

Original Research Paper

A Study to Assess the Skool™ Healthcare Education Program Among Midwifery Students of the Koforidua Nursing and Midwifery Training College

¹Augustine Kumah , ²Nicholas Adzaho, ³Hillary Selassi Nutakor, ⁴Gideon Komla Azi, ⁵Haphsheitu Yahaya, ⁶Godwin Gideon Kwaku Dorvlo, ⁷Millicent Egbenyah and ⁸Gideon Dzando

¹Department of Quality and Public Health, Nyaho Medical Centre, Accra, Ghana

²Nursing, Koforidua Nursing and Midwifery Training School, Ghana

³Addiction, Recovery and Rehabilitation, Accra Psychiatric Hospital, Accra - Ghana, Ghana

⁴Mental Health, Ho Nursing Training College, Ghana

⁵Public Health, Regional Institute of Population Health, Ghana

⁶OPD/Emergency, St Anthony's Hospital, Dzodze, Ghana

⁷Mother and Child, Sacred Heart Hospital, Abor-Weme, Ghana

⁸College of Nursing and Health Sciences, Flinders University, Adelaide, Australia

Article history

Received: 22-09-2021

Revised: 22-11-2021

Accepted: 29-11-2021

Corresponding Authors:

Augustine Kumah

Department of Quality and Public Health, Nyaho Medical Centre, Accra, Ghana

Email: augustinekumah@gmail.com

Abstract: The Skool™ Healthcare Education program came because of an identified need for improving the quality of pre-service education in Ghana. This was inspired by a desire to tackle the high failure rate of midwifery licensing examinations. The program was piloted in six nursing and midwifery schools. To broaden and reinforce lessons taught and learned in the classroom and skills labs, the use of eLearning was selected. This study assessed the Skool™ healthcare education intervention among midwifery students of the Koforidua nursing and midwifery training college in Ghana. This study employed a cross-sectional descriptive survey among 86 final-year midwifery students at the Nursing and Midwifery Training College, Koforidua. A simple random sampling was used in selecting participants. Data were collected from participants using a structured questionnaire. All respondents were female with the majority (74.4%) being resident students. The majority (93.0%) of the respondents knew e-learning. Out of the six-course content of the Skool™ healthcare E-learning education program, most respondents (46%) deemed the course content on postpartum haemorrhage as more relevant. The Majority (86%) of respondents said the Skool™ E-learning Healthcare Education program had achieved its set objectives and the majority (61%) agreed that the program had a positive impact on them. The Skool™ Healthcare Education program is a supplementary form of learning to enhance students' skills in maternal healthcare and academic performance. Thus, if a student does not enrol and practice the skills set, it could negatively affect their academic performance and increase their anxiety level towards the online licensing examination.

Keywords: E-learning, Skool™ Healthcare, Nursing, Midwifery, Education, Ghana

Introduction

The use of technology and innovation to improve the quality of education is increasing (Alhassan *et al.*, 2021). One of these innovations that provide knowledge and skills is E-Learning. E-learning uses electronic

technologies; the internet or computer-based learning on a local or wide network (Beeckman *et al.*, 2008). It is perceived that e-Learning can produce high quality and cost-effective programs for a large group of students in different geographical areas at the same time (Bristol, 2006). E-learning provides a self-paced learning

opportunity that meets individual needs (Fraenkel *et al.*, 2012) and it can engage students interactively in their environment (Moore *et al.*, 2011).

E-Learning is defined as “a learning delivered on a digital or electronic device such as a computer or mobile that is intended to support learning” (Clark *et al.*, 2011). This can either be online or offline. The term was coined in the 1980s along with the inception of online learning (Blackmore, 2010). Some literature often referred to e-Learning distance education even though distance education may or may not include e-Learning. The phrases: “Distance education and distance learning” are often used conversely. However, “distance education and distance learning” is a methodology that makes use of learning materials with students who are not studying in a traditional group-based classroom setting (Long, 2014). Distance learning includes a variety of learning materials that are specifically prepared for a distance format and with a combination of distance and face-to-face learning as a best practice.

