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KNOWLEDGE AND PRACTICE OF PRECONCEPTION CARE AND COUNSELING AMONG WOMEN OF CHILDBEARING AGE IN DADIN KOWA COMPREHENSIVE HEALTH CENTER

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ABSTRACT

The death rate of infants in Nigeria is high despite the advanced level of health care available (Dhakal, 2015). The mortality rate in Nigeria is 74.2 deaths per 1000 live birth in the year 2019 (Pleacher, 2019). There has been an increasing recognition that a woman's health status, lifestyle and history prior to conception strongly influence the achievement of health pregnancy outcome (Dean, 2017). Once pregnancy is confirmed intervention which could have influence pregnancy outcome are either lost or ineffective (Bhutha, 2016). The study aimed at assessing the level of knowledge of preconception care and counseling among women of child bearing age, to determine the level of practice of preconception care and counseling before conception, to identify factors that hinder access to preconception care and counseling among women of child bearing age in Dadin Kowa Comprehensive Health Center, Jos. Furthermore, non-experimental descriptive research design aimed at finding out the Knowledge and Practice of Preconception Care among Women of Childbearing Age in Dadin Kowa Comprehensive Health Center Jos. The sampling technique that was adopted is non-probability sampling technique with 215 sample size. Using the convenient method of sampling,

In conclusion, this study revealed that women of child bearing age in Dadin Kowa Comprehensive Health Center in Jos have moderate level knowledge of preconception care and counseling; despite the moderate knowledge of preconception care there is low level of practice due to some factors identified. Hence, the needs for nursing administrators to collaborate with government and non-governmental organization to create awareness of preconception care to all women of child bearing age. Nurses should organize community sensitization in order to creating awareness of preconception care to the women of child bearing age.

CHAPTER ONE
INTRODUCTION

1.1 BACKGROUND OF THE STUDY

There has been increasing burden of maternal, new born and child mortality globally. Worldwide, 400,000 women of child bearing age die every year due to complication of pregnancy and child birth and 7 million infants die each year between births to 12 months (Dhakal, 2015).

According to statistics, every minute in the world, 380 women become pregnant, 190 faces unplanned or unwanted pregnancies, 110 experience a pregnancy-related complication, 40 have an unsafe abortion and one (1) woman die from a pregnancy-related complication, 40 have an unsafe abortion and one (1) woman die from a pregnancy related complication and cause (Dhakal, 2015). Hardly 20 percent of mothers receive all the required components of pre-natal care (Kumar, 2016).

The death rate of infants in Nigeria is high despite the advanced level of health care available (Dhakal, 2015). The mortality rate in Nigeria is 74.2 deaths per 1000 live birth in the year 2019 (Pleacher, 2019). There has been an increasing recognition that a woman's health status, lifestyle and history prior to conception strongly influence the achievement of health pregnancy outcome (Dean, 2017). Once pregnancy is confirmed intervention which could have influence pregnancy outcome are either lost or ineffective (Bhutha, 2016).

Fraser and Cooper (2019) stated that, the outcome of pregnancy depends largely on preconception care. And that, pregnancy state is a stressful condition and it is important for the mother to prepare herself mentally, physically and emotionally for the task,

Unintended pregnancy continues to be a major risk factor in infant morbidity and mortality rate in Nigeria (Guttmacher, 2015). Guthrnacher *et al* (2015), posited that, unintended pregnancy may place the woman at an increased risk of being in less than optimal health. Furthermore, she may not know she has pre-existing medical conditions that could adversely affect her health or the health of her fetus.

Mosher, Berman and Goldber (2016) stated that, whether a pregnancy is unintended or planned but not discovered until after a missed menstrual cycle, there remain vulnerable tie during which critical growth and development of the fetus occurs. And that during this vulnerable time, the fetus is at risk for detrimental effect from the mother unhealthy lifestyle or behavior such as drug abuse, drinking alcohol and poor diet.

Characteristics and tendencies that are common in women of child bearing age may contribute to a high infant, mortality and morbidity rate for women who become pregnant (Center for Disease Control 2016; Lowdermilk, 2016). Childbearing age is a dramatic period of cognitive, social and emotional changes (Bum & Steinberg, 2014). Lowdermilk, Margnard and Hoffman (2016), maintained that, women tend to engage in high risk behavior such as drug abuse, alcohol abuse, poor eating habit and violent behavior. And that, since women tend to rely on peers and the media for their source of health information, they are often uninformed or misinformed, all of these characteristics and behavioral tendencies places women at higher risk for not seeking preconception care and counseling before getting pregnant and either not participating prenatal care or late entry into prenatal care.

According to Center for Disease Control (2016), one way to mitigate these problem is through preconception care and counseling, a comprehensive set of

intervention that aim to identify and modify biomedical behavior and social risk to a women's health or pregnancy outcome through prevention and management. Every woman deserves good health in mind and body especially before, during and after birth. And this also goes for the babies they deliver, hence giving birth to preconception care (Atrash, 2016). Kabirand Khan (2013) reiterated that preconception care is essential for early detection and treatment of problems that could cause harm to mother or baby during pregnancy and can improve timely and appropriate use of delivery care services. World health organization (2015), maintained that, preconception health care is an essential component of reproductive health which focuses on the condition and risk factors that could affect a woman if she became pregnant and described

Pre-conception care as any intervention provided to women and couples of child bearing age before pregnancy to improve health outcome for women, newborns and children. Dean (2015) also stated that preconception care provides biomedical, behavioral and social health interventions to women and couples before conception occurs. Furthermore, it is also seen as the period between 3 (three) months before conception to 3 three months after conception. Atrash (2016) maintained that an essential part of preconception care is having a woman develop a Reproductive Life Plan (RLP), setting personal goal about having (or not having) children and being informed of how to successfully fulfill those goal. He also stated that for a reproductive life plan to be successful and sustainable, the woman need appropriate information to make and implement choices. A woman RLP is evolving plan that changes as the woman desires changes. Also, in order to develop an effective, culturally appropriate preconception care program targeted for women of childbearing age, researcher must identify the reason why some women choose to seek Preconception Care and Counseling (PCC) and some women choose not seek PCC.

The findings from this study have the potential to increase the body of knowledge of PCC, give voice to vulnerable population on the subject and give guidance to developing effective PCC programs for women.

1.2 STATEMENT OF THE PROBLEM

Despite the intervention in place, progress in maternal and child health outcomes over the last 20 years has been slow globally (Dhakal, 2015). studies showed that less than 1/3rd of women of childbearing age visited the health institutions and speak with a health care provider prior to pregnancy about their health status and its potential impact on pregnancy outcome (Passi & Bhattarai, 2011). As a result, many women are not prepared for pregnancy prior to conception, a situation that contributes to high rates of unintended pregnancies, infant morbidity and mortality and preventable birth defect (CDC 2016; Atrash & Johnson, 2018). This triggered the interest and curiosity of the researcher to assess the Knowledge and Practice of Preconception Care and Counseling among Women of Childbearing Age in Dadin Kowa Comprehensive Health Center.

1.3 OBJECTIVES OF THE STUDY

The objectives of the study are to:

1. To assess the level of knowledge of preconception care and counseling among women of child bearing age in Dadin Kowa Comprehensive Health Center, Jos.
2. To determine the level of practice of preconception care and counseling before conception at Dadin Kowa Comprehensive Health Center.
3. To identify factors that hinder access to preconception care and counseling among women of child bearing age in Dadin Kowa Comprehensive Health Center, Jos.

