

Knowledge, Attitude and Practices of 3rd Year Degree Nursing Students Regarding the Management of Patients with Puerperal Sepsis, Unam Main Campus, Namibia.

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Abstract: Puerperal sepsis is an infection of the birth canal in the first two (2) to forty-two (42) days postpartum, usually indicating a high body temperature for at least two of the first fourteen (14) days post-delivery. Even though, the Namibian government is committed in promoting awareness to fight puerperal sepsis, it is still one of the leading causes of maternal death in the country. Research design in this study was Cross Sectional, Descriptive in nature, employing Quantitative approach. Population is the 3rd year degree nursing students at UNAM Main Campus, Namibia. A sample size of sixty-four (64) students was used. Pilot study was carried out on ten (10) 2nd year degree students at UNAM Main Campus. Participants were not harmed or favored, consent form was signed to signify voluntarily agreement to take part in the study. Only the participants who showed interest were able participate in this study. In the study results indicated that majority 3rd year degree nursing students at UNAM Main Campus has less knowledge on the link between puerperal sepsis and chronic illnesses. The results show undesirable nursing practices with regard to puerperal sepsis. Educative seminars and further study on puerperal sepsis are therefore recommended.

Keyword: High body temperature, Maternal death, Puerperal sepsis, Postpartum, Septic shock

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I. Introduction

Puerperal sepsis may be caused by bacteria affecting the birth canal including the uterus, this can be due to low immunity caused by chronic diseases like diabetes and HIV and AIDS, premature rupture of membranes, too much vaginal examination during labor, bimanual removal of placenta, instrument deliveries and retained products of conception, this may result in septic shock or maternal death (Knowles, 2014). As stated by Kempker & Martin (2016), maternal deaths may be direct or indirect. Direct maternal deaths refer to those deaths that result from obstetric related complications during pregnancy derived from multiple interventions such as omissions, incorrect treatment, while indirect deaths are those that result from previous existing disease or diseases that developed during pregnancy but, were influenced by physiologic effects of pregnancy e.g. anemia, HIV/AIDS, heart disease, diabetes etc. Septic shock is when one experience a significant drop in blood pressure that can lead to respiratory or heart failure, stroke, failure of other organs, and death, while maternal death is death of a woman while pregnant or within forty two (42) days of termination of pregnancy irrespective of the duration and site of pregnancy from any cause related to or aggravated by the pregnancy or its management but not incidental or accident causes and maternal morbidity rate (MM rate) is the number of maternal deaths per 100,000 women of reproducing age in the same population in a given period (MoHSS,2014).

II. Material and Methods

This cross sectional study which was descriptive in nature was carried out at the University of Namibia's Main campus in Windhoek, Namibia from February 2018 to January 2019. A population of 64, 3rd year nursing degree students was used in this study.

Study Design: Cross Sectional, Descriptive in nature, employing Quantitative approach.

Study Location: The study was done at University of Namibia's Main Campus, Windhoek, Khomas Region, Namibia.

Study Duration: February 2018 to January 2019

Sample size: 64 nursing students.

Sample size calculation: A convenience sampling method was used. A convenience sampling is a method which involves the choice of readily available participants for the study (Brink, Van der Walt, Van Rensburg, 2016).

Sample: $n = N / (1 + N \times a \times a)$

$N = 64$

Subjects & selection method: The subjects were 3rd year degree nursing students at the University of Namibia's Main Campus. A convenience sampling method was used. Only the participants who showed interest were able to participate in this study.

Inclusion criteria:

- 3rd year nursing students at the University of Namibia's Main Campus.
- Have completed clinical placement in maternity departments.
- Both sex.
- Aged 18 and above.

Exclusion criteria:

- Students who haven't completed clinical placement in maternity departments.
- Student nurses who are not full 3rd academic year according to academic records.
- Student nurses repeating 3rd academic year.