An eLearning platform can be a major part of a merged learning strategy that uses both practical skills training and learning in the context of patient care under supervision and can be an effective training method (Grant, 2011). Amalgamated learning is suggested for health care training because it can address the need for hands-on, skills-based training as well as self-directed learning (Makhdoom *et al.*, 2013). Education through eLearning has proven to be as effective or in some cases more effective than face-to-face learning (George *et al.*, 2014). E-Learning is learner-focused and can improve learner access and engagement, is easily updated as new knowledge emerges and improves access through the removal of geographic barriers when used as part of a blended learning method. More so, eLearning can increase access to experts in many instances, (Rasmussen *et al.*, 2014).

In Ghana, the training of health professionals has not met the increasing demand of the population. A United States Agency for International Development (USAID) report indicated that Ghana has a shortage of health care professionals, especially midwives. And to address this situation, several new midwifery training schools in the last several years were established. However, the output of newly licensed midwives has not met the need of the country despite the increase in the total student population amid the additional new schools and larger cohorts per school because of the low pass rate of the licensing examination by student midwives. The pass rate of the midwifery licensing examination in 2011 was 54%, showing that a little over half of the newly graduated students passed the examination. In April 2013 there was an internal evaluation was conducted by the Nursing and Midwifery Council (N&MC) which found that the high failure rate amongst the midwifery student could be attributed to individual school level and the licensure

level factors. School-level factors included students (inadequate prior educational preparation, absenteeism), midwifery tutors (overwhelming workload compounded by high student tutors’ ratios, outdated teaching materials/methods) and resources (outdated and inadequate buildings, lack of and inadequate simulation and computer labs).

To tackle the low pass rate amongst midwifery students, the Ministry of Health (MoH) produced the use of eLearning modules to add on to the courses in the pre-service midwifery curriculum. This was sponsored by the United States Agency for International Development (USAID) flagship program, Maternal and Child Health Integrated Program (MCHIP) and carried out in collaboration with the MoH. A free Skool™ Healthcare Education (Skool™ HE) platform was provided by Intel® to host six eLearning modules in the selected midwifery schools. In collaboration with JHPIEGO and the United Nations Population Fund (UNFPA) four modules of topics were developed: Postpartum haemorrhage, pre-eclampsia/eclampsia, prolonged and obstructed labour and post-abortion care. Two of the modules specific to Ghana’s context were put together by Ghanaian health educators. These included modules on Human Immunodeficiency Virus (HIV), stigma and discrimination and identification and management of malaria in pregnancy. The program was piloted in six midwifery schools in Ghana using interactive text, lectures, photographs, videos and animations.

Methods

This study employed a cross-sectional descriptive survey among 86 final-year midwifery students at the Nursing and Midwifery Training College, Koforidua. Participants were selected using a simple random sampling technique. Data from participants were collected using a structured questionnaire. The sample size was calculated using the Leslie Kish formula given that there were no previous studies on evaluating the efficiency of the Skool™ healthcare eLearning education program among students in nursing and midwifery training colleges in Ghana. Prevalence of 50% ($P = 0.5$) and a margin of error of 5% at a 95% confidence interval were used. All students who were absent from class at the time of the survey were not included in the study. SPSS version 20 was used to analyse results and data were presented using tables and graphs Table 1-3. We obtained ethical clearance from the Ethical Review Committee of the Nursing and Midwifery Training College, Koforidua and the Ethical review committee of the Health Training Institutions, Accra Fig. 1-3.