1.4 RESEARCH QUESTIONS

1. What is the level of knowledge of women on preconception care and counseling in Dadin Kowa Comprehensive Health Center?
2. What is the level of practice of preconception care among women in Dadin Kowa Comprehensive Health Center before conception?
3. What are the factors that hinder women from receiving preconception care and counseling in Dadin Kowa Comprehensive Center?

1.5 HYPOTHESIS

H_0: There is no significant relationship between knowledge and practice of preconception care among women of child bearing age in Dadin Kowa Comprehensive Health Center in Jos

1.6 SIGNIFICANCES OF THE STUDY

1. The study will provide knowledge on preconception care and its' importance to women of child bearing age and their spouse, it will encourage them to modify their life style that put them and their babies at risk.
2. The study will make health providers to know the educational need of child bearing age women on PCC and its' importance.
3. The study will encourage nurses and midwives and physicians to make changes in order to improve preconception care services delivered to women in their practice.
4. The study will be significant for laying the foundation for further study as well as source of data collection.
5. The study will also contribute to existing knowledge in study area.

1.7 SCOPE OF THE STUDY

The scope of this study is delaminated to women of childbearing age in Dadin Kowa Comprehensive Health Center in order to assess their knowledge and practice of perception care and counseling.

1.8 OPERATIONAL DEFINITION OF TERMS

Knowledge: The General awareness or understanding of preconception care by women of childbearing age attending antenatal at Dadin Kowa Comprehensive Health Center, Jos.

Counseling: The provision of professional assistance and guidance in resolving personal or psychological problems.

Practice: Something that usually or regularly done, often as a habits, tradition or custom.

Preconception Care: Are set of intervention provided to women and couples of child bearing age before pregnancy to improve health outcome for women, newborns and children.

CHAPTER TWO
LITERATURE REVIEW

2.1 INTRODUCTION

This chapter presents the concept review of preconception care, literature review, and theoretical framework and the summary upon which the study is underpinned.

2.2 CONCEPTUAL REVIEW

The notion of preconception care and its relevance to healthy outcomes for aspiring parents and their future children is relatively new. Preconception care is still evolving and not widely practiced in the health care system in Nigeria due to unintended and recurrent pregnancies, high parity, suboptimal health care seeking behaviour and low level of maternal health care (Tokunbo, 2016). The women's level of education played an important role as regards their knowledge of preconception care with the women with tertiary level of education twice more likely to have good knowledge (Ayalew, 2017).

Level of Knowledge of Preconception Care

Preconception care (PCC) is the provision of biomedical, behavioural and social health interventions to women and couple before the occurrences of conception and aims at improving their health status and reducing behaviours and individual and environmental factors that contribute to poor maternal and child health outcomes (Chung, 2015). It is imperative that preconception care is seen as an earlier opportunity, not just for family planning or to reduce maternal and neonatal mortality but also improve long term outcomes for adolescent girls, women and children (Johnson, 2016).

The concept of preconception care is packages to entail nutritional conditions, mental health, genetic conditions, environmental health, vaccination, treatment or modification of medical disorders, infection prevention and treatment, smoking

cessation, avoidance of alcohol and substance abuse (Mullin, 2016). According to Olowokere (2015), the knowledge of preconception care can be acquired through experience or education and exposure to messages via counseling or education by health personnel and media. However, there is reluctance of reproductive health workers to participate in preconception care with its utilization almost not in existence in developing countries like Nigeria (Olowokere, 2015).

Benefits of Preconception Care

Morgan (2014), states the benefits of preconception care as seen in countries such as Canada, the United Kingdom, Spain, Australia, etc. where preconception care (PCC) are available and patronized, there has been improvement in the health of women and also reduction of pregnancy related complications as well as abnormalities affecting newborns during and after pregnancy. Atrash and Parket (2016) mentioned that preconception care is highly associated with increasing antenatal care, delivery care and post-natal care services utilization which are corner stone to improve maternal and child.

According to WHO (2016) PCC have the benefits below:

- Reduce maternal and child mortality.
- Prevent unplanned and unintended pregnancy and delivery.
- Prevent still birth, preterm birth and low birth weight.
- Prevent birth defect.
- Prevent neonatal infection.
- Prevent underweight and stunting.
- Prevent vertical transmission of HIV & STDs.
- Lowers the risk of some kinds of childhood cancer.

- Lower the risk of type 2 diabetes and cardiovascular diseases later in life.
- It helps to achieve best possible glycaemia control before pregnancy as the teratogenicity effects of hyperglycemia occur during organogenesis.

Activities done in Preconception Care

Planning a pregnancy is both exciting and important time. It is always favorable for both mother and father to assess their health before conceiving a child as this will optimize chances of conception, wellbeing in pregnancy and the health of the baby (Kumar, 2016).

According to Connors (2016), there is growing evidence that suggest that an increasing susceptibility to chronic disease in adulthood originated in part during fetal development in light of this, it is advantageous to begin addressing health prior to conception.

According to Dean, Lassi and Bhutta (2014) the following are the activities done and this involves the packages for delivery.

- Detoxification
- Manage stress
- Nutritional counselling and family planning
- Nutritional optimation and weight loss programs
- Multicomponent youth development programs
- Completion of secondary education for adolescent
- Screening and management of chronic diseases including infection prevention

Detoxification

According to Connor (2016), it is much more beneficial to begin a preconception care program at least 3 (preferably 6-12) months before planning to

conceive. If you have this time prior to pregnancy, it is a good idea to consider a detoxification program. The modern world exposes us to a myriad of environmental toxins including pesticides and fertilizers, chemical from plastics, pollutants, smoking, alcohol, prescription drugs, heavy metals and chemicals such as parabens SLS found in many personal hygiene products. All of these toxins and more can accumulate in the body and be stored for years in our adipose tissue. They then have to be processed by the liver which is also responsible for detoxifying our own natural hormones particularly oestrogen. If the liver is under strain from detoxifying external toxins it can have a detrimental effect on hormones balance and consequently fertility. He further said that, Exposure of the foetus to toxins has also been shown to trigger epigenetic changes which may not manifest until years later.

Khan (2014) further emphasized that carrying out detoxification program prior to conception will boost fertility and support a healthy foetus and it can also help to prevent unpleasant symptoms during pregnancy such as morning sickness. However, once detoxification begins, stored toxins are liberated into circulation and it is important not to conceive at this point and Pregnancy ideally should be prevented until the detoxification program is complete. He suggested that, it is advisable to seek the advice of a qualified nutritional therapist if one would like to carry out a detoxification program as needs will be specific to individual.

According to Pizzoro (2014), if unable to undergo a detoxification or are already pregnant it is still helpful to minimize exposure to toxins and gently support detoxification. This can be done by;

- Avoiding alcohol and smoking
- Choosing organic produce

- Avoiding plastic food and drink containers, particularly soft plastics and avoid microwaving them.
- Have a good intake of antioxidants such as zinc, selenium, vitamin C, beta carotene, vitamin E, these will help quench any free radicals.
- Increase consumption of vegetables onions, garlic to support phase 2 liver detoxification.
- Ensuring healthy bowel motility to prevent reabsorption of toxins and hormones in the digestive tract.

