

**KNOWLEDGE AND PRACTICE OF PRECONCEPTION CARE
AMONG WOMEN ATTENDING REPRODUCTIVE HEALTH CLINIC
IN KIBAHA DISTRICT**

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**KNOWLEDGE LEVEL AND PRACTICE ON PRECONCEPTION CARE AMONG
WOMEN ATTENDING REPRODUCTIVE HEALTH CLINIC IN KIBAHA DISTRICT**

By

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**"A Dissertation Submitted in Partial Fulfillment of the Requirements for the
Degree of Master of Science in Midwifery and Women's Health of the
Muhimbili University of Health and Allied Sciences".**

November, 2021

CERTIFICATION

The undersigned certifies that she has read and hereby recommend for acceptance by the Muhimbili University of Health and Allied Sciences a dissertation entitled “*Knowledge level and practice on preconception care among women attending reproductive health clinic in Kibaha district, Coast region Tanzania*’ in fulfillment of the requirements for the degree of Master of Science (Midwifery and Women’s Health) of Muhimbili University of Health and Allied Sciences.

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Date

DECLARATION AND COPYRIGHT

I, **Delila E Msigwa**, declare that this dissertation is my original work and that it has not been presented and will not be presented to any other University for a similar or any other degree award.

Signature _____ Date _____

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ABSTRACT

Background: Low level of preconception care is a big challenge globally where many people of reproductive age are facing a lot of challenges due to poor knowledge and practice on preconception care. Proper information and utilization of preconception care to the community will help greatly in reducing risks that may arise to the mother and her unborn baby before pregnancy, during pregnancy and after delivery as well as decreasing the burden of high maternal mortality and morbidity as well as neonate mortality and morbidity.

Aim: This study aims on assessing the knowledge and practice of pre-conception care among women attending Reproductive Health Clinics in Kibaha District.

Methodology: A descriptive cross-sectional study design with a quantitative approach was used. A probability sampling method using a simple random technique was used to select 424 women of reproductive age who completed the structured questionnaires. The SPSS version 20 was used to analyze data. Mean and standard deviation was calculated based on knowledge and practice regarding preconception care. Proportions were calculated and compared using logistic regression. In all the analyses 95% confidence intervals and p values were used to determine statistical significance whereby a p-value of less than 0.05 was taken as significant.

Results: Among 424 participants of the knowledge level and practice of preconception care the results indicated that 285 (64.48%) have knowledge and 102(33.06%) practice preconception care. Mean knowledge and practice scores were 9.48(SD) and 6.81 (SD) respectively. Age influences the knowledge of preconception care higher by 0.081 relative to the knowledge of preconception care of respondents with younger respondents. Knowledge of preconception care was influenced by information obtained from midwives and doctors by 5.032 times those who accessed information using other means. Media was also found to have a significant influence on knowledge of preconception care by 5.094 relatives higher than means of accessing information. About 71% of the women were not able to get a chance to do any screening of their health before pregnancy whereas only 29% were able to do screening, 82% of the respondents showed not to have taken folic acid at the time they fill to get pregnant and only 22% showed otherwise while about 97% of women did not take any consideration on

healthy eating before pregnancy whereas only 3% revealed otherwise. Lack of proper information and measures to enhance the practice of preconception care is the leading challenge.

Conclusion and Recommendations:

Results in this study indicate that there is inadequate knowledge of preconception care which leads to poor practice. There is a need for comprehensive strategies by the MoHSW, midwives and educators to ensure that the community receive proper information and practice it. Advocacy programs geared at increasing public awareness on the importance of preconception care among women of reproductive age for a healthy pregnancy, healthy babies as well a healthy community.

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LIST OF ABBREVIATIONS

PCC: Pre-conception care

RCHC: Reproductive and Child Health Clinic

WHO: World Health Organization

MoHCDGEC: Ministry of Health, Community Development, Gender, Elderly and Children

DEFINITIONS OF TERMS

Preconception care: Is the provision of biomedical, behavioral and social health interventions to women and couples before conception occurs, aimed at improving their health status, and reducing behaviors and individual and environmental factors that could contribute to poor maternal and child health outcomes(1).

Reproductive age: Refer to a female age from 15-49 years of age(2).

Knowledge: Refer to a level of women's knowledge on preconception care which will be measured based on correct response using preconception care knowledge questions and the question will be scored(3).

Pre conceptual care practice: This is a practice that uses various interventions for lifestyle modifications and medical interventions which can be of benefit to maternal and neonatal health when applied before conception(4).

CHAPTER ONE

1.0 INTRODUCTION AND BACKGROUND

Provision of preconception care to women and couples before and between pregnancy improves the chances of the mother and her baby being healthy (5). It aims to identify and modify risks of a woman's health or pregnancy outcome through prevention and management. Through this care, there will be a promotion of reproductive planning and interventions to reduce risks that may arise and thus allowing women to enter pregnancy in a healthy state as well as expecting a healthy newborn(6). The package of preconception care service includes prevention of adolescent pregnancy and unintended pregnancy, with all care which benefits the health of the mother before and during pregnancy plus assurance of the health of the fetus up to delivery and childhood(7). This also includes risk behavioral change and screening and management of chronic infection(6).

In 2015 almost 303,000 women died as a result of pregnancy and childbirth-related complications in the world, whereby among those deaths 99% occurred in low- and middle-income countries specifically South Asia and Sub-Saharan Africa. The frontline causes of those maternal deaths are hemorrhage (27%), pre-existing medical condition (15%), hypertension (14%), sepsis (11%), abortion (8%) and other indirect causes (7%)(8). In 2007, WHO reported that about 16 million adolescent girls worldwide between the age of 15 to 19 give birth each year and that was representing 11% of all births worldwide (7). Unfortunately, all these girls are not prepared to be pregnant, childbirth process and motherhood and that lead to increase of a lot of risks including prematurity(6).

Despite growing information of preconception care knowledge around the world but there is not enough practice of it, and it has not yet taken as a part of strategies to reduce maternal and neonatal mortality as there is an observable gap in the continuum of care(1). The utilization of this service has been low worldwide, as different articles said. For example, In China the utilization of preconception care is 40.0%(9), in Iran, it is 47%(10), Nepal is 51%(11), Canada is 54%(12) and 13.4% in Ethiopia(13). Preconception health is important for people of

reproductive age. Preconception health behaviours should include individual perception on a need to seek information regarding preconception care, talking to a health care provider to assess health, as well as improving health before conception. Examples of recommended preconception health changes include taking folic, stopping smoking, stopping alcohol use, addressing pre-existing medical conditions, adjusting medications, and considering risk factors at home and in the workplace(12).

Although there is an improvement in maternal and child health in Africa, still maternal and child morbidity and mortality are the major problem. The overall level of knowledge on preconception care among women of reproductive age is low while it is clear that the magnitude of adverse birth outcomes like antepartum hemorrhage, postpartum hemorrhage, premature rupture of membrane, pregnancy-induced hypertension, anemia, low birth weight, stillbirth, preterm delivery, and multiple birth defects that can be minimized by effective PPC(14).

A study done in Kenya in 2020 revealed that there is low uptake of preconception care knowledge and utilization while also there was a significant difference in PCC uptake between the rural (16.5%) and urban (35.1%)(15), which is consistent other studies conducted elsewhere (15) The other study done in Nigeria revealed that among 150 women of reproductive age participate in the study, only 31.3% have overall knowledge of preconception care(16). The knowledge level on preconception care was significantly associated with occupation, level of education, residence, number of pregnancies and past obstetrics complications.

Many lifestyle behaviours affect the health outcome of women plus the future generation. Behaviour like cigarette smoking, alcohol consumption, not taking cervical cancer screening, overweight or obesity, all these behaviours if occur to women who are in a period of planning pregnancy, they will require great support in getting ready for pregnancy to improve and realign with the preconception care recommendation(17). Women with existing conditions like diabetes require proper counseling and management before pregnancy to reduce the risk of macrosomia(18). Therefore, research on assessing the level of knowledge about

preconception care among women of reproductive age is needed and is essential to provide baseline information to assist in developing strategies for the better service of preconception care.

1.1 Problem Statement

Pre-conception care is a set of interventions aimed at identifying and modifying risks to a woman's health and also expecting a good pregnancy outcome. This should occur at any time during reproductive age checking on personal and family history, physical examination, laboratory screening, reproductive planning, nutrition, supplements, weight, exercise and vaccine. All these if not well-taken care, likely morbidity and mortality of newborns and mothers will still be increasing(19,20).Preconception care must be seen as an earlier chance, not just for family planning or to diminish maternal and neonatal mortality, but also to advance long-term outcomes for adolescent girls, women, and children. Women's general health and reproductive health must more and more be considered as crucial stages in the continuum of care. Preconception care is widely recognized as a way to optimize women's health through biomedical and behavioural changes before conception, ultimately improving pregnancy outcomes. In terms of prevention, PCC is primary prevention for the future baby and secondary prevention for prospective mothers(3).

