of Nursing and Midwifery, Faculty of Health Sciences, University of Bamenda Cameroon

Received 24th August 2022; Accepted 19th September 2022; Published online 31st October 2022

Abstract

Students' views on the training of pre-service nurse using sequencing was investigated because of shortcoming in nurses training, student's dissatisfaction with their training in some training institutions, inability of students to apply nursing procedures in clinical settings, no sequencing of courses, and the existence of a theory practice gap in nursing graduates. The objective was; to investigate the view of students in their training, in training institutions. This study aimed at analysing students' views for training pre-service competent nurse using sequencing in training institutions in the north west region of Cameroon. **Methods:** Quantitative and qualitative study, 381 students were enrolled from six training institutions in the North West Region of Cameroon. A multistage sampling was used to sample students for data collection. Data collected through Systematic sampling and analysed by SPSS version. **Results:** A total of 381 students participated in the study. Findings reveal that the school curriculum meets student's needs, content structured orderly, theoretical courses come before practical internship. Most of the students (40.5%) portray shortcomings such as lack of some courses in the curriculum that were supposed to be, some were supposed to be taught before other courses, (42.9%) students believed time allocated was inequitable, (43.7%) agreed that there is no perfect match between theoretical courses and clinical courses. **Conclusion:** According to nursing students' views, there are shortcoming in the training curriculum that can be evidence of a theory practice gap.

Keywords: Pre-service nursing, Nursing students' views.

INTRODUCTION

Improving the quality of nursing education and training of pre-service competent nurse, is an important way of strengthening health systems. In today's changing era, the paradigm of education system moving towards achieving high level quality education, the core and the key feature of academia is curriculum along with other significant contributors like competent teachers and learning environment. Curriculum Sequencing is the efficient ordering of the content in order to improve the learners' understanding, and help them achieve the objectives (Morrison *et al.*, 2007). This can be achieved at various levels of the curriculum ranging from program level to a single course level (Kuhn and Rundle, 2009). To ensure sequencing in all components of curriculum, the process incorporates certain variables such as level of course/ curriculum objectives, emphasis on content and relevant assessment, (Bhola *et al.*, 2003). But concerns have been raised about nursing education programmes and training pre-service competent nurse. These include, inconsistency in the quality of education programmes; fragmented nature of curricula; no sequencing, content-driven rather than competency-based curricula; content poorly aligned to the needs of the health-care system. Researcher as nurse educator and practitioner encountered students and graduate's inability to confidently and competently carry out complex nursing procedures for over 8 months after graduation, limited practical courses to match theory. Therefore, training does not adequately prepare students for their clinical roles. These and other factors can cause a theory practice gap. The question is what are students' views in their training using sequencing in training institutions in the North West Region of Cameroon?

As a strategy to these shortcomings, World health organization in 2009, 2013, and 2015 develop a three-year regional prototype for pre-service training of competent nurses, recommending the adoption of an adaptable competency-based curriculum, to educate competent nursing graduates for the 21st century with intention of closing the theory practice gap (WHO, 2009). The objective of this study was to analyse the views of nursing students in their training using sequencing in training institutions in the North West Region of Cameroon.

METHODS

A quantitative study which was exploratory, descriptive was conducted to investigate students' views in their training in training institutions using sequencing in the North West Region of Cameroon. Study population were nursing students in level 300 and 400 who have at least three years in the clinical field, have gone through the curriculum for the school sequence and gave their consent to participate in the study. Multistage random sampling was used to recruit participants for the study. The hat and draw method were used to sample institutions for data collection and systematic sampling to recruit participants in each school was used. Eligible participants were recruited from six nursing institutions of the North West Region of Cameroon. Questionnaires made up of both open and closed ended questions that was pretested were used to collect data. To confirm clarity and validity of the questions, pretesting was done in one nursing institute not involving 20 subjects not included in the study. Questionnaires were administered to the selected study participants who completed the various sections of the questionnaires. Data collected were entered into a register, an electronic dataset using the SPSS version. Data was analysed using quantitative methods. The quantitative data, was analysed using tables and

***Corresponding Author: Mou Bridget Sen**

Department of nursing and Midwifery, Faculty of Health Sciences, University of Bamenda Cameroon.

frequencies of responses were determined. The qualitative data was analysed using INVIVO 9.

