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Evaluation of undergraduate nursing students' clinical learning in a developing country: a formative assessment framework

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ABSTRACT

Simulation laboratories help students build a strong foundation of clinical competence in an environment that is stress free prior to clinical placements. A number of Investigations regarding simulation impact in college-based training institutions in developed countries have taken place. However, there is paucity of such research from nursing education institutions in developing countries. With this in mind, an evaluation study was conducted to assess how clinical teaching, learning and the OSCE method of evaluation are experienced from the nurse educators' and students' perspectives in the skills laboratory. Additionally, the study sought to determine the effect of the Formative Assessment Framework for learning in the skills laboratories. The specific objectives were to explore the students and educators' perspectives of teaching and learning and describe how the current mode of assessment, namely, the OSCE is experienced. From these perspectives, the researcher extrapolated the factors and issues that affect students' clinical learning and the OSCE. Finally, the objective was to develop, validate, implement and evaluate the impact of a Formative Assessment Framework (FAF) by determining and comparing students' competence in selected general nursing and midwifery skills between and within the experimental and control groups.

A sequential, mixed methods design was chosen, starting with a qualitative approach in phase 1 followed by a quantitative approach using a quasi-experimental design in phase 2. In phase 1, in-depth and focus group interviews were used to collect data from nurse educators (n=6) and students (n=45). Data were organized and managed with the MAXQDA software version 11 and were analysed thematically. The synthesis of the teaching, learning and evaluation gaps with input from the literature reviewed on concepts of formative assessment and deliberate practice supported the development of a Formative Assessment Framework (FAF). The FAF involved a minimum of 2 demonstrations on each procedure before and after practise sessions, a minimum of two supervised return demonstrations, feedback and supervised practise. Nursing education experts validated the FAF using the Delphi technique. Quantitative data from the senior students (n= 101) and junior students (n= 160) was collected using the FAF. Data was collected using structured checklists from the eighteen selected nursing and midwifery procedures. Pre and post-testing of the students' performance and competence was tested. Quantitative data were analysed using the STATA software version 13.

Qualitative findings showed that demonstrations and return demonstrations contribute effectively to students teaching and learning in the skills laboratories. The practise sessions, presence of the nurse educators and availability of resources make the learning environment

more conducive than teaching and learning in the practice sites. However, students have limited practise sessions, which seriously affect teaching and learning in the skills laboratories negatively. In terms of the OSCE, the method is good because the environment resembles the clinical setting; it is appropriate for large student numbers and ensures standardization of the examinations. However, the preparation for the OSCE is inadequate.

Quantitatively, the paired t-tests, Wilcoxon sum rank and Wilcoxon, sign rank tests, were used to test the results. Usage of a formative assessment framework had a significant effect on senior students' clinical performance in physical examination of a pregnant woman, the triage process in under five clinic, contraceptive implant insertion, contraceptive implant removal, breast examination, episiotomy repair, management of the third stage of labour, subsequent examination of the newborn and speculum examination procedure among the junior students. There were also significant effects on the junior students' performance in the procedures of blood transfusion, female catheterisation, health education, and insulin intravenous injection, naso-gastric tube insertion, airway suctioning and wound dressing except on colostomy care. The mean differences between the control and experimental groups for most of the tested procedures were significantly different. The results were statistically significant with a p-value of <0, 05, set at 95 % confidence intervals.

In conclusion, the integration of the FAF in students' learning in the skills laboratories has the capacity to improve the student's clinical performance and competence. The use of the FAF has the capacity to prepare a student adequately for the summative OSCE in the skills laboratory and ultimately, his/her clinical competence for better patient and client care.