

Research Article

**THE INFLUENCE OF HEALTH PRACTITIONERS' EDUCATIONAL LEVEL ON
POSTPARTUM CARE****Manahil Omer Mohammed El Shaieb*¹**¹College of applied medical sciences, University of Bisha – KSA²Um Qusai Center for Women and Children /Ghibaish College of Science and Technology / Sudan

Abstract: Education plays an important role in the quality of health services and the satisfaction of the beneficiaries, practicing midwifery requires presence in all populated geographical areas, and nursing and midwives must be equipped with the necessary knowledge and skills, as well as the most basic precautions, to provide safe delivery and optimum postpartum care. The objective is to study the influence of health practitioners' educational level on postpartum care. A quasi-experimental pre-posttest was adopted using a designed teaching intervention program regarding postpartum care. Data was collected in two stages using a standard questionnaire and a checklist of observations before and after the training program. The data were analyzed by a computer software program (SPSS) version 23. The study shows that the studied participants' educational levels range from master's degree in nursing to level of illiterates. The level of education is in harmony with the performance of the health practitioner and the level of knowledge is improved significantly after a training program. Hence, we can see that highly certified health practitioners have a high level of learning and are good at changing information and skill acquisition. It was concluded that the level of education of the health practitioner affects the level of knowledge, performance, and ability to learn. Supporting the education to adopt models based on the qualification of health practitioners is recommended in postpartum care.

Keywords: Health Practitioners, Educational Level, Postpartum Care.

1. Introduction

Worldwide there has been a dramatic increase in the prevalence of nursing education, and nursing has enjoyed a large share of this qualitative transformation. Despite global advances in nursing and high levels of education and evidence-based practice, low-income countries have health practitioners with low levels of education.

There are still many educational levels in health authorities in Sudan, ranging from traditional midwives to various nursing degrees, especially midwifery nursing.

Educating the health practitioner at all levels of midwifery, to provide a full range of necessary interventions integrated into fully a well-functioning health system and a dedicated team with referral services when needed for emergencies and more quality midwifery care reduces and enhances the health of women the woman and the child [1]

A well-educated qualified nurse and midwife are important to reduce mortality and disease as caring for mothers during pregnancy and childbearing is within the scope of the work of nurses at various

levels in many ways, nursing education science is still in its infancy. The requirement to precisely define and efficiently quantify clinical competency and the need for dependable and valid instrumentation, where future research is most needed. As mentioned by Lewallen, L. P., & Van Horn, E. R. (2019). [2]

With the development of science, the need for development in all fields increased, and nursing has grown significantly, but some remote areas are still practiced in traditional midwifery, which requires revealing the differences after the entry of modern nursing

We need more studies to know the effect of education level in midwifery nursing practice, as traditional midwifery is still practiced in remote areas

A study by Edwards, G., Hellen, K., & Brownie developed competency-based Bachelors of Science in Midwifery program in the preparation of skilled midwives in three East African countries, specifically, Uganda, Kenya, and Tanzania [3]

Time constraints, access to information and resources, nurses' research knowledge, skills, development opportunities, and current nursing culture are all challenges that limit evidence-based nursing. Clinical nursing professionals can employ change techniques to improve the use of evidence-based nursing in clinical practice domains, which are also detailed. In a study in 2020 by Rahmayanti, E. I., Kadar, K. S., & Saleh, A. (2020) [4] worldwide there has been a dramatic increase in the prevalence of nursing education, and nursing has enjoyed a large share of this qualitative transformation in Sudan,

1.1. Justification

The knowledge and skills of all midwifery nursing personnel at all educational levels, as well as their impact on midwifery nursing practice, should be explored as an advanced practice was consistent with clinical practice skills and practitioners' theoretical knowledge delivers high-quality responsive services. Ryley, N., & Middleton, C. (2016) Stated that the advanced practice framework will ensure consistency in clinical practice skills and theoretical knowledge of practitioners holding the protected title. It will support and deliver high-quality responsive services. [5]

Future research is particularly required on the links between health practitioners' educational level and patient outcomes. as mentioned in a systematic review, future research is especially needed to evaluate connections between knowledge management and patient outcomes.as mentioned by Lunden, A., Teräs, M., Kvist, T., & Häggman-Laitila, A. (2017). [6] Research provided new evidence to support the need to raise understanding of the role of advanced nurse practitioners among nurse members, advanced nurses, and clinical nurse specialists who wish to enhance quality healthcare delivery and job satisfaction this is stated by Fealy, G. M., Casey, M., O'Leary, D. F., McNamara, M. S., O'Brien, D., O'Connor, L., ... & Stokes, D. (2018). [7]

1.2. Research Hypothesis:

H1- There will be a significant association between the pre-test knowledge and practice regarding postpartum care among health practitioners with their educational level.