RESULTS

Majority of the respondents were females (83%). There were just 17% of males. According to the schools that were sampled, majority of the respondents came from institute A (28.7%), followed by B (25.8%), C (24.7%). The institution with the least number of respondents was D (7.4%). Majority of the students strongly agreed (53.7%) and agreed (29.5%) that the school curriculum meets their needs and (42.4%) that content of the curriculum is structured orderly such that all theoretical courses come before practical courses. Most of the students also agreed (40.5%) that some courses in the course content were supposed to be taught before other courses. Results, also show that (42.9%) of students believe that there was no absence of courses in the curriculum, (28.9%) strongly agreed and (53.7%) agreed that each course content is well sequenced such that new content studied build up on previously learnt material. It was strongly agreed (42.2%) that clinical experiences are arranged from easy to difficult tasks. According to the students views, the time allocated for theoretical courses is very long such that students do not have much time to practice in clinical sites immediately after each course (33.2%).

The students also agreed (51.6%) that the curriculum is structured in such a way that it contains clinical courses as well as clinical competencies that enable planned experiences to be implemented and match theoretical courses. The students also agreed (43.7%) that there is a perfect match between theoretical courses and clinical courses in the pre-service training of competent nurses. According to table I, there were some differences in the views of students between the gender. Majority of the female students (61%) agreed on the curriculum meeting the needs of the training, compared to the male counterpart (26%). The difference was statistically significant ($P=0.012$). In terms of structure, content of the curriculum and time allocated for theoretical courses, the differences between males and females were not statistically significant ($P= 0.106$; $P= 0.229$; $P=0.445$). The differences in terms of perfect match between theoretical courses and clinical courses was statistically significant ($P=0.028$). Majority of the students who agreed that the curriculum meets the need of the student nurses were the level 300 students. The difference from other levels was statistically significant ($P<0.001$). In terms of structure and time allocated for theoretical courses, the level 300 students were still the majority, though the differences between different levels were not statistically significant ($P=0.208$; $P=0.242$). For content of the curriculum, the level 300 students were still the ones with the highest views and the difference was statistically significant ($P=0.002$).

Table 1. Distribution of relationship between student views and Gender (Sex)

Variable	Views	Gender		P Value
		Female	Male	
School curriculum meets the need of the student nurses.	Strongly Agree	85(76%)	27(24%)	0.012
	Agree	175 (86%)	28 (13%)	
	Disagree	32(91%)	3(9%)	
Content of the curriculum is structured orderly such that all theoretical courses come before practical courses.	Strongly Agree	20(80%)	5 (20%)	0.106
	Strongly Agree	122(76%)	38(24%)	
	Disagree	42(91%)	4 (9%)	
Each course content is well sequenced such that new content studied build up on previously learnt material.	Strongly Agree	4(67%)	2(33%)	0.229
	Strongly Agree	93(85%)	17(15%)	
	Disagree	32(80%)	7 (18%)	
Time allocated for theoretical courses is very short Such that students can practice in clinical sites immediately after they finish each course.	Strongly Agree	12(86%)	2(14%)	0.445
	Strongly Agree	56(92%)	5(8%)	
	Disagree	84(78%)	24(22%)	
There is a perfect match between theoretical courses and clinical courses in the pre-service training of competent nurses.	Strongly Agree	105(83%)	21(17%)	0.028
	Strongly Agree	60 (80%)	14 (19%)	
	Disagree	121(83%)	24 (17%)	
Course content of the institution meets the expectations for the training of competent nurses at the international standards.	Strongly Agree	136(82%)	30 (18%)	0.155
	Strongly Agree	17 (81%)	3(14%)	
	Disagree	8(67%)	4(33%)	
Course content is well structured such that theory comes before practical.	Strongly Agree	4 (40%)	6 (60%)	0.667
	Strongly Agree	8 (50%)	8 (50%)	
	Disagree	4 (50%)	4 (50%)	
Sometimes decide to teach a particular content before another even though it has been arranged differently in the content.	Strongly Agree	4 (67%)	2 (33%)	0.446
	Strongly Agree	6 (50%)	6 (50%)	
	Disagree	2 (50%)	2 (50%)	
There is some content which ought to be in the syllabus, but it is absent,	Strongly Agree	4 (40%)	6 (60%)	0.494
	Strongly Agree	4 (50%)	4 (50%)	
	Disagree	2 (100%)	0 (00%)	
Student nurses are well grounded in theory before going for clinical experience	Strongly Agree	2 (50%)	2 (50%)	0.319
	Strongly Agree	8 (57%)	6 (43)	
	Disagree	4 (50%)	4 (50%)	
The time lag between theory and clinical laboratory and practice environment is adequate for each course.	Strongly Agree	2 (33%)	4 (67%)	0.587
	Strongly Agree	6 (60%)	4 (40%)	
	Disagree	4 (50%)	4 (50%)	
The course content is structured such that it contains clinical courses and clinical competencies to match theory.	Strongly Agree	4 (40%)	6 (60%)	0.155
	Strongly Agree	8 (67%)	4 (33%)	
	Disagree	12 (67%)	6 (33%)	
The institution curriculum is structured to meet standards for the training of pre-service competent nurses.	Strongly Agree	4 (40%)	6 (60%)	0.018
	Strongly Agree	0 (0%)	4 (100%)	
	Disagree	0 (0%)	2 (100%)	