Globally,60-73% of deaths of newborns from zero to seven days are caused by prematurity and congenital anomalies(21). All these conditions are contributed by the mothers not having enough information of preconception care like taking folic acid tabs and so on. Despite the United Nations Sustainable Development Goal no.3(22) that aims to reduce the burden of neonate mortality rate to 12 per 1000 live births, but the deaths are still high especially in low and middle-income countries(21).These deaths could have been prevented if women could have knowledge about preconception care and utilized it properly as we know that this strategy is more important in the reduction of that mortality.

In African countries specifically, utilization of preconception care seems to be low matchless to the other continents where utilization of preconception care is about (9.6%) in Ethiopia, Sudan (9%), Sri Lanka (27.2%) and Kenya (25.8%) which bring the more negative outcome

to maternal and newborn babies(14).In Tanzania, little is known about the practice of preconception care and a few studies have been done in this area (23,24). Knowledge of preconception care is likely to impact the reduction of maternal and neonate mortality and morbidity. The maternal mortality rate remains high in Tanzania that is 556 deaths per 100,000 live births(24). Low level of knowledge and practice of preconception care contributes to the prevalence of anemia, abortion, infections, premature deliveries and congenital malformation that have been reported as one of the leading causes of maternal and neonate deaths(25)

The deaths resulting from pregnancy and delivery are still high especially in low and middle-income countries(21).These deaths could have been prevented if women could had knowledge about preconception care and utilized it properly, So this study aimed to assess the level of knowledge and utilization of preconception care among women of reproductive age attending RCH clinics in Kibaha District and the results will help to provide recommendations on how to improve the strategies for promoting the health of mothers, children, family, community and the nation at large.

1.2 Rationale of the study

The study aims at making contributions towards unveiling the current levels of awareness and participation in preconception care by women and thus enabling policy makers to utilize it as inputs towards developing strategies and guidelines for providing the services by clinics and hospitals in the country. Hence it is expected that will help to improve health outcomes for women and their children as well as reduce maternal and child morbidity and mortality.

Currently, the world is working on the sustainable development goal program (2016-2030) and one of the goals is the reduction of maternal and child mortality globally, so the results of this study will contribute to planning National strategies to reduce those deaths. Also, the findings of the study can become on mother and newborn care especially in the preconception as there are few studies on the matter undertaken in Tanzania. Moreover, the results can also be used to strengthen the training of students studying the importance of preconception care

with the expectation that on graduating they will give precise and accurate care services that will benefit women and the community at large in the country

13 OBJECTIVES

1.4 Broad objective

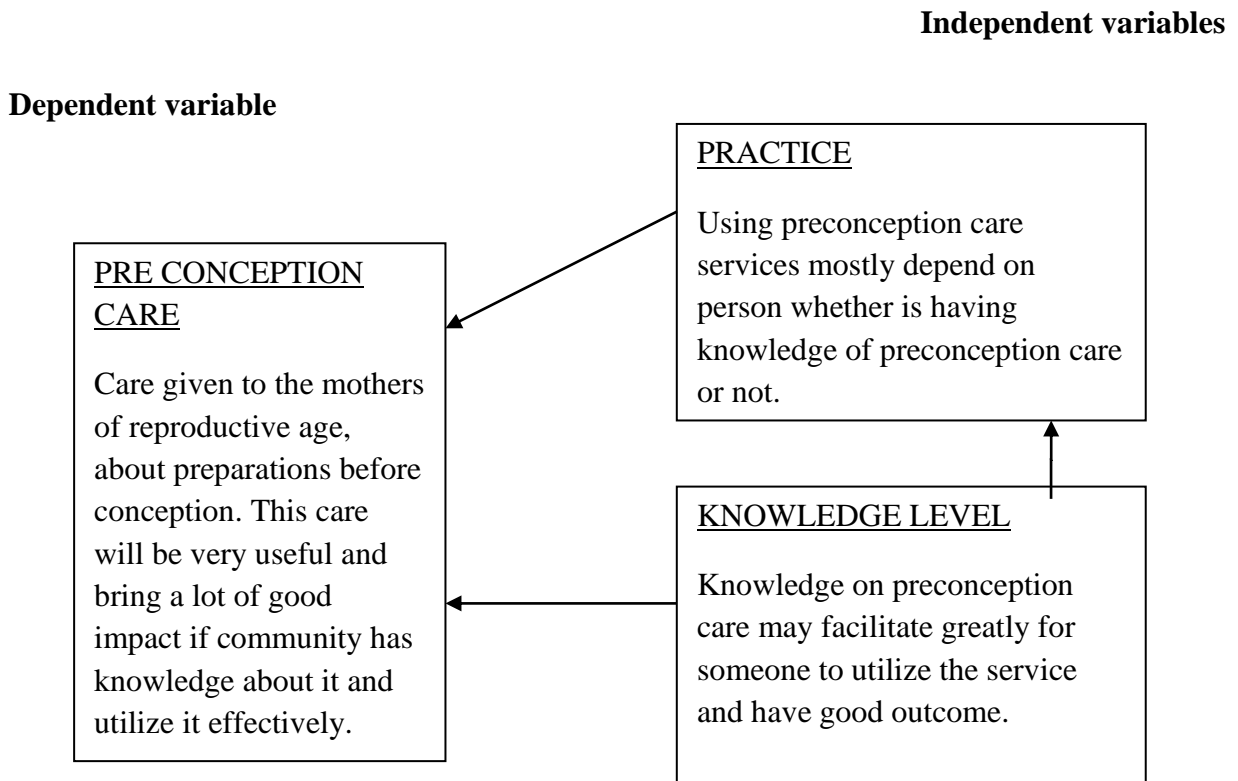
To assess the knowledge and practice of preconception care among women attending reproductive health clinics in the Kibaha district

1.5 Research Objectives

1. To determine the level of knowledge on preconception care among women who attend reproductive health clinics in the Kibaha District.
2. To determine the practice of preconception care among women who attend reproductive health clinics in the Kibaha District.
3. To determine factors that influence knowledge and practice of preconception care among women who attend reproductive health clinics in the Kibaha District.

1.6 CONCEPTUAL FRAMEWORK

Figure 1: conceptual framework describing the level of knowledge and practice about preconception care



Provision of preconception care to women and couples improves the chances of mother's and baby's health. Interventions like screening of diseases, use of folic acid before pregnancy, management of diseases, exercise and modifying of behaviours like alcohol and smoking are aimed at keeping the mother safe and out of risks. The above conceptual framework explains preconception care that how important for women to know about preconception care and definitely if they have proper information they will utilize it.

1.7 LITERATURE REVIEW

WHO report shows that preconception care has a positive impact on maternal and child health outcomes. The report provides a foundation for implementing a pack up of promotive, preventive and curative health interventions shown to have been effective in improving maternal and child health. A wide range of sectors and stakeholders needs to be engaged to ensure universal access to preconception care. The report also guides non-health sectors, foundations and civil society organizations to collaborate with, and support, public health policy-makers to maximize gains for maternal and child health through preconception care(26).As we know that the world espouses the strategies Sustainable Development Goals (2016-2030) from Millennium Development Goals, and one of the unfinished businesses was maternal-child mortality. While the whole region experiencing a decline in maternal and child mortality, but the Sub Saharan region remains high (27), and this, may be due to different reasons including poor knowledge and utilization of preconception care.

1.8 Knowledge of Preconception care

Preconception care can be utilized well and have a good outcome if perception, understanding and awareness about preconception care is all done positively. To practice preconception health, men and women need to be familiar with the importance of making healthy changes before conception, be familiar with the preconception factors that could influence the health of their future children, and have an awareness of the changes they can make to improve their health before conception. This segment shares the understanding of the relationship between preconception health and the health of the baby, things men and women should do before conception, as well as awareness of folic acid recommendations. It provides information about risk factors that were well recognized and those that were poorly understood. Preconception health is important for both men and women.

Preconception health behaviors should include individual perception on an urge to seek information regarding preconception care, talking to a health care provider to assess health, as well as improving health before conception. Many lifestyle behaviors affect the health outcome of women plus the future generation. Behavior like cigarette smoking, alcohol

consumption, not taking cervical cancer screening, overweight or obesity, all these behaviors if occur to women who are in a period of planning pregnancy, they will require great support in getting ready for pregnancy to improve and realign with the preconception care recommendation(17). Women with existing conditions like diabetes require proper counseling management before pregnancy to reduce the risk of macrosomia and also address pre-existing medical conditions, adjust medications and consider risk factors at home and in the workplace(12).

In Africa, a little more effort is needed to improve the awareness of preconception care in the communities and the important strategy is to provide the appropriate information of preconception care for women before pregnancy with good health status and to minimize risks faced during childbirth by evidence- based risk assessment. This is mainly feasible by identifying factors for preconception care to achieve better pregnancy outcomes among women. For example, providing advice regarding exercise, obesity, nutrition, occupational hazards, family support, and financial issues related to pregnancy provides a healthy pregnancy outcome. Maximizing access to psychological and psychiatric therapies, drug and alcohol services, stop smoking services, weight management services, reducing barriers to utilize preconception care, and migrant health-related services such as TB, hepatitis B, and HIV can be managed and mitigated with the support of health professionals(28).

