International Journal of Nursing, Midwife and Health Related Cases
Vol.3, No.3, pp.33-46, June 2017
Published by European Centre for Research Training and Development UK (www.eajournals.org)

FACTORS THAT IMPEDE OR ENHANCE THE USE OF SIMULATIONS BY NURSE EDUCATORS IN PUBLIC AND PRIVATE INSTITUTIONS OF TRAINING IN CAMEROON

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ABSTRACT: *Simulations are a means by which the education and training of nurses and other health personnel are enhanced. Simulations precede any form of touching humans as learning apparatus for health care students undergoing education and training. Simulations have been found to provide a good learning opportunity to health care provision learning prior to exposing them to real humans (patients). With simulations, the learners gain some confidence before getting to touch a real patient. Simulations are therefore very important and necessary in the training of health care personnel. The aim/objective of this study was to identify enhancing and impeding factors to the use of simulations and assess constraints in its use among nurse educators in the study area. A cross-sectional descriptive study design was used and data was collected using a structured questionnaire. A total of 89 nurse educators were sourced and took part in the study. The sourcing was by stratified sampling with regards to the school –whether private or public and by the category of the nurse educator. Data was analysed using Epi Data version 3.1, and SPSS version 21.0. Some leading factors influencing the use of simulation were: Recent changes in nursing education to becoming more practice oriented (90.7%; 95% CI: 83.6-95.7%), technological advancements (90.7%; 95% CI: 83.6-95.7%), inadequate training (82.6%; 95% CI: 74.2-89.9%) and cost (81.4%; 95% CI: 71.7-88.1%) of simulators. While some constraints noticed were: difficulties reproducing all aspect of care using simulators (79.1%; 95% CI: 69.2-86.2%), and difficulties constructing and maintaining the simulated scene due to lack of expertise (73.3%; 95% CI: 63.1-81.5%). It is hoped that these results assist health institutions eliminate some of the constraints and change habits that pose as impeding or hindering factors.*

KEYWORDS: Nursing Education, Simulations, Factors Enhancing Or Impeding, Constraints

INTRODUCTION

Skill laboratories are recently increasingly being exploited in nursing education for the teaching of basic skills. The shorter hospital stay of patients, staff shortages, and increase number of students to teacher ratio has limited appropriate clinical teaching at clinical sites[1, 2] requiring that the skills be acquired in the skills laboratories. Skill laboratories refer to facilities where students have the opportunity to learn clinical skills, communication skills and technology to a defined level of competence before they are given the opportunity of having direct contact with patients[3]. In the skills laboratories, simulations are used. Hence, according to Jolly[3] nursing institutions should lay more emphases on teaching student nurses practical skills. It can constitute of a room with simulators to purpose-built structure with vast assorted equipment and the simulators [4].

Print ISSN: ISSN 2397-0758, Online ISSN: 2397-0766

The teaching and assessment of the affective and psychomotor aspects of nursing which entails the use of simulators has been facing lots of constraints. Thus, the practical training of student nurses is limited as the hospitals are few, there is the lack of skilled clinical educators for supervision, there is shorter hospital stay of patients, and the unavailability and poor cooperation of rare or atypical patients to use in the practical training. Hence the use of simulation is very necessary in nursing education to overcome these constraints or difficulties[5, 6].

Different approaches have been used in the definition of simulation by different authors but one thing that these definitions have in common is that simulation is all about an artificial environment. Simulation refers to the development of an imitated clinical setting in an artificial location[7]. Others define simulation as a method that is used to improve skills by learning these skills on mannequins, models or visual realities, video cameras and getting immediate feedback from observers, participants or peer[8, 9]. Gaba [10] also describes simulation as more of a 'strategy' than a 'technology' which permit interactions in learning through the use of tools that can mimic reality in a safe environment. Research carried out in the fields of nursing and medicine shows that there is an increase in the use of technology and simulation in these fields and this has been embraced in the effective acquisition of clinical knowledge and assessment of clinical skills[11].

The purpose of simulation according to Jeffries[12] and Morton[13] as published in an article presented by Mary Brinker titled "integrating simulation in a nursing course?", is to imitate or create an artificial environment with rare and critical patient cases where novice nurses or student nurses can learn and practice skills safely without any fear of harm both to the patients and themselves. Also, so that students will subsequently, find it easy to intervene when it occurs in real life[12, 13,].

