Knowledge, Attitudes and Practices Towards Preconception Care Among Child Bearing Women
(Study in Hhohho Region, Eswatini)

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Abstract:
Introduction: Childbearing women face many challenges during pregnancy and delivery. Preconception care has recently been introduced to reduce the challenges and complications faced during pregnancy. Preconception care is a set of interventions that aim to identify and modify biomedical, behavioural, and social risks to a woman’s health or pregnancy outcome through prevention and management. The aim of the study was to explore knowledge, attitudes and practices towards preconception care in Hhohho, Eswatini.
Methodology: This is a descriptive, correlational study where data was collected from 100 women conveniently selected from Piggs Peak PHU who are pregnant. A self-explanatory questionnaire was administered to the 100 pregnant women adopted from Dr Nani Draman validated with a Cronbach’s alpha of 0.79. the questionnaire consists of two sections: section A for demographic data and section B for the three domain namely, knowledge, attitude and practices of preconception care.
Results: The mean knowledge, attitudes and practices were 11.40, 16.37 and 12.81 respectively. In total, 52.5% of the respondents had fair knowledge on preconception care, and 75.4% of the respondents had good attitude and 59% of respondents had fair practices towards preconception care.
Conclusion: Childbearing women in Piggs peak have fair knowledge, good attitudes and good practices towards preconception care. However, they there is still gaps to be filled especially in giving knowledge.

Keywords: Knowledge, Attitude, Practices, Preconception Care & Childbearing Women.

1. Background of the Study
1.1 Introduction
Preconceptual care can be defined as the provision of biomedical, behavioural and social health interventions to women and couples before conception occurs to improve health status (World Health
Organization, 2012). The term ‘preconceptual care’ includes both the period before conception and the interconception period (Moos & Cefalo, 2017). There is an increase in adolescent pregnancies and poorly spaced pregnancies which contribute to maternal, perinatal and infant mortality, and the vicious cycle of ill-health and poverty (Kallner & Danielsson, 2016). There are adverse effects of childbearing teenagers which extend to the health of the infants as these babies are more likely to have low birth weight. According to (World Health Organisation 2014), perinatal deaths are found to be 50% higher among babies born to mothers under 20 years of age than among those born to mothers aged 20–29 years.

The main goal of preconception care is to provide health promotion, screening, and interventions for women of reproductive age to reduce risk factors that might affect future pregnancies (Gerberding, Snider, & Popovic, 2006). According to Ministry of Health, Eswatini (2017), preconceptual care is more than a single visit to a health care provider and less than all well woman care, including the full scope of preventive and primary care services for women before first pregnancy.

1.2 Background information

Preconception care is defined as a set of interventions that aim to identify and modify biomedical, behavioural, and social risks to a woman’s health or pregnancy outcome through prevention and management (Brelochs & Rossin-Slater, 2012). According to World Health Organization (2013), preconception health care is an essential component of reproductive health which focuses on the conditions and risk factors that could affect a woman if she became pregnant.

Preconception should be viewed as an early opportunity not for family planning or to reduce maternal and neonatal mortality but also to improve long term health outcomes for adolescent girls and women (Dile, Ayelew, & Mulat, 2017). Preconception care is important to reduce several risk behaviours and exposures that can affect fetal development and subsequent outcomes. Therefore, it should be planned to address the reproductive system problems.

Preconceptual care aim at improving the overall health status of adolescents, women and children, as well as ensuring healthy adulthood by targeting risk behaviours for non-communicable diseases (Finer & Zolna, 2014). Preconception care provides a full range of effective interventions, focused on the health of women of reproductive age, and their partners, prior to or between pregnancies, that promote the opportunity.

According to OPHA (2014), it is important to understand the benefit of shifting to preconception health as it highlights current data on well recognized reproductive health indicators such as preterm birth, birth weight, congenital anomalies, infant mortality and maternal mortality. The reason behind shifting to preconception health was to draw attention on the detrimental impact of these indicators on maternal and infant health to further support to call for action. Preconception care has impact on selective reproductive health indicators as shown in figure 1 above (OPHA, 2014).

Knowledge of preconception care can be acquired though experience or education (Dunlop, Logue, Thorne, & Badal, 2013). Education can be attained from multiple sources, e.g., books, newspapers, radio channels, television, the Internet or medical staff consultations. Studies have shown that women who receive pre-pregnancy care have more knowledge and often show risk reduction behaviours.

Literature reveal that women’s knowledge and attitude regarding preconception care was affected by women’s age, ethnicity, occupation, educational status, pregnancy intention, previous history of abortion, monthly income, previous history of stillbirth, parity and family planning (Centers for Disease Control, 2006).
According to Dunlop, Logue, Thorne, & Badal, (2013), a study also showed that women who receive an intervention for preconception care have more knowledge of preconception care and that even brief counselling can improve their knowledge of general and personal preconception health risks.

In a recent study conducted in Oklahoma, 2010, only 13.5% to 15.2% of women in Oklahoma receive preconception care (Oklahoma State Ministry of Health, 2010). Although several variables most likely influenced those findings, one potential contributor was lack of awareness of the importance and value of preconception care. Only 12.0% of Oklahoma women received advice and counselling to prepare for becoming pregnant. Out of these women, only 1.0% of Oklahoma mothers met all the criteria for the Oklahoma Preconception Health Index, indicating multiple risk factors were present before conception, which could have been addressed during a preconception care visit.