Reid (2016) said that many studies have identified a link between healthy gut flora in the mother and the health of the baby. Healthy maternal gut flora has been linked to reduced inflammation, asthma, eczema and coeliac disease risk as well as improved immune function. The main reason for this is that during a natural birth, the child will pass through the birth canal and pick up flora from the mother. As it does so the bacteria will inoculate the child's sterile gut, this flora will also be passed onto the child through colostrum during the first breastfeed.

Tilley (2014) mentioned that the gut flora can be improved by;

- Consumption lemon in hot water first thing in the morning to stimulate bile production
- Maintain adequate zinc level. Zinc is very important for the production of stomach acid as well as for maintenance of the epithelial tissue and hence the lining of the digestive system.
- Consume prebiotic foods such as apples and root vegetables

2. Manage stress

Stress during pregnancy has been shown to increase the risk of emotional disorders in children such as anxiety, depression as well as schizophrenia in adulthood; it also increases the mother's risk of post-natal depression (Murray, 2013). As stress

and anxiety can increase during pregnancy due to apprehension and potential health concerns, it is important to begin to manage stress before conception so that when the additional stresses of pregnancy come along, the woman is better equipped to cope with them (Reid, 2016).

Reid (2016) further spells out some stress relieving strategies which are;

- Take a walk outside -studies have shown this reduces cortisol levels
- Try mindful meditation
- Get adequate sleep. Cytoplan blog support for disturbed or disrupted sleep.
- Obtain sufficient magnesium-known as natures tranquilizer

Nutrition Counseling: Nutrition plays a paramount role in supporting the future pregnancy. Preconception counseling will allow women at higher risk of malnutrition such as women (older than 35years), teenage girls with restricted diet or malnourished women with vitamin deficiencies to be highlighted before conception so that appropriate actions can be taken. Adolescent typically consume diet that does not satisfy the required intake of ion, fesolate or vitamin B6 and have a high chance of being anemic. Thus, an integrated approach should be applied wherein couples who come in for family planning services may be targeted for nutritional counseling since they are at a preconception age where they are looking to plan a future family and thus will want to adopt the habits and practice of doing so (Whitworth, 2019).

Preconception Counseling: There is evidence that preconception counseling change behavior and result in improved maternal and neonatal outcome (Jack and Babcock, 2014). The risk assessment and counseling of women over the age of 35 on the increase risk associated with advance maternal age (Astofi & Zonta, 2015) as well as genetic counseling of couples in a consanguineous marriage to ensure a healthy fetus outcome (Suleiman, Saeed & Owaida, 2015). A closer look is taken to past

obstetric and gynecological history of genetic disease and psychosocial history to rule out any potential complication of pregnancy.

Preconception Colic Acid Supplementation: Folic acid supplement is known to reduce the risk of neural tube defects (NTDs) in new born (Suarez, Hendricks & Sweeney, 2014). According to WHO (2019) many women are still unaware of how much their nutritional status impact their pregnancy outcome, and improving woman's nutritional behavior should therefore begin during their earlier reproductive years. WHO (2014) further emphasized that, women wishing to conceive should take 400 ug of folic acid three months prior to pregnancy and women who have preciously given birth to infants with (NTDs) require higher level of folic acid supplementation (800 ug). Also, the woman's dietary habit should be discussed and counseled on micronutrients.

Family Planning: One of the reasons for the slow progress towards millennium development goal (MDG) 5 is inadequate delivery of family planning intervention resulting in unintended-pregnancies, subsequent abortions and a subsequent rise in maternal mortality (Klerman, 2016). Klerman also suggested that, Women should be advised to wait 18-24 months after pregnancies ending in a live birth, and at least 6 months after an abortion before conceiving again, and should be provided with appropriate contraceptive counseling.

Nutritional Optimization and Obesity Prevention and Management: According to Kiesmodel (2015) evidence has shown that pre-pregnancy, underweight and overweight are risk factors for an array of composite adverse pregnancy and neonatal outcome. It is suggested that pre-pregnancy Body Mass Index (BMI) should be maintained within the normal range of 18.5-24.9 kg/M^2 and control via diet and exercise modification (Kesmodel, 2015). He further said that, intervention for healthy diet and exercise should be encourage and Routine preconception care

with regard to weight should include calculating BMI for women of reproductive age, increasing awareness regarding the risk associated with being overweight or underweight, and helping women develop individualized dietary plans including consumption of a variety of healthy food in appropriate amount and dietary supplements (especially a multivitamin containing 400 ug of folic acid, calcium and vitamin D & Iron), Balanced protein energy supplement and appropriate micronutrient supplementation can reduce the risk of outcomes related with pre-pregnancy underweight. According to Kesmodel (2015), all women should be encouraged to get their risk assessed for cardiovascular health with regards to weight bearing and offered appropriate lifestyle modifications and women with high BMls should be counseled to understand the risk of infertility that are a part of increased weight gain.

Multicomponent Youth Development Programs Including Prevention of Sexually Transmitted Infections: Multicomponent youth development program which encompass social, family, peer, community, educational and health discipline are designed to meet youth developmental need and help them become healthy, happy and productive youth. Proper effective programs also help to reduce problems such as substance abuse and teenage pregnancy (Philliber, Kaye & Herrlings 2015). Dean (2017) added that, by focusing on healthy and self-confidence issues, guideline on how to eat healthy and reach desired BMI as well as sexual health issues such as practicing safe sex and when and how to deal with STDs may be included programs that has to deal with alcohol or substance abuse, as well as smoking cessation program (Dean, 2017).

Sexually Transmitted Infections: Evidence from intervention that delivered behavioral counseling showed reduction in re-infection and new incidence of STI,

thus this can reduce transmission of infection to the new born as well as improve the health of the woman during pregnancy and in the first year after birth (Matthew & Bangbert, 2015).

According to Lassi, Iman, Dean and Bhutta (2014) preconception care for women living with HIV/AIDs or HIV positive partner is recommended. This include effective appropriate contraception to reduce the chances of unintended pregnancy, psychological and emotional support to encourage disclosure of status to partner, education regarding the risk of perinatal transmission and strategies for prevention and screening and treatment of STIs in partners.

Screening and Management of Chronic Diseases Including Mental Status: This evidence highlight the important of mental health as a package to reduce depression or anxiety disorder which may have adverse effect on child's health, even as that domestic violence will also have a negative impact on emotion health and maternal well bearing such as post-traumatic stress disorder or Psychiatric issues with abuse or rape (Gavin, 2019).

According to Wahabi and Alzeidan (2016) all women who are chronic carrier of a disease such as hepatitis B should be counseled to receive vaccination if not done previously and instructed on how to prevent vertical transmission to future child and horizontal transmission to close contacts and that women with chronic health problem such as hypertension or hyper/hypothyroidism should be counseled about the risk associated with their disease during pregnancy and the necessity to change medication regimes while pregnant or conceiving to optimize hormonal level and to prevent harm to the fetus. Wahabi et al. (2016) further added that, managing and counseling of diabetic women during preconception period is more beneficial than during pregnancy and preconception care for women with pre-gestational

diabetes should include education about the important of strict glycemic control to prevent congenital abnormalities, teaching self-management skills with pre-test monitoring targets and that counseling on the effect of poor glycemic control, maternal and fetal complication, counseling about diet and healthy physical activity for weight management, Testing to detect pre-diabetes or type 2 diabetes should be priority for high-risk women who are obese or overweight or those with family history of diabetes (Wahabi et al., 2016).