Higher educational institutions as well as the medical field and healthcare facilities, have embraced the use of simulation in their training. The medical field has accepted and is using simulation in the training of practitioners to be able to rapidly intervene in emergency situations that can occur in the hospital setting. It also helps medical practitioners to be able to practice as members of an inter-professional team within specific areas of specialization[14]. Nursing education is now fast adopting the use of simulation in their curriculum to serve as an adjunct or supplement to clinical practice and as an opportunity for student nurses to build their psychomotor skills[14]. There is an increase proficiency in health practitioners trained with the use of simulation than those who rely on clinical experience alone as can be seen in " resuscitation team trained with advanced life support on improving patients outcome following cardiac arrest"[15, 16].

Types of Simulation

Reeves [17] classified simulation according to the level of fidelity it portrays. Fidelity can be defined as the degree of 'realism' that a simulator reflects when compared to the 'actual' human patient or culture within a defined setting[7]. There are three major categories of simulation namely; low, moderate and high fidelity simulation. There are different types of simulations within each category. Each category has its advantages and disadvantages as can be seen below.

Low fidelity simulation: This includes; partial task trainers, Role-play, Standardized patients

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Partial task trainers: This represents the most common form of simulation[18]. This is the most widely used form of simulation and can be seen in the field of nursing assistance, medical assistance, radiologic technologies, respiratory therapist, physical therapist as well as nursing and medical student education[18, 19]. It is used to teach students procedures like chest tube insertion, ultra sound, and bronchoscopy [20]. Middle level and high fidelity simulations are available but rare to come by in a developing context like Cameroon.

Factors Enhancing the Use of Simulation: Nursing education has evolved over time and these changes have been oriented towards the incorporation of the use of technology such as simulation in nursing education. Many factors have been identified to be responsible for this evolution in nursing education namely: Societal demand for safety and quality, a need to recreate health professions education, ethical considerations, technological advancements, professional shortages, and a changing landscape for the delivery of patient care.

Factors that hinder the use of simulations could be student centred, institutional, environment and nurse educator problems.

Problem Statement

The education and training of nurses among other health care providers cannot be effective without the use of simulations. Simulation is an innovation in the field of nursing education which is being used in most developed countries to supplement clinical teaching, and has been proven to be successful in boosting dexterity, patient safety, and self-efficacy of graduate nurses. When impeding factors and constraints exist the practice on real patients will be the only option left. Many authors have noted that clinical training of nurses has been limited as a result of ethical concerns on the safety of patients, poor collaboration of patients and overcrowding at clinical sites due to hospital shortages but the prior practice on simulations would have reduced the problem. Unfortunately, the use of simulation does not seem to be a norm in Cameroon where demonstration rooms which do not reflect any degree of fidelity are still used for the teaching of practical skills alongside hospitals. This implies that humans are used as practice apparatus without prior exposure on simulations. There are therefore some hindering factors and constraints which need to be exposed giving a reason for this study.

Research Questions

1. What are the enhancing factors to the use of simulations by nurse educators in Buea, South West Region, Cameroon?
2. What are the impeding factors to the use of simulations by nurse educators in Buea, South West Region, Cameroon?
3. What constraints are encountered by nurse educators with the use of simulations in Buea, South West Region, Cameroon?

Specific objectives

1. To identify the enhancing factors to the use of simulations by nurse educators in Buea, South West Region, Cameroon.
2. To ascertain the impeding factors to the use of simulations by nurse educators in Buea, South West Region, Cameroon.

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3. To assess the constraints encountered by nurse educators with the use of simulations in Buea, South West Region, Cameroon.

METHODOLOGY

The research design was a cross sectional survey of nurse educators in the study area. The instrument for data collection was a structured questionnaire developed by the team and composed of questions that addressed all the objectives. For validity, the instrument for data collection was pretested and corrections made in line with the study objectives before application. A sample of 89 nurse educators was used selected using a stratified but purposive sampling method to select eligible nurse educators from all training institutions in Buea. Stratified sampling method was suitable because nursing schools in Buea already exist in two strata, namely: Public and Private Institutions. Hence, an equal proportion of participants were collected from each of these strata in order to have representation of minority groups. While in each stratum, a purposive sampling method was used to recruitment nurse educators who met the inclusion criteria.

