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Original Research Article

Assessment of knowledge, attitude and practice towards management of postpartum hemorrhage among third year nursing students at University of Namibia, main campus

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ABSTRACT

Background: Postpartum hemorrhage (PPH) is commonly defined as blood loss of 500ml or more within 24 hours after birth. PPH is the leading cause of maternal mortality in the low-income countries and the primary cause of nearly one quarter of all maternal death globally. Namibia recorded the highest direct cause of maternal deaths for the period of April 2010 to March 2012 which was linked to bleeding after delivery. The purpose of the study was to assess the knowledge, attitude and practice towards management of PPH among third year nursing students at University of Namibia and to assess the maternal nursing care students rendered to woman with PPH.
Methods: The researcher used descriptive research design and quantitative approach to collect the data. The researcher obtained primary data directly from 49 third-year nursing students of the University of Namibia (UNAM). Students filled in the Google form/online survey provided to them and all the responses were recorded on the researcher's Google account.
Results: From the study, 83.7% of the participants were females, while 14.3% were males and 2% prefer not to respond. The results indicate that majority of the participants are competent and have sufficient knowledge and positive attitude toward management of PPH.
Conclusions: It is critical that student nurses at UNAM, Main campus are trained well with the necessary PPH knowledge to save maternal lives.

Keywords: Attitudes, Knowledge, Management, Postpartum hemorrhage, Practice, Student nurses

INTRODUCTION

The study was carried out to assess the knowledge, attitude and practice towards the management of PPH among the third year nursing student at the University of Namibia. According to WHO, PPH is the leading cause of maternal mortality in the low-income countries and the primary cause of nearly one quarter of all maternal death globally. Postpartum hemorrhage can be massive, means blood loss greater than 1000 ml.[1]

Maternal deaths due to PPH have increased in many countries due to the factors such as maternal age, caesarean section and multiple pregnancies. There are two types of PPH namely: primary PPH that means a bleeding that occur within 24 hours after birth while secondary PPH means a bleeding that occur from 24 hours up to 12 weeks after birth.[2,3] Many organizations such as WHO, International confederation of midwives and American college of obstetrician helped in managing PPH by releasing guidelines to help people. Postpartum hemorrhage in Africa have been linked to poor quality of

care and weak health systems such as failure to treat anemia during antenatal care (ANC), delays in care due to poor hospital transfer and inadequate training of staffs in obstetrics emergencies.[2] The researcher noted that there are limited resources or information on experience and knowledge of student nurses regarding management of PPH. Studying this topic will help to shed light on knowledge, attitude and experience of student nurses in adopting and implementing the practice. The researcher therefore aimed to assess the knowledge, attitude and practice of third year nursing students from UNAM towards the management of PPH.

METHODS

Study design

The researcher used descriptive research design and quantitative approaches to collect the data. Descriptive studies are a mean of discovering new meaning, describing what exists and to determine the frequency within which something occurs. The researcher used quantitative method to describe and test the level of knowledge, attitude and practice towards management of PPH among third year nursing students at UNAM main campus. Quantitative research refers to any research methods that produce numerical data which can be changed into statistics. The quantitative data, which is collected rigorously, using the appropriate method and analyzed critically, is reliable.[4,5]

Study place

The third-year nursing students from UNAM Main Campus were sent an online survey (Google form) via WhatsApp and students answered the questions randomly on their own time and pace.

Study period

The study was conducted over a period of four months i.e. 1 June 2021 to 30 September 2021.

Study population

There are a total number of 95 third year nursing students. Out of the total number of third year nursing students, 80 % sample studied were expected from these 95 students to take part in the study.

Inclusion and exclusion criteria

Inclusion criteria for current study were; nursing students, registered for bachelor of nursing degree clinical honours, in the 3rd academic year, residing at main (Windhoek) campus, University of Namibia. Exclusion criteria for current study were; none-nursing students, registered for diploma in nursing, other degree nursing students such as 1st , 2nd and 4th year were also excluded and residing at other campuses, such as Rundu, Oshakati and Keetmanshoop.

Target population

The target population of this study was the third-year nursing students at UNAM main campus.