According to Mazza & Chapman (2010), child bearing women exhibit lack of preconception care behaviour. Their practice of preconception care behaviour depended on their life stage and whether they were planning on having children. They perceived pregnancy as a normal process for human beings, and thus medical attention prior to pregnancy was not considered needed, and medical care was important only once they became pregnant.

According to Kasim, et al., (2016), preconception counselling helps prevent poor pregnancy outcomes. Ideally all women of reproductive age should receive preconception counselling before becoming pregnant. This type of counselling should be offered to all women who attend visits for contraception, Pap smears or for follow-up for chronic diseases such as diabetes mellitus, hypertension and epilepsy.

The kingdom of Eswatini is among the countries where preconceptual care is not initiated to clients who are willing to go for it, and nothing much is known about the knowledge, attitude and practices of preconception care in child bearing women, although these factors are known to contribute to good pregnancy outcomes. In simple terms, preconception care is neglected in Eswatini while it is a critical component to maternal and child health care. Promoting preconception care to Eswatini will help to reduce unintended pregnancy especially among teenagers, complications of antenatal care, delivery and postnatal care. Family planning methods especially contraceptives are not well understood as a way of preconceptual care in most countries including Eswatini.

Thus, the objective of this study was to determine the knowledge, attitudes and practices towards preconception care. The main purpose of this study will be addressing the knowledge deficit with regard to attitude and practices associated with preconception care among childbearing women.

1.3 Problem Statement

More than half of pregnancies in Eswatini are unintended as 58% pregnancies are recorded to be unplanned among childbearing women (Ministry of Health, Eswatini, 2016). Birth resulting from unintended pregnancies are associated with adverse health outcomes including delaying in prenatal care. Pregnant women in Eswatini continue to die from four major preventable causes which include severe postpartum haemorrhage, obstetric infections, hypertensive disorders, unsafe abortion and obstructed labour. Currently, the maternal mortality rate is 389 deaths per 100,000 live births (World Health Organisation, 2018). This indicates that there is a need to shift care to the time before a child is conceived, in order to allow for greater potential to prevent unplanned pregnancy and adverse pregnancy outcomes. Preconception care is part of a large healthcare model that results in healthy women, infants and families (Johnson, et al., 2006). There are studies conducted in other countries including Nigeria but there is little information concerning preconceptual care in Eswatini. There are no previous studies that have been conducted concerning knowledge, attitudes and practices towards preconceptual care in Eswatini. This issue then raised concern to the researchers on whether women have knowledge or they are aware concerning preconceptual care.

1.4 Research Questions

1. Is preconceptual care provided in clinics in Hhohho, Eswatini?
2. What are the contributing factors to high maternal mortality in Eswatini?
3. Do women attend preconceptual care health education services in the clinics?
4. How much knowledge do healthy mothers have concerning preconceptual care?
5. Do women have knowledge towards pregnancy complications after giving birth?

1.5 Purpose of the study
The purpose of this study is to explore knowledge, attitudes and practices among childbearing women towards preconceptual care in Eswatini.

1.6 Objectives of the study
1. To determine knowledge, attitudes and practices among childbearing women towards preconceptual care.
2. To identify contributing factors to high maternal mortality.
3. To identify relationship between demographic factors and women knowledge of preconceptual care.

1.7 Significance of the study
According to Polit & Beck, (2014), significance of the study is a section that provides information on how the study will contribute and who will benefit from it. The study will help the Ministry of Health (Eswatini) to identify knowledge gap, attitudes and practices that lead to high maternal mortality and complications of unintended pregnancies which then perpetrates rise in poverty in the country. This will help to introduce new strategies to improve preconception care among childbearing women in Eswatini.

There are no previous studies that have been conducted in the kingdom of Eswatini concerning preconceptual care so the study will help uncover the critical areas whether the participant lacks the knowledge from the health workers or not.

1.7 Definition of key terms
a. Antenatal care
   Theoretical definition: care provided by midwives and obstetricians during pregnancy to ensure that the fetal and maternal health condition are satisfactory (Weller, 2005).
   Operational definition: is the care given to a woman during her pregnancy to promote and maintain good health of the mother and foetus during pregnancy.

b. Preconceptual care
   Theoretical definition: is the provision of biomedical, behavioural and social health interventions to women and couples before conception occurs, aimed at improving their health status, and reducing behaviours and individual and environmental factors that could contribute to poor maternal and child health outcomes (World Health Organization, 2012).
   Operational definition: In this study the theoretical definition will be adopted.

c. Attitude
   Theoretical definition: A settled way of thinking or feeling about something typically one that is reflected in a person behaviour (Weller, 2005).
   Operational definition: a person’s feeling about something.

d. Reproductive age
   Theoretical definition: those years of life between menarche and menopause roughly from age of 12-49 (Farlex, 2018).
   Operational definition: This is the years of life in women from the age of 18 to end of menarche.

2. Literature review
2.1 Eswatini
   According to World Bank, (2009), child mortality and maternal health are priorities of the Government of Eswatini as it influences poverty and the government programme of action. The country further invented the quote “we are resolutely committed to accelerate the improvement of health services especially to the vulnerable groups which include children, because the country believe that our children are our future”.