In Tanzania, great works have to be done regarding knowledge of preconception care as evidenced by a few studies regarding preconception care. A retrospective study done in Tanzania revealed the report that several maternal deaths from 2006 to 2008 were stable but kept increasing from 2009 to 2015 where the births rose from 44% (1999) to 63% (2015). But the causes remain the same that included hemorrhage, abortion, sepsis, anemia, eclampsia and infections such as HIV(8). The deaths of these innocent mothers could have been prevented if there were proper utilization of preconception care.

1.9 Practice of preconception care

Although preconception care has several critical advantages on improving maternal and child health, the utilization of the service in developing countries is very low(14). The service has not been widely utilized because the objectives are not widely understood and appreciated (13). Apart from being just care provided to the women of reproductive age, before pregnancy but the package of preconception care also includes prevention of adolescent pregnancy and unintended pregnancy, optimizing pre-pregnancy weight, promotion of health nutrition including supplementation of essential foods with micronutrients, screening, diagnosis and management of mental health disorders, and diagnosis and management of chronic infections including STI's and HIV/AIDS. So, every woman of reproductive age who is capable of becoming pregnant is a candidate for preconception care, even if she is not planning to conceive yet.

If preconception care is not practiced well, some risks may arise during pregnancy and delivery to the mother and her newborn. People from low socio-economic status are the ones who are more likely not to use preconception care as they are at risk of engaging in risk-taking behaviours such as smoking and alcohol/drug abuse. Moreover, low socio-economic groups are more likely to be overweight and are less likely to get regular exercise, both of which contribute to a decreased health status and also increase the risks of conditions that may endanger pregnancy(29).

A study done in Nepal concluded that mothers with a low level of knowledge and practice regarding preconception care were relatively poor and the gap was found in genetic counseling, access to preconception care, folic acids supplementation, routine checkup and infertility test. All these risks contribute greatly to maternal and neonate morbidity and mortality(11).

A study done in Ethiopia showed that women especially those who are having a formal education, are having more chances of utilizing preconception care services. Women who attended secondary school or more were nearly 2 times more likely to utilize preconception care than women who attended primary school or less as the findings indicate that educational

status positively affects utilization of preconception care. The association may have been explained by an educated mother who can easily read and understand information regarding. Additionally, an educated mother may spend her leisure time reading different magazines and books and information regarding preconception care may be there(14).

A study done in Tanzania shows that women tend to attend MNCH clinics late after conception and miss the opportunity for pregnancy care(23,24)without recognizing the consequences of not utilizing preconception care, and they can't be blamed for it's all because of lack of knowledge of its importance. For example, mothers with advanced age when conceiving they are at risk of many problems related to pregnancy and childbirth including anemia, postpartum hemorrhage and even fetal malformation. Although age is a risk factor for many health problems, many of these women get pregnant with preexisting conditions(30). All of these can be cleared out if the mothers receive proper information about preconception.

(18). So, research on assessing the level of knowledge about preconception care among women of reproductive age is needed and is essential to provide baseline information for assisting to develop strategies for the better service of preconception care services.

CHAPTER TWO

2.0 METHODOLOGY

2.1 Study design

The study was a descriptive cross-sectional design that utilized a quantitative research approach(3). A cross-sectional design involves the collection of data at one point in time. Where statistical inferences from the data collected in a population of interest. Therefore, each participant was assessed at a single time during the study period. The design enabled the researcher to capture the phenomena under study at one point of data collection.

2.2 Study setting

The study was conducted at Kibaha District reproductive health clinics. This is because Kibaha is the regional headquarter of the Coast Region. Kibaha has almost 65,835 women in the total population which is equal to 51.2% according to a census of 2012. Coast Region is one of the 31 regions of Tanzania. It has 8 districts which are Bagamoyo, Chalinze, Kibaha town council and Kibaha district, Kisarawe, Mkuranga, Mafia, Rufiji and Kibiti. Geographically Kibaha is 40 Km away from Dar es Salaam City. It is bordered by Ubungo District to the East, Bagamoyo to the West, Kisarawe South and North the small town of Mlandizi. The council has an estimated area of 750 square Kilometres and lies between the latitude 6.80 South and longitude 38.20 and 38.50 East. It is directly linked with Bagamoyo Town by seasonal road, while connection to other District Headquarters such as Rufiji, Kisarawe and Mafia area accessible through Dar es Salaam. According to the National Population Census of the year 2012, the city was found to have a population of 1,098,668 million accounting for 10 percent of the total Tanzania Mainland population.

2.3 Study Population

The study population was women of reproductive age attending reproductive health clinics that were available during data collection who came to a reproductive health clinic for different services. The reproductive age in this study refers to 17 to 49 years of age.

2.4 Inclusion and Exclusion criteria

2.4.1 Inclusion Criteria

1. All women of reproductive age who attended the clinic at the particular time
2. Any woman of reproductive age who was from Kibaha and came to the RCH clinic

2.4.2 Exclusion Criteria

1. Those women of reproductive age who were available at the clinic during data collection and not willing to participate in the study.

2.5 Sample size

Several studies have been conducted to determine the level of knowledge of preconception care since there is no similar study done in Tanzania, but one of them was conducted in Hawasa in Ethiopia which showed that proportion(p) was 50% (3).

$$\text{Sample size (n)} = Z^2 p (1-p) / e^2$$

Where by n = minimum sample size required.

$$e = \text{margin of error (5\%)}$$

$$p = \text{proportional was obtained from previous study (50\%)}$$

$$z = \text{Confidence level at 95\%} = 1.96.$$

$$(1.96)^2 * 50(100-50)/5^2$$

$$3.8146 * 2500 / 25 = 9536.5 / 25$$

$$n = 381.46$$

From the above formula, the sample size required was n = 381.46

Adjusted non-respondent rate calculated as follows;

$$n = nx1/R$$

$$382 * 1 / 0.9 = 389.4 = 424.$$

The sample size for this study was 424

2.6 Sampling procedure

A probability sampling method using the simple random technique was used where every woman of reproductive age who was available during data collection from Monday to Friday and meet inclusive criteria had an equal chance and likelihood of being selected in the sample and asked to participate in the study. The participants were reached after they had received services where information about the aim of the study, issues of confidentiality and the voluntary nature of their participation has been explained. The simple random techniques using the lottery method were used whereby participants were asked to pick a piece of paper in the box that was written YES and NO. Those who picked the piece of paper written YES were included in the study.

2.7 Data collection tools and procedure

The structured questionnaires consist of closed-ended questions in which they were required to answer all questions. The questionnaires consist of 25 questions which contain 100 marks, where it carries information covering the demographic information and the questions about the level of knowledge and practice regarding preconception care. The questionnaire was then translated into English to ensure consistency and accuracy. The research assistants were trained and their task was to review each questionnaire for its completeness to ensure that all questions have been responded to appropriately. Participants were identified by the in-charge of the RCH clinic using inclusion criteria. Thereafter, the researcher explained to the women the aim of the study and the procedure for data collection. The researcher also explained about issues of confidentiality. Women who provided informed consent to participate in the study were given a questionnaire to complete with guidance from the researcher or research assistants. The data were collected at different health centers located at Kibaha district where the researchers had to collect data at a single point in particular time for three to four days then move to another location for continuation of work. The data collection process was closely supervised by the researcher.

2.8 Validity and reliability

Validity

Is the extent to which a test measures what it is supposed to measure (Denise et al.,2003). The content validity of the data collection tool of this study was assessed by the supervisors and the adjustment of the questions was done where necessary before data collection to enhance the validity of the tool.

Reliability

Is the degree to which an assessment tool produces stable and consistent results The pre-testing of the tool to 10 women was conducted at Mkoani RCH. Then the necessary corrections and adjustments of the questions were before data collection. Necessary questions on exploring knowledge about preconception care were added.

2.9 Variables

2.9.1 Dependent variables

- Preconception care utilization

2.9.2 Independent variables

Knowledge of preconception care

- The practice of preconception care

2.10 Data management and analysis

Data were checked for completeness and then for any error, ensuring accuracy and coded, entered and cleaned before the analysis using SPSS software computer program version 20. The level of knowledge was classified as Poor (0-36), Average (37-74) and Good (75-100) based on the response score for each questionnaire. Descriptive statistics were used to summarize data through frequencies, percentages, and graphs. Descriptive statistics of the variables were analyzed and presented through tables using means, standard deviation, frequencies, and ranges for each variable. Chi-square test was used to test the relationship between dependent and independent variables where P-values were reported. For the inferential statistics, varieties analysis was then done to assess the association between level of

knowledge and practice of respondents regarding preconception care in which $p\text{-value} < 0.2$ was used as a cut-off point to check for significance. Data was stored on the researcher's computer and no one would have access to the data.