Ethical issues were addressed by outlining the roles of the participants with clear explanations on what the study was. An informed consent was sought before the filling of questionnaires. Participants received background information on the purpose of the research and how it was going to be done, and were then allowed to decide whether or not to take part in the study. They were also made to understand that they were free to ask questions. Room was also given for freedom to withdraw at any point in course of the study if they changed their minds without any explanation or punishment. Only codes were used in place of participant's names and data collected were well preserved to ensure confidentiality.

The questionnaires were filled by participants under supervision by the principal investigator to ensure accuracy of data obtained from the participants. Data were analysed and presented using frequency table and charts. All statistics were presented at the 95% Confidence Level (CL), Alpha =0.05.

RESULTS

The results have been presented following the research questions and objectives but showing clearly what was happening in public and private institutions of education and training of nurses.

Factors enhancing the use of simulation

As shown on figure 1 below, among the 89 nurse educators sampled, the following factors and their corresponding values were identified as factors enhancing the use of simulation: recent changes in nursing training to a more practice oriented training 81(90.7%; 95% CI:83.6-95.7%), technological advancements with a value of 81(90.7%;95% CI:83.6-95.7%), ethical considerations in healthcare delivery 74(83.7%;95% CI:74.3-89.9%), shorter hospital stay of patients 56(62.8%;95% CI:52.5-72.5%), inadequate number of clinical educators in hospitals 45(50%; 95% CI:40.2-60.9%), inadequate knowledge of clinical educators to appropriately teach practical skills 31(34.9%; 95% CI:25.5-45.1%), and finally, many students at clinical

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sites 11(12.8%; 95% CI:6.7-20.5%). The factors that had the highest proportion were: recent changes in nursing training to a more practice oriented training 81(90.7%; 95% CI: 83.6-95.7%) and technological advancements with a value of 81(90.7%; 95% CI: 83.6-95.7%), while the lowest was many students at clinical sites 11(12.8%; 95% CI: 6.7-20.5%).

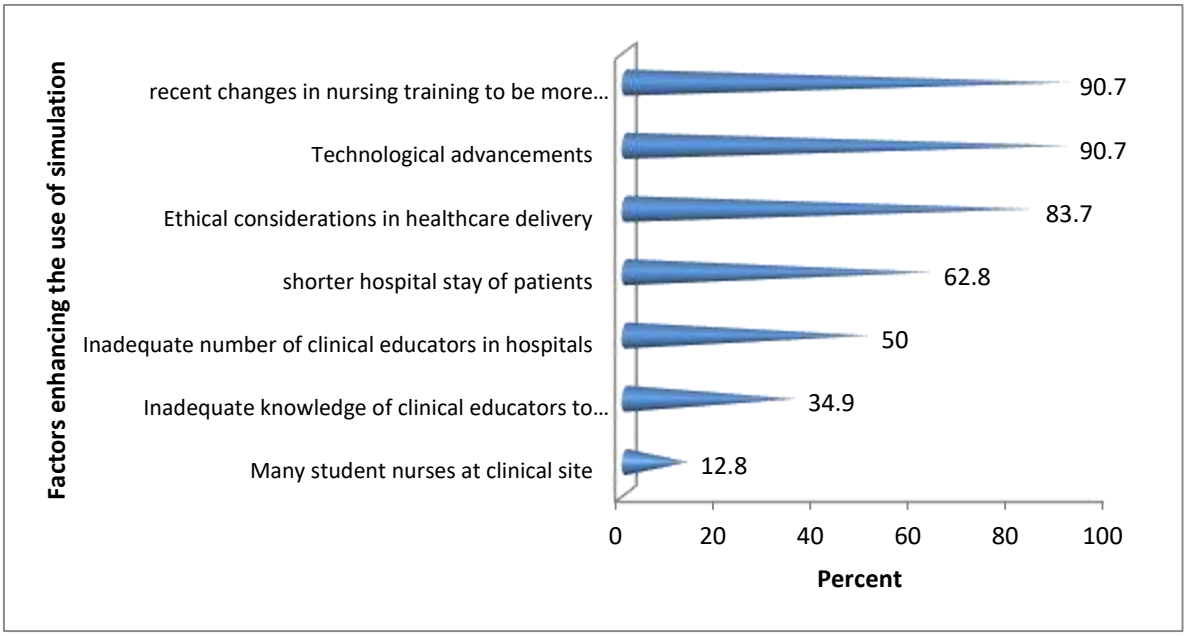

Figure 1: Distribution of respondents by factors enhancing the use of simulation

Distribution of respondents by Factors enhancing the use of simulation and types of institution