According to Mngadi, Zwane, & Ahlberg, (2002), early pregnancy and unplanned childbirth may have far reaching physical, psychological and social consequences for the adolescent girl and her offspring, and therefore these consequences are public health issues of concern in Eswatini.

The country has implemented a project in the Lubombo region called zero poverty where 69% of the population lives below the poverty line (World Bank, 2009). By 2009, the maternal mortality rate was 589 per 100 000 live births against a target of 140. As mothers are the gateway to the family and child health, this project will help provide essential information and counselling to mothers and mothers to be.

2.2 Maternity care in Eswatini

Maternal and child healthcare services are very important for the health outcomes of the mother and that of the child in ensuring that both maternal and child mortality is prevented. According to Ministry of Health, Eswatini, (2007), only about one third of births were planned at the time of conception.

According to Ministry of Health, Eswatini, (2007), Swazi women are far from achieving their fertility goals. Eswatini’s total fertility rate (TFR) is 3.8 children per woman. The family size that women consider ideal is substantially lower 2.5 children. If all women in the country could avoid unwanted childbearing, the national total fertility rate (TFR) will be just 2.1 children per woman.

2.3 Maternal health

Pregnancy can pose a risk to maternal health. Preconception care is very important to the health wellbeing of the mother. Decisions about beginning sexual activity, marrying, having children and using contraception directly affect family health and increases chances of transmitting HIV to one another (Chor, et al., 2011). According to Tsawe, et al., (2015), it is argued that women less than 21 years are less experienced on handling their maternal and reproductive issues, some do not utilize maternal health services than they are required or expected to. This clearly indicates that they are still immature to be pregnant and rear new-born.

According to Tan, You, Hu, & Jiang, (2015), lower economic status and educational level influences women’s right to maternal health services, so these factors are viewed as a barrier to equal rights of maternal health services. Due to lack of health insurance for many women in the country leads to lower use of maternal health services thus ending up pregnant while they were not ready to have the babies. This is influenced by lack or shortage of funds to the family.

3. Methodology

3.1 Research design

A cross sectional, correlational research design will be used in the study. According to Polit & Beck, (2014), cross sectional study is noncurrent in nature, where all the information on a specific topic is collected at the same time from the same participants, and no identical study will be done after a specific time. Correlational design determines the relationship between independent variable and dependent variables (Polit & Beck, 2014). In this research, the researchers aim to describe the relationship between the characteristic variables. The dependent variable will be knowledge, attitudes and practices of women towards preconceptual care and the independent variable will be demographic data of the women.

3.2 Setting of the study

The study was conducted in Hhohho region of Eswatini at Pigg’s Peak Public Health Unit (PHU) clinic. The clinic has been selected as a setting to conduct the study (Eswatini Ministry of Health, 2016). It is a place that is easy to reach as the researchers usually conduct their clinical practicum in that place and transportation to and from Pigg’s Peak is available.

3.3 Population of the study

According to Brink, Rensburg, & Walt, (2012), population is the entire group of people or objects that are of interest to the researchers, in other words, a group of people that meet the criteria that
researchers are interested in studying. Population is the entire set of individuals or objects having same characteristics sometimes called the universe (Polit & Beck, 2014). In this study, the population were pregnant women aged above 18 years who attends antenatal care at Piggs Peak PHU. This is the target population of the study with an accessible population.

3.4 Type of sampling
Quota sampling was used in the study as data were collected from the participants that have similar characteristics or same proportion to the entire population. According to Brink, Rensburg, & Walt, (2012), quota sampling refers to sampling method in which the researcher determines the sampling strata to be used in order to be able to replicate the proportions of subgroups. This sampling method does not rely on random choice but depends on convenience choice.

3.4.1 Criteria for inclusion
The study included pregnant women aged above 18 years but not more than 45 years and willing to participate in the study.

3.4.2 Exclusion criteria
Those below age 18 years and pregnant were not included in the study and those women refusing to participate in the study. Furthermore, women not mentally stable, illiterate and health workers are excluded in the study.

3.4 Sample size
The sample size consisted of 100 participants. The participants were treated equally, with privacy and confidentiality regardless of their age, gender, and race and associated factors such as drug or substance abuse.

3.5 Data collection
Permission for data collection was sought from relevant institutions such as the Eswatini Medical Christian University Ethical committee, Ministry of Health Research and Ethics committee and the Piggs Peak Government Hospital matron. Data was collected every Thursday as it is the conducive time for the researchers to be available at the hospital’s PHU. After obtaining informed consent, each participant was given a self-explained questionnaire. The questionnaires were written in English language as most childbearing women were in high schools and some in early tertiary institutions, SiSwati for those who do not understand English. Each participant was required to write identity name to ensure anonymity of participants, but give her own signature. The participants were assured that participation was voluntary, to ensure that no one could influence participant’s responses. The women were given a copy of questionnaire in which each woman indicated her response in the options given in the questionnaire. The questionnaires were collected, checked for completeness of the questions and kept safe.

3.6 Reliability and validity
According to Colin & Julie, (2005-06), reliability is the degree to which an assessment tool produces stable and consistent results. Validity simply means that a test or instrument is accurately measuring what it is supposed to measure (Stephanie, 2016). The data collected were checked by the researchers based on completed questionnaires from the participants. Data quality was validated using double entry of data collected. Data was checked for normal distribution using Microsoft Excel line curves and graphs to ensure that the dependent variable which is factors associated with women knowledge, attitude and practices towards preconceptional care was well distributed.