Procedure methodology

After a consent was obtained from participants, a well formulated semi structured questionnaire was used to collect information. The questionnaire comprised of closed-ended questions and short questions. It consisted of four (4) sections, section A had questions on demographic data like age, occupation, sex, and year of study. Section B had short questions on knowledge of the students on the topic. Section C had questions on attitude of student on puerperal sepsis, lastly section D had questions on practices of the students. Students were encouraged to answer the questionnaire with honesty.

The questionnaire only measured what it was intended to be measured. The systematic examination of the test content to determine whether it covered a representative sample of the behavior domain to be measured. The tool was comprised of questions covered in the literature.

The researcher collected data at UNAM Main Campus at boiler room where third year nursing students attend their classes. The pilot study was done on second year degree nursing students of the University of Namibia. 10 participants took part in the study. The pilot study, is the small scale version of the study to know the effectiveness of the instrument and to know if there's any need for adjustments to be made in the questionnaire.

Validity and Reliability

The participants were selected till the sample size was met. The questionnaire only measured what it was intended to measure. The systematic examination of the test content to determine whether it covered a representative sample of the behavior domain to be measured. The tool was comprised of questions covered in the literature (Shuttleworth, 2016).

Research Ethics

Principle of respect: In this study, participants were volunteering themselves to take part in this study, no one was forced to take part. Participants had the right to withdraw any time they felt like. The participants signed the consent paper signifying that they had agreed to take part in the study (Brink, Van der Walt, Van Rensburg, 2016).

Principle of beneficence: The participants were not called by their real names but codes were used in this regard. This study did not cause any harm to the participants (Brink, Van der Walt, Van Rensburg, 2016).

Principle of justice: In this study no one was favored and participant's beliefs were respected. Permission to conduct research was granted by the Ministry of Health and Social Services and the University of Namibia (Brink, Van der Walt, Van Rensburg, 2016).

Statistical analysis

Data was analyzed using SPSS version 20. Data was analyzed using statistics as it's a powerful tool to analyse quantitative data. Descriptive statistics was used to describe and summarize data. The findings were rechecked to rule out any mistakes and to ensure that the final results are without error.

III. Result

SECTION A: DEMOGRAPHIC DATA

This section deals with the socio-demographic data of the respondents:

1.1 Age

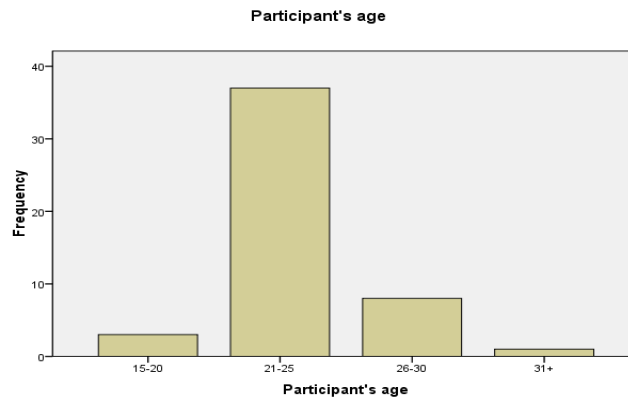


Fig 1.1 Shows participant's age

1.2 Gender

Gender distributions of participants 87.8% (43) of the respondents were females while only 12.2% (6) were male.

1.3 Occupation

Data depicts that 100% (49) of the participants are nursing students.

1.4 Year of Study

100% (49) of the participants were 3rd year students.