Sample size

Eighty-two third year nursing students were required to partake in this study. Considering study done by Bullen, says that the minimum sample size should be 100, in this case the researcher included all third-year nursing students.[5]

Sampling criteria

All third-year nursing students at University of Namibia, main campus was expected to partake in the study. Random sampling was used during this research. Brink, Van De Walt & Van Rensburg stated that in the random sampling, the sample is more likely to be representatives of the population and to reflect its variation. All elements in the population had an equal chance of being included in the sample.[6]

Data collection

In this study, the researcher used online surveys because they cost low and overall convenience of online surveys brings in high response. The online survey consists of demographic questions, open ended questions and closed ended questions on knowledge, attitude and practice toward management of PPH. The researcher obtained primary data directly from 49 third-year nursing students who participated in the study. Students filled in the Google form/online survey provided to them via WhatsApp and all the responses were recorded on the researcher's Google account.

Data analysis

The research data was analyzed using a Google tool named Google forms. Google form is designed for creating online survey forms and enables the responses to be chronicled automatically on a Google spreadsheet. Quantitative data analysis is used to interpret the quantitative results and responses from the respondents.

RESULTS

Demographic information

Participants were asked to indicate the age category appropriate to them (Table 1). All the participants responded to the question (49 responses or 100%). The study reveals that majority 71.4% of the respondents were in the 21-24 years age category, 8,2% were in the category of 16-20, 4.1% in the 25-29 years aged category

while 16.3% were 30 years and above. All 49 participants (100%) responded.

Table 1 :Age of respondents.

Age groups (years)	Total	%
16-20	4	8.2
21-24	35	71.4
25-29	2	4.1
30	8	16.3

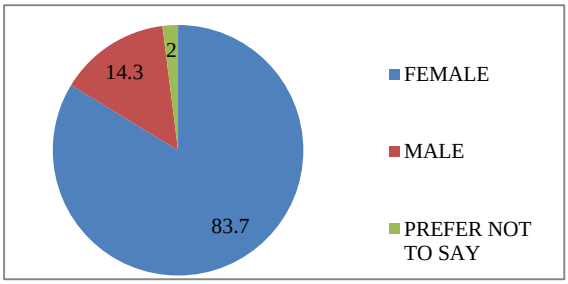

Figure 1: Respondents gender.

Out of the 49 respondents 14.3% were male and 83.7% were female while 2% prefer not to say their gender. Historically nursing has been a female dominated profession although more males are joining this profession in current trends. The highest levels of qualification of the respondents were assessed (Figure 2).

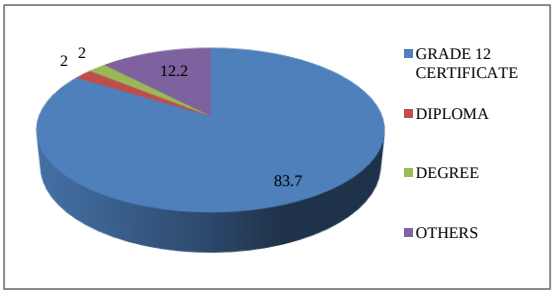

Figure 2: Responses on qualification level.

Majority 83% obtained grade 12 certificates, 2% obtained a diploma and 2% of the participants have degrees, while 12% responses possess other forms of qualification. The response of the total number and percentage of participants to each question and whether correct or incorrectly answered is shown in (Table 2). Majority of the respondents indicated that they have received lectures on PPH.

Responses of participants on attitude of third year nursing students toward PPH is shown in (Table 3). Majority of the participants have good attitude toward the PPH. At least 40.8% of participants strongly agree that they are willing to work in maternity wards. Responses of participants on practice of third year nursing students toward PPH is shown in (Table 4). The results indicate that 89.8% participants believe that postpartum hemorrhage is fatal, while 10.2% responded did not believe. Majority of participants believed that all pregnant women are at risk of developing PPH.

DISCUSSION

Demographical data

The total of 49 third year nursing students took part in the study which gives a response rate of 100%. The participants were found between the age of 16-20 (8.2%), 21-24 (71.4%), 25-29 (4.1%), 30+(16.3%). From the study, 83.7% of the participants were females, while 14.3% were males and 2% prefare not to say. Historically nursing has been a female dominated profession although more males are joining this profession in current trends. Among the participants 83.7% respondents had a grade 12 certificate as a highest level of qualification, 2% respondents had a diploma, 2% respondents had a degree, and 12.2% participants had some other qualifications.