3.7 Data collection method
Each participant of the study was given self-explanatory questionnaire to fill in. The questionnaire used was adopted from Dr Nani Draman who conducted similar study in Malaysia in 2016. This questionnaire was chosen because it was suitable for the study as it has the knowledge,
attitudes and practices components of preconception care. Furthermore, the questionnaire was validated, with a Cronbach’s alpha of 0.79 (Kasim, Draman, Kadir, & Muhamad, 2016). Permission was obtained from the author through email.

The questionnaires consisted of two sections. Section A pertained to demographic profiles, and Section B included the questionnaire used to assess knowledge, attitudes and practice of preconception care. The participants were encouraged to have secret answers in the study. The grading was from 0 and 1, 0 referring to “no” and 1 referring to “yes”. Information collected in the questionnaires was presented in table forms and graphs. Interpretation of the questionnaire involves the following aspects:

**Preconception care**
- Any interventions either advice or treatment, and lifestyle modification before being pregnant.

**Knowledge**
- Level of women’s knowledge on preconception care will be measured based on correct response using eight preconception care knowledge questions on general knowledge section and the question was scored out of 8 points. Different of cut off point of women’s knowledge will be divided into three:
  
  A. *Good knowledge*
  - Those who have scored 6–8 of correct responses above (70%) to preconception care knowledge questions.
  
  B. *Fair knowledge*
  - Those who scored 50 to 60% have fair knowledge of preconception care
  
  C. *Poor knowledge*
  - Those who have scored less than 1–3 (below 49%) correct responses to preconception care knowledge eight questions.

**Practices**
- A. *Smoking status*
  - Participants with history of smoking or currently smoking regardless of amount have poor heath practice.

- B. *Alcohol consumption*
  - Consumption of alcoholic drinks regularly other than those who drink on holidays and culturally special ceremony days have poor heath practice.

**3.8 Data handling or management**

As the participants was given self-explanatory questionnaires to be filled which were written in English and SiSwati, and kept safely the records in a hard to reach place to ensure that the responses are kept in confidence. The data was kept and will still be kept for a period of ten years, after that data will be discarded because it then allowed other researchers to research on the issue and use that previous study for reference.

**3.9 Data organizing and analysis**

Data collected was checked manually for completeness and then coded, entered and cleaned by statistical software. The data collected was exported to Statistical Program for Social Sciences (SPSS) version 20.0 for data checking, cleaning and logistic regression. Data cleaning will be done by calculating frequencies and sorting. Results were presented in text, tables and charts.

**3.10 Ethical considerations**

Permission to conduct the study was obtained from the Matrons of Pigg’s Peak Government Hospital and Eswatini Medical Christian University Research Ethics Committee. The researchers fully described the study to participants before they consented so that they know their rights, costs and benefits of the study. The researchers did not give participants any incentives in order to gain their participation but they were given important information about the study conducted, and thus participation was voluntary.
Each participating woman consented for herself after obtaining information from the researchers. The consent was written in English languages to allow participants to gain more information thereby making it easy to understand as most people nowadays understand English. Emphasis were made on the point that each participant has freedom to participate in the study.

According to Department of Health and Human Service, (2014), there are primary ethical principles on which standards and ethical conduct in research are based and these principles are introduced in this study to ensure protection of the participants.

A. Beneficence
Beneficence refers to the obligation on the part of the researcher to maximize benefits for the individual participant and society, while minimizing risk of harm to the participant (Adams & Callahan, 2014). So participants were respected as people during conducting of the study. The researchers ensured this through avoiding exposure of their responses or feedback as this may result in serious emotional and psychological harm and discomfort. Participants were also free to withdraw anytime from the study whenever possible or suspect any harm.

B. Right to full disclosure
Right to full disclosure was ensured by fully explaining to participants the nature of the study, the right to refuse or withdraw participation and the researchers’ responsibilities, possible risks and benefits of the study.

C. Justice
In data collection of the study, the researchers were obliged to be fair among all participants who will be giving their feedbacks in the anonymous questionnaire that was distributed to them to voice out their response concerning preconceptual care. The researchers ensured that the study participation selection is not based on participants’ vulnerability and compromised position of certain people. This was done by asking volunteers to participate, not based on principles or random selection by the researchers.

D. Fidelity
The researchers kept all data collected in confidence to maintain faithfulness to the agreement they have made before the study was conducted.

E. Right to self determination
According to Department of Health and Human Service, (2014), in the study, participants were treated as autonomous agents capable of controlling their own activities. The researchers ensured that participants are free to decide voluntarily whether to participate in the study or not without penalty or prejudge mental treatment.

3.11 Limitations of the study
3.11.1. Funding or finance
The researchers underestimated costs that was incurred during data collection which could end up being a major problem. The ministry of labour Eswatini delayed release of project allowances which could delay the progression of study conduct.

3.12 Dissemination of findings or results
Research findings from this study was disseminated using various methods that include; power point presentation to Ministry of Health board members and all health workers all over the country, verbally format to a forum consisting of nurses and student nurses from all the institution in the country practicing in the clinics, taking a full write up copies to informants and finally publishing the findings in a journal article which is available in the Ministry of Health Information Centre, libraries in all the Faculty of Health universities.