SECTION B: KNOWLEDGE

	1	2	3
1. Puerperal sepsis is the infection of the birth canal.	81.6% (40)	14.3% (7)	4.1% (2)
2. Puerperal sepsis is characterized with temperature of 38 degrees Celsius.	91.8% (45)	2.0% (1)	6.1% (3)
3. Puerperal sepsis can be caused by chronic illnesses like diabetes, HIV and AIDS.	32.7% (16)	42.9% (21)	24.5% (12)
4. Septic shock or maternal death can be the result of puerperal sepsis.	81.6% (40)	12.2% (6)	6.1% (3)
5. Puerperal sepsis involves all infection during the puerperal period including breast infection and infection of the pelvic cavity.	65.3% (32)	22.4% (11)	12.2% (6)
6. Puerperal sepsis occur within 42 days postpartum.	67.3% (33)	12.2% (6)	20.4% (10)
7. Puerperal sepsis can occur in the uterus.	40.8% (20)	34.7% (17)	24.5% (12)
8. Abortions can cause puerperal sepsis.	77.6% (38)	12.2% (6)	10.2% (5)
9. High temperature, tachycardia, hyperpyrexia and swelling are not signs of infection.	26.5% (13)	67.3% (33)	6.1% (3)
10. Puerperal sepsis is incurable.	4.1% (2)	87.8% (43)	8.2% (4)

Table 2.1 Shows responses of participants in section B

SECTION C: ATTITUDE

2.1 Puerperal sepsis is one of the leading causes of maternal death in Namibia?

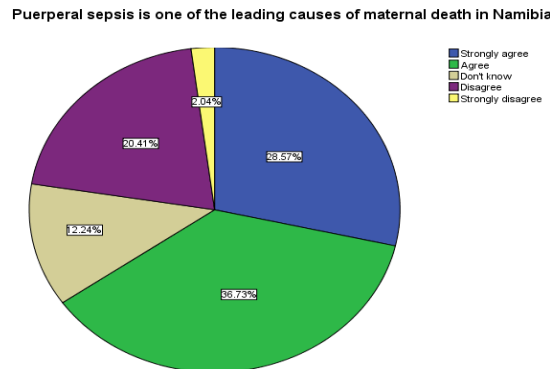


Fig 2.1 Shows participant’s response concerning the above question.

2.2 Student nurses have a role in preventing puerperal sepsis?

61.2% (30) of the participants strongly-agree to the above statement, while 38.8% (19) agree to the statement.

2.3 Puerperal sepsis occur mostly in unhygienic practices?

Puerperal sepsis occurs mostly in unhygienic practices

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly agree	35	71.4	71.4	71.4
Agree	12	24.5	24.5	95.9
Don't know	2	4.1	4.1	100.0
Total	49	100.0	100.0	

Table 2.3 Shows the responses of participants to the above question.

2.4. Salts bath increase chances of puerperal sepsis?

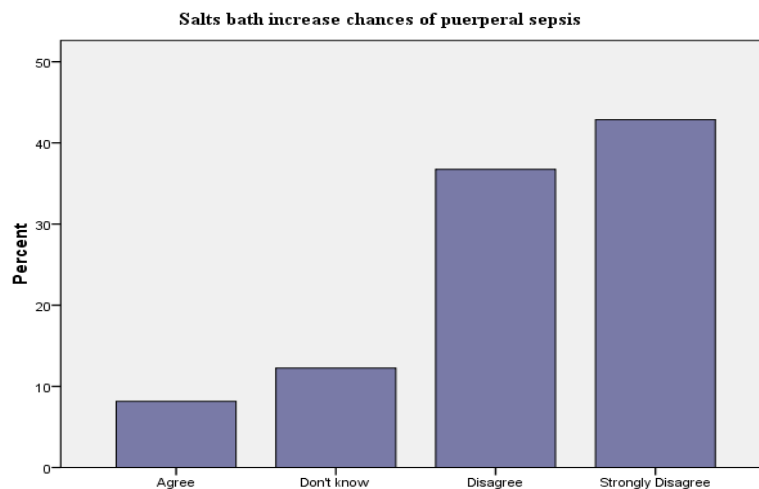


Fig 2.2 Shows the responses of participants in a bar graph.