H2- - There will be a significant difference in the knowledge and practice regarding postpartum care among health practitioners before and after intervention programs in the experimental group.

1.3. Objectives:

1.3.1. General Objective

The study aims: to examine the influence of health practitioners' educational levels on postpartum care, in Sudan.

1.3.2. Specific Objectives

1.3.2.1. To determine the level of knowledge regarding postpartum care according to the educational level of the health practitioners.

1.3.2.2. To determine the level of various activities of postpartum care according to the educational level of the health practitioners.

To determine the extent of changes in knowledge and practice of health practitioners after the implementation of the designed teaching training program.

2. Methods

2.1. Ethical Consideration

Permission was taken from the administration of the ministry of health services and the school of midwifery in Atbara city. The researcher introduced herself to the participants who met the inclusion criteria. The researcher obtained informed consent from each participant.

2.2. Study Design

A quasi-experimental pre-posttest adopted a study of the effects of health practitioners' educational level on postpartum care. Using a designed teaching Intervention program regarding postpartum care among health practitioners

The study sought to assess health practitioners' exact knowledge and practice and evaluate their skills before and after intervention programs in the experimental group.

2.3. Study Area

The study was conducted at River Nile State. Which is situated north of Khartoum state. The area of the locality is about 122.123 kilometer², located between 16- 22 north longitudes and 30- 32 east latitudes. The population was about 1,511,442.

It consists of 7 localities:

- Damir locality (area 32 thousand square kilometers, population 284 thousand people)
- Atbara locality (3.8 thousand square kilometers, 131 thousand people)
- Shendi locality (268 thousand people)
- Berber locality (160 thousand people)
- Al-Mutama locality (12 thousand square kilometers, 151 thousand inhabitants)
- Abu Hamad locality (38 thousand square kilometers, 80 thousand people)
- The locality of the lake

. [6]

2.4. Study Setting

The study was conducted at Al Damir hospital it's a capacity of 126 beds, Atbara teaching hospital it's capacity of 362 beds, Alzeidab rural hospital it's a capacity of 75 beds, and Al Salam, it's capacity of 70 beds University hospital, and Atbara midwifery school center.

2.5. Study population

The study population consists of all health practitioners working at hospitals in midwifery sections or home visitors in urban and rural, areas in River Nile state, Sudan including nurses, nurse-midwives, certified midwives, and traditional midwives who were subjects that possess some of the common characteristics and directly involved in the provision of maternal services and postnatal care.

Total numbers at River Nile State of nurse-midwives 43, certified midwives 605, and traditional midwives 123 (8)

The number of participants was (n=53)

2.6. Study Sample

Convenience sample, the total number of participants was (n=53). Health practitioners as nurses, nurse-midwives, certified midwives, and traditional midwives working at, midwifery centers and home visitors in urban and rural, areas in River Nile state, Sudan. Who fulfills inclusion criteria.

2.7. Data Collection Tools

Data were collected by using two tools; a semi-structured interview questionnaire and a checklist.

2.8. Procedure

Before conducting the study, the program was prepared and written permission from administrative authorities was obtained, the study was designed in three phases as follows:

2.8.1. Phase I: Pre-test Assessment phase

Explanation of the purpose of the study and obtained written consent from each participant. All participants were interviewed to collect data related to socio-demographic characteristics and information covered by the program and nursing care practice evaluated by using the checklist.

2.8.2. Phase II: Implementation

The participants were randomly assigned to groups. The duration of each group was 6 teaching hours. The program was implemented through 3 theory training hours and 3 hours of a practical training session for each group's intervention program booklet was given to the participants and explained through PowerPoint lectures and booklet, the researcher used the Arabic language. The intervention program contains the following items:

Explanation of the factors that lead to postpartum problems, Nursing assessments of the symptoms, signs, and complications, early detection of problems and needs., explanation of methods of prevention and treatment, and demonstration of the correct nursing practices and extreme care in the postpartum period, Infection control methods., health counseling and education issues.