4. Results
4.1 Introduction
This chapter describes the characteristics of the study population, identification of women’s knowledge, attitude and practices of preconceptual care, differences between demographics and study variables in Hhohho, Eswatini.
4.2 Characteristics of the sample

A total of 100 pregnant Swazi women who attended antenatal care at Piggs Peak PHU participated in the study. The age of the respondents ranged from 18 to 44 years with a mean age of 28.46 years (Standard deviation = 6.967). The majority of the women were young as they comprised 86% of the total sample. Thirty-eight percent were 25 years and below. In Eswatini ages between 18 and 35 are categorized as the youth (Ministry of Sports, Culture and Youth Affairs, Eswatini, 2015). It is not surprizing that most of the women (70%) were not married. All the women in the study were Christians (100%). The majority of the respondents were literate as they were able to read and write since 64% had secondary education. Out of all the respondents 16% were pregnant for the first time and the rest were multiparas. Most of the multiparas (60% of the 84%) had two to three babies and the rest had above 4 babies but less than six.

<table>
<thead>
<tr>
<th>Variables</th>
<th>n</th>
<th>%</th>
<th>Mean ± SD*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of pregnancies</td>
<td></td>
<td></td>
<td>1.86±1.33</td>
</tr>
<tr>
<td>Age (years)</td>
<td></td>
<td></td>
<td>28.46±6.967</td>
</tr>
<tr>
<td>18-25 years</td>
<td>38</td>
<td>38.0</td>
<td></td>
</tr>
<tr>
<td>26-30 years</td>
<td>30</td>
<td>30.0</td>
<td></td>
</tr>
<tr>
<td>31-35 years</td>
<td>18</td>
<td>18.0</td>
<td></td>
</tr>
<tr>
<td>36-40 years</td>
<td>8</td>
<td>8.0</td>
<td></td>
</tr>
<tr>
<td>≥41 years</td>
<td>7</td>
<td>7.0</td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>70</td>
<td>70.0</td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>30</td>
<td>30.0</td>
<td></td>
</tr>
<tr>
<td>Educational Level</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>10</td>
<td>10.0</td>
<td></td>
</tr>
<tr>
<td>High School</td>
<td>64</td>
<td>64.0</td>
<td></td>
</tr>
<tr>
<td>Tertiary</td>
<td>26</td>
<td>26.0</td>
<td></td>
</tr>
<tr>
<td>Nationality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swazi</td>
<td>100</td>
<td>100.0</td>
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</tr>
<tr>
<td>Non-Swazi</td>
<td>0</td>
<td>0.0</td>
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</tr>
<tr>
<td>Religion</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Christian</td>
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<td></td>
</tr>
<tr>
<td>Non-Christian</td>
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<td>0.0</td>
<td></td>
</tr>
<tr>
<td>Parity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primigravida</td>
<td>16</td>
<td>16.0</td>
<td></td>
</tr>
<tr>
<td>Multipara</td>
<td>84</td>
<td>84.0</td>
<td></td>
</tr>
</tbody>
</table>

SD* standard deviation, n* sample size
Figure 4.1 Displays the mean for age and its standard deviation

The mean score for knowledge is 11.40 with standard deviation 3.97, attitude mean score 16.37 with 5.70 and practices mean score of 12.81 with standard deviation 4.46.

Table 4.2 Mean score for knowledge, attitudes and practices of preconception care in Piggs Peak, Eswatini

<table>
<thead>
<tr>
<th>Variables</th>
<th>n*</th>
<th>%</th>
<th>Mean (SD*)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>52</td>
<td>52.5</td>
<td>11.40 (3.97)</td>
</tr>
<tr>
<td>Attitude</td>
<td>75</td>
<td>75.4</td>
<td>16.37 (5.70)</td>
</tr>
<tr>
<td>Practices</td>
<td>59</td>
<td>59</td>
<td>12.81 (4.46)</td>
</tr>
</tbody>
</table>

*Standard deviation, *sample size

4.3 General knowledge of preconception care

Respondents who scored above 70% had good knowledge on preconception. Attainment of fifty to sixty percent indicated fair knowledge on preconception care. Less than fifty percent indicated poor knowledge on preconception care. A high percentage of the respondents (94%) believe preconception care improve pregnancy outcomes and women’s health. About 75% of the respondents had unplanned pregnancy as most of them were below age 25 years. Respondents (79%) also believe that exercising is important during pregnancy as they indicated that it makes giving birth easy and effective by loosening the muscles. Sixty-two percent of respondents believed alcohol cessation is important during pregnancy as it reduces chances of giving birth to baby with fetal alcohol syndrome. The mean score for knowledge was 11.40 (3.97), with 52.5% of the respondents having good knowledge of preconception care. Details of the respondents’ responses on the knowledge domains are shown in Tables 4.3
Table 4.3 Respondents responses of general knowledge towards preconception care