2.5. Unusual discharge from a woman after delivery can be a sign of puerperal sepsis?

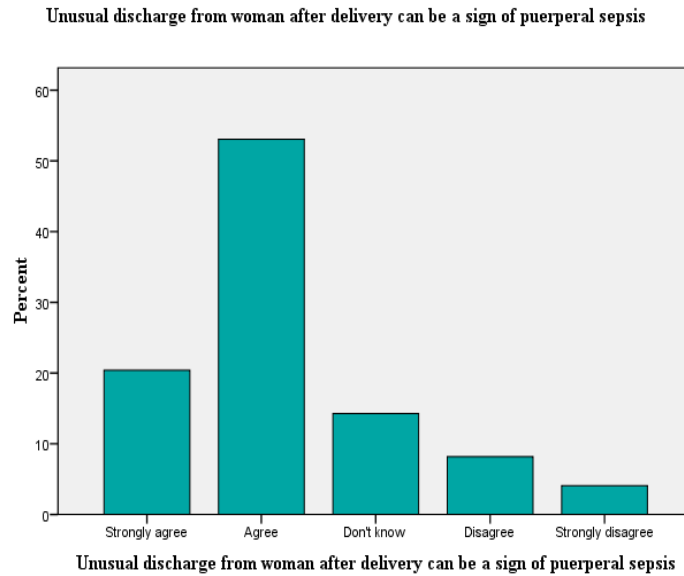


Fig 2.3 Shows response of participants in percentage.

2.6 Good nutrition reduce the chances of puerperal sepsis?

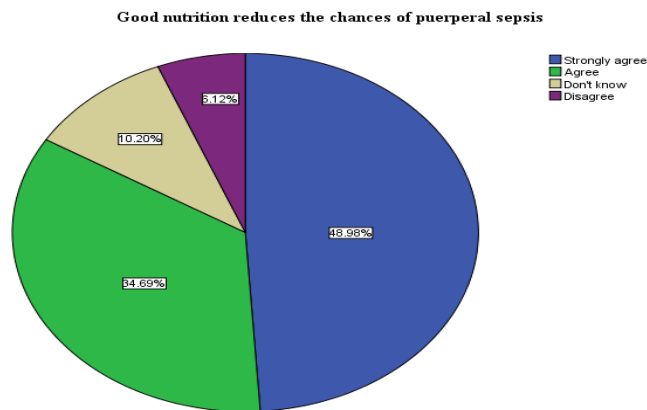


Fig 2.4 Shows the attitude of participants regarding good nutrition and puerperal sepsis.

2.7 High protein diet is important to patients with puerperal sepsis?

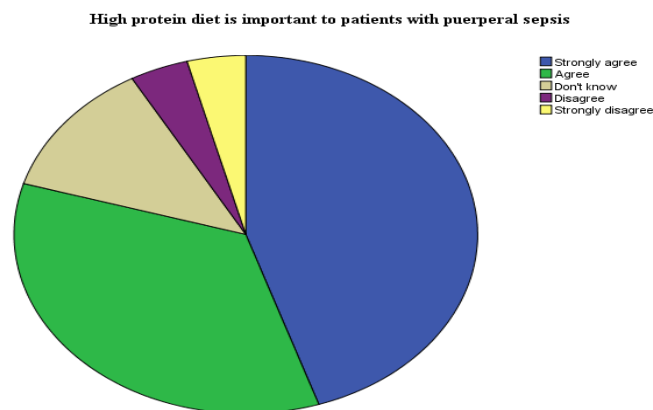


Fig 2.5 Shows the responses of participants on the above question.