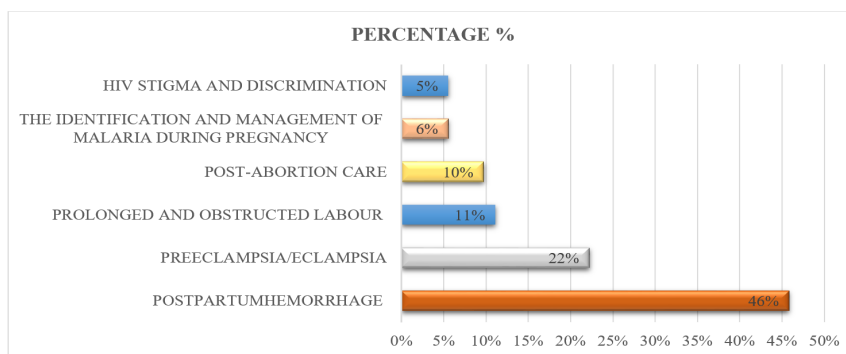


Fig. 1: Relevance of the Skool™ E-learning course content

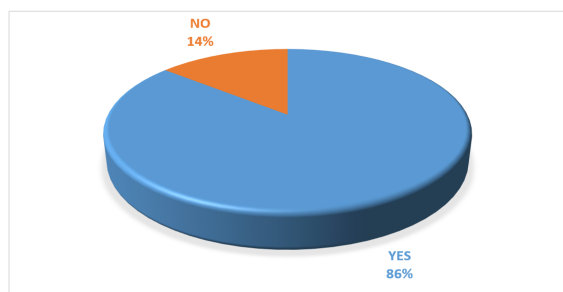


Fig. 2: Skool™ E-learning Healthcare Education program achieved its set Objectives

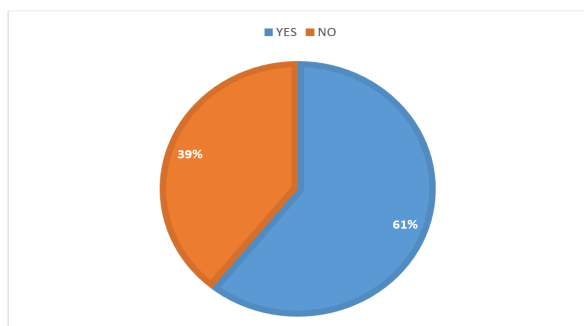


Fig. 3: Impact of the Skool™ E-learning healthcare education program on Students

Table 1: Demographic characteristics of the respondents

Variable	Frequency (N = 86)	Percentage (%)
Gender		
Female	86	100%
Age range (years)		
18-21	25	29%
22-25	45	52%
26-30	16	19%
Status of residence		
Boarder	64	74.4%
Day student	22	25.6%
Marital status		
Married	3	3.0%
Single	83	97.0%
Divorced	0	0.0%
Widowed	0	0.0%

Source: Field data 2018

Table 2: Students' knowledge on e-learning and their source of knowledge

Variable	Frequency (N = 86)	Percentage (%)
e-learning exposure		
Yes	80	93%
No	6	7%
Source		
Tutor	62	72.1%
Parents	1	1.2%
Friends	9	10.5%
Colleague	14	16.3%

Table 3: Factors that affect the usage of the Skool™ E-learning healthcare education program

Variable	yes	No
Internet self-efficacy	33%	67%
Tutor attitude	16%	84%
Student attitude	13%	87%
Environment	20%	80%
Computer efficacy	32%	68%

Results

Demographic Characteristics of the Respondents

All respondents were female. The majority (74.4%) were boarding students and the majority (97.0%) were single. The modal age range was 22-25 (52%).

Relevance of the Skool™ E-learning Course Content

The study showed that, out of the six-course content of the Skool™ healthcare E-learning education program, the majority (46%) of respondents deemed the course content on postpartum haemorrhage as relevant, pre-eclampsia/eclampsia (22%), prolonged and obstructed labour (11%), post-abortion care (10%), the identification and management of malaria during pregnancy (6%) and HIV stigma and description (5%).

E-learning Healthcare Education Program Achieved its Set Objectives.

Asked whether the Skool™ E-learning Healthcare Education program had achieved its set objectives, the majority (86%) of respondents said Yes while (14%) said No.

Impact of the Skool™ E-learning Healthcare Education Program on Students

Asked whether the Skool™ E-learning Healthcare Education program has any impact on them, the majority (61%) of respondents said Yes while (39%) said No.

Factors that Affect the usage of the Skool™ E-Learning Healthcare Education Program

Asked whether the Skool™ E-learning Healthcare Education program has any impact on them, the majority (61%) of respondents said Yes while (39%) said No.