<table>
<thead>
<tr>
<th>Variables</th>
<th>n*</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preconception care improves pregnancy outcomes and women’s health</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>94</td>
<td>94.0</td>
</tr>
<tr>
<td>No</td>
<td>6</td>
<td>6.0</td>
</tr>
<tr>
<td>Did you plan for this pregnancy?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>25</td>
<td>25.0</td>
</tr>
<tr>
<td>No</td>
<td>75</td>
<td>75.0</td>
</tr>
<tr>
<td>Is preconception care provided in Eswatini?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>14</td>
<td>14.0</td>
</tr>
<tr>
<td>No</td>
<td>86</td>
<td>86.0</td>
</tr>
<tr>
<td>The health care system of the country is doing well in caring for</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pregnant women in terms of support and provision</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>74</td>
<td>74.0</td>
</tr>
<tr>
<td>No</td>
<td>26</td>
<td>26.0</td>
</tr>
<tr>
<td>Is exercising important during pregnancy?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>79</td>
<td>79.0</td>
</tr>
<tr>
<td>No</td>
<td>21</td>
<td>21.0</td>
</tr>
<tr>
<td>Is alcohol cessation or no alcohol important during pregnancy?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>62</td>
<td>62.0</td>
</tr>
<tr>
<td>No</td>
<td>38</td>
<td>38.0</td>
</tr>
<tr>
<td>Have you been taught on close monitoring of weight?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>54</td>
<td>54.0</td>
</tr>
<tr>
<td>No</td>
<td>46</td>
<td>46.0</td>
</tr>
<tr>
<td>Is reproductive family planning important?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>92</td>
<td>92.0</td>
</tr>
<tr>
<td>No</td>
<td>8</td>
<td>8.0</td>
</tr>
</tbody>
</table>

*Sample size

4.4 Attitude towards preconception care

Out of the 100 respondents, about 83% believe preconception care has effect on pregnancy outcomes and 92% of them believe hospital is the best place to provide preconception care in Eswatini. As shown in Table 4.4, 75.4% of the respondents had good attitudes towards preconception care. The mean score for attitude was 16.37 with standard deviation of 5.70. Details of the respondents’ responses on the attitude domains are shown in Tables 4.4 below.
Table 4.4 Respondent’s responses of attitude towards preconception care

<table>
<thead>
<tr>
<th>Variables</th>
<th>N*</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preconception care has any effect on pregnancy outcome</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>83</td>
<td>83.0</td>
</tr>
<tr>
<td>No</td>
<td>17</td>
<td>17.0</td>
</tr>
<tr>
<td>Preconception care is an important health issue for women of childbearing age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>90</td>
<td>90.0</td>
</tr>
<tr>
<td>No</td>
<td>10</td>
<td>10.0</td>
</tr>
<tr>
<td>Hospital or clinic is the best place to provide preconception care in Eswatini</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>92</td>
<td>92.0</td>
</tr>
<tr>
<td>No</td>
<td>8</td>
<td>8.0</td>
</tr>
<tr>
<td>Preconception care can improve pregnancy outcomes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>96</td>
<td>96.0</td>
</tr>
<tr>
<td>No</td>
<td>4</td>
<td>4.0</td>
</tr>
<tr>
<td>Are you satisfied with care provided currently in Eswatini facilities on preconception?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>16</td>
<td>16.0</td>
</tr>
<tr>
<td>No</td>
<td>84</td>
<td>84.0</td>
</tr>
</tbody>
</table>

*Sample size

4.5 Practices towards preconception care

A total of 100 respondents gave their responses of preconception care practices. About 62% of the women take a balanced diet during pregnancy and the remaining 38% take junk food as they crave for during pregnancy. Almost all the respondents took folic acid and iron supplements during pregnancy giving 96% practice rate. Eight four percent of the pregnant women exercised during pregnancy and majority exercise three to five times a day. Twelve percent of the 100 respondents take tobacco in their life. As shown in Table 4.5, 59% of the respondents had fair practices towards preconception care. The mean score for practices was 12.81 with standard deviation of 4.46. Details of the respondents’ responses on the practices domains are shown in Tables 4.5 below.
Table 4.5 Respondent’s responses of practices towards preconception care

<table>
<thead>
<tr>
<th>Variables</th>
<th>N*</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>What type of nutrition do you take?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>62</td>
<td>62.0</td>
</tr>
<tr>
<td>No</td>
<td>38</td>
<td>38.0</td>
</tr>
<tr>
<td>Do you take folic acid and iron supplements?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>96</td>
<td>96.0</td>
</tr>
<tr>
<td>No</td>
<td>4</td>
<td>4.0</td>
</tr>
<tr>
<td>Did you receive genetic counselling?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>1</td>
<td>1.0</td>
</tr>
<tr>
<td>No</td>
<td>9</td>
<td>9.0</td>
</tr>
<tr>
<td>Do you exercise during pregnancy?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>84</td>
<td>84.0</td>
</tr>
<tr>
<td>No</td>
<td>16</td>
<td>16.0</td>
</tr>
<tr>
<td>Do you smoke or take tobacco?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>12</td>
<td>12.0</td>
</tr>
<tr>
<td>No</td>
<td>88</td>
<td>88.0</td>
</tr>
<tr>
<td>Did you receive psychosocial counselling before pregnancy?</td>
<td>40</td>
<td>40.0</td>
</tr>
<tr>
<td>No</td>
<td>60</td>
<td>60.0</td>
</tr>
</tbody>
</table>

*Sample size

4.6 Relationship between demographics and other variables

4.6.1 Marital status vs pregnancy planning

The relationship is between marital status and the general knowledge of either planning for pregnancy or not in pregnant women. In the respondents, there were 75 respondents who did not plan for their pregnancy consisting of 53 single and 22 married women. Out of the 25 respondents that planned for their pregnancy consisting of 53 single and 22 married women. Out of the 25 respondents that planned for their pregnancy 17 were single and 8 were married. This data is presented in the bar chart below.