A shown in table 1 below, in private institutions, the factors that were identified to enhance the use of simulation, in order of priority were: technological advancements in healthcare delivery 60(87.0%), recent changes in nursing training to be more practice oriented 59(85.5%), ethical considerations in healthcare delivery 54(78.3%), shorter hospital stay of patients with a value of 39(56.5%), inadequate number of clinical educators in hospitals 31(44.9%), inadequate knowledge of clinical educators to appropriately teach clinical skills during clinical exposures 25(36.2%), and many students often overcrowding clinical sites 7(10.1%). In public institutions, the factors enhancing the use of simulation were: recent changes in nursing training to becoming more practice oriented with a proportion of 19(95.0%), technological advancements in healthcare delivery 18(90.0%), ethical considerations in healthcare delivery 18(90.0%), shorter hospital stay of patients 15(75.0%), inadequate number of clinical educators in hospitals 12(60.0%), many student nurses at clinical sites 4(20.0%).

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Table 1: Distribution of respondents by factors enhancing the use of simulation and types of institution

Factors Enhancing the use of simulation	Institution				Total No(%)	95% CI	χ2-test	P-Value
	Private No(%)	95% CI	Public No(%)	95% CI				
A-Shorter hospital stay of patients	39(56.5)	44.7-67.8	15(75.0)	53-90.2	54(60.7)	50.3-70.4		
B-Technological advancements in healthcare delivery	60(87.0)	77.4-93.4	18(90.0)	70.7-98.3	78(87.6)	79.5-93.3		
C-Recent changes in nursing training to be more practice oriented	59(85.5)	75.7-92.4	19(95.0)	77.7-99.7	78(87.6)	79.5-93.3		
-Ethical considerations in healthcare delivery	54(78.3)	67.4-86.8	18(90.0)	70.7-98.3	72(80.9)	71.7-88.1		
E-Inadequate knowledge of clinical educators to appropriately teach clinical skills during clinical exposures	25(36.2)	25.6-48	5(25.0)	9.8-47	30(33.7)	24.5-44	**6.54**	**0.162**
F-Inadequate number of clinical educators in hospitals	31(44.9)	33.5-56.8	12(60.0)	37.9-79.4	43(48.3)	38.1-58.7		
G-Many student nurses at clinical sites	7(10.1)	.5-19	4(20.0)	6.7-41.5	11(12.4)	6.7-20.5		
Total	275(75)	70.5-79.4	91(25)	20.6-29.5	366(100)	99. 2-100		

Distribution of respondents by factors impeding the use of simulation

As shown on figure7 below, the different overall impeding factors that were identified in this study from the most to the least frequent were: lack of adequate training in the use of simulation with a value of 74(82.6%; 95% CI: 74.2-89.9%), cost 72(81.4%; 95% CI: 71.7-88.1%), inadequate knowledge on its use in teaching 70(79.1%; 95% CI: 69.2-86.2%) time constraint 60(67.4%; 95% CI: 57.1-76.5%), fear of getting the wrong feedback due to its breakdown 51(57%; 95% CI: 46.9-67.3%), intimidating nature of the simulation environment 48(53.5%; 95% CI: 43.5-64.1%), inability to portray reality 43(48.8%; 95% CI: 38.1-58.7%). The mode

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was on; lack of adequate training in the use of simulation with a value of 74(82.6%; 95% CI: 74.2-89.9).