In addition, maternal Mental Health: preconception care for psychiatric conditions are recommended; this include screening women in their childbearing years for mood disorder and identifying those at risk, counseling women with pre-existing depression and anxiety disorder about potential risk of untreated illness and it associate negative outcome; and informing potential mothers about risk and benefits of various treatment options prior to conception and during pregnancy women of reproductive age must be counselled that relapse might be a complication during pregnancy for bipolar disorder or schizophrenia patient since they will be discontinuing treatment and A relapse prevention and treatment strategy should be drawn out as part of a preconception care (Gavin, Chae & Mistollos, 2019).

Prevention of Domestic Violence: According to Roseren, Collins and Thomas (2018), domestic violence in female is the major contributor to ill health, particularly of their reproductive and sexual health and it is also violation of human right which is mostly brought about due to gender inequality and physical abuse lead to negative outcomes such as injuries, trauma, unwanted pregnancies and emotional disturbance. They said that, in area or society where domestic violence is common, female might not have autonomy related to their reproductive health which lead to high risk of contracting STI's as well contracting STTs as well as unwanted

pregnancies and that when women who are subjected to regular acts of violence maybe victim of such abuse even in pregnancy which has deleterious effects on fetus. They suggested that, general support groups may be able to reduce incidence of domestic violence or at lease raise awareness among such female and build a system which such women can feel safe reporting such incidence

Practice of Preconception Care

Preconception Care (PCC) is a form of care that provides series of intervention before conception with the aim of identifying and modifying biomedical behavioural and Psychosocial risk to woman's health or pregnancy outcome, her baby and her family (Mitchell, Levis & Prue, 2015). It is yet to be a routing healthcare practice globally (Frek & File, 2016).

According to moos Mark (2016), study have shown that there are no well-established registered grogram for PCC, it's implication which is critical to reducing perinatal/maternal morbidity rates. PCC is a neglected but a vital component of maternal and child care services and it serve as a form of primary prevention for prospective mother (Bialystock, Poole & Greaveal, 2014).

Oludoyinmola, Ojifini and Ibisomi (2020) in their analysis review that the policy maker in particular high-lighted the lack of a defined preconception care service in the country (Nigeria). They state that the health policies on Maternal and Child Health (MCH) service in Nigeria focus on the use of Antenatal Care (ANC) and skilled delivery service and no specialized or specific care in preparation for conception.

Oludoyinmola et al. (2020) also review that there is no special program for preconception care in health fertility in Nigeria. It is only when they come for any when they come for any form of advice or any form of ailment or when they want to be pregnant and they are unable to conceive that They are provided with informal care or

advice. There is no particular clinic that is preconception clinic. Right now and most people go to gynae clinic which is controlled by Doctor.

Factors that Hinder Access to PCC

Many factors have been attributed to the causes of non-practice of PCC. Jack and Eulpeper (2014), and Mason (2014) identified this ten (10) barrier to preconception care practice:

- Poor awareness of PCC
- Level of education of the woman
- Socioeconomic status (finance) or loss of health insurance.
- Fragmented health care service delivery system
- Lack of treatment service for high risk behaviors
- Inadequate physician reimbursement providing counseling service
- Lack of efficacy of counseling provided to motivate patient and their partners
- Limited number of condition with evidence base preconception intervention
- Most women in need of PCC are less likely to receive counseling
- Lack of emphasis on assessment/health promotion in training program.

The wish for secrecy is one of the barriers for PCC use (Limi, 2014). Women prefer to keep their pregnancy plan intimate between them and their spouse which affects the willingness to tell others including health professionals (Cohen & Coco, 2014). Moreover, women wish for normally as they feel the process of getting pregnant should be surrounded by “natural” & “romantic” values and should not become artificial (Malaspina, Oilman & Krang, 2015). Women with gestational diabetes who already are in medical realm wish to have a normal and positive experience of pregnancy which could be endangered by too much monitoring by following PCC (Olukoya, 2015)

Also, study report feeling of anxiety and fear could interfere with the use of preconception care and counseling, these includes personal fear such as fear for disappointment for the unknown and fear of blood withdrawal (Trussel. 2014).

According to Mitchell et al. (2014), some women experience fear in relation to health care provider such as fear to ask question, fear for embarrassment**,** fear for been labelled, judged or lectured and fear that confidential information might be passed on to relatives.

2.3 THEORETICAL FRAMEWORK

A theoretical framework according to Ennis (2014) "is a structure that identifies and describes the major elements, variables or constructs that organize your scholarship. It is used to hypothesize, understand or give meaning to the relationship among the elements that influence, affect or predict the events.

The Health Belief Model

Health believe model by Albert Psychologist, Rosenstock, Godfery, Stephen, Kegelis (2015). The Health Believe Model (HBM) suggests that people beliefs about health problems, perceived benefits of action, and self-efficacy which explain engagement (or lack of engagement) in health promoting behavior.

The Heath Belief Model is a theoretical model that can be used to guide health promotion and disease prevention programs. It is used to explain and predict individual changes in health behaviors. It is one of the most widely used models for understanding health behaviors.

Key elements of health belief model focus on individual beliefs about health conditions, which predict individual health model behaviors. According to Kegelis (2014), the model defines the key factors that influence health behaviors as an individual's perceived threat to sickness or disease (perceived susceptibility), belief of

consequences (perceived severity), potential positive benefits of action (perceived benefits), perceived barriers to action, exposure to factors that prompt action (cues to action) and confidence in ability to succeed (self-efficacy).

Application to the Study

In this study HBM is used as a guide to health promotion for women of childbearing age with disease conditions such as diabetes, epilepsy, obesity, heart disease, anaemia, mental disorder and lifestyle (substance abuse and drug addiction) that could be complicated by pregnancy or affect the health of their infant through preconception care and counseling by adapting to positive health behavior and medication regimen and lifestyle modification.

Albert Bandura Social Cognitive Theory as a theory states that when people observe a model performing a behavior and the consequence of the behavior they remember the sequence of events and use this information to guide consequence behavior. Observing model can also prompt viewers to engage in behaviour they already learn.

As a learning theory, women of childbearing age will learn through preconception care and counseling the effect of smoking, substance abuse and use of harmful substances (Thalidomides) on their health and that of their infant health as they will adopt or engage in good behavior and lifestyle they learn through preconception care and counseling.

According to Hochbaum (2015), the Health belief model can be used to design short- and long-term interventions. The five key action related components that determine the ability of health belief model to identify key decision-making points that influence health belief behaviors are conveying message to the women of child bearing

age on the consequences of the health issues associated with risk behaviours in a clear and unambiguous fashion to understand perceived severity:

- by communicating to the target population the steps that are involved in taking the recommended action and highlighting the benefits to action.
- Providing assistance in identifying and reducing barriers to action.
- Demonstrating action through skill development activities and providing support that enhances self-efficacy and the likelihood of successful behaviour changes.

2.4 EMPIRICAL STUDY

It involves critical re-examination and review of various authors in the field of study to buttress the objective of the study in relation to preconception care and counseling.