Figure 4.2 Bar chart displaying relationship between marital status of the women and planning for pregnancy.
4.6.2 Age groups vs smoking practice during pregnancy

There were 88 respondents who were not smoking of which 34 of them were between age group 18-25 years, 30 between 26-30 years, 10 between 31-35 years, 8 between 36-40 years and 6 above 40 years but not more than 45 years. Only 12 respondents were smoking or taking tobacco, 4 of them between 18-25 years and 8 between 31-35 years. The information is represented in the bar chat in figure 4.3

![Bar chart displaying relationship between age groups of the women and smoking practice.](image)

5. Discussions, Conclusion and Recommendations

5.1 Introduction

This chapter will discuss the results presented in the previous chapter about a study entitled knowledge, attitudes and practices of preconception care in Hhohho, Eswatini. The main aim of the study was to explore knowledge, attitudes and practices among childbearing women towards preconceptual care in Eswatini. Objectives of the study are as follows (a) to determine knowledge, attitudes and practices among childbearing women towards preconceptual care and (b) to identify relationship between demographic factors and women knowledge of preconceptual care. Conclusion will be drawn from the results and recommendations will be made.

5.2 Characteristics of the pregnant women

The study identifies knowledge, attitude and practices towards preconception care in childbearing women in Hhohho, Eswatini. Data was collected from 100 participants at Pigg's Peak PHU. The public health unit usually appoints more than 10 clients per day for subsequent visits only from Monday to Thursday which gave assurance to the researchers that the sample size of 100 would be met.

The mean age of the respondents in this study was 28.46 years with standard deviation=6.967. This age was comparable to similar studies. According to Kasim, et al., (2016), a study conducted in Kelantin, Malaysia reported mean ages of 28.8 years. The mean age was 30.92 with standard deviation of 5.38 years, a study conducted in Sudan (Ahmed, et al., 2015). In this study, all of the respondents were Swazis, comprising 100% of the total respondents, and 70% of the respondents were single. The majority of the women were young as 38% of the respondents were 25 years and below. Out of all the respondents 16% were primigravida and the rest were multiparas who mostly had two to three children with birth interval of 1 year.

A total of 64% of women had secondary education level and 26% had tertiary level education respectively and the rest had primary education level. A previous study showed that persons with a higher education had more positive attitudes towards preconception care than those with a lower
education level (Ruechukondamrong & Panichkul, 2011). In this study, we found that the women were educated as 64% had secondary education. These women had good attitudes towards preconception care in Eswatini. It was also illustrous that the women did not receive enough information on preconception care. The education level indicates the type of employment the pregnant women work, level of exposure and accessibility of health information.

5.3 Knowledge of Preconception Care

The mean knowledge score was 11.40 ± 3.97. An overall evaluation revealed that 52.5% of the respondents had fair knowledge. About 94% of the respondents believe preconception care improves pregnancy outcome and women’s health. The six percent women are likely to suffer pregnancy complications during pregnancy and postpartum because they do not believe preconception care improves pregnancy outcomes which was influenced by level of education as all of them had primary level. Health education is important in the clinics to prevent such complications and thus equipping the women with information.

Approximately 75% of the respondents had not planned their pregnancy. In a study conducted by Frey and Files in 2006, they only noted 52.8% of their respondents had unplanned pregnancy in Arizona. According to Frey & Files, (2006), 47.2% of the respondents had planned their pregnancy. Majority were aware of the need to be in good health before getting pregnant. This result in Arizona was reflected in the use of family planning methods. In Eswatini, the high rate of unplanned pregnancies may be caused by poor provision of preconception care and access of preconception care in the private facilities that provide it.

As little as 14% of the respondents indicated that preconception care is provided in Eswatini which indicates that they have the knowledge from other sources of information such as internet, schools and television as this percentage consist mostly of 18-25 years’ population and a few from 25-30 years. According to Ministry of Sports, Culture and Youth Affairs, Eswatini, (2015) ages between 18 and 35 is categorised as youth. These respondents which indicated preconception care is provided was youth. They are mostly in tertiary level of education, so they had opportunities to access information about their health.

A majority of the respondents reported that exercising is very important to pregnant women, although it does not need to be too much and too little. Approximately 79% of the respondents indicated that they know the importance of exercise during pregnancy. Respondents stated that exercise reduces pregnancy related discomfort and improve maternal fitness which is needed during delivery and improving self-esteem. Sixty-two percent of the respondents further indicated that they know the risk of alcohol during pregnancy. Most children born to a mother who takes alcohol are born with fetal alcohol syndrome (FAS). Poor knowledge on preconception care exposes the pregnant women to maternal anaemia, poor birth and poor family planning.

5.4 Attitudes towards Preconception Care

The success of the preconception care study mostly depends on women’s defiance and their willingness to participate. The success of the study showed that the majority of women at Piggs Peak were willing to participate in the study and possessed a good attitude (75.4%) towards preconception care, with only 24.6% having a poor attitude. A total of 90% of the respondents indicated that preconception care is an important health issue during the childbearing age which is 18 to 45 years whilst the rest did not view preconception care as an important health care issue. According to Kasim, et al., (2016), in a study conducted in Malaysia, 83.7% of the respondents strongly agreed that preconception care was a priority before their pregnancy. However, this proportion is slightly lower than the 90 % the researchers identified at Piggs Peak, Eswatini. In our study, 10% of the respondents refused that preconception care is an important health issue during the childbearing age. The reason for refusal could be due to lack of knowledge of preconception care and not identifying the importance of preconception on pregnancy outcomes.