Table 2. Distribution of relationship between student views and Level of education

Variable	Level		P Value
	L 300	L 400	
School curriculum meets the need of the student nurses.	171 (84%)	33 (16%)	<0.001
Content of the curriculum is structured orderly such that all theoretical courses come before practical courses.	129 (80%)	29 (18%)	0.208
Each course content is well sequenced such that new content studied build up on previously learnt material.	162 (79%)	42 (21%)	0.002
Time allocated for theoretical courses is very short Such that students can practice in clinical sites immediately after they finish each course.	85 (79%)	20 (19%)	0.424
There is a perfect match between theoretical courses and clinical courses in the pre-service training of competent nurses.	133 (80%)	30 (18%)	0.028

Table 3. Distribution of relationship between student views from various institutions

Variable	Institution						P Value
	A	B	C	D	E	F	
School curriculum meets the need of the student nurses.	14 (7%)	62 (30%)	13 (6%)	55 (27%)	25 (12%)	48 (24%)	<0.001
Content of the curriculum is structured orderly such that all theoretical courses come before practical courses.	8 (5%)	52 (32%)	9 (6%)	45 (28%)	18 (11%)	38 (24%)	0.005
Each course content is well sequenced such that new content studied build up on previously learnt material.	10 (5%)	46 (23%)	12 (7%)	60 (29%)	20 (10%)	68 (33%)	<0.001
Time allocated for theoretical courses is very short Such that students can practice in clinical sites immediately after they finish each course.	10 (9%)	27 (25%)	10 (9%)	33 (30.6%)	12 (11%)	26 (24%)	0.009
There is a perfect match between theoretical courses and clinical courses in the pre-service training of competent nurses.	12 (7%)	38 (22%)	12 (7%)	45 (27%)	23 (14%)	48 (29%)	0.048

The differences in terms of perfect match between theoretical courses and clinical courses was statistically significant ($P=0.028$), with majority being the level 300 students. The students from different higher institutions were interviewed. The table below shows their views for each institution. The students from institute B were the majority, followed by students from institute D and F. The differences in student's views between the institutions were highly significant as all P-Values were less than 0.05 (Table 3).