2.11 Ethical considerations

The ethical clearance to conduct this study was obtained from Muhimbili University of health and allied sciences Institutional Review Board (IRB), as well as permission to collect data, which was asked and obtained from the Kibaha town council office. Written informed consent was obtained where research subjects were required to sign or not sign before participating in the study after the researcher has fully explained the purpose of the study, benefits, risks and how they will be involved in the study. Those who agreed to be in a study were taken through the consent process by explaining the benefits and risks of participating in a study. Additionally, participants were allowed to withdraw from the study at any point in time, furthermore, data security and privacy during filling questionnaires were ensured.

2.12 Dissemination Plan

The findings of this study will produce important information about the level of knowledge about preconception care. A copy of the report will be disseminated to the Director of Kibaha District, School of Nursing MUHAS, MUHAS Library and also findings will be shared with the Ministry of Health, Community Development, Gender, Elderly and Children.

CHAPTER THREE

3.0 RESULTS

3.1 Introduction

This chapter describes the characteristics of the study population, identification of women's knowledge and practices of preconception care, differences between demographics and study variables in Kibaha, Pwani - Tanzania.

3.2 Social demographic characteristics of the respondents

A total of 424 women participated in the study. The age of the respondents had mean of 26 years (Standard deviation = 5.322) with a range from 17 to 43 years. In this view, study respondents were young mothers.

Table 1 Age of the respondent ($n=424$)

Mean	Std.	Min	Max
25.962	5.322	17	43

Figure 1 indicated that 58% of the women who participated in the study were married and nearly 30% were cohabiting. 8% never got married while 2% had divorced and 1% of the respondents were separated.

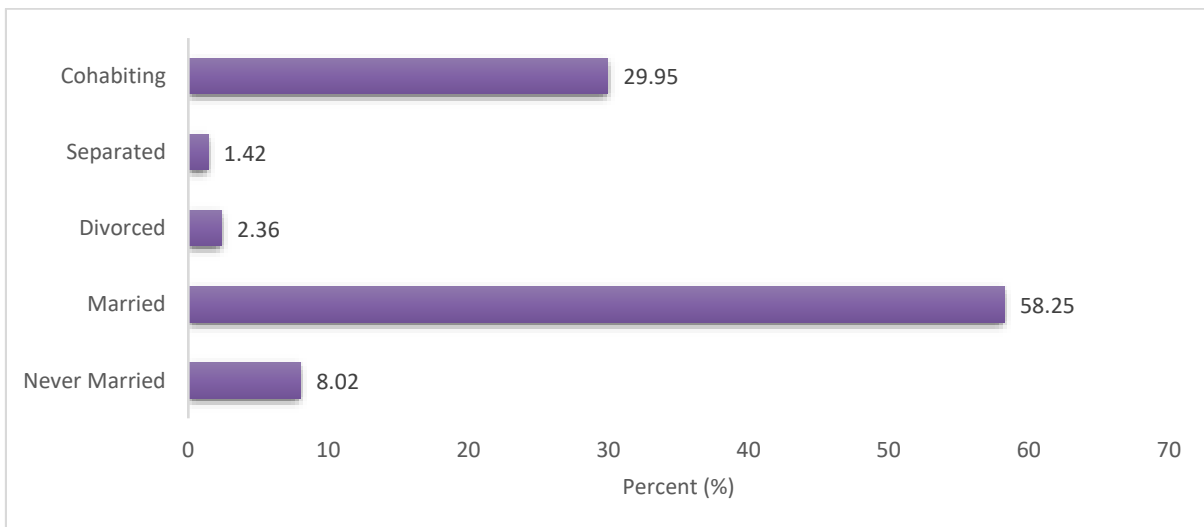
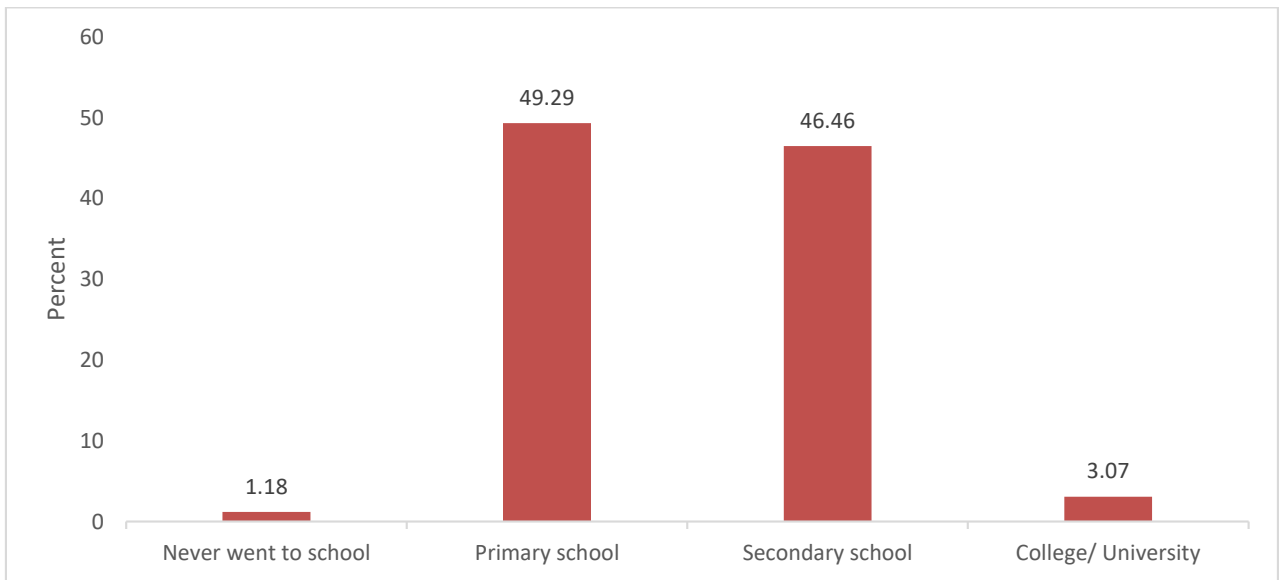


Figure 1: Marital status of the respondents (n=424)

The majority of the respondents were literate as they were able to read and write since 49% had primary, 46% had secondary and 3% had college or university education. This mean, most respondents could seek information on preconception care, follow the instruction given and make a decision out of it successfully.

**Figure 2: Education level of the respondents (n=424)**

Findings from Figure 3, show that 59% of the respondents were not employed while 22% were self-employed. 17% were a non-government employees and nearly 1% were government employees.

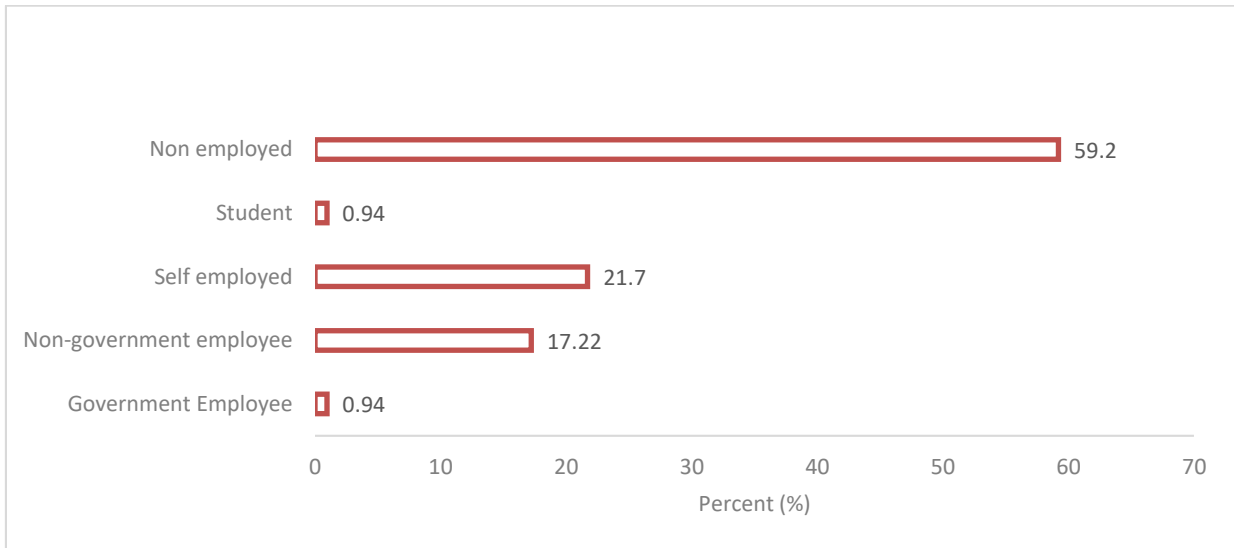


Figure 3: Occupation of the respondents (n=424)

The study findings (Table 2) revealed that the mean score for knowledge was 9.48 with a standard deviation of 3.86 and practices mean score of 6.81 with a standard deviation of 2.31. This revealed that respondents were knowledgeable of preconception care however their practices were found to be low.