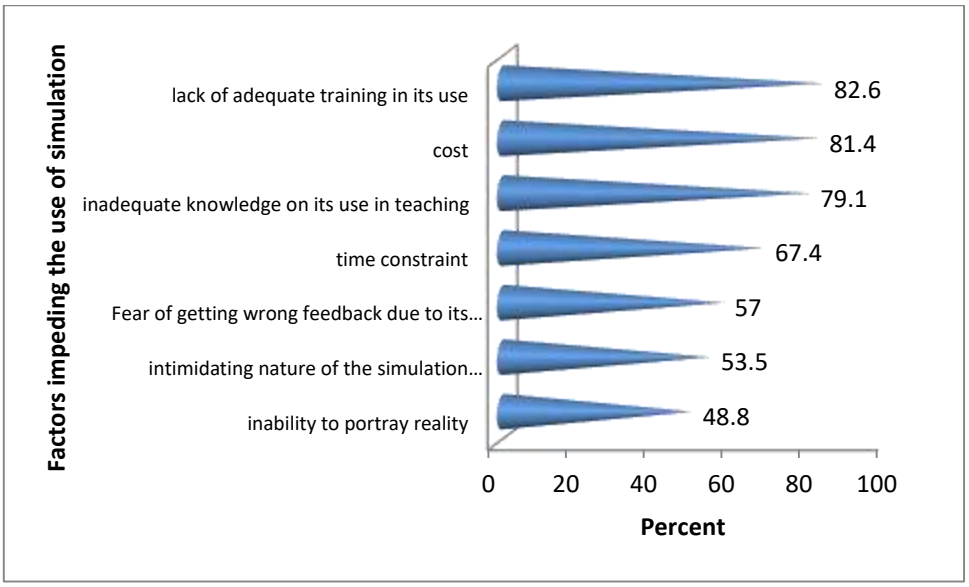

Figure 2: Distribution of respondents by factors impeding the use of simulation

Distribution of respondents by factors impeding the use of simulation and types of institution

As shown in table 13 below, the different impeding factors according to private institutions from highest to the lowest values and their frequencies were: lack of adequate training on the use of simulation 54(78.2%), cost 53(76.8%), inadequate knowledge on the use of simulation in teaching 53(76.8%), time constraint 45(65.2%), fear of getting wrong feedback due to simulation breakdown 36(52.2%), intimidating nature of the simulation environment 33(47.8%), inability to portray reality 31(44.9%). On the other hand, the impeding factors in public institutions from highest to lowest frequencies were: lack of adequate training on the use of simulation with a frequency of 17(85.0%), cost 17(85.0%), inadequate knowledge on its use 15(75.0%), fear of getting wrong feedback 13(65.0%), intimidating nature of the simulation environment 13(65.0%), time constraint 13(65.0%) and inability to portray reality 11(55.0%).

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Table 2: Distribution of respondents by factors impeding the use of simulation and categories of institution

Factors impeding the use of simulation	Institution				Total No(%)	95%CI	χ2-test	P-Value
	Private No(%)	95%CI	Public No(%)	95%CI				
A-Fear of getting wrong feedback due to its breakdown	36(52.2)	40.4-63.7	13(65)	42.7-83.2	49(55.1)	44.6-65.1		
B-Intimidating nature of the simulation environment which can lead to wrong assessment of students	33(47.8)	36.3-59.6	13(65)	42.7-83.2	46(51.7)	41.3-61.9		
C-Cost (simulation is expensive)	53(76.8)	65.8-85.6	17(85)	64.4-96	70(78.7)	69-86	**5.117**	**0.402**
D-Inadequate knowledge on its use in teaching	53(76.8)	65.8-85.6	15(75)	53-90.2	68(76.4)	66.8-84.4		
E-Lack of adequate training in its use	54(78.2)	67.4-86.8	17(85)	64.4-96	71(79.8)	70.5-87.2		
F-Time constraint	45(65.2)	53.5-75.7	13(65)	42.7-83.2	58(65.2)	54.9-74.5		
G-Inability to portray reality	31(44.9)	33.5-56.8	11(55)	33.3-75.4	42(47.2)	37-57.6		
Total	305(75)	71.1-79.5	99(25)	20.5-28.9	404(100)	99.2-100		

Constraints educators encounter in the use of simulations in the training of these nurses