DISCUSSION

A quantitative and qualitative study was carried out aimed to analyze the view of students in their training. The demographic information shows that majority of the respondents were females (83%) and 17% of males. Only the 3rd and 4th year students were included in the study because these students have been exposed to the curriculum for at least three years and have at least mastered the sequence of events in the institution and the structure of the curriculum. Results show that there are some courses in the course content that were supposed to be taught before other courses (40.5%) hence, the point that the curriculum is well structured is incorrect. A curriculum that is well sequenced, contain all courses in their rightful ordering. On the other hand, (42.9%) also believe that some courses which were supposed to be in the curriculum were absent So, the curriculum cannot satisfy the training of pre- service competent nurses. Students were dissatisfied with the time allocated for theoretical courses because the time was very long such that students do not have much time to practice in clinical site after each course (33.2%). For content of the curriculum, the difference in levels was statistically significant ($P=0.002$). The differences in terms of perfect match between theoretical courses and clinical courses was statistically significant ($P=0.028$), with majority being the level 300 students. The separation or gap between theoretical science and clinical care can be defined as a mismatch between what nursing students learn in the classroom and what they experience in a clinical setting (Khodayi *et al.*, 2016). The existence of a gap between theory and action in nursing education and training of pre-service nurse is a long-standing problem, and the lag and discrepancy between the theoretical

and clinical aspects of nursing education have caused much concern among nursing students (Valizadeh *et al.*, 2008). Most students in this study, disagreed to the short time period of theoretical courses and the immediate clinical after they finish each course, pointed to the existence of a gap between theory and practice. Similar studies by (Barazpor Zanjani *et al.*, 2008) also showed the existence of this gap. Students' views generally showed that, a high proportion of their time was allocated to memorizing large amounts of information that did not match the clinical requirements. Studies in other countries have also identified a gap between theoretical learning and clinical nursing services to be caused by, defects in curriculum planning among other factors (Corlett, 2000). Studies conducted by WHO and other partners, between 2008 – 2013 (WHO, 2008-2013), revealed that great variations exist among countries with regard to curriculum orientations which should guide implementation of planned learning experiences. Students in this study agreed (43.7%) that there is no perfect match between theoretical courses and clinical courses in the curriculum for the pre-service training of competent nurses. As a practical profession, nursing require training based on a theoretical framework that allows students to learn the clinical skills that are essential for the care of patients (Razi *et al.*, 2016). However, many studies confirm that today the knowledge provided in the classroom is different from the clinical care (Ellahi *et al.*, 2014) and there is a relatively deep gap in the educational process of nursing and the clinical performance of the students (Azimi *et al.*, 2016). According to Elahi (2014), studies in Iran suggest that theoretical training is not practical (Ellahi *et al.*, 2014). Also, Azimi (2016) has stated that existing clinical education does not provide the student with the ability to express clinical skills. Nursing leaders claim that there are a large number of nursing graduates who are theoretically very competent but lack any clinical skills (Ellahi *et al.*, 2014). Literature also, suggests that the results of apprenticeship are not satisfactory, which indicate the need for more attention to this aspect (Majidi *et al.*, 2015). Studies have also indicated that, there is a vast gap between classical nursing education and clinical care performance, suggesting that the present clinical education system does not provide students with the necessary clinical skills (Rolf, 2002). Reported deficits were including,

inconsistency of apprenticeships in clinical wards and a lack of congruence between theoretical learning and the clinical nursing services (Khairulnissa *et al.*, 2011).

Conclusion

According to nursing students' views and experiences in using the nursing institution curriculum, it can be concluded that, The present study shows that, nursing students recognised the existence of shortcoming in the training curriculum for the fact that some courses that ought to be in the curriculum were left out. There was no perfect match between theoretical courses and practical courses in using the curriculum of their institutions. The time lapse between theory and practice in clinical site was inequitable in their school curriculum as the students disagreed to the short period of theory. There is a theory practice gap from the viewpoints of students. And the courses were not well sequenced.

Recommendations

It can be recommended that the findings of this study need the curriculum to be revised.

- The curriculum should be revised such that all course necessary for the training of pre-service nurse are included,
- The courses should be sequenced in such a way that there is a perfect match between theory and practical courses.
- The time between theoretical courses and practical be shortened so that each theoretical course is followed by a practical course.
- The practical demonstration in clinical laboratories and clinical sites should be well spelt out in the curriculum of the various training institutions.