Table 2. Mean score for knowledge and practices of preconception care

Variables	N	%	Mean (Std)
Knowledge	285	64.48	9.48 (3.86)
Practices	102	33.06	6.81 (2.31)

3.3 General knowledge of preconception care

Respondents who scored above 70% had good knowledge of preconception. Attainment of fifty to sixty percent indicated fair knowledge on preconception care. Less than fifty percent indicated poor knowledge of preconception care. A high percentage of the respondents (91%) have heard of preconception care. 26% of the respondents had claimed that preconception care had any benefits (Table 3).

Furthermore, Table 3 indicated that 94% of respondents agree preconception care have benefits to mother for safe pregnancy and delivery. Nearly 65% of the respondents said preconception care does reduce the rate of unwanted pregnancy. About 97% agreed that preconception cares have benefits to the baby in reducing the risk of pre-natal mortality, prematurity, hereditary and congenital abnormalities. About 57% of the respondent disagreed that preconception care benefits the baby in increasing the rate of high birth weight. The mean score for knowledge was 9.48 (3.86), with 64% of the respondents having good knowledge of preconception care. Details of the respondents' responses on the knowledge domains are shown in Table 2

Table 3 Respondents responses of general knowledge towards preconception care

Variable	n	%
Have you heard of Preconception care		
Yes	385	91.02
No	38	8.98
Does preconception care have any benefits?		
Yes	110	26.06
No	312	73.94
Benefits to the mother – to have safe pregnancy and delivery		
Yes	400	94.34
No	24	5.66
Benefits to the mother - to increase the rate of unwanted pregnancy		
Yes	150	35.38
No	274	64.62
Benefits to the baby to reduce risk of pre-natal mortality, prematurity, hereditary and congenital abnormalities		
Yes	410	96.93
No	13	3.07
Benefits to the baby to increase the rate of high birth weight		
Yes	183	43.16
No	241	56.84

The finding of the study (Figure 4) indicated that 61% of the respondent heard about preconception care from friends and relatives while 28% heard from midwives and doctors. 9% reported having heard from the media. In this view, there is a need for more intervention through the use of media to increase awareness of the preconception cares services to women.

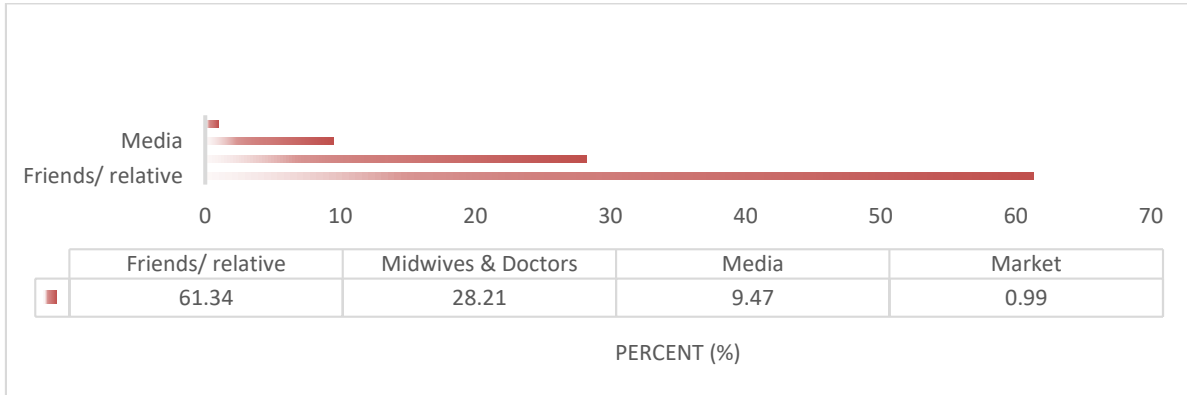


Figure 4: Place heard about Preconception care (n=424)

It was found that 48% of respondents were aware that preconception care packages include health education package, nearly 33% counseling and 18% screening package. It was also noted that only 1% thought financial support is included. There is a need to increase health education based on its significance on health practices and attitudes of respondents. This will eventually increase the use of other service package provided under preconception care.

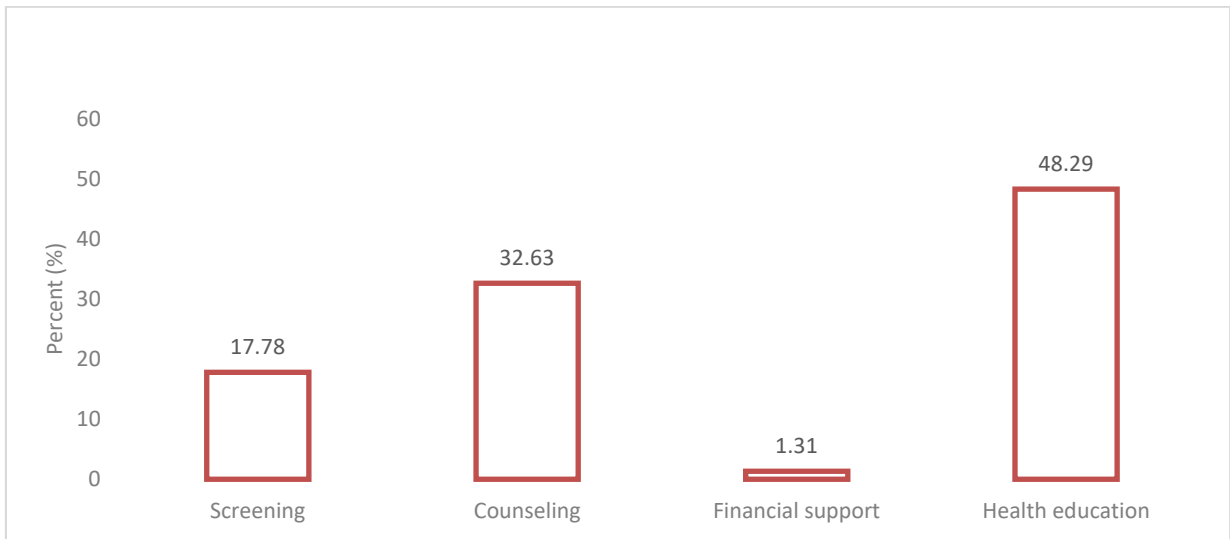


Figure 5: Service package offered at preconception care (n=424)

3.4 Logistic Regression model results on Knowledge of Preconception care

The result of the Logistic regression model estimated to determine the factors influencing Knowledge on preconception care is shown in Table 4. The results indicate that education, marital status and occupation do not affect the expected knowledge on preconception care a respondent possesses. It however shows that age, midwives and doctor source of information, media source of information, screening package, financial support and reduction rate of unwanted pregnancy have a significant effect on the expected knowledge level of preconception care by a respondent.

Table 4. Logistic regression results of the determinants of preconception care knowledge

Dependent Variable=knowledge of preconception care	Coefficient	P-Value
Age	0.081	0.009***
Education	0.409	0.153
Marital	0.129	0.220
Occupation	-0.040	0.764
Midwives and doctors' source	5.032	0.000***
Media	5.094	0.000***
Market	-5.498	0.130
Screening package	1.583	0.000***
Counseling package	0.637	0.226
Financial support	1.678	0.049**
Health education	0.355	0.444
Reduce the rate of unwanted pregnancy	1.120	0.001***
High birth weight	0.577	0.128
Constant	4.871	0.000
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Number of observations	423	
Wald chi2(13)	86.72	
Prob> chi2	0.0000	
Pseudo R2	0.5484	
Goodness-of-fit test		
Number of covariate patterns	329	
Pearson chi2(315)	8875.59	
Prob>chi2	0.1078	

Source: Authors' computation, 2021.

, ** and * denote statistical significance at 10, 5 and 1% confidence levels respectively.*

A significant value means that we have to reject our model, while $p > 0.05$ means that our model fits reasonably well.

Results also show that age influences the knowledge of preconception care services by respondents. The expected knowledge of preconception care by respondents was higher by 0.081 relative to the knowledge of preconception care of respondents with younger respondents.

Findings indicated that knowledge of preconception care was influenced by information obtained from midwives and doctors by 5.032 times those who accessed information using other means. Media was also found to have a significant influence on knowledge of preconception care by 5.094 relatives higher than means of accessing information.

Service package about preconception care provided by care facilities influence respondents' knowledge of preconception care. Findings further noted that screening service and financial support influence respondents' knowledge at 1.583 and 1.678 respectively because many participants were not aware of a package of preconception care consisting of what services. Findings of the study revealed that reduction rate of unwanted pregnancy information from the care facility influence respondent to seek knowledge of preconception by 1.120.

3.5 Practices towards preconception care

A total of 424 respondents gave their responses to preconception care practices. 72% of the women revealed that they have not practiced preconception care ever while only 24% did practice. 71% of respondents indicated to have not sought preconception service in their reproductive life while about 29% indicated otherwise (Table 4).

Respondents were further asked if they have ever planned to get pregnant, 84% revealed to have planned pregnant and nearly 16% revealed otherwise. 55% of the respondents revealed that they did not sometimes get pregnant unknowingly while about 45% responded otherwise.