Krishma et al. (2018) carried out a descriptive cross-sectional research, used a non-sprobability purposive sampling technique to select 220 reproductive age women in Pokhara, Metropolitan City -32 Janachautra. The study was to test the knowledge on preconception care among reproductive age women. Data was collected through structured interview and data was analyzed using descriptive and inferential statistics such as percentage, mean and standard deviation. The findings revealed that 20% of the respondents exhibited poor knowledge, about 64.5% possessed average level knowledge and 15.5% possessed good level of knowledge. The mean score of the level of knowledge was 50.6+10.6. There was statistically significant association between levels of knowledge on preconception care with education. In summary, majority of the respondents had average knowledge so awareness program is required to prevent the health risk of women and offspring in the near future to improve the different aspects of knowledge regarding preconception care.

According to a descriptive cross-sectional study carried out by Akinajo, Abemieniola, and Osemen, (2019) at the antenatal out-patient clinic, Lagos State University Teaching Hospital, Idi-Araba Nigeria on 50 consistent pregnant women using a semi structured questionnaire to collect data to provide answers to the subject of study, the result of the data analysis showed that; the mean age was 31.5+3.8 years, and majority (80 %) has tertiary education, there is high level of knowledge of PCC (76 %): however awareness of its practice in Nigeria is very low (34.2 %). Only 34.2 % had received PCC before index pregnancy. In summary: There is therefore a huge disconnect between the level of knowledge and practice of PCC. There is need to arm our women with detailed and accurate information on PCC, establish functional clinic with availability of evidence-based guidelines to improve uptake and pregnancy outcome.

Oludoyinmola, Ojifiniamd, and Latifat, (2020) carried out a Qualitative Descriptive Study on Preconception Care Practice in Ibadan North LGA of Oyo State. An urban LGA in Southern Nigeria, participants were men and women of reproductive age. Method of data collection was 41 in-depth interviews and 10 focus group discussion were used. Result; participants state that, there are no defined preconception care service in the healthcare system nor are there any structure or guidelines for preconception care in the country. Preconception care service are however provided when health worker perceives a need or when demanded by client. Outside of the health system there are some traditional, religious and other practices with similar bearing to preconception care which the participant believe could be included as preconception care service. This includes premarital counseling service by religious leaders, family life and HIV education within the secondary school system and some screening and outreach services provided by non-governmental and some governmental

agencies. In conclusion; there is need to provide structure and guidelines for preconception care service in the country not within the health system.

Findings from the study by Chepngetich, Keraka and Njagi (2018) showed that the Level of Knowledge on Preconception Care Services Among Women of Reproductive Age in Ruiru Sub-County was low since more than half of the participants had inadequate knowledge level on preconception care services. Similarly, a study conducted in United Kingdom to explored the knowledge and attitudes related to pregnancy and preconception health in women with chronic medical conditions which found out that more than half of the women had no knowledge about the availability of preconception care services at the hospital (Huang, Vellot, & Weisman, 2019)

Demisse et al. (2019) reported Poor Knowledge of Preconception Care in a Study among 410 Participants, 145 (35.4 %) only of women have heard about preconception care before. For those who have heard about preconception care; the major source of information was health workers 92 (63 %) and minority 39 (26.9 %) of them have heard from friends/family. Women's knowledge on preconception care were measured based on correct response using six preconception care knowledge questions and the question was scored out of 18 points. Women's knowledge was categorized by using 50 % as a cutoff point. The minimum and maximum score of participants was 0 and18 respectively. Seventy-one (71.3 %) of them had good knowledge on preconception care.

Kassa, Human and Gemeda (2018), in a study titled "Knowledge of Preconception Care among Healthcare Providers Working in Public Health Institutions in Hawassa, Ethiopia" sustained that poor PCC knowledge among health workers was

demonstrated having greater proportion of (73 %) compared to only 27 % respondents who had knowledge of preconception care.

Demisse et al. (2019) in their study uphold that their poor utilization of such service, a proportion (13.4%) women utilized preconception care services, among which those tested to have known medical condition eg HIV positive build-up 51 (92.7 %) the proportion, some of which are known hypertensive, diabetic patients. A study by Yohannes, Tenaw, Astatki, Siyoum and Kassaye (2018) reports poor utilization of preconception care among women of reproductive age in Ethiopia, 65% respondents did are not utilizing preconception care with only 35 % uses this services.

A study by Mason et al. (2014) project benefits of preconception care in an influencing factor that results to its utilization, their studies showed that conception in US resulted in cost savings compared with prenatal care only. In addition to achieving its intended health benefits, preconception care could can also substantially reduced costs. Another study in the USA that compared pregnancy outcomes, resource utilization and costs among women with diabetes who received and did not receive preconception care, concluded that net cost saving associated with preconception care was approximately $34,000 per patient Savings resulted from significantly less frequent hospitalization, shorter inpatient stays, significantly shorter length of stay after delivery, as well as lower intensity of care and shorter length of stay for infants of mothers who received preconception care. Not only were the savings substantial, they also occurred in the short term. Kassa, Human and Gemeda (2018), amplified some factors playing negative influence on preconception care to inclusion lack of knowledge of the subject matter, non-inclusion of PCC in training curricula, the exclusion of PCC as part of in-service programmes and lack or absence of guidelines/protocols on PCC in health care facilities.

Demisse et al. (2019) aligned with other authors to affirm that women's age, education and occupation, marital status, Total household income per month, family size, knowledge of women about preconception care services, history of preterm birth, history of contraceptive use, Preexisting chronic medical problem, availability of adequate laboratory service, availability of adequate medication, availability of unit for preconception care.

2.5 SUMMARY OF LITERATURE REVIEW

This chapter dealt with review of current, relevant literature concerning the topic of study, this was partitioned into three to include conceptual, theoretical and empirical review. Conceptual review, that is, review of other authors that conceptualized "knowledge and practice of preconception care among reproductive age women". Theoretical review centered on nursing theory adopted to anchor the study and health belief model was used as well as its application to the subject matter was also stated. Lastly, the empirical review which is the review of related empirical carried out in different settings on the topic under consideration.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter discusses the research design, the study setting, target population, sample and sampling techniques, instruments for data collection, method of data analysis, validity and reliability of instrument and ethical considerations.

3.2 STUDY DESIGN

The research design employed for this study is non-experimental descriptive research design aimed at finding out the Knowledge and Practice of Preconception Care among Women of Childbearing Age in Dadin Kowa Comprehensive Health Center Jos.

3.3 RESEARCH SETTING

The study was carried out in Dadin Kowa Comprehensive Health Center Jos located in Jos South Local Government Area of Plateau State Dadin Kowa Comprehensive Health Center Jos is a primary health care institution located just by the first gate of Dadin Kowa Jos when coming from Bukuru. They provide specialized medical services, has trained health professionals and the hospital serves as research center and a place of practical for student. The centre is staffed with relevant health professionals like nurses, midwives, doctors and other departments including pharmacy, radiology, laboratory, administrative and out-patient department. It is owned, operated and finance by the Plateau State Government.

3.4 TARGET POPULATION

The target population of the study comprises of all women of child bearing age attending Dadin Kowa Comprehensive Health Centre, at the time the researcher was carrying out this research. The target population of the study consisted of 465 women of childbearing age from the Ante-natal post-natal/children welfare clinics and general outpatient department.