Knowledge toward management of PPH

Most participants 91.8% agreed that lecture on PPH were given to students in past year or years, while 4.1% respondents disagreed and 4.1% respondents gave natural responses. That means that majority of the participant have thought about PPH and they were expected to have knowledge on the management of PPH. A total number of 81.6% respondents agreed that PPH is an excessive vaginal bleeding of 500ml post delivery until 42 days after giving birth, while 6.1% participants disagreed, and 12.2% respondents gave natural responses. Blood loss from genital tract of 500ml or more in the 24 hour after delivery is defined as PPH. The results further indicated that most of the participants therefore acquired knowledge rgarding PPH management.[7] From the respondents, 36.7% respondents agreed that PPH can be also defined as bleeding from the genital tract after 24 weeks of gestation, while 49% respondents disagree and 14.3% gave natural response. The results indicated that there is a large number of participants with poor knowledge on what postparturm haemorrhage is. Sellers defined PPH as excessive vaginal bleeding of 500 ml or more post delivery until 42 weeks after delivery. Bleeding from the genital tract after 24 weeks of gestation is called antepartum haemorrhage.[3]

A total number of 63.3% respondents agreed that secondary PPH is excessive vaginal bleeding occurring within 24 hours after childbirth, 26.5% respondents disagree and 10.2% respondents gave natural response. The results revealed that majority of participants did not differentiate between the two types of PPH, which are primary and secondary PPH. According to Sellers primary PPH is defined as a vaginal bleeding that occur within 24 hours after birth while secondary PPH occur from 24 hours up to 12 weeks after birth.[3] All respondents 100% agreed that all women are at risk for PPH should routinely have an IV line during labor, no respondent disagreed. The use of isotonic crystalloids is

recommended in preference to the use of colloids for the initial intravenous fluid resuscitation of women with PPH.

Table 2: Responses on knowledge of third year nursing students toward PPH.

Variables	Agree	Natural	Disagree
Lecture on PPH were given to students in past year or years	91.8	4.1	4.1
Postpartum hemorrhage is the excessive vaginal bleeding of 500ml post-delivery until 42 days after giving birth	81.6	12.2	6.1
PPH can be also defined as bleeding from the genital tract after 24 weeks of gestation	36.7	14.3	49
Secondary PPH is excessive vaginal bleeding occurring within 24 hours after childbirth	63.3	10.2	26.5
All women at risk for PPH should routinely have an IV line during labour	100	0	0
Give 20 IU oxytocin IM to the women with PPH	79.6	6.1	14.3
An IV infusion with 20 IU oxytocin in 1000 ml Ringer's lactate is given to PPH woman	89.6	8.3	2.1
The most effective strategy to prevent PPH is active management of the third stage of labour	95.9	4.1	0
Methylergometrine or oral misoprostol 600Ug is recommended in the absence of oxytocin to manage PPH	53.1	44.9	2
IV fluid, blood, blood product and oxygen is given to prevent shock		12.2	6.1

This result revealed that those students understand the importance of giving IV fluids. It's important to place at least one intravenous line in a woman at risk of PPH, and consider a second line in patients at very high risk.[1] From the participants, 79.6% respondents agreed that 20 IU oxytocin is given IM to the women with PPH while 14.3% respondents disagreed and 6.1% respondents gave natural response. According to WHO oxytocin (10 IU, IV/IM) is the recommended uterotonic drug for the prevention of PPH.[1]

Forty-seven participants 95.9% agreed that an IV infusion with 20 IU oxytocin in 1000 ml Ringer's lactate is given to PPH woman, while 4.1% respondents give natural response. The results indicated that participants have knowledge that PPH can be managed using uterotonic such as oxytocin. All women giving birth should be given oxytocin during the third stage of labor in order to prevent PPH.[1] From the participants, 95.9% respondents agreed that the most effective strategy to prevent PPH is active management of the third stage of labor, while 4.1% response gave natural response. The results indicated that majority of the participants have good knowlegde on the management of PPH. The active management of third stage of labour (AMTSL) is a preventative measure for PPH and consists of administration of exogenous oxytocin (pitocin) , control cord traction, and early cord cramping.[8]