Findings revealed that 71% of the women were not able to get a chance to do any screening of their health before pregnancy whereas only 29% were able to do a screening. In this view,

there is a need for more awareness on the significance of doing screening their health before pregnancy. 82% of the respondents showed not to have taken folic acid at the time they fill to get pregnant and only 22% showed otherwise. In this view, more awareness of the importance of taking folic acid before one become pregnant need to be done.

Study findings (Table 4) revealed that 97% of women did not take any consideration on healthy eating before pregnancy whereas only 3% revealed otherwise. This situation could be perpetuated by their economic conditions at the time. As shown in Table 2, 33% of the respondents had fair practices towards preconception care. The mean score for practices was 6.81 with a standard deviation of 2.31. Details of the respondents' responses on the practice's domains are shown in Table 4.

Table 5 Respondent's responses of practices towards preconception care

Variables	n	%
Have you ever practiced preconception care		
Yes	102	24.17
No	322	76.30
In your reproductive life, did you ever seek preconception service		
Yes	122	28.77
No	302	71.23
Have you ever planned to get pregnant?		
Yes	357	84.20
No	67	15.80
Being pregnant is every woman's wish. Do you sometimes get pregnant unknowingly?		
Yes	189	44.58
No	235	55.42
Did you have any chance to do any screening of your health before pregnancy?		
Yes	122	28.84
No	301	71.16
When you feel that you want to be pregnant, do you take any folic acid?		
Yes	77	18.16
No	347	81.84
Sometimes in our families, we eat what we have. Do you take any consideration in eating healthy before pregnancy?		
Yes	12	2.83
No	412	97.17

3.6 Relationship between demographics and other variables

3.6.1 Marital status vs pregnancy planning

The relationship was between marital status and the general knowledge of either planning for pregnancy or not in pregnant women. Figure 6 revealed that of all who planned their pregnancy married status did by 50% followed with those cohabiting status (26%). It was noted that 5% of those never married had also planned their pregnancy. However, of married respondents did not plan their pregnancy (8%).

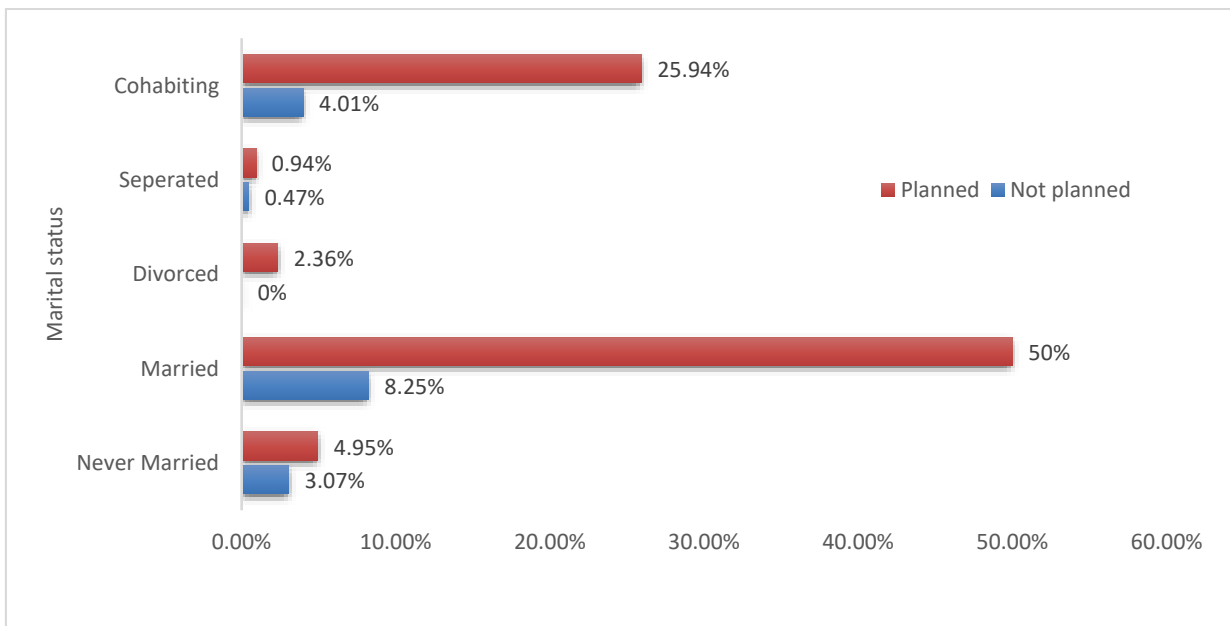


Figure 6: Relationship of Marital and planning pregnancy (n=424)

3.7 Logistic Regression model results

The result of the Logistic regression model estimated to determine the factors influencing practices of preconception care is shown in Table 6. The results indicate that age does not affect the expected preconception care a respondent is practices. This may be due to young age as shown in the descriptive statistics. It however shows that occupation, health screening service, access to preconception information and quality of services have a significant effect on the expected preconception care practiced by a respondent.

Table 6. Logistic regression results of the determinants of preconception care practices

Dependent Variable=practices of preconception care	Coefficient	P-Value
Age	-0.026	0.196
Occupation	0.143	0.087
Health screening	0.531	0.000
Access to preconception info	0.715	0.046
Food access	0.619	0.192
Quality services	0.431	0.022
Constant	-0.628	0.459
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Number of observations	424	
Wald chi2(6)	30.46	
Prob> chi2	0.0000	
Pseudo R2	0.1618	
Goodness-of-fit test		
Number of covariate patterns	238	
Pearson chi2(231)	334.64	
Prob>chi2	0.3195	

Source: Authors' computation, 2021.

, ** and * denote statistical significance at 10, 5 and 1% confidence levels respectively.*

A significant value means that we have to reject our model, while $p > 0.05$ means that our model fits reasonably well.

Results also show that occupation influences the preconception care services practiced by respondents. The expected preconception care practiced by respondents was higher by 0.143 relative to the preconception care practiced by respondents with no occupation.

In this study, health screening service influences practice of preconception care by 0.531 times relative to those who do otherwise. Access to preconception care information also influences the expected preconception care practices. The expected preconception care practices were 0.715 times higher for information access.

Findings of the study revealed that quality services rendered influence preconception care practices of the respondents. It revealed that 0.431 of expected preconception care was due to quality of service.

Table 7 Individual factors

Variables	n	%
How often do you do screening of your health?		
Never	83	19.58
Rarely	223	52.59
Sometimes	82	19.34
Always	36	8.49
Do you do exercise?		
Never	45	10.61
Rarely	300	70.75
Sometimes	62	14.62
Always	17	4.01
How often do you drink alcohol?		
Never	349	82.31
Rarely	68	16.04
Sometimes	6	1.42
Always	1	0.24
How often do you smoke?		
Never	423	99.76
Rarely	1	0.24
To what level do you agree or disagree with the benefits of using preconception care?		
Disagree	6	1.42
Agree	44	10.38
Strongly agree	374	88.21

Table 8. Socio-economic factors

Variable	n	%
Do you have any occupation		
Yes	98	23.11
No	326	76.89
Sometimes the economic status of our families may be down		
Yes	51	12.03
No	373	87.97
Do you have difficulties in obtaining daily food?		
Yes	5	1.18
No	419	98.82
do you have any difficulties in obtaining transport fare?		
Yes	18	4.25
No	406	95.75

4.0 Discussion

Preconception care is defined as any intervention provided to women and couples of childbearing ages, regardless of pregnancy status or desire, before pregnancy, to improve health outcomes for women, newborns and children. It is an integral part of antenatal care because this care program has the potential to assist women by reducing risk, promoting a healthy lifestyle and improving readiness for pregnancy. As well as it is important to minimize fetal malformation. There is growing evidence that preconception care may have an important role in preventing short and long-term adverse health consequences for women and their offspring(11).What was revealed in this study on the level of knowledge and practice regarding preconception care among women of reproductive age is similar to what was found in Nepal(11).

Also the study noted that similar proportion of appropriate preconception care knowledge among women of reproductive age where knowledge seems to be higher than another study conducted in Nepal(32). This similarity can be due to that majority of the respondents knew preconception care while in this study respondents had a good level of knowledge regarding preconception care. In the study done in Ethiopia practice, on preconception care was very low(13) similar to this study where it shows that practice of preconception care is also low.

However, in this study, there was a total of 424 women who participated in the study where the age of the respondents had a mean of 26years with a range from 17 to 43 years. In this view, study respondents were young mothers similar to the study done in Nepal which revealed that among 100 respondents, half of the respondents were from the age group 21-25 that means participants were young mothers(11).

In addition, findings of the study indicated that the main source of information about pre conception care were friends and relatives while compared to the study done in Ethiopia revealed that for those who have heard about preconception care; the major source of information was health workers in this view, there is a need for more intervention through the use of media and healthcare workers to increase awareness of the preconception cares services to women.

It was observed that in this study women who attended primary education or secondary education were more knowledgeable than women who had no formal education. The finding of this study is not consistent with studies conducted in Ethiopia which shows that literate rate were not high(3). This mean, most respondents in our settings could seek the information of preconception care, follow the instruction given and make a decision out of it successful.