3.5 SAMPLING SIZE

The sample size of the study was determined by using the Taro Yamane (1967) formula with 95% confidence with allowable error (0.05/5 %) give as:

Where

n = sample size required

N = Population

1 = constant

E = level of significant or allowable error (%)

$$n = \frac{465}{1 + 465(0.05)^2}$$

$$n = \frac{465}{1 + 465(0.0025)}$$

$$n = \frac{465}{2.16}$$

$$n = 215$$

3.6 SAMPLING TECHNIQUES

The sampling technique that was adopted is non-probability sampling technique. Using the convenient method of sampling.

3.7 INSTRUMENT FOR DATA COLLECTION

The principal instrument used for collecting data for this study was a structured questionnaire comprising of section ABC & section D. A: Demographical data, section B: contain question for assessing the knowledge of child bearing age women about preconception care. Section C: contain structure question to determine practice of preconception care. Section D: contains structure question to determine the factors that hinder the practice of preconception care among women of childbearing in Dadin Kowa Comprehensive Health Centre, Jos.

3.8 VALIDITY OF INSTRUMENT

A draft of the questionnaire constructed was given to the supervisor for face and content validity Supervision, observation, suggestion made were included into final draft of the instruments, this was to ensure that the instrument was capable of measuring what it was design to do.

3.9 RELIABILITY OF INSTRUMENT

A test re-test method using 10 questionnaires was administered to respondents who were not part of the study sample group (in the same hospital) The same questionnaires were administered to the same people after two weeks and their responds were constant, which shows that instruments are reliable.

3.10 METHOD OF DATA COLLECTION

The researcher visited the hospital administration to seek for permission to distribute the questionnaire to the respondents and permission was granted, the researcher enlightened the respondents on the research study. Copies of questionnaire were administered to the respondents by the aid of research assistants.

3.11 METHOD OF DATA ANALYSIS

Data collected was analyzed by the use of frequency distribution table and a result was expressed in percentage.

3.12 ETHICAL CONSIDERATION

Ethical approval to carry out the study was obtained from the director of nursing service of the hospital using an introductory letter obtained by the researcher from school. The purpose of the study was explained to the respondents and consent was obtained from them, the respondents wish and rights was respected at all times, including the right to be discontinue with the study of not at any time, confidentiality of the information and personality was assured arid observed.

CHAPTER FOUR
DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 INTRODUCTION

This chapter deals with data presentation, interpretation and the test of research hypothesis. The data was provided by the respondents through the questionnaire administered. The questionnaire comprises of the socio-demographic data of respondents, knowledge, practice and hindrance to preconception care practice.

Data collected from respondents were presented in frequency tables and percentages and the hypothesis was tested using chi square (inferential statistics). 215 questionnaires were administered to the respondents and 208 questionnaires were retrieved making the total response rate of 93%.

4.2 PRESENTATION OF RESULT USING TABLE AND PERCENTAGE

Table 1: Respondents Demographic Data

Variable	Categories	Frequency(f)	Percentage(%)
Age	15-25years	30	14.4
	26-35years	100	48
	36-45years	58	27.9
	46-55years	20	9.6
	Total	**208**	**100**
Marital Status	Married	33	15
	Single	146	70.2
	Divorced	20	9.6
	Others	9	4.3
	Total	**208**	**100**
Number of Children	Non	25	12.0
	1-2	104	50.0
	3-4	51	28.0
	5 and above	28	13.5
	Total	**208**	**100**
Religion	Christianity	90	43.3
	Islam	102	49.0
	Traditionalist	12	5.8
	Others	4	1.9
	Total	**208**	**100**
Occupation	Civil servant	25	3.7
	House wife	100	48.0
	Business	70	36.0
	Others	13	6.3
	Total	**208**	**100**

Table1 shows that 14.4 % among the respondents are within the age of 15-25 years, 48 % are within 26-35 years, 27.7 % are within 36-45 years and 9.6 % are within the age of 46-55 years. Less than half of the participants (15 %) are single, 70.2 % are

married, 9.6 % divorced and 4.3% are others specified. 12 % of the participants has no child, 50 % has 1-2 children, 28.0 % has 3-4 children and 13.5 % has 5and above children. Forty-nine percentage out of the participants are Christians, 29.0 % are Islam, 5.8 % are traditionalist and 1.9 % are others specified. Minority of the participants (3.7 %) are civil servants, 48.0 % are house wife, 36.0 % are doing business and 6.3 % are others specified.

Table 2: Knowledge of Childbearing Age Women on Preconception Care and Counseling

Variable	Categories	Frequency	Percentage
Heard of preconception care and counseling	Yes	150	72.1
	No	58	27.9
	Total	**208**	**100**
Source of information	Hospital	37	24.7
	Radio/Television	88	58.7
	Church/mosque	15	10.0
	Others	10	6.6
	Total	**150**	**100**
What is preconception care?	- Care given to women of childbearing age before pregnant	50	53.3
	- Care given to pregnant women during the period of pregnancy	28	18.7
	- Care given to a woman and her child after delivery	32	21.3
	- Care given when having difficulty to conceive	40	26.7
	Total	**150**	**100**
Place for perception care and counseling	Market	0	0.0
	Church	12	8.0
	Hospital	100	66.7
	Mosque	38	21.3
	Total	**150**	**100.**
The right time for PCC	During pregnancy	28	18.7
	After pregnancy	32	21.3
	During illness	10	6.7
	Before pregnancy	80	53.3
	Total	**150**	**100**
Right person for PCC	- Only the women of childbearing age	100	66.7
	- Men and women of childbearing age	0	0.0
	- Girls before unset pregnancy	30	20.0
	- Only couple who are finding it difficult to achieve pregnancy	20	13.3
	Total	**150**	**100**
An exception to the aim of PCC	- Prevention of unplanned and unintended	49	32.7
	- Stop behavior such as smoking and drug addiction that contribute to poor material and child health	31	20.6
	- Prevent birth detect and birth complication	0	0.0
	- To make women independent and powerful	70	46.7
	Total	**150**	**100**
An exception to the right counsel given during PCC	- Do not attend antenatal care	72	54.7
	- Change risk behavior such as smoking and drinking alcohol before and during pregnancy	40	26.7
	- Take folic acid prior to pregnancy and during pregnancy to prevent neutral tube detect	0	0
	- Control your weight through diet weight through diet and exercise and overweight and underweight interfere with pregnancy	28	18.7
	Total	**150**	**100**

Table 2 shows that 72.1 % of the respondents have heard of preconception care 27.9 % have not heard about preconception care before. Out of 72.1 % who have heard about preconception care, affirm their sources of information; Hospital (3.4 %), radio/television (5.8 %), church (10 %) and 6.6 % from other source like Journal, friends and internet. More than 53.3 % of the participants agreed that PCC is the care given to women before pregnancy, 18 % agreed that it is care given to women during pregnancy, and 21.3 % agreed that it is a care given to a woman after delivery. Zero percentage of the respondents agreed that PCC are carried out in the market, 8.0 % said church, 66.7 % said hospital, and 21.3 % said mosque. Less than half of the respondents (18.7 %) said the right time for PCC is during pregnancy, 21.3 % said after pregnancy, 6.7 % said during illness and 53.3 % said before pregnancy. Majority (66.7%) among the participants agreed that the right person for PCC is only women of childbearing age, 0 % said men and women of childbearing age, 20 % said girls before unset pregnancy, and 13.3 % said only couple who are finding it difficult to achieve pregnancy. 32.7 % among the participants agreed that an exception to the aim of PCC is Prevention of unplanned and unintended pregnancy, 20.6 % said stop behavior such as smoking and drug addiction that contribute to poor material and child health, 0 % said prevent birth defect and birth complication and 46.7 % said to make women independent and powerful. Majority of the participants (54.7 %) affirm that an exception to the right counsel given during PCC is do not attend antenatal care, 26.7 % said Change risk behavior such as smoking and drinking alcohol before and during pregnancy, 0 % said take folic acid prior to pregnancy and during pregnancy to prevent neutral tube detect and 18.7 % said control your weight through diet weight through diet and exercise and overweight and underweight interfere with pregnancy.