2.8 Puerperal sepsis is incurable?

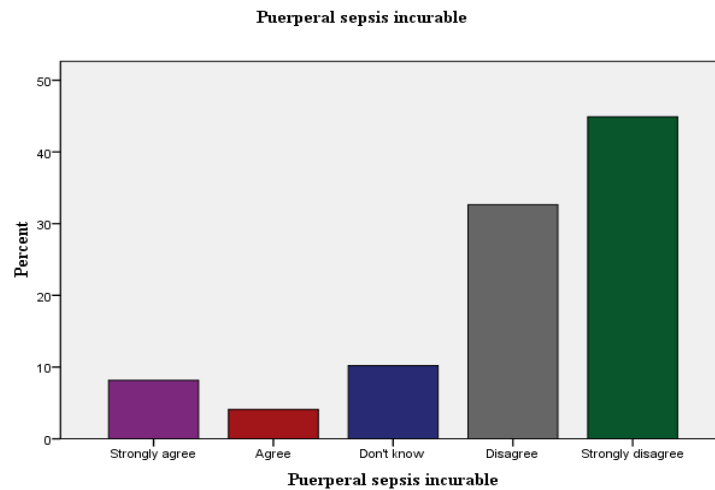


Fig 2.6 Shows the responses of participants regarding whether puerperal sepsis is incurable.

2.9. Puerperal sepsis only occurs in women who gave birth?



Fig 2.7 illustrates the responses of participants to the above question.

2.10. Puerperal sepsis is an emergency?

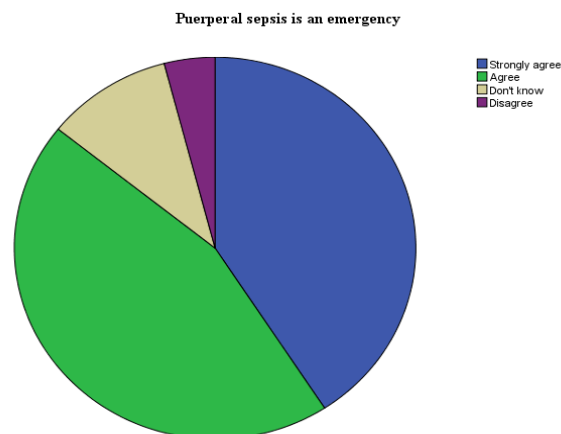


Fig 2.8 Indicates the responses of participants on whether puerperal sepsis is an emergency.

SECTION D: PRACTICES

	1	2	3
1. Do you wash hands before and after attending to patients in the hospital?	73.5% (36)	26.5% (13)	0% (0)
2. Do you rupture membranes manually to fasten labor?	6.1% (3)	71.4% (35)	22.4% (11)
3. Do you provide patients with clean linen daily?	87.8% (43)	10.2% (5)	2.0% (1)
4. Do you use aseptic technique when attending to women in antenatal ward and postnatal ward?	83.7% (41)	16.3% (8)	0% (0)
5. Do you administer/ advocate for antibiotics to women who sustain tears during delivery?	51.0% (25)	34.7% (17)	14.3% (7)
6. Upon preparing the patient for caesarean section, do you remove pubic hair with clippers rather than razors?	20.4% (10)	30.6% (15)	49.0% (24)
7. do you do vulva swabbing on patients who are in active labor and postnatal?	65.3% (32)	34.7% (17)	0% (0)
8. Do you isolate patients who have infections?	59.2% (29)	30.6% (15)	10.2% (5)
9. How often do you do full wash on patients who delivered via caesarean section?	12.2% (6)	34.7% (17)	53.1% (26)
10. Do you monitor patient's vital signs 4hourly?	83.7% (41)	16.3% (8)	0% (0)

Table 2.4 Indicate the responses of participants on questions regarding their practice on puerperal sepsis.

IV. Discussion

SECTION A: DEMOGRAPHIC DATA

Age:

49 participants took part in the study, 6.1% (3) were of 15-20 years of age, 75.5% (37) were of 21-25 years of age, 16.3% (8) were of 26-30 years of age and 2.0% (1) were above the age of 31. My participants were university students and the majority age of participants was from age 21 to 25 years of age because most students graduate from high school at the age of 18 and attend first year of varsity when their 19 of age, when they get to their 3rd year, they'll be 21 or more. Bolotin & Bakayev (2015) in their study agreed to this by stating that the majority age group of the university student population is from 19 years to 25 years of age.