The result of the Logistic regression model determined factors influencing knowledge on preconception care. The results indicate that education, marital status and occupation do not affect the expected knowledge on preconception care a respondent possesses. However, age, midwives and doctor source of information, media source of information, screening package, financial support and reduction rate of unwanted pregnancy have a significant effect on the knowledge level of preconception care compared to study done in Hawasa Ethiopia which shows that women who went to school were more knowledgeable about PCC than others(8). Therefore, the result explains that most women of reproductive age at Kibaha have low knowledge regarding preconception care because they have been receiving less information regarding preconception care from reliable sources.

The results also indicate that age does not affect the expected preconception care a respondent is practices. This occurs due to poor or low knowledge of it, and that makes it more difficult to practice. It however shows that occupation, health screening service, access to preconception information and quality of services have a significant effect on the expected preconception care practiced by a respondent different to the study done in North Shewa, Ethiopia which revealed that women whose age is 34–49 years were 3.6 times more likely to utilize preconception care than women whose age is 15–24 years(13). These findings may indicate that women of higher age are at risk of pregnancy complications compared to those in the low age group and look for preconception care which is different from this study where age does not affect the practice.

4.1 STUDY LIMITATION

This study was done in different hospitals in Kibaha District, the nature of the study involved many participants where it was sometimes difficult to organize because they were in a hurry and somehow hesitant to complete the questionnaire. The effort was made to fill the questionnaire during the waiting time and an adequate explanation was given to emphasize the importance of their participation in the study.

4.2 STUDY MITIGATION

The participants were assisted in receiving their services they came for before they attempt to answer the questionnaires so that they can be free to participate without worrying that they will miss some services.

5.0 CONCLUSION AND RECOMMENDATION

5.1 CONCLUSION

In this study, the knowledge level and practice of preconception care among women of reproductive age is quite low in practice compared to knowledge level. Women do practice preconception they do not have adequate and enough information about pre conception care because there is no clear information which is given to the women and couples regarding this service. Also, lack of guidelines could be one of the reasons why the health care workers do not deliver this important information to the community and take it as one of the strategies to reduce maternal and newborn morbidity and mortality. Therefore, establishing preconception care strategies that can address all the components of preconception care of reproductive age women and care will be essential when designing effective implementation strategies for improving the delivery and uptake of preconception care.

5.2 RECOMMENDATIONS

There is a need to put enough emphasis on preconception care especially in the following areas:

Knowledge: many of the participants declare that they got information regarding preconception care from friends and family members, this may be the reason why they don't have enough knowledge regarding this, and here the healthcare workers including midwives and media should take responsibility for giving proper education to the community regarding preconception care.

For policy: The government through the Ministry of Health Community Development Gender Elderly and Children should establish guidelines that will enable every woman to receive appropriate education of preconception care during reproductive age. So, these guidelines can be used to deliver services regarding preconception care in health care settings or even in the community.

For research: Further studies should be conducted in Tanzania to get a good outcome as there is limited information regarding preconception care.

For women: they should seek more knowledge from a proper and reliable source of information like health care workers regarding preconception care and utilize it to have a healthy pregnancy, healthy babies as well a healthy community.

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APPENDICES

Appendix I: Questionnaire (English version)

A study on level of knowledge on preconception care among women attending reproductive health clinic in Kibaha District.

Section A: Demographic information

- 1) Age..... []
- 2) What is the highest level of education you have completed?
 1. Never went
 2. Primary school
 3. Secondary school []
 4. College / university
- 3) What is your occupation?
 1. Government employee
 2. Non- government employee
 3. Self – employed []
 4. Student
 5. Unemployed
- 4) What is your marital status?
 1. Never married
 2. Married
 3. Divorced
 4. Separate []
 5. Widowed
 6. Cohabiting

Section B: knowledge level

1. Have you ever heard anything about preconception care?
Yes/no
2. Where did you hear about pre conception care?
 - a) From a friend/relative
 - b) From the midwives and doctors
 - c) From the media
 - d) At the market
3. What sort of care is offered in pre conception care package. (tick where appropriate)
 - Screening.....
 - Counseling.....
 - Treatment of infection.....
 - Financial support.....
 - Health education.....

4. Does the pre conception care have any benefits?
Yes/no
5. If Yes in question 4, what are the benefits of preconception care:
- To the mother – to have safe pregnancy and delivery.....yes/no
_ to increase the rate of unwanted pregnancy.....yes/no
 - To the baby _ reduce risk of pre-natal mortality, prematurity, hereditary and congenital abnormalities.....yes/no
_to increase the rate of high birth weight.... yes/no

Section C: Practice

	QUESTION	YES	NO
1	Have you ever practice preconception care		
2	In your reproductive life, did you ever seek preconception service		
3	Have you ever planned to get pregnant?		
4	Being pregnant is every woman wish. Do you sometimes get pregnancy unknowingly?		
5	Did you have any chance to do any screening of your health before pregnancy?		
6	When you feel that you want to be pregnant, do you take any folic acid?		
7	Sometimes in our families we eat what we have. Do you take any consideration in eating healthy before pregnancy?		

Section D. Individual factors

- How often do you do screening of your health? 1.Never [] 2.Rarely [] 3.Sometimes [] 4.Always[]
- Do you do exercise? 1. Never1. [] 2.Rarely [] 3. Sometimes [] 4.Always []
- How often do you drink alcohol? 1.Never [] 2.Rarely [] 3.Sometimes [] 4.Always[]
- How often do you smoke? 1.Never [] 2.Rarely [] 3.Sometimes [] 4.Always[]
- To what level do you agree or disagree with benefits of using pre conception care?
1.Strong agree []2. Disagree [] 3.Agree [] 4.Strong disagree []

Section E. Socio economic factors

- Do you have any occupation? Yes [] No []
- Sometimes economic status of our families may be down. Do you think it might be a reason for you not to access information on preconception care? Yes [] No []
- Do you have difficulties in obtaining daily food? Yes [] No []
- When coming to reproductive health clinic, do you have any difficulties in obtaining transport fare? Yes [] No []

Appendix II: Questionnaire (Swahili version)

Utafiti kupima kiwango cha elimu kuhusu huduma ya utangulizi ya ujauzito kabla ya kuwa mjauzito kwa kina mama wanaohudhuria kliniki ya mama na mtoto katika wilaya ya Kibaha.

Sehemu A: Taarifa binafsi za mtu.

- 1) Umri..... []
- 2) Kiwango cha juu kabisa cha elimu ulichofikia?
 - a) Sijasoma kabisa
 - b) Shule ya msingi []
 - c) Shule ya sekondari
 - d) Chuo/ chuo kikuu
- 3) Aina ya ajira?
 - a) Mwajiriwa wa serikali
 - b) Mwajiriwa lakini si wa serikali []
 - c) Umejajiri
 - d) Mwanafunzi
 - e) sijaajiriwa
- 3) Hali ya ndoa
 - a) Sijawahi kuolewa
 - b) Nimeolewa []
 - c) Tumeachana
 - d) Tumetengana
 - e) Mjane
 - f) Tunaishi bila ndoa

Sehemu B. Kiwango cha elimu

1. Je umewahi kusikia chochote juu ya huduma ya afya ya utangulizi kabla ya ujauzito?
Ndiyo/hapana
2. Ulisikia wapi kuhusu huduma ya afya ya utangulizi kabla ya ujauzito
 - a) Kutoka kwa ndugu/rafiki
 - b) Kutoka kwa wakunga na matabibu
 - c) Kutoka katika vyombo vya habari
 - d) Sokoni
3. Elezea ni aina za huduma zinazotolewa zinazohusiana na huduma ya afya ya utangulizi kabla ya ujauzito (weka tiki panapo husika)
 - a. Uchunguzi wa mwili.....
 - b. Ushauri nasaha.....
 - c. Msaada wa kifedha.....
 - d. Elimu ya afya.....

4. Huduma ya afya ya utangulizi kabla ya ujauzito inafaida yoyote?
Ndiyo/hapana
5. Kama jibu ni ndiyo swali la 4, faida hizo ni zipi?
Kwa mama_ kuwa na mimba salama na kujifungua bila matatizo.....ndiyo/hapana
_ kuongeza idadi ya mimba zisizotarajiwa.....ndiyo/hapana
Kwa mtoto_ kupunguza hatari ya vifo wakati wa ujauzito, kuzaliwa kabla ya wakati, magonjwa ya kuzaliwa na ya kurithi....ndiyo/hapana
_ kuongeza kiwango cha kuzaliwa na uzito mkubwa.....ndiyo/hapana

Sehemu C: utendaji

	NDIYO/HAPANA	NDIYO	HAPANA
1	Umewahi kutumia huduma ya afya ya utangulizi ya ujauzito kabla ya kuwa mjamzito?		
2	Katika maisha yako umeshawahi kutafuta huduma ya utangulizi ya ujauzito kabla ya kuwamjamzito		
3	Umeshawahi kuwa na mipango ya kushika mimba?		
4	Kuwa mjamzito ni tamani la kila mwanamke. Kuna wakati imetokea unapata ujauzito bila kujua?		
5	Umeshawahi kupata nafasi ya kufanya uchunguzi wa afya yako kabla ya kupata ujauzito?		
6	Unapohitaji kupata ujauzito, je huwa unakunywa vidonge vya folic acid?		
7	Wakati mwingine kwenye familia zetu tuna kula kiletunachopata, je kuna mazingatio yoyote unayochukua ya kula chakula bora kabla ya ujauzito?		