2.8.3. Phase III: Post-test Assessment phase

Post-test was done using the same pre-test tool to assess the knowledge and skills of each group.

2.9. Data Management (statistical design)

Data from the pre-test, post-test and checklist were entered, scanning, coding and analyzed according to the type of each data by using Statistical Package for the Social Science program version 23.

3. Results

Based on the objectives of the study, the collected data was analyzed. Analysis results are presented in the following tables:

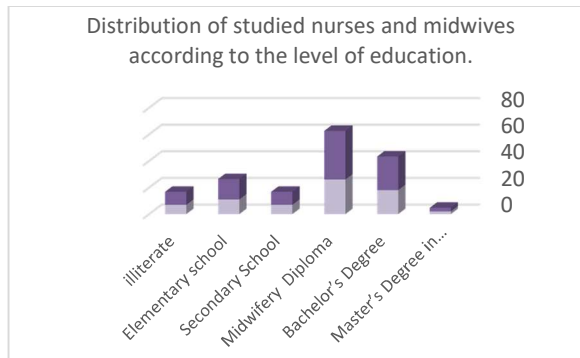


Figure 1. Distribution of studied sample according to the level of education

The studied sample ranges from 21 to 63 years of age, and their experience ranges from 2 years to 41 years.

Results show that studied participants' educational levels range from 2.7% master's degree in nursing, 24.6% B.Sc. in nursing, majority 38.3% secondary school followed by 2years midwifery diploma holders, 9.5% secondary school level, 15% elementary level and 9.5% of them were illiterates.

Table 1. Distribution of pre-test of the studied sample's knowledge regarding nursing assessment and management.

	Nursing assessment and management		
	bad Practice	Good Practice	Very Good Practice
midwifery diploma	5.9 %	47.1%	47.1 %
B.Sc. in nursing	0.0 %	55.6%	44.4 %
secondary school	37.5 %	25.0%	37.5 %
master's degree	0.0 %	0.0%	100.0 %

Researchers found that the (22.2%) & (38.5%) of midwives and traditional midwives respectively had a poor score of knowledge about common dangerous clinical signs of postpartum problems within the postpartum assessment. However, the majority of participants had a very good score knowledge in the post-test after receiving the program. The difference in educational level ranged as follows 0.0% for master's degrees, 0.0% for B.Sc. in nursing, 5.9% for midwifery certificate holders, 37.5% for secondary school level, and 40.0% for traditional midwives had poor knowledge before the intervention, while after the intervention, 100.0%, 44.4%, 47.1%, 37.5% and only 20 % of traditional midwives had very good knowledge respectively. P-value 0.046 less than 0.05 so it has considered significant

More than sixty percent of nurses' midwives and 100% of traditional midwives had poor knowledge scores in the pretest related to knowledge about definitions of puerperal sepsis; wherein the majority of 72% of the midwives' nurses and 77% of the traditional midwives improved their scores in the post-test program with statistically significant differences $p > 0.03$

As a result, 46.2% of nurse-midwives had poor knowledge of antibiotics prescribed by doctors before the intervention, while 66.7% reported very good knowledge after the intervention, and only 9.1% of traditional midwives performed well in the post-test.

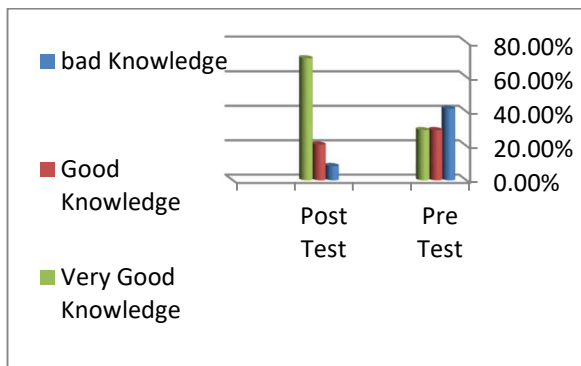


Figure 2. Pre-posttest of the studied sample's knowledge regarding hygiene, perineal and vulvar care.