As shown on figure 3 below, constraints that were identified to be involved in the use of simulation from the highest to the lowest were: Difficulties reproducing all aspects of psychological and clinical manifestation with a value of 70(79.1%; 95% CI:69.2-86.2%), difficulties constructing and maintaining the simulation scene with 65(73.3%; 95% CI: 63.1-81.5%), difficulties using available time to schedule different aspects of teaching with 56(62.8%; 95% CI: 52.5-72.5%), students may not take the exercise seriously 54(60.5%; 95% CI:50.3-70.4%), challenging to provide timely feedback with 53(59.3%; 95% CI: 49.1-69.4%), challenging to complete course work if simulation is incorporated in the curriculum with

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42(47.7%; 95% CI: 37-57.6%), difficulties integrating traditional methods of teaching alongside simulation with 31(34.9%; 95% CI:25.5-45.1%) and finally inadequately equipped demonstration rooms 1(1.2%; 95% CI: 0.1-5.4%).

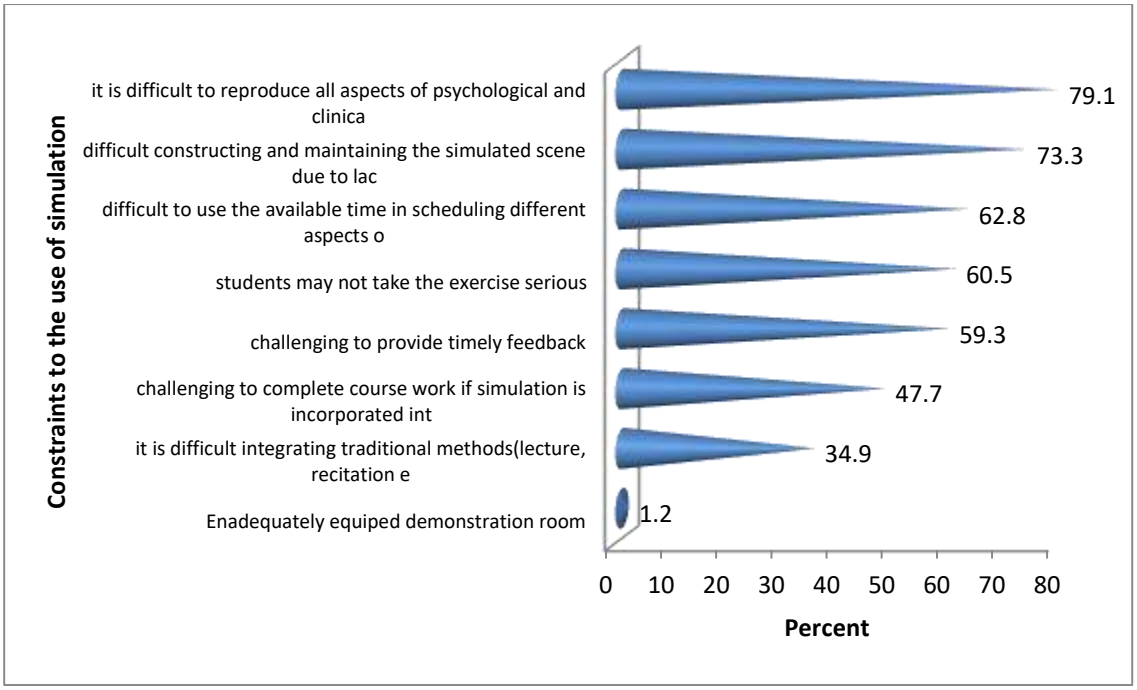

Figure 3: Distribution of respondents by constraints to the use of simulation

Distribution of respondents by constraints related to the use of simulation and type of institutions

As can be seen in table 3 below in both the private and public institutions, the major constraint to the use of simulation was its inability to replicate all clinical, societal and psychological aspect of care with the following values; private institutions 52(75.3%), public institutions 16(80.0%) even though the difference was not statistically significant (P=0.394). Other constraints that were identified to have an influence on the use of simulation were: Students may not take the exercise seriously, with frequencies of 40(57.9%) in private institutions and 12(60.0%) in public institution; difficulties constructing and maintaining the simulated scene due to lack of expertise with 48(69.5%) in private institutions and 15(75.0%) in public schools; difficulties using available time to schedule different aspects of teaching with 42(60.8%) and 12(60.0%) in both private and public institutions respectively. The constraints that had the lowest frequencies were: simulation learning is challenging to provide feedback with 40(57.9%) in private institution and 11(55.0%) in public institutions; challenging for course work to be completed if simulation is incorporated into the curriculum with 34(49.2%) in private institution and 7(35.0%) in public institutions; difficulties integrating traditional methods of teaching together with simulation with 24(34.7%) in private institution and 6(30.0%) in public institution; finally, the constraint with the least frequency was inadequately equipped demonstration rooms with 1(1.4%) in the private institutions and 0(0.0%) in the public institutions.