Sehemu D. sababu binafsi

- a) Mara ngapi unafanya uchunguzi wa afya yako? 1. Sijawahi kabisa [] 2. Mara chache [] 3. Mara kadhaa [] 4. Mara nyingi []
- b) Unafanya mazoezi?
1. Sijawahi kabisa [] 2. Mara chache [] 3. Mara kadhaa [] 4. Mara nyingi []
- c) Mara ngapi unakunywa pombe?
1. Sijawahi kabisa [] 2. Mara chache [] 3. Mara kadhaa [] 4. Mara nyingi []
- d) Mara ngapi unavuta sigara/ bangi/ madawa ya kulevya?
1. Sijawahi kabisa [] 2. Mara chache [] 3. Mara kadhaa [] 4. Mara nyingi []
- e) Kwa kiwango gani unakubaliana au unakataa kuhusu faida za kutumia huduma za utangulizi kabla ya kupata ujauzito?
1. Nakubali kabisa [] 2. sikubali [] 3. nakubali [] 4. sikubali kabisa []

Sehemu E. sababu za kiuchumi

1. Je unaajira yoyote? Ndiyo [] hapana []
2. Wakati mwingine uchumi wa familia unaweza kuwa chini, je unafikiri hio inaweza kuwa sababu ya wewe kutoweza kupata taarifa za kuhusu afya ya utangulizi kabla ya ujauzito? Ndiyo [] hapana []
3. Je unaridhika na jinsi taarifa kuhusu huduma za utangulizi kabla ya ujauzito zinavyotolewa? 1. Siridhiki kabisa [] 2. Naridhika kiasi [] 3. Naridhika kabisa []
4. Je unapata shida yoyote kupata chakula cha kila siku? Ndiyo [] hapana []
5. Wakati unapokuja kliniki, unapata shida yoyote ya kupata nauli? Ndiyo [] hapana []

Appendix III: Informed Consent (English version)

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES (MUHAS)



DIRECTORATE OF RESEARCH AND PUBLICATIONS

MUHAS INFORMED CONSENT FORM

ID NO: HD/MUH/T.497/2019

Consent to participate in a study: Title: assessment of knowledge level on preconception care among women attending reproductive health clinic in Kibaha District

NAME: DELILA E. MSIGWA.**Purpose of the Study**

The purpose of the study is to identify knowledge level on preconception care among women attending reproductive health clinic in Kibaha District.

What Participation Involves

If you agree to join the study, you will be given a questionnaire to fill in order to answer a series of questions prepared for the study.

Confidentiality

Real names will not be used instead identification number will be used, and all data collected will be for the research purposes. The information you share with the researcher will be treated as confidential.

Risks

For this study we do not expect any risk, because the participants will be required to fill prepared questionnaires only, not more than 30minutes.

Rights to Withdraw and Alternatives

Participants are free either to participate in this study or not. Participants are free to stop participating in this study at any time even if you have already given your consent. Refusal to participate or withdrawal from the study will not affect the services you receive at the clinic.

Benefits

No direct benefit but participating in this study, will influence policies about preconception care and guidelines to be established.

Compensation

There will be no any compensation for participants.

Whom to contact:

In case of any question concerning this study, contact the principal investigator **Delila E. Msigwa** Muhimbili University of Health and Allied Sciences School of Nursing P.O. Box. 65004 Dares Salaam, through **Mobile +255 715 967287** or research supervisor Pr. **Lilian Mselle**, Muhimbili University of Health and Allied Sciences School of Nursing P.O. Box. 65004 Dar es Salaam, **Mobile Number +255 717 565610**.

In case you have questions about your right as a participant, you may contact the Director of Research and Publications Committee **Dr Bruno Sunguya** Muhimbili University of Health and Allied Sciences P.O. Box 65001 Dar es Salaam **Tel Tel + 255 222150302 -6/ 2152489**

Do you agree?

Participant agrees..... Participant does not agree.....

I..... have read the content in this form. My questions have been answered. I agree to participate in this study.

Signature of participant

Signature of principal investigator

Date of signed consent.....



UNITED REPUBLIC OF TANZANIA
MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY
MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES
**OFFICE OF THE DIRECTOR - RESEARCH AND
PUBLICATIONS**



Ref. No.DA.282/298/01.C/

Date: 07/05/2021

MUHAS-REC-05-2021-600

Delila E. Msigwa,
MSc. Midwifery and Women's Health,
School of Nursing,
MUHAS

**RE: APPROVAL FOR ETHICAL CLEARANCE FOR A STUDY TITLED:
KNOWLEDGE LEVEL AND PRACTICE ON PRECONCEPTION CARE AMONG
WOMEN ATTENDING REPRODUCTIVE HEALTH CLINIC IN KIBAHA
DISTRICT**

Reference is made to the above heading.

I am pleased to inform you that the Chairman has on behalf of the University Senate, approved ethical clearance of the above-mentioned study, on recommendations of the Senate Research and Publications Committee meeting accordance with MUHAS research policy and Tanzania regulations governing human and animal subjects research.

APPROVAL DATE: 07/05/2021

EXPIRATION DATE OF APPROVAL: 06/05/2022

STUDY DESCRIPTION:

Purpose:

the purpose of this observational cross sectional study is to assess the knowledge and practice of pre-conception care among women attending Reproductive Health Clinics in Kibaha Town.

The approved protocol and procedures for this study is attached and stamped with this letter, and can be found in the link provided: <https://irb.muhas.ac.tz/storage/Certificates/Certificate%20-%20657.pdf> and in the MUHAS archives.

The PI is required to:

1. Submit bi-annual progress reports and final report upon completion of the study.
2. Report to the IRB any unanticipated problem involving risks to subjects or others including adverse events where applicable.
3. Apply for renewal of approval of ethical clearance one (1) month prior its expiration if the study is not completed at the end of this ethical approval. You may not continue with any research activity beyond the expiration date without the approval of the IRB. Failure to receive approval for continuation before the expiration date will result in automatic termination of the approval for this study on the expiration date.
4. Obtain IRB amendment (s) approval for any changes to any aspect of this study before they can be implemented.
5. Data security is ultimately the responsibility of the investigator.
6. Apply for and obtain data transfer agreement (DTA) from NIMR if data will be transferred to a foreign country.
7. Apply for and obtain material transfer agreement (MTA) from NIMR, if research materials (samples) will be shipped to a foreign country,
8. Any researcher, who contravenes or fail to comply with these conditions, shall be guilty of an offence and shall be liable on conviction to a fine as per NIMR Act No. 23 of 1979, PART III section 10 (2)
9. The PI is required to ensure that the findings of the study are disseminated to relevant stake holders.
10. PI is required to be versed with necessary laws and regulatory policies that govern research in Tanzania. Some guidance is available on our website <https://drp.muhas.ac.tz/>.



Dr. Bruno Sunguya

Chairman, MUHAS Research and Ethics Committee



Cc: Director of Postgraduate Studies

HALMASHAURI YA MJI KIBAHA

BARUA ZOTE ZIPELEKWE KWA MKURUGENZI WA MJI

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 FAX No: +25523 - 2402073
 E-Mail: tmo.kibaha@yahoo.com



OFISI YA MGANGA MKUU
WA MJI KIBAHA

Kumb. Na. KTC/TMO/HFG/047

18/05/2021

Waganga Wafawidhi,
 Zahanati ya Misugusugu, Mwendapole, Kongowe,
 Kituo cha Afya Mkoani na Kituo cha Afya Medewell,
 S.L.P. 30112,
 Kibaha-Pwani.

Yah: KUMTAMBULISHA BI. DELILA E. MSIGWA


Husika na mada tajwa hapo juu

Ofisi ya Mganga Mkuu imepokea barua yenye Kumb. Na. HD/MUH/T.497/2019 ya tarehe 07 May,2021 kuhusu kumpokea Mtafiti toka Chuo cha **Muhimbili University of Health and Allied Science (MUHAS) Dar es salaam** anayechukua Shahada ya uzalimili ya ukunga na afya ya kina Mama.

Mwanachuo huyu anakuja katika Zahanati/Kituo cha Afya kwa ajili ya kukusanya takwimu ili akamilishe utafiti anaofanya kuhusu **"Knowledge Level and Practice on Preconception Care Among Women attending Reproductive Health Clinic in Kibaha District."**

Tafadhali umpe ushirikiano wa kutosha katika kufanulisha utafiti huu muhimu.

Nakutakia kazi njema


 Dkt. Mariam Ngaja
 Kaimu Mganga Mkuu wa Mji
 Kibaha



Nakala:-

1. Mkurugenzi wa Mji Kibaha - Aione kwenye jalada
2. Bi. Delila E. Msigwa