The majority of respondents chose hospitals or clinics as the best place to receive preconception care advice rather than any other places that could offer it. This location was selected because it is
easily accessible to the researchers. Furthermore, the services are also provided equally without bias. Based on our observations, the majority of the respondents were from all classes of families.

5.5 Practices of Preconception Care

The mean score for appropriate practices in this study was 12.81 ±4.46 out of a total score of 6. This finding indicated that 59% of women at Pigg's Peak practiced preconception care very well. This is greater than the score reported by Kasim and Draman, in which 45.2% of the respondents poorly practiced preconception care and the difference may be due to a lack of exposure and awareness of the availability of preconception care (Kasim, Draman, Kadir, & Muhamad, 2016). There are no formal preconception clinics established in local settings especially in government clinics. Currently, preconception care is introduced during consultations for contraception.

Folic acid and iron supplements are important supplements during pregnancy in growth of foetus. Preconception care encourage intake of folic acid 1 or 2 months before pregnancy. About 96% of pregnant women take folic acid and iron supplements during pregnancy till delivery, although some attend their initial visit in late second trimester where the folic acid is not so useful to the growing foetus. Currently, women do not take folic acid before pregnancy except for the few who buy it in pharmacies as over-the-counter medication. About 29.6% of women in Malaysia consume folic acid and iron supplements before pregnancy (Kasim, et al., 2016).

Regarding health lifestyle, 84% of the women exercise as part of their health lifestyle. Although a large proportion of the 84% exercise by doing homestead activities which took long duration. Some of the respondents indicated that they exercise twice or three times a week to improve their self-esteem and reduce pregnancy related discomfort. According to Kasim, et al., (2016), 43% of Malaysian women exercise as their regular health activity. These results were more than the results we got in Eswatini.

Approximately 12% of the participants in the study smoke tobacco. The effects of smoking during pregnancy are that babies may be born prematurely and with low birth weight making them likely to be sick and hospitalized longer or babies are likely to suffer sudden infant death syndrome.

5.6 Relationship between demographics and other variables

5.6.1 Marital status vs pregnancy planning

Seventy-five percent respondents who did not plan for their pregnancy consisting of 53% single and 22% married women. Out of the 25% respondents that planned for their pregnancy 17% were single and 8% were married. Normally planning pregnancy is done by married women who have families. Findings on the study indicated that only a few plan for their pregnancy regardless of their marital status hence they reduce risk of premature birth and low birth weight babies. Women with unplanned pregnancy are less likely to obtain prenatal care which results in a range of developmental risks such as poor physical and mental health.

5.6.2 Age groups vs smoking practice during pregnancy

According to Ministry of Sports, Culture and Youth Affairs, Eswatini, (2015), youth is defined as 18 to 35 years of age. In this study, eighty-six percent of the respondents were youth. Popularly, youth is affected by peer pressure especially to secondary school going and tertiary students due to different lifestyle practices. Eighty-eight respondents comprising mostly of the youth did not smoke. Out of the eighty-eight, seventy-four respondents were youth as categorized by the Ministry of sports, culture and youth affairs of Eswatini. Only 12 respondents were smoking or taking tobacco, 4 of them between 18-25 years and 8 between 31-35 years. All the cases of tobacco smoking are among youth which was still exploring life. This smoking practice will affect their fetus in utero leading to preterm labour and premature birth with low birth weight. This babies are prone to lung problems, learning disabilities and physical growth problems.

5.7 Conclusion

Knowledge and attitude regarding preconception care was affected by women’s age, religion, occupation, educational status, pregnancy intention, previous history of abortion, monthly income, previous history of stillbirth, parity and family planning. Practices of preconception care was mostly
pretentious by lifestyle of the women. Childbearing women at Piggs Peak have fair knowledge, good attitudes and good practices towards preconception care. However, there is still gaps to be filled especially on giving knowledge on preconception care.

5.8 Recommendation

The researchers recommend that preconception care should be introduced fully in Eswatini so that clients could access the service, and knowledge on preconception should be provided regardless of the age of the client. Preconception care information can be integrated into educational programmes, especially in secondary and tertiary schools. Knowledge on preconception care should also be provided to all reproductive women who attend clinics or hospitals for reasons other than antenatal care and family planning. The knowledge can be delivered through pamphlets and during health education sessions at health centres.

6. Acknowledgements

We would like to express our sincere gratitude to Professor I. T. Zwane, Miss I. Mshayisa-Gamedze, Miss S. Mahanya and everyone who was involved in making this study a reality. A warm thanks to all the nurses especially nurse Mohale and Mhitha, and all participants at Piggs Peak PHU who were very supportive throughout this study. A special thanks to Doctor. Nani Draman, who allowed us to use his validated questionnaire in this study.

7. Dedication

It is our genuine gratefulness and warm regards that we dedicate this work to God for being with us in tough times of our study, our parents and the nursing students who are still furthering their studies.

8. References