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Table 3: Distribution of respondents by constraints to the use of simulation and type of institution

Problems and constraints related to the use of simulation	Institution				Total No(%)	95%CI	χ2-test	P-Value
	Private No(%)	95%CI	Public No(%)	95%CI				
A-Students may not take the exercise serious	40(57.9)	46-69	12(60)	37.9-79.4	52(58.4)	48-68.3		
B-It is difficult to reproduce all aspects of psychological and clinical responses	52(75.3)	64-84	16(80)	58.5-93	68(76.4)	67-84		
C-Difficult to use the available time in scheduling different aspects of teaching	42(60.8)	49-72	12(60)	37.9-79.4	54(60.7)	50.3-70.4		
D-Difficult constructing and maintaining the simulated scene due to lack expertise	48(69.5)	58-80	15(75)	53-90.2	63(70.8)	60.7-79.5		
E-Challenging to provide timely feedback	40(57.9)	46-69	11(55)	33.3-75.4	51(57.3)	46.9-67.7	**6.265**	**0.394**
F-Challenging to complete course work if simulation is incorporated in the curriculum	34(49.2)	37.6-61	7(35)	16.8-57.3	41(46.1)	35.9-59.5		
G-It is difficult integrating traditional methods(lecture, recitation etc) of teaching together with simulation	24(34.7)	24-46	6(30)	13.2-52.3	30(33.7)	24.5-44		
H-Inadequately equipped demonstration rooms	1(1.4)	0.1-6.9	0(0.0)	0-14	1(1.1)	0.1-5.4		
Total	281(78)	73-82	79(22)	17.9-26.4	360(100)	99.2-100		

Print ISSN: ISSN 2397-0758, Online ISSN: 2397-0766

DISCUSSION

Majority of nurse educators identified the fact that recent changes in nursing training to a more practice oriented training and technological advancements were the most obvious factors enhancing the use of simulation even though the difference between all the factors were not statistically significant. These factors had the highest overall frequencies in both private and public institutions. This could be due to the fact that there are few clinical sites to accommodate student nurses, inefficiency and control of students themselves. This is supported by Tanner[21]who concluded that baccalaureate nursing graduates were heavily knowledgeable in nursing but lack the skills to transfer their knowledge into practice in clinical settings. Tanner [21] and Tannar[22] called for a transformation in clinical education based on increased in "Patient acuity", decreased number of clinical sites, cost of clinical sites in some locations, inefficiency of students' time while at the clinical sites and the faculty shortages. She identified the use of simulation as a means of improving and enhancing clinical skills [21, 22]. Still in line with the findings, Nehring and Lasley in 2004[23] view technology to have a continuous evolvement in the field of heath such as in areas like assessment, diagnosis, intervention and evaluation requiring a constant change in the nursing curriculum. This can be seen in the use of computerized simulation where students can study in-depth internal structures of the body at any time without direct access to life patients. He emphasized on simulation being incorporated into the nursing curriculum.

A third factor enhancing the use of simulation was ethical consideration in healthcare delivery. This could be due to the fact that there has been higher acuity of patients, shorter hospital stay of patients. This has left students with little opportunities to practice particular procedures on patients and has made students more liable to bridge patients' rights. This has prompted Decker[24] to asked questions if a time will come when a student nurse will tell a patient that he or she is performing a procedure for the very first time on that patient. This is supported by Patal and Gould[25] who stated that the goal of simulation is to eliminate the initial learning curve in the clinical setting so that the first attempts of students on real life patients will be up to standard.

The impeding factors in the use of simulation in this study showed that most nurse educators think: lack of adequate training in the use of simulation, cost of simulation (identified to be relatively expensive) and inadequate knowledge on its use as a teaching strategy occupied priority positions among the list of factors. Although the difference was not statistically significant, these factors listed had the highest frequencies.