Gender:

87.8% (43) of the participants were female, while 12.2% (6) were male. Over the years nursing profession has been perceived as a female profession that has resulted to fewer men pursuing their careers in nursing. Ross (2017) illustrated that Florence Nightingale's perception and feminization of nursing into a female only profession has resulted in modern society male nurses to make up about 10% of nursing professionals. Stereotyping and gender bias of men has helped create a less than inclusive and sometimes isolating experience for men in nursing. Men in nursing are often treated differently to their female counterparts. It is important particularly for male nursing students to learn about men's contribution to the history of nursing.

Occupation:

100% (49) are all student nurses. This study is based on student nurses at the University of Namibia. Student nurses are in a lot of pressure of attending classes and going for clinical practice, that makes it impossible to have any other occupation while in varsity.

Year of study:

100% (49) of the participants are in their 3rd year of study. This study is based on 3rd year degree nursing students, so data was collected specifically from 3rd year degree nursing students.

SECTION B: KNOWLEDGE

Puerperal sepsis is the infection of the birth canal.

81.6% (40) of the participants agree that puerperal sepsis is the infection of the birth canal, while 14.3% (7) disagree and 4.1% (2) don't know. The majority of the participants have agreed to the statement, and shows that they have knowledge about puerperal sepsis. Knowles (2014) in her study agreed that indeed puerperal sepsis is the infection of the birth canal.

Puerperal sepsis is characterized a temperature of 38 degrees Celsius.

91.8% (45) agree that Puerperal sepsis is characterized with high temperature of 38 degrees Celsius, while 2.0% (1) disagree and 6.1% (3) don't know. Majority of the participants have agreed to the statement and this is similar to the study done by Contro & Jauniaux (2017), where puerperal sepsis was referred to childbed fever.

Puerperal sepsis can be caused by chronic illnesses like diabetes, HIV and AIDS.

In 49 participants 32.7% agree that puerperal sepsis can be caused by chronic illnesses like diabetes, HIV and AIDS, while 42.9% disagrees and 24.5% don't know. These results shows that students do not agree that puerperal sepsis can be caused by chronic illnesses. These results differ with a study done by Knowles (2014), where she agrees that puerperal sepsis can be caused by chronic illnesses like diabetes, HIV and AIDS due to the fact that they compromise the immunity of the person, so when an individual is exposed to infection the person can catch the infection easily.

Septic shock or maternal death can be the result of puerperal sepsis.

81.6% (40) of the participants agrees that Septic shock or maternal death can be the result of puerperal sepsis, while 12.2% (6) disagrees and 6.1% (3) do not know. The majority of the participants have agreed to the statement and these results are to the study done by MoHSS (2014), where it was found that puerperal sepsis is one of the leading maternal deaths in Namibia.

Puerperal sepsis involves all infection during the puerperal period including breast infection and infection of the pelvic cavity.

49 participants took part in this study, 63.3% agreed that Puerperal sepsis involves all infection during the puerperal period including breast infection and infection of the pelvic cavity, while 22.4% disagreed and 12.2% do not know. These results are similar to the study done by Knowles (2014) and Contro & Jauniaux (2017) where they all agree that all infections involved in childbirth are all regarded to be puerperal sepsis.

Puerperal sepsis occurs within 42 days postpartum.

67.3% (33) agrees that Puerperal sepsis occur within 42 days postpartum, while 12.2% (6) disagrees and 20.4% (10) do not know. This shows that the majority of the participants agree to the above statement and these results to the study conducted by Knowles (2014), where she state clearly that the infection that occurs immediately after childbirth to 42 days is regarded as postpartum sepsis or puerperal sepsis.

Puerperal sepsis can occur in the uterus.

40.8% (20) participants agreed that Puerperal sepsis can occur in the uterus, while 34.7% (17) disagreed and 24.5% (12) do not know. The majority of the participants agreed that puerperal sepsis can occur in the uterus and these results are similar to the study done by Contro & Jauniaux (2017), where they discovered that even infections in the uterus during puerperal period are called puerperal sepsis.