Discussion

The eLearning modules were categorized into six modules which were postpartum haemorrhage, pre-eclampsia/eclampsia, prolonged and obstructed labour, post-abortion care, stigma and discrimination of HIV and identification and management of malaria during pregnancy. The study showed that students enrolled more in the Post Partum Haemorrhage (PPH) module compared to the other modules. This finding was not surprising since all respondents were midwifery students and found PPH as a leading cause of maternal death. It was expected that students would have enrolled more on the identification of HIV and management of malaria in the pregnancy module more than the other course modules since more of these cases (HIV) were reported to the facilities in the region of the study.

The Skool™ E-learning Healthcare Education program had achieved its set objectives. The Majority (86%) of respondents agreed YES to that effect. This might be due to the introduction of the online licensing examination and nursing students used the opportunity to practice with the Skool™ Healthcare Education (Skool™ HE) platform as a means of preparing for the online licensing examination. The study also showed that the course content of the Skool™ E-learning Healthcare Education program was effective, easy, engaging, with good features and understandable as compared to traditional studies methods as in the findings of (Alhassan *et al.*, 2021) Students were however not satisfied with their academic components which included assignments overload and coursework (overload of syllabus), long hours spent in class (e.g., tutors lecturing after school hours), attitudes and mode of teaching of tutors and examination.

Factors such as internet self-efficacy, tutor's attitude, student attitude, environmental and computer efficacy

affect the Skool™ E-learning Healthcare Education program were identified to have influenced the effectiveness of the program. The study showed that students who enrolled in the Skool™ Healthcare Education program had one or more of the above factors affecting the effectiveness of the program. Internet self-efficacy was reported as the most (33%) factor affecting the effectiveness of the program. This was in line with the findings of (Sun *et al.*, 2008) that internet –self-efficacy is a barrier to e-learning. The student has been found as a factor that affects the effectiveness of the program. Some students were found not to have shown interest program and therefore were not enrolled in some of the course modules which is in line with the findings of (Beamish *et al.*, 2002). Since learners' success in eLearning programs depends on their computer skills, average technological skill and lack of constant access to computers for some of the students may affect their satisfaction with the program. Therefore, to ensure easy access and application of technologies required for the Skool™ Healthcare Education program, better educational and technological infrastructures could help participants' satisfaction and appropriate involvement with the program.

Conclusion

The Skool™ Healthcare Education program was a supplementary form of learning to enhance students' skills in maternal healthcare and academic performance. The program showed a positive effect on students' learning outcomes and participation. However, if students do not enrol and practice these skills set, it could negatively affect their academic performance and increase their anxiety level towards the online licensing examination.

Recommendation

The Ministry of Health and the Health Training Institutions should educate and sensitize nursing and midwifery students on the Skool™ Healthcare Education Program and its benefits. This will help the students develop an interest in the program and enrol in more modules. Secondly, more computers with high-speed internet access should be connected to allow for the effective running of the course modules. Since N&MC introduced an online licensing examination for nurses and midwives, nursing and midwifery tutors should use the e-learning program/system to write their mid-semester examinations or quizzes so that students can get familiarised with using the e-learning system.

For students to understand the various components of quality eLearning materials and how to differentiate between those that meet or do not meet the standards taught in Ghana midwifery education, national guidelines should be developed outlining how to select eLearning materials that support the standards taught in Ghana. The

HIV and malaria modules were developed based on specific processes to ensure quality content and to streamline module production. It is, therefore, necessary to establish and disseminate guidelines for the development of eLearning materials. There would also be the need to develop a detailed protocol for eLearning module packaging, tracking and dissemination.

Lastly, further research is recommended in this area using mixed methods to assess the long-term effect of the Skool™ Healthcare E-learning Education Program in Ghana since this study only uses a descriptive qualitative approach. Further investigation into the module, quiz/Assignment/exams completion rates and impact of learning outcomes of aiding student's licensure examination pass rates should be explored.