REFERENCES

- Azimi N, Bagheri R, Mousavi P, Bakhshandeh Bavarsad M, Honarjoo M. (2016). Study of the problems of clinical education and providing solutions to improve its quality from the viewpoints of midwifery students. *Journal of research in medical education*, 2016; 8(4): 43- 51. [In Persian].
- Azimi N, Bagheri R, Mousavi P, Bakhshandeh Bavarsad M, Honarjoo M. (2016). Study of the problems of clinical education and providing solutions to improve its quality from the viewpoints of midwifery students. *Journal of research in medical education*, 2016; 8(4): 43- 51. [In Persian].
- Barazpor Zanjani S. H, Fereidoonmogadam M, Loorizade M. R. Clinical education status according to the nursing and midwifery students' point of view Tehran University of Medical Sciences. *Iranian Journal of Medical Education Development of Medical Education*, 2008; 5(2):102–112.
- Bhola DS, Impara JC, Buckendahl CW. Aligning Tests with States' Content Standards: Methods and Issues: Educational Measurement. *Issues and Practice*, 2003; 22 (3): 2-29.
- Corlett J. The perceptions of nurse teachers, student nurses and preceptors of the theory –practice gap in nurse education. *The Journal of Nurse Edu Today*, 2000; 20(6): 499–505.
- Ellahi N, Alhani F, Ahmadi F. Professional participation: Explaining nurses' experience in facing the clinical distance between theoretical and clinical education. *Nursing education*, 2014; 3(1): 21-31. [In Persian].
- Ellahi N, Alhani F, Ahmadi F. Professional participation: Explaining nurses' experience in facing the clinical distance between theoretical and clinical education. *Nursing education*, 2014; 3(1): 21-31. [In Persian].
- Ellahi N, Alhani F, Ahmadi F. Professional participation: Explaining nurses' experience in facing the clinical distance between theoretical and clinical education. *Nursing education*, 2014; 3(1): 21-31. [In Persian].
- Global standards for the initial education of professional nurses and midwives. Geneva: WHO; 2009. Jhpiego. The policy role of the Board, 2013 (<http://reprolineplus.org/resources/role-board>, accessed 15 January, 2015).
- Khairulnissa Ajani S, Moez I. Gap between knowledge and practice in nursing. USA: Elsevier; 2011: 3927-31.
- Khodayi A, Mansourian M, Ganje'i S, Asgari H. A study on the strategies for reducing the gaps between theoretical knowledge and clinical practice from the perspective of nursing students in Tabriz University of Medical Sciences. *Research in medical education*, 2016; 8(2): 49-59. [In Persian].
- Kuhn KL, Rundle SR. Curriculum Alignment: Exploring Student Perception of Learning Achievement Measures (Internet). *International Journal of Teaching and Learning in Higher Education*, 2009; 2 (3): 35-36.
- Majidi SA, Mehrabian F, Asgharnia M, Safarmohammadi H, Kazemnejad E. Effective factors on adaptation of theoretical education and practical nursing care. *Research in medical education*, 2015; 7(2): 12-20. [In Persian].
- Morrison, G. R., Ross, & Kemp, J. E. Designing Effective Instruction (5th Edition) 2007,
- Razi M, Rajabpour M, Poursmaeil Z, Chamanzari H, Sharafi S. Evaluation of coordination of theoretical education with clinical education of nursing students from the perspective of the teachers of Mashhad Nursing and Midwifery Faculty. Quarterly journal of the Student Research Committee of Research Vice-Chancellor of Mashhad University of Medical Sciences 2016; 19: 33-40. [In Persian].
- Rolf G. Closing the theory-practice gap: A new paradigm for nursing. Butterworth-Heinemann: Elsevier; 2002: 127.
- Valizadeh S, Abedi H, zamanzadeh V, Fathiazar E. Challenges of nursing student during their study a qualitative study. *Iranian Journal of Medical Education*, 2008; 7(2): 397–400.
- WHO and other partners, 2008 – 2013