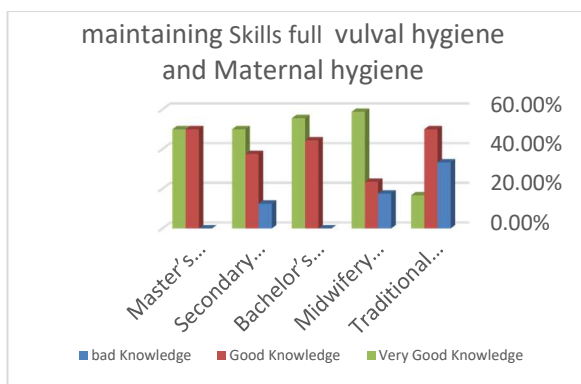


Figure 3. pre-posttest of studied sample according to the level of education. Regarding the mothers' hygiene

Regarding the mothers' hygiene, particularly perineal and vulvar care, 0.0% of master's degrees, 38.9% of B.Sc. in nursing, 35.3% of midwifery certificate holders, 28.6% of secondary school level, 33.3% of traditional midwives scored poorly before the intervention significantly changes in knowledge and practice of health practitioners after the implementation of the teaching training program. 100.0%, 38.9%, 41.2%, 14.3% 45.5% respectively. Hence majority (41.7%) of nurse nurse-midwives have poor scores knowledge before intervention. while their knowledge significantly improved after intervention with statistically significant differences $p > 0.007$

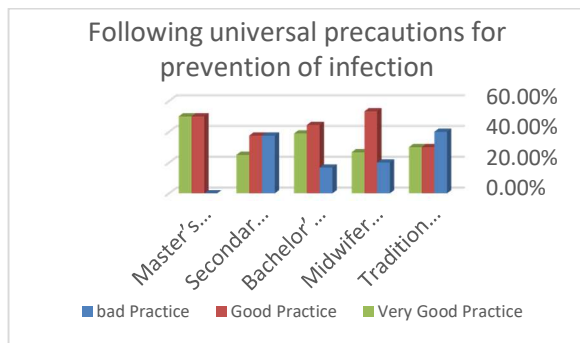


Figure 4. pre-posttest of studied sample according to the level of education. Regarding following infection control measures

Based on the current study, nurses' knowledge of general advice they provide to mothers improved significantly after intervention, 26.1% of nurse's midwives and 40.1% of traditional midwives had poor knowledge regarding infection control measures, while the majority (62.5%) of nurses and only 25.1% of traditional midwives had very good knowledge after the intervention. Postnatal care is required where, 0.0% of master's degrees, 16.7% of B.Sc. in nursing, 20.0% of midwifery certificate holders, 37.5% of secondary school level, and 40.1% of traditional midwives had poor knowledge before the intervention, while after the intervention, 50.0%, 38.9%, 26.7%, 25.0% and only 25 % of traditional midwives had very good knowledge respectively. >0.019 with statistically significant differences.

A comparison of results regarding nurses' knowledge of Providing counseling regarding nutrition 0.0% of master's degrees, 16.7% of B.Sc. in nursing, 23.5% of midwifery certificate holders, 37.5% of secondary school level, and 40.1% of traditional midwives had poor knowledge before the intervention, while after the intervention 100.0%, 83.3%, 76.5%, 62.5% and only 25 % of traditional midwives had very good knowledge respectively. P-value .574 more than 0.05 so it's considered insignificant

There was a highly significant difference in knowledge in post-intervention compared with pre-intervention with a statistically significant difference in general, knowledge of nurses midwives (26.9%) and traditional midwives (42.9%) were poor in their knowledge about advice to give mothers regarding baby care. After the intervention, however, about 54.2% of nurses and 72.7% of traditional midwives scored good knowledge and about 33.3% scored very good knowledge.

4. Discussion:

Nursing practice in clinical practice settings should be based on an evidence-based approach to nursing care to enhance patient outcomes now and in the future.

In the study, midwifery is still practiced at all levels of education .that clarifies the need to review the qualification of midwives and raise education standards these findings are consistent with the American Chemical Society, which suggested midwifery proposes a global education program for midwives. /Bharj, K. K., Luyben, A., Avery, M. D., Johnson, P. G., Barger, M. K., & Bick, D. (2016) [9]

The health practitioner has a major role in evaluating women after childbirth to discover problems and needs as soon as possible, which reduces the illness and death of the mothers. The study indicates the proportionality of the activity of the health practitioner in assessing mothers with the level of education.