Abortions can cause puerperal sepsis.

49 participants were able to give data in this study. 77.6% (38) agreed that abortions can cause puerperal sepsis, while 12.2% (6) disagreed and 10.2% (5). Majority of the participants agree that abortions can cause puerperal sepsis and these results are similar to study conducted by Mulama (2015) where he elaborates that abortions can cause puerperal sepsis because some products of conception can be retained and that can be septic and infectious.

High temperature, tachycardia and swelling are not signs of infection.

13% (13) agrees that high temperature, tachycardia, hyperpyrexia and swelling are not signs of infection, while 67.3% (33) disagrees and 6.1% (3) don't know. This question was twisted to test the knowledge of the participants on the topic puerperal sepsis. Majority of the participants disagrees to the above statement. Contro & Jauniaux (2017) mention high temperature, tachycardia, hyperpyrexia and swelling as the signs of infection.

Puerperal sepsis is incurable.

4.1% (2) agreed that puerperal sepsis is incurable, while 87.8% (43) disagreed and 8.2% (4) do not know. These results means that puerperal sepsis can be cured as expressed in the study done by MoHSS (2014).

SECTION C: ATTITUDE

Questions asked were belief questions.

Puerperal sepsis is one of the leading causes of maternal death in Namibia

Majority of the participants agrees that puerperal sepsis is one of the leading causes of maternal death in Namibia. These results are similar to a study done by MoHSS (2014) where it was discussed that puerperal sepsis is continually rising and causing maternal sepsis in Namibia.

Student nurses have a role in preventing puerperal sepsis

All participants agreed that student nurses have a role in preventing puerperal sepsis. These results are similar to a study done by Mulama (2015) where it is stated that all people who come in contact with patients have a role in preventing the spread of infections.

Puerperal sepsis occurs mostly in unhygienic practices

About 96% of the participants agree that puerperal sepsis occur mostly in unhygienic practices. These results are similar to the study done by Mohamed, Mohamed & Rabbie (2013), where they state that puerperal sepsis is common in sub-Saharan Africa due to poor sanitation and proper health facilities.

Salts bath increase chances of puerperal sepsis

Majority of the participants disagree that salts bath increase chances of puerperal sepsis these is because salts bath has been proven to heal perineum wounds.

Unusual discharge from a woman after delivery can be a sign of puerperal sepsis

About 73.5% of the participants agree that unusual discharge from women after delivery can be a sign of puerperal sepsis. These results are similar to the study conducted by Knowles (2014) where she states that abnormal discharge after delivery should be reported immediately as it can signify puerperal sepsis.

Good nutrition reduce the chances of puerperal sepsis and. high protein diet is important to patients with puerperal sepsis.

Majority of the participants agree to these two statements; this means that participants have good attitude towards puerperal sepsis. These results are similar to the study conducted by Contro & Jauniaux (2017) where good nutrition and protein diet is encouraged in puerperal sepsis patients for the repair of damaged tissues.

Puerperal sepsis is an emergency

About 85.7% of the participants agree that puerperal sepsis is an emergency. These results are similar to the study done by Knowles (2014) she indicated that puerperal sepsis is indeed an emergency and should be reported as soon as possible because mothers may die of septic shock.

SECTION D: PRACTICES

Do you wash hands before and after attending to patients in the hospital?

Majority of participants wash their hands before and after attending to patients. This practice is important in preventing the spread of infections from one patient to another. These results mean student nurses have good practice when it comes to hand washing.

Do you rupture membranes manually to fasten labor?

Majority of participants indicated that they sometimes rupture membranes of women in labor to fasten the process of labor this indicate poor practice. Rupturing of membranes can cause infections introduced in the birth canal. WHO (2017) discourages unnecessary rupturing of membranes.

Do you provide patients with clean linen daily?

87.8% (43) of the participants always provide patients with clean linen daily. These results mean student nurses have good practice in preventing infection ensuring good hygiene to patients.