Acknowledgement

We would like to acknowledge the management and students of Koforidua Nursing and Midwifery Training College for their support throughout this project.

Author's Contributions

Nicholas Adzaho: Coordinated the data analysis and contributed to the writing of the manuscript.

Augustine Kumah: Final review of the manuscript.

Hillary Selassi Nutakor: Designed the research plan and organized the study.

Gideon Komla Azi: Contributed to the data collection and writing of the manuscript.

Haphsheitu Yahaya: Contributed to the data analysis and writing of the manuscript.

Godwin Gideon Kwaku Dorvlo: Designed the research plan and organized the study.

Millicent Egbenyah and Gideon Dzando: Coordinated the data collection process.

Ethics

There were no human subjects involved in this study. Therefore, no ethical issues are envisaged after the publication of this paper.

References

Alhassan, R. K., Ayanore, M. A., Diekuu, J., & Prempeh, E. B. A. (2021). Leveraging e-Learning technology to enhance pre-service training for healthcare trainees in Ghana: Evidence from a pilot project and pointers to policy reforms. 3, 1-16.

Beamish, N., Armistead, C., Watkinson, M., & Armfield, G. (2002). The deployment of e-learning in UK/European corporate organisations. *European Business Journal*, 14(3), 105

Beeckman, D., Schoonhoven, L., Boucque, H., Van Maele, G., & Defloor, T. (2008). Pressure ulcers: E-learning to improve classification by nurses and nursing students. *Journal of Clinical Nursing*, 17(13), 1697-1707.

Blackmore, C. (2010). Social learning systems and communities of practice. *Social Learning Systems and Communities of Practice*, 1-225. doi.org/10.1007/978-1-84996-133-2

Bristol, T. J., (2006). Evidence-based E-Learning for Nursing Educators. Iowa City, Health Workforce Planning, Bureau of Health Care Access, Iowa Department of Public Health.

Clark, R. C., & Mayer, R. E. (2011). E-Learning and the Science of Instruction: Proven Guidelines for Consumers and Designers of Multimedia Learning (3rd ed). San Francisco, California, USA: Pfeiffer doi.org/10.1002/9781118255971

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). How to design and evaluate research in education.

George, P. P., Papachristou, N., Belisario, J. M. (2014). Online eLearning for undergraduates in health professions: A systematic review of the impact on knowledge, skills, attitudes and satisfaction. *Journal of Global Health* 4(1), 010406. doi.org/10.7189/jogh.04.010406

Grant, J. (2011). *The Good CPD Guide: A Practical Guide to Managed Continuing Professional Development in Medicine* (2nd ed). Abingdon, Oxfordshire, UK: Radcliffe Publishing Ltd.

Long, L. A. (2014). *Health Education and Training: Using a Blended Learning Approach for Low-Resource Settings*. Baltimore, Maryland, USA: Jhpiego Corporation

Makhdoom, N., Khoshhal, K. I., Algaidi, S., Heissam, K., Zolaly, M. A. (2013). 'Blended learning' as an effective teaching and learning strategy in clinical medicine: A comparative cross-sectional university-based study. *Journal of Taibah University Medical Sciences* 8(1), 12-17. doi.org/10.1016/j.jtumed.2013.01.002

Moore, J. L., Dickson-Deane, C., & Galyen, K. (2011). e-Learning, online learning and distance learning environments: Are they the same? *The Internet and higher education*, 14(2), 129-135. doi.org/10.1016/j.iheduc.2010.10.001

Rasmussen, K., Belisario, J. M., Wark, P. A. (2014). Offline eLearning for undergraduates in health professions: A systematic review of the impact on knowledge, skills, attitudes and satisfaction. *Journal of Global Health* 4(1), 010405. doi.org/10.7189/jogh.04.010405

Sun, P. C., Tsai, R. J., Finger, G., Chen, Y. Y., & Yeh, D. (2008). What drives a successful e-Learning? An empirical investigation of the critical factors influencing learner satisfaction. *Computers & Education*, 50(4), 1183-1202. doi.org/10.1016/j.compedu.2006.11.007