This same as a study was done In El-Mabara Hospitals Egypt It was discovered that there was a significant improvement in knowledge and performance among the studied nurses regarding immediate postpartum care after the implementation of the teaching program immediately and 3 months later. [10]

A significant improvement in participants' knowledge of risk factors identified by physical examination is documented in the present study following the implementation of the interventions, as stated by Ouasmani, F., Engeltjes, B., Haddou Rahou, B., Belayachi, O., & Verhoeven, C. (2018) in a study that the majority had low knowledge of pregnancy danger signs. Additional studies are warranted to address the knowledge gap and to plan interventions for improving health education under limited-resource settings. [11]

Knowledge about dangerous clinical signs is crucial since if the caregiver does not notice them, then a good case will go unrecognized and will not receive adequate management, increasing maternal morbidity and mortality. If the majority of the study sample lacked knowledge about common dangerous clinical signs. This may cause more suffering or death for mothers. Probandari, A., Arcita, A., Kothijah, K., & Pamungkasari, E. P. (2017) that postnatal care is required, mention this. In particular, improving the capacity of midwives to conduct patient-centered care. In addition, village midwives' tasks should be evaluated and reoriented. [12]

Comparing interventional program's effects on nurses' knowledge of puerperal sepsis, because increased awareness among primary healthcare providers is also critical to improving sepsis outcomes .

There is no doubt that postpartum infection is one of the problems that can be avoided with knowledge, correct behavior, and, guidance from the health practitioner. The importance of this point is mentioned in a study done by the Medical Intensive Care Unit, Hamad General Hospital, Hamad Medical Corporation, Doha, Qatar([13]. According to which an early diagnosis and treatment are positively reflected in low sepsis mortality rates by 2020.

According to a WHO guideline, poor antibiotic prescribing practices are a major cause of infection control problems, in essential intrapartum care. The Royal Cornwall Hospitals NHS distributed an online survey regarding antimicrobial stewardship. Education and support could help overcome some of these barriers. Postnatal care utilization is limited. An innovative approach to increasing health literacy in postnatal care is required. The ability of midwives to provide patient-centered care should be improved. In addition, the role of village midwives needs to be evaluated and redirected. [14]

In particular, improving the capacity of midwives to conduct patient-centered care. In addition, village midwives' tasks should be evaluated regarding knowledge of general advice they provide to mothers. [15] The personal hygiene of mothers, especially the care of the perineum and vulva, is very important in the period of childbirth and postpartum, and the health practitioner has a great role in caring for and supervising hygiene to prevent possible problems. Numerous studies mentioned poor knowledge and practice. A systemic review concluded that vulva-perineal endometriosis should be created to educate healthcare professionals and optimize patients' care [16].

The lack of guidance and limited information that currently exists among nurses who provide maternal health services may indicate that baby care is given low priority. Therefore, it is important to ensure that midwives are equipped with the knowledge to provide advice, guidance, and counseling to the woman. That is prescribed in the study of Leta, M. (2022) [17] who stated stakeholders of the health sector have a close follow-up on maternal and newborn care services and maintain a strategy that will incorporate maternal education services on essential newborn care practice.

Midwives had inadequate maternal nutrition knowledge despite their many years of experience. [18] hence knowledge regarding advice should be provided to the mother regarding nutrition during the postpartum period (34.6%) of nurses midwives had poor scores of knowledge before the intervention, while (80.0%) of them and 50% of traditional midwives scored very good knowledge after intervention

Looking at the above results, we can see that highly certified health practitioners have a high level of learning and are good at changing information this is reported in the experiences of international midwifery students by international care studies. [19]

4.1. Conclusion:

Based on the findings of the present study concluded that:

1- The level of education of the health practitioner affects the level of knowledge, practice performance, and the ability to learn.

2- Health practitioners had high knowledge scores in the post-test compared with the pre-test and they demonstrated good practice that indicated that the training program was effective.

4.2. Recommendations:

Based on the study findings the following recommendations are suggested:

- 1- Supporting the education to adopt models based on the qualification of health practitioners.
- 2- Practices of health professions need to be reformed, especially midwifery nursing.
- 3- Nurses and midwives are required to participate in ongoing training and refresher courses to upgrade their knowledge and skills.

References

- [1]. World Health Organization. "Strengthening quality midwifery education for *universal health coverage 2030*". (2019).
- [2]. Lewallen, L. P., & Van Horn, E. R. "The state of the science on clinical evaluation in nursing education", *Nursing Education Perspectives* 40(1), 4-10. (2019).