From the participants 53.1% participants agreed that Methylergometrine or oral misoprostol 600 Ug is recommended in the absence of oxytocin to manage PPH, while 2% participants disagreed and 44.9% participants give natural response. The results show that majority of participants have good knowledge of PPH,they agreed that Methylergometrine or oral misoprostol 600Ug is recommended in the absence of oxytocin to manage PPH. In settings where oxytocin is unavailable, the use of other injectable uterotonics (if appropriate ergometrine/ methylergometrine or the fixed drug combination of oxytocin and ergometrine) or oral misoprostol (600 µg) is recommended.[1] From the forty-nine participants, 82.7% participants agreed that IV fluid, blood, blood product and oxygen are given to prevent shock while 6.1% participants disagreed and 12.2% participants gave natural response. The results from the study indicated that majority of participants have knowledge on importance of giving IV fluid, blood, blood product and oxygen to treat PPH. Replacing lost blood and fluid is important in treating postpartum haemorrhage. The results obtained in this domain show that majority of the participants have good knowledge on management of PPH. It is important to have well trained student nurses in the clinical environment to ensure proper management for possible PPH. This will allow the student nurses who will be future midwives to introduce the appropriate PPH response to reduce PPH-related maternal death.

Attitude toward management of PPH

From the participants, 40.8% strongly agreed that they would be willing to work in the marternity ward, 28.6% respondents agreed, 10.2% participants disagreed, 10.2% participants strongly disagreed, while 10.2% gave natural response.

Table 3: Responses of participants on attitude of third year nursing students towards PPH.

Variables	Strongly-agree	Agree	Natural	disagree	Strongly disagree
Would you be willing to work in maternity ward	40.8	28.6	10.2	10.2	10.2
The diagnosis of PPH is made if 500ml of blood is lost from genital tract post-delivery	40.8	49	8.2	0	2
The importance of the volume of blood loss depends on the woman's Hb level	24.5	44.9	20.4	10.2	0
Active management of labour reduce the risk of PPH	49	46.9	4.1	0	0
5IU of oxytocin is preferred in management of labour	8.2	10.2	16.3	49	16.3
Oxytocin is given immediately after delivery of the infant to prevent excessive bleeding	55.1	32.7	2	4.1	6.1
Oxytocin is given after delivery of placenta	6.1	0	8.2	26.5	59.2
Postpartum blood loss is routinely estimated	16.3	59.2	18.4	4.1	2
Blood loss is routinely measured using blood indices	12.2	30.6	44.9	10.2	2
Replacing lost blood and fluid is important in treating PPH	57.1	32.7	6.1	0	2

Table 4: Responses of participants on practice of third year of nursing students toward PPH.

Variables	True	False
Postpartum hemorrhage is fatal	89.8	10.2
All pregnant women are at risk of developing PPH	85.7	14.3
Postpartum hemorrhage is caused by cervical tear	71.4	28.6
Massaging the uterus after delivery can prevent Postpartum hemorrhage	95.9	4.1
Prolonged labour cause postpartum hemorrhage	69.4	30.6
Always inform the mother that she is having excessive bleeding	98	2
Always record the amount of estimated blood loss after delivery	100	0
Always empty the bladder during postpartum hemorrhage	95.9	4.1
After postpartum hemorrhage is managed the woman should not breastfeed the baby immediately, to promote uterine contraction	12.2	87.8
Primary and secondary postpartum hemorrhage is treated the same way	57.1	42.9

This results shows that majority of the participants have positive attitude, they are willing to work in the maternity wards, while less students are not willing to work in maternity unit and some are uncertain. Participants 40.8% strongly agreed that the diagnosis of PPH is made if 500ml of blood is lost from genital tract postdelivery, 49% respondents agreed, 2% strong disagreed, while 8.2% gave natural response. This indicated that a lot of participants have postive attitude toward the management of PPH. Some students are uncertain about the statement because they are not confident enough with their answers. Sellers , define PPH as blood loss from genital tract of 500ml or more in the 24 hour after delivery.[7]

The findings revealed that 24.5% participants strongly agreed that the important of volume of blood loss depends on the woman's Hb level, 44.9% agreed, 10.2% disagreed, while 20.4% gave natural response. This results shows that most of the participants have a postive attitude toward management of PPH, but have less confident in their answer. The normal Hb level of a pregnancy women is 11 gd/L or more. With the low Hb, the loss of blood may be fatal irrespective of the amount of blood lost.Therefore, its important to measure Hb level of a woman post delivery.[3] From the participants, 49% respondents strongly agreed that active management of labour reduce the risk of PPH, 46.9% agreed, while 4.1% gave natural responses. No participants disagreed nor strongly disagreed. Active management of the third stage of labor (AMTSL) is the most effective strategy to prevent PPH This result indicate that majority of students have good attitudes toward management of PPH, and less participants are uncertain. Fewer participants, 8.2% participants strongly agreed that 5 IU of oxytocin is prefered in management of labour, 10.2 % participants agreed, while 49% participants disagreed, 16.3% participants strongly disagreed and 16.3% gave natural response. This findings shows that majority of students have positive attitude toward the management of labour by disagreeing on the use of 5 IU of oxytocin. According to WHO Oxytocin (10 IU, IV/IM) is the recommended uterotonic drug for the prevention of PPH.[1]