Table 3: Practice of Preconception Care among Reproductive Aged Women
N = 150

Variables	Categories	Frequency	Percentage
Seek for preconception care services 3 months before becoming pregnant	Yes	49	32.7
	No	101	67.3
	Total	**150**	**100**
Do you go to the hospital/clinic for preconception care services?	Yes	42	28
	No	108	72.0
	Total	**150**	**100**
Do Care received include counseling, laboratory investigations and treatments of identified problems?	Yes	19	12.6
	No	131	87.3
	Total	**150**	**100**
Do you Practice family planning?	Yes	137	87.3
	No	13	8.6
	Total	**15**	**100**
Do you kept all appointments with the health professional giving you family planning services?	Yes	144	96
	No	6	4
	Total	**150**	**100**
Will you recommend preconception care to other women?	Yes	80	53.3
	No	70	46.7
	Total	**150**	**100**

Table 3 shows that 32.7 % of the respondent seek for preconception care services 3 months before becoming pregnant while 67.3 % does not. 28 % go to the hospital/clinic for preconception care service while 72 % does not. 12.6 % said yes to have received care include counseling, laboratory investigations and treatments of identified problems while 87.3 said No. Majority of the respondents (87.3 %) practice family planning while 8.6 % said No. majority of the respondents 96 % keep appointments with health professional while 4 % does not. More than half of the participants 53.3 % agreed to recommend preconception care to other women while 46.7 % said no.

Table 4: Hindrance to Preconception Care Practice

Variable	Opinion	Frequency(f)	Percentage(%)
Lack of awareness and poor information	Yes	168	80.8
	No	40	19.2
	Total	**208**	**100**
Attitude of health care providers	Yes	129	62.0
	No	79	38.0
	Total	**208**	**100**
Lack of availability and accessibility of the service	Yes	70	33.6
	No	138	66.4
	Total	**208**	**100**
Lack of motivation/ benefit	Yes	167	80.3
	No	41	19.7
	Total	**208**	**100**
Lack of money to pay for the service	Yes	29	13.9
	No	179	86.1
	Total	**208**	**100**

Table 4 shows that 88 % among the participants 80.8 % agreed that Lack of awareness and poor information is a hindrance to preconception care and 19.2% said No. 62 % among the respondents agreed that attitude of health care providers is hindrance to preconception care and 38.0 % said No. 33.6 % among the participants agreed that lack of availability and accessibility is hindrance to preconception care practice and 66.4 % said no. 80.3 % affirmed that lack of motivation/benefit is a hindrance to preconception care while 19.7 % said no. 13.9 % of the respondents affirm that lack of money to pay for the service is a hindrance while 86.1 % disagreed.

4.3 HYPOTHESIS TESTING

H_0: There is no significant relationship between knowledge and practice of preconception care among women of child bearing age in Dadin Kowa Comprehensive Health Center in Jos

Table 5: Cross Tabulation of Variables; Knowledge and Practice of Preconception Care

Variables	Items	Yes	No	Total
Knowledge	Heard of preconception care and counseling	150	58	208
Practice	Seek for preconception care services 3 months before becoming pregnant	49	101	150
	Total	**199**	**159**	**358**

X^2_{cal} =55.0, degree of freedom = 1, level of significant of 0.05, X^2_{tab} = 3.84

Table 5 shows that X^2_{cal} (55.0) at degree freedom of 1 within the level of significance of 0.05 is greater than X^2_{tab} (3.84) that is P > 0.05. Therefore, the null hypothesis that stated that there is no statistically significant relationship between knowledge and practice of preconception care among women of child bearing age in Dadin Kowa Comprehensive Health Center in Jos is thereby accepted.

CHAPTER FIVE
DISCUSSION

5.1 INTRODUCTION

This chapter consists of discussion of findings, implications of the study, limitations of the study, summary of the study, conclusion, recommendations and suggestions for further studies.

5.2 DISCUSSION OF FINDINDS

This study aims to access the knowledge, attitude and practice of preconception care among women of child bearing age in Dadin Kowa Comprehensive Health Centre Jos.

This study finds out that 48 % among the respondents are within the age of 26-35 years. This finding is similar with the descriptive cross-sectional study carried out by (Akinajo, Abemieniola & Osemen 2019) at the antenatal out-patient clinic, Lagos State University Teaching Hospital, Idi-Araba Nigeria which showed that the mean age of the participants was 31.5+3.8 years. This similarity may be due to age bracket of reproductive age accessing health services in the study areas.

This study also reveals that 72.1 % of the participants have heard about preconception care and the majority 58.7 % heard about it from the radio/television. In contrast, this finding is not in line with study by Demisse et al. (2019) which reported that among 410 participants, only 35.4 % of women have heard about preconception care before. For those who have heard about preconception care; the major source of information was health workers (63 %). This disparity may be due to difference in the level of accessibility of care by the women.

This study also posits moderate level of knowledge of the participants as 53 % know the meaning of preconception care, 53.3 % know the right time for preconception care (before pregnancy) and 66.7 % know the right person for preconception care. This

finding is in agreement with a descriptive cross-sectional research by (Krishma et al., 2018) in which a non-probability purposive sampling technique to select 220 reproductive age women in Pokhara, Metropolitan city -32 Janachautra was done. The findings revealed that about 64.5 % possessed average level knowledge and the mean score of the level of knowledge was 50.6+10.6. The similarity may be due to their level of exposure and interaction with the society. However, this finding is in contrast with the study conducted in United Kingdom to explored the knowledge and attitudes related to pregnancy and preconception health in women with chronic medical conditions which found out that more than half of the women had no knowledge about the availability of preconception care services at the hospital (Huang, Vellot, & Weisman, 2019). This dissimilarity may be due to disparity in awareness of preconception care.

The finding of this study also projects low level of practice among the participants as only 37.7 % out of the participants seek for preconception care services 3 months before becoming pregnant, 28 % go to the hospital/clinic for preconception care services and 12.6 % received care include counseling, laboratory investigations and treatments of identified problems. This finding is in line with the study carried out by (Demisse et al., 2019) in their study uphold that there is poor utilization of preconception service, as only 13.4 % women utilized preconception care services, and also with study by (Yohannes, Tenaw, Astatki, Siyoum & Kassaye, 2018) that reported poor utilization of preconception care among women of reproductive age in Ethiopia, 65 % respondents are not utilizing preconception care while only 35 % uses this services. This similarity may be due to lack of knowledge.