Do you use aseptic technique when attending to women in antenatal ward and postnatal ward?

All participants use aseptic technique when attending to women in antenatal and postnatal wards. This means student nurses have good nursing practice when it comes to aseptic technique.

Do you administer/ advocate for antibiotics to women who sustain tears during delivery

51.0% (25) always administer/ advocate for antibiotics to women who sustain tears during delivery, while 34.7% (17) sometimes and 14.3% (7) not at all. The majority participants advocate or administer antibiotics to women who sustain tears during delivery, this means 3rd year student nurses have good nursing practice.

Upon preparing the patient for caesarean section, do you remove pubic hair with clippers rather than razors

Majority of the participants do not use clippers to remove pubic hair when preparing a patient for caesarean section, these results shows poor nursing practice when it comes to skin preparation.

Do you do vulva swabbing on patients who are in active labor and postnatal

All the participants do vulva swabbing on patients in labor and postnatal wards. These results mean the participants practice good nursing care regarding vulva swabbing.

Do you isolate patients who have infections?

Majority of the participants usually isolate patients who have infections. This indicate best practice of infection control. These results are similar to the study done by Mohamed, Mohamed & Rabbie (2013), where it was suggested that isolation is vital in infection control and should be practiced in the health setting.

How often do you do full wash on patients who delivered via caesarean section?

12.2% (6) of the participants always do full wash on patients who delivered via caesarean section, while 34.7% (17) sometimes and 53.1% (26) not at all. The majority of the participants do not do full wash on patients who delivered via caesarean section, this indicate poor nursing care because after delivery they're unable to do things on their own and it's a duty of health personnel including student nurses to make sure that their hygiene is good by offering a full wash.

Do you monitor patient's vital signs 4hourly?

83.7% (41) always monitor patient's vital signs 4hourly, while 16.3% (8) monitor patient's vital signs only sometimes. These results indicate good nursing practice when it comes to patient monitoring.

Recommendations

The following recommendations were made:

- A seminar on puerperal sepsis to educate student nurses on the link between chronic illnesses and puerperal sepsis.
- Student nurses at UNAM should be taught best nursing practices on puerperal sepsis.
- The Ministry of Health and Social Services to enforce policy on how the permanent nursing staff can assist thenursing students.
- A further study on puerperal sepsis to provide solutions to this problem.

VI. Conclusion

The conclusion was aligned to the different objectives of the study:

To assess and describe the level of knowledge of 3rd year degree nursing students regarding the management of patients with puerperal sepsis, UNAM Main Campus, Namibia.

- Participants have good knowledge of puerperal sepsis in terms of its definition and it's signs and symptoms.
- Participants indicated good knowledge of the link between septic shock, abortion and puerperal sepsis.
- Majority of the participants have less knowledge of the link between puerperal sepsis and chronic illnesses like diabetes, HIV and AIDS.

To assess and describe the attitude of 3rd year degree nursing students regarding the management of patients with puerperal sepsis, UNAM Main Campus, Namibia.

- Participants indicated good attitude towards puerperal sepsis throughout the study. They have demonstrated good attitude towards the needs of patients with puerperal sepsis and the impact of puerperal sepsis.

To assess and describe the practices of 3rd year degree nursing students regarding the management of patients with puerperal sepsis, UNAM Main Campus, Namibia.

- Majority of the participants indicated that they sometimes rupture membranes during labor to fasten the process of labor of which it is a bad practice because infections are introduced to the birth canal and uterus.

- Majority of the participants indicated that they usually use razors to remove pubic hair when preparing a patient for caesarean section of which razors are not hygienic and it is advisable to use clippers instead.
- Majority of the participants indicated that they do not give full wash to women who delivered via caesarean section of which it is a bad practice because patient's hygiene is neglected.

In conclusion, the participants presented good knowledge and attitude on puerperal sepsis. Nursing practices with regard to puerperal sepsis was undesirable. A further study on puerperal sepsis is therefore recommended.

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