Most of the participants 55.1%, strongly agreed that oxytocin is given immediately after delivery of the placenta to prevent excessive bleeding, 32.7 % agreed, 2% disagreed, 6.1% participants strongly disagree while 2% respondent gave natural response. This indicated that majority of the participants have negative attitude on managing PPH when it comes to the administration of

oxytocin and few participants with positive attitude. Oxytocin IM is administered immediately after the delivery of the baby to minimize the bleeding. The WHO recommended that oxytocin should be given within one minutes after the delivery of the baby.[1] On the similar question asked, majority of the participants 59.2% strongly disagreed that oxytocin is given after delivery of placenta and 26.5% disagreed while 6.1% of participants strongly agreed. This finding shows that majority of the participant have good attitude toward managing of PPH, even though some participants confuse when to administer the oxytocin. In normal vaginal delivery, oxytocin 10 IU IM is given after delivery of the baby to prevent the women from bleeding. If the third stage of labour lasts more than 30 minutes, IV/IM oxytocin (10 IU) should be used to manage the retained placenta.[1] Fewer participants 16.3% of participants strongly agreed that postpartum blood loss is routinely estimated, while majority 59.2% of participants agreed, and less participants 4.1% disagreed, 2% of participants strongly disagreed while 18.4% gave natural response. The findings shows that majority of students knows how to estimate blood loss and few students lack knowledge on the diagnosing of PPH. Diagnosing PPH is important for early recognition of a PPH event. Diagnosing PPH starts from accurate postpartum blood loss estimation.

It is therefore critical that student nurses are capable in diagnosing PPH as the entry point toward the management of PPH. Delays in diagnosing PPH, lead to poor management of PPH and is associated with increased morbidity and mortality.[9] The similar question asked, majority of participants 44.9% of participants are uncertain whether blood loss is routinely measured using blood indices. From the participant 12.2% strongly agreed, 30.6% agreed while, 10.2% disagree and 2% strongly disagreed. The findings revealed that a lot of students have a positive attitude toward management of labour and few students have a negative attitude. Its important to measure Hb level of a woman post delivery with the hemoglobin indices. With the low Hb, the loss of blood may be fatal irrespective of the amount of blood lost. Majority of the participants 57.1% strongly agreed that replacing lost blood and fluid is important in treating PPH, 32.7% agreed, 6.1% participants were natural, while 2% of participants strongly disagreed, with no participant disagreed. These results show that fewer participants have negative attitude on managing PPH women and majority of the participant have good attitude. It is important to give IV fluid, blood and blood product as well as oxygen to prevent shock in PPH.[1]

Practice toward management of PPH

Majority of participants 89.8% agreed that PPH is fatal while 10.2% participant indicated as it's a false. This indicated that there are some participants that have poor practice to the above statement. The previous study done by Almutairi 2021, indicated that obstetric hemorrhage is the leading causes of maternal death world worldwide, accounting for 27.1% of all maternal deaths.[8] This study reveals that 85.7% of respondents believed that all pregnant women are at risk of developing PPH while 14.3% respondents did not believe so. This indicates that majority of the participants have a good practice on preventing the PPH. According to WHO all women giving birth should be given oxytocin during the third stage of labor in order to prevent PPH.[1] From the respondents, 71.4% participants indicated that its true postpartum hemorrhage is caused by cervical tear, while 28.6% respondents disagreed. Majority of the respondents have good practice on diagnosing PPH, and few respondents have poor practice on the causes of PPH.