The finding of this study also reveals the major hindrances to preconception care which ranges from lack of awareness/poor information (80.8 %), lack of motivation/ benefit (80.3%) to attitude of health care providers (62.0 %). In

contradiction, this finding contradicts the study carried out by (Kassa, Human & Gemeda, 2018), amplified some factors playing negative influence on preconception care to inclusion non-inclusion of PCC in training curricula, the exclusion of PCC as part of in-service programmes and lack or absence of guidelines/protocols on PCC in health care facilities and also the study by (Demisse et al., 2019) which affirm that women's age, education and occupation, marital status, Total household income per month, family size, history of preterm birth, history of contraceptive use, Preexisting chronic medical problem, availability of adequate laboratory service, availability of adequate medication and availability of unit for preconception care. In Exception, lack of knowledge of the subject matter is identified by the three studies. This contradiction may be due to nature, functionality and peculiarity of health facilities in the study areas.

Finally, this study posits that $P>0.05$. Hence, there is no statistically significant relationship between knowledge and practice of preconception care among women of child bearing age in Dadin Kowa Comprehensive Health Center in Jos.

5.3 IMPLICATION TO NURSING

i. This study will help nurses in providing education on preconception care to the women of child bearing age.

ii. This study will add to the body of knowledge about the factors influencing the implementation of preconception care and counseling among practicing nurses**.**

iii. This study will serve as reference material to further studies related to this topic.

iv. It will aid nurse Managers to plan implementation strategies in order to eradicate the barriers to practice of preconception care in all facilities across the country

v. The study will help furnish nurses with information to effectively and efficiently render both routine and individualized nursing care to parents using preconception care.

vi. This study will also help nursing administrators to collaborate with government and non-governmental organization to set up a unit in the hospital called preconception care unit.

5.4 SUMMARY OF THE STUDY

The finding of this study posits moderate level of knowledge and low level of practice of preconception care among the participants. This is due to some hindrances that range from lack of awareness/poor information, lack of motivation/ benefit to attitude of health care providers as identified in this study.

5.5 CONCLUSION

In conclusion, this study finds out those women of child bearing age in Dadin Kowa Comprehensive Health Center in Jos have moderate level knowledge of preconception care and counseling; despite the moderate knowledge of preconception care there is low level of practice due to some factors identified. Hence, the needs for nursing administrators to collaborate with government and non-governmental organization to create awareness of preconception care to all women of child bearing age.

5.6 RECOMMENDATIONS

Based on the finding and conclusion of this study, the following recommendations were drawn:

i. Nurses should organize community sensitization in order to creating awareness of preconception care to the women of child bearing age.

ii. Nursing Managers should plan implementation strategies in order to eradicate the barriers to practice of preconception care.

iii. Hospital management should collaborate with government and non-governmental organization to provide a centre or clinic (structure) in all health facilities called preconception care clinic.

iv. Preconception care should be made routine care for all women of child bearing age in the country and the world at large.

5.7 SUGGESTION FOR FURTHER STUDIES

The researcher suggests that these studies be conducted in Dadin Kowa Comprehensive Health Center in Jos.

1. Research work should be conducted on the perception of nurses towards the barriers militating against the practice of preconception care.
2. Studies should also be conducted on the strategic plan by the nursing leaders towards achieving full awareness and practice of preconception care.
3. Research should also be conduct on the perceived hindrance among nurses to discharge preconception care.

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APPENDIX
LETTER OF INTRODUCTION

Department of Nursing Science,
University of Jos.

Dear Respondents,

The researcher is a final year student of the Department of Nursing, University of Jos carrying out a research study on the Assessment of Knowledge and Practice of Preconception Care and Counseling among Women of Childbearing Age in Dadin Kowa Comprehensive Health Center, Jos.

All information given for the purpose of this study will be strictly treated with confidentiality.

Thank you in anticipation.

Your faithfully,

Agyo Abigail Innocent
UJ/2016/MD/0114

QUESTIONNAIRE

SECTION A: Socio-Demographic Information

Instruction: Please indicate your responses by ticking (✓) in the boxes and filling the blanks where applicable

1. Age
   (a) 15 – 25 years [ ]
   (b) 26 – 35 years [ ]
   (c) 36 – 45 years [ ]
   (d) 46 – 55 years [ ]
2. Marital Status
   (a) Married [ ]
   (b) Single [ ]
   (c) Divorce [ ]
   (d) (d) Others…….
3. Number of Children
   (a) Non [ ]
   (b) 1 – 2 [ ]
   (c) 3 – 4 [ ]
   (d) 5 and above……...
4. Religion
   (a) Christian [ ]
   (b) Islam [ ]
   (c) Pagan [ ]
   (d) Other……..

5. Occupation

(a) Civil servant [ ]

(b) House wife [ ]

(c) Business [ ]

(d) Farmer [ ]

SECTION B: Knowledge Towards Preconception Care and Counselling

6 Have you ever heard of preconception care and counselling?

(a) Yes [ ]

(b) No [ ]

(c) I am not sure [ ]

(d) Other……

7. If the answer to the above question is 'Yes' what is your source of information?

(a) Hospital [ ]

(b) Radio/television [ ]

(c) Church/Mosque [ ]

(d) ……

8. What is preconception care?

(a) A care given to women of childbearing age before she becomes pregnant [ ]

(b) A care given to pregnant women during the period of pregnancy [ ]

(c) A care given to a woman after an accident in pregnancy [ ]

(d) A care given to a woman and her child after delivery [ ]

9. Where is preconception care and counselling done?

(a) In the market [ ]

(b) In the church [ ]

(c) In the hospital [ ]

(d) In the mosque [ ]

10. When is the right time to go for preconception care and counselling?

(a) During pregnancy [ ]

(b) After pregnancy [ ]

(c) During illness [ ]

(d) Before pregnancy [ ]

11. Who is supposed to go for preconception care and counselling?

(a) Only the woman of childbearing age [ ]

(b) Men and women of childbearing age [ ]

(c) Menopausal women [ ]

(d) Only couple who are finding it difficult to achieve pregnancy [ ]

12. The aim of preconception care includes the following except?

(a) Prevent unplanned and unintended [ ]

(b) Reduce behaviour such as smoking and drug addiction that contribute to poor maternal and child health [ ]

(c) Prevent birth defect and birth complication [ ]

(d) To make women independent and powerful [ ]

13. The following is the right counsel given in preconception care except?

(a) Do not attend antenatal care [ ]

(b) Change risk behaviour such as smoking and drinking alcohol before pregnancy [ ]

(c) Take folic acid prior to pregnancy and during pregnancy to prevent neural tube defect [ ]

(d) Control your weight through diet and exercise as overweight and underweight interfere with pregnancy [ ]

SECTION C: Practice of Preconception Care

Instruction: Only for those who heard about preconception

14. Seek for preconception care services 3 months before becoming pregnant

    Yes[ ] No [ ]

15. Do you go to the hospital/clinic for preconception care services? Yes [ ] No [ ]

16. Do Care received include counseling, laboratory investigations and treatments of identified problems? Yes [ ] No [ ]

17. Do you Practice family planning? Yes [ ] No [ ]

18. Do you kept all appointments with the health professional giving you family planning services? Yes [ ] No [ ]

19. Will you recommend preconception care to other women? Yes [ ] No [ ]

SECTION D: Hinderances to Preconception Care Practice

The hindrance to practice of preconception care includes:

20. Lack of awareness and poor information of preconception care. Yes [ ] No [ ]

21. Attitude of health care providers. Yes [ ] No [ ]

22. Lack of availability and accessibility of the service. Yes [ ] No [ ]

23. Lack of motivation/ benefit. Yes [ ] No [ ]

24. Lack of money to pay for the service. Yes [ ] No [ ]