Lack of adequate training in the use of simulation could be due to lack of simulation technicians. Furthermore, being a new technology a lot of refresher courses are required to appropriately empower educators with the knowledge necessary to use simulation effectively as a teaching strategy. Although very little research has been found by the principal investigator to support this assertion, Rogers[26] supported this by pointing out that teaching with simulation requires a whole new set of skills which most faculties do not have and besides the normal techniques in teaching, technology has to also be learned in order to be adequately used in teaching. Cost has always been considered as an important impeding factor to the use of simulation as most simulators especially high fidelity simulations are expensive which contributes to the fact that most institutions have only low fidelity simulation. Many studies[4, 13] recognized the fact that purchase, maintenance, training of the staff or instructors on how to use the simulators and equipping of the simulation laboratories are relatively high in terms of cost.

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Constraints encountered by nurse educators on the use of simulations have surrounded difficulties of reproducing all aspects of physiological and clinical care, this was closely followed by difficulties constructing and maintaining the simulation scenes as their major constrains associated with simulation. This could be attributed to the fact that most of the nurse educators in the sample never had enough training and knowledge on the use of simulation to achieve their intended outcome. Li in 2007[27] noted that "it is difficult to replicate all aspects of physiological and clinical responses in a given situation and because the situation is not real, it is difficult to replicate the same communication and emotional response that would be seen in the actual clinical setting". This also account for the reason why a significant proportion of those who never used simulation were those teaching non science courses such as psychology and sociology. This could be improved upon by allowing students to practice on many different types of simulation to improve the amount of realism it offers. This is supported by Issenberg and Scalese in 2007[28] who stated that "the more sophisticated the simulated patient, the more likely they will match with students' realities". Some educators 56(62.8%) also identified time as a constraint to the use of simulation. This is because with simulation learning, only few students can be taught at a particular time.

CONCLUSIONS

1. Nurse educators identified some factors that they think are influencing the use of simulation both positively (enhancing) and negatively (impeding). These factors in order of priority were as follows: Recent changes in nursing education to becoming more practice oriented, technological advancements, Ethical consideration in healthcare delivery, shorter hospital stay of patients, inadequate number and knowledge of clinical educators in hospitals to monitor and teach students clinical skills, and finally overcrowding due to many students at clinical sites. On the other hand some factors were identified to impede the use of simulation, which in order of priority were: Lack of adequate training on the use of simulation, cost, inadequate knowledge on its use in teaching, time constraint, fear of getting wrong feedback due to its breakdown, intimidating nature of the simulation environment which can negatively affect shy students and finally inability to portray reality. Age, gender, work experience and subject taught are some demographic variables that were identified to have significant associations with the proportion of teachers who use simulation.

2. Constraints nurse educators faced or perceived using simulation were: difficulties reproducing all aspect of clinical and psychological care on a simulator, difficulties constructing and maintaining the simulation scene due to lack of expertise, difficulties using available time in scheduling different aspects of care or classroom activities, difficulties providing timely feedback, difficulties in completing course work without broadening the curriculum, difficulties integrating other traditional methods of teaching in synchrony with simulation and finally inadequately equipped demonstration rooms. The difference was not statistically significant in both private and public institutions.

Print ISSN: ISSN 2397-0758, Online ISSN: 2397-0766

RECOMMENDATIONS

1. Training programs, seminars and refresher courses should be organized by stakeholders in order to augment the teaching skills of nurse educators and also to teach them on how to use modern technologies like simulation.

2. Policies should be instituted by various stakeholders concerned to ensure that the use of simulation is incorporated in the curriculum of nursing and there should be followed up to ensure that nurse educators are using simulations.

3. Stakeholders should develop well equipped demonstration rooms or proprietors of accredited private institutions could partner and develop well equipped simulation laboratories to supplement clinical teaching. This is in order to reduce cost.

4. The state should reduce the taxes on the importation of simulators so that stakeholders can be able to afford.

   Stakeholders involved in the training of nurses in Cameroon should employ competent nurse educators who are certified and can be able to use suitable teaching strategies so that graduates can be able to practice evident-based learning.

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Print ISSN: ISSN 2397-0758, Online ISSN: 2397-0766