According to Sellers, PPH can be caused by trauma to uterus, cervix, vagina and perineum, characterized by a well contracted uterus with clots coming from the vagina, may be due to forceps, vacuum, large baby and cervical tear, high vaginal tear, incomplete uterine rupture and inversion of uterus.[7] Respondents 95.9% believed that its true massaging the uterus after delivery can prevent postpartum hemorrhage, while 4.1% respondents did not believe so. This indicated that majority of the participants have good practice on massaging the uterus to prevent of PPH. WHO stated that, other recommendations for treating PPH is to massage uterus after birth and PPH should be treated soon as diagnosed.[1] A total number, 69.4% respondents believed that its true, prolonged labour cause postpartum haemorrhage, while 30.6% respondents are against the statement. This indicate that majority of the participants have good practice. According to Sellers most causes of PPH occur in patients with no risk factors, these risk factors include multiparity, prolonged third stage of labor and operative deliveries.[1] From the participants, 98% of participants believed that its true to always inform the mother that she is having excessive bleeding, 2% respondent is against the statement. This indicated that majority of the participants have a good practice on PPH management. It's important to inform the mother to reassure the patient. The entire participants took part in the study 100% believed that it's true to always record the amount of estimated blood loss after delivery. This revealed that all the participants have a good practice on how to manage postpartum bleeding. WHO stated that, training should be provided to all staff working at maternity care concerning assessment of blood and the monitoring of women after birth.[1] From the participants, 95.9% participants believed that its true to always empty the bladder during the PPH while, 4.1% participants did not believe so. This indicated that majority of the participants have good practice on how to care for a PPH women. The previous study indicated that, full bladder displaces the uterus and therefore prevent efficient contraction and rectractions of the uterus.[3,7] Less respondents 12.2% believed that its true, after PPH is managed, the women should not breastfeed the baby immediately to promote uterine contraction, while 87.8% respondents did not believe so. This indicated that majority of the particpants have a good practice on managing the PPH. Breastfeeding aids in achieving an

increase of oxytocin levels in the blood.[8] From the participants, 57.1% believed that it is true, primary and secondary PPH are treated the same , while 42.9% did not believe so. This results shows that a lot of participants don't know the different between the two PPH. Primary PPH is defined as a vaginal bleeding that occur within 24 hours after birth while secondary PPH occur from 24 hours up to 12 weeks after birth. Therefore, both primary and secondary postpartum hemorrhages are managed the same. The majorities of the participants in this study know how to diagnose PPH and were therefore found to be competent.[7]

Limitations

Limitations of current study were that the study was conducted on the third-year degree nursing students at main campus only. Therefore, the study results cannot be generalized to all nursing students from other campuses such as Rundu, Oshakati and Keetmanshoop campuses.

CONCLUSION

This study revealed that most of the student nurses are trained to manage PPH and they apply almost methods to all birthing mothers. Participants in this study expresssed their confidence with the methods of managing PPH as third stage of labour. Participants displayed good knowledge on the definition of PPH. In general, a positive attitude toward management of PPH was observed among third year nursing students of UNAM main campus.

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REFERENCES

1. WHO Recommendations for the Prevention and Treatment of Postpartum Haemorrhage. Available at: https://who.int/iris/bitstream/9789241548502_eng. Pdf. Accessed on 20 June 2021.
2. Nsangamay T, Mash R. How to improve the quality of care for women with postpartum haemorrhage at Onandjokwe Hospital, Namibia: quality improvement study. BMC Pregnancy Childbirth. 2019;19(1):489.
3. Sellers PM. Sellers' Midwifery Contraception and fertility planning. 3rd ed. Cape Town: Juta; 2018.
4. Acapas A. Quantitative and qualitative research techniques for humanitarian needs assessment. Available at: https://www.acaps.org/sites/acaps/files/resources/files/qualitative_and_quantitative_research_techniques_for_humanitarian. Accessed on 20 June 2021.
5. Choy LT. The strength and weaknesses of research methodology: comparison and complimentary between qualitative and quantitative approaches. J Human Soc Sci. 2017;32:45.
6. Brink H, Van De Walt C, Van Rensburg G. Fundamentals of Research Methodology for Health Professionals. Cape Town: Juta; 2018.
7. Sellers PM. Sellers' Midwifery. 2nd ed. Cape Town: Juta; 2012.
8. Almutairi WM. Literature Review: physiological management for preventing postpartum hemorrhage. Healthcare. 2021;9(6):658.
9. Nuumbosho HT. The knowledge of postpartum hemorrhage among midwives working in the maternity departments of Windhoek central and Katutura state hospital in Namibia. Available at: https://scholar.sun.ac.za/bitstream/handle/10019.1/1019177/Nuumbosho_knowledge_2020.pdf?sequence=1&isAllowed=y. Accessed on 20 June 2021.

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