- [3]. Edwards, G., Hellen, K., & Brownie, S., “ Developing a work/study program for midwifery education in *East Africa, Midwifery*”59, 74-77. (2018).
- [4] Rahmayanti, E. I., Kadar, K. S., & Saleh, A. “ Readiness, Barriers and Potential Strengths of Nursing in Implementing Evidence-Based Practice”. *International Journal of Caring Sciences*, 13(2), 1203-1211. (2020).
- [5]. Ryley, N., & Middleton, C. “Framework for advanced nursing, midwifery and allied health professional practice in Wales: the implementation process”. *Journal of Nursing Management*, 24(1), E70-E76. (2016).
- [6]. Lunden, A., Teräs, M., Kvist, T., & Häggman-Laitila, A. “A systematic review of factors influencing knowledge management and the nurse leaders’ role”. *Journal of nursing management*, 25(6), 407-420. (2017).
- [7]. 1. Fealy, G. M., Casey, M., O’Leary, D. F., McNamara, M. S., O’Brien, D., O’Connor, L., & Stokes, D. “Developing and sustaining specialist and advanced practice roles in nursing and midwifery: A discourse on enablers and barriers”. *Journal of Clinical Nursing*, 27(19-20), 3797-3809. <https://doi.org/10.1111/jocn.14550>. (2018).
- [8]. “ *Annual health statistical report 2018 .federal Ministry of health* ” –Sudan, 2018
- [9]. Burj, K. K., Luyben, A., Avery, M. D., Johnson, P. G., Barger, M. K., & Bick, D. “An agenda for midwifery education”: *advancing the state of the world 's midwifery. Midwifery*, 33, 3-6. (2016).
- [10]. El-Khawaga, D. S. A. E. Y., Ahmed, M. H., & Elwelely, M. Z. “Effect of Implementation of a Teaching Program about Immediate Postpartum Care on Nurses’ Knowledge and Practice”. *Tanta Scientific Nursing Journal*, 16(1), 95-112. (2019).
- [11]. Ouasmani, F., Engeltjes, B., Haddou Rahou, B., Belayachi, O., & Verhoeven, C. “Knowledge of hypertensive disorders in pregnancy of Moroccan women in Morocco and the Netherlands”: a qualitative interview study. *BMC pregnancy and childbirth*, 18(1), 1-11(2018).
- [12]. World Health Organization. “ Optimizing the contributions of the nursing and midwifery workforce to achieve universal health coverage and the Sustainable Development Goals through education, research, and practice”. (2017).
- [13]. LABIB, Ahmed. “ Sepsis Care Pathway 2019. *Qatar medical journal*, 2019”, 2019.2-*Qatar Critical Care Conference Proceedings: 2019*.
- [14]. Maillard, C., Alami, Z. C., Squifflet, J. L., Luyckx, M., Jadoul, P., Thomas, V., & Wyns, C. “Diagnosis and treatment of vulvovaginal endometriosis”: a *systematic review. Frontiers in Surgery*, 8. (2021).
- [15]. Probandari, A., Arcita, A., Kothijah, K., & Pamungkasari, E. P. (2017). “Barriers to utilization of postnatal care at village level in Klaten district, central Java Province, Indonesia”. *BMC health services research*, 17(1), 1-9.
- [16]. Kiat-Floro, J., Ashour, R. A., Janahi, M., & Labib, A. “Effective continuing interprofessional healthcare education to improve sepsis care in a tertiary children's women’s hospital in the State of Qatar “Culture of think sepsis”. *Journal of Emergency Medicine, Trauma and Acute Care*, 2021(2-*Qatar Health 2021 Conference abstracts*), 40. (2021).

- [17]. Leta, M. (2022). “ Level of knowledge toward essential newborn care practices among postnatal mothers in governmental hospitals of Harar Town, Eastern Ethiopia”.*SAGE Open Medicine, 10*, 20503121221076364.
- [18]. Masesane, A. “Nutrition Knowledge And Practices Of Midwives Providing Maternal Health Services In Kanye, Kgatleng And South East Health Districts, Botswana” (*Doctoral Dissertation*). 2023-01-01(2022).
- [19]. Eden, A., Fleet, J. A., & Cominos, N. “The learning experiences of international students in nursing and midwifery programs”: *A literature review. Nurse Education in Practice, 52*, 103027(2021).