Midwives' Knowledge And Clinical Decision Making On Preconception Care In Teaching Hospitals In Rivers State

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ABSTRACT
The study inquired into the midwives' knowledge and clinical decision making on preconception care in Teaching Hospitals in Rivers State. The study was conducted using a cross-sectional research design. The research included 793 midwives working at Rivers State Teaching Hospitals (UPTH and RSUTH). The Taro Yamane method was used to determine the sample size for the research, which included 266 midwives in Rivers State. The study's research tool was called the Knowledge and Clinical Decision-Making Inventory (KCDMI). The instrument's dependability was determined using the Cronbach alpha technique, yielding a reliability value of 0.86. The study questions were answered using mean and standard deviation. The study discovered that midwives working in teaching hospitals in Rivers state have a good understanding of the fundamentals of preconception care, that midwives working in teaching hospitals in Rivers state possess the vital and fundamental clinical decision-making skills required to effectively provide preconception care to women of childbearing age, that there is a shortage of manpower, and that there is insufficient resources The following suggestions were made based on these observations. Consistent support from the Federal Ministry of Health, the Federal Ministry of Education, and other health-related organizations and individuals to improve Health Care Professionals' Preconception Care understanding via pre-service and in-service training. There should be provision of continuous training and other source of published information by federal ministry of Health to enhance the knowledge of Health Care Professionals working in the health centers by involving universities and professional organizations.
Keywords: Decision, Knowledge, Midwives, Preconception, Rivers State

INTRODUCTION
Preconception care has become a global issue because of inadequate knowledge among health workers. This problem is not only common in developed countries but also in developing countries as they are more affected by a misuse or lack of practices in preconception care due to different enablers. The preconception window has been recognized as one of the earliest sensitive windows of human development, and taken together with the developmental origins of health and disease paradigm (Gluckman, 2010). The importance of the preconception period is given in details for optimizing health. The preconception periods have the ability to influence immediate maternal, child health even exposures during this sensitive time can have effects on reproductive and developmental endpoints. It has been shown that women who obtain preconception care and counseling have the chance of developing better health behaviours, such as daily pre-pregnancy multivitamin consumption, early entry into prenatal care.
Preconception care is any intervention provided to women and couples of childbearing age prior to pregnancy, regardless the status of pregnancy or desire, to improve the outcome of health for women, newborns, and children. Preconception is an important element of antenatal treatment because it has the ability to help women reduce risk, promote a healthy lifestyle, and improve pregnancy

readiness (Prashansa & Rojana, 2016). The World Health Organization defined Preconception care (PCC) as the provision of biomedical, behavioral, and social health interventions to women and couples prior to conception (Winifred, 2019). The main goal of preconception care is to improve women's health by reducing the behavioral and environmental factors that contribute to poor pregnancy outcomes. The World Health Organization (WHO, 2015) reports purported that intervening after conception has occurred is usually too late in reducing risk factors which might affect the mother and her unborn child. Preconception care is an important factor in the health of the mother and fetus (Minoo, Nafisehsadat, Zohreh & Mahmud, 2008).

In developing countries, the main causes for death or disabilities of women at a reproductive age are pregnancy and delivery side effects. According to doctors, appropriate counseling and medical examinations prior to pregnancy will reduce many of the side effects of pregnancy and delivery. With the importance of the organogenesis period highlighted, the importance of preconception care as part of primary care in preventive medicine becomes clear. Women who have malnutrition, anemia, infection, hypertension, or other complications prior to pregnancy are more likely to have complications during pregnancy. The goal of preconception care is to protect future parents' health before and during pregnancy and the primary and most important method for public health promotion, in particular in the prevention of congenital disorders, can be considered. Preconception thus contributes effectively to goals 4 and 5 of sustainable development (Reduce child mortality and improving maternal health). Pre-conception care is an organized and comprehensive health care program for women in the identification and reduction of pre-conception reproductive risk by evaluating risk, promoting health and intervention. Midwives can therefore better teach and advise on the importance of pre-conception care.

The role of the midwives is to ensure that both parents are in the physical and emotional most beneficial condition in order to manage pregnancy safely and to obtain a history from prospective parents and to determine whether any problems could affect women or couples in their reproductive health. They can also evaluate the holistic factors that can influence a pregnancy. The best people to provide prenatal care for women in the reproductive age are midwives who constitute core health in their health and clinical systems. In order to ensure successful pregnancy, most midwives can recognize the best time for information and advice to couples. Midwives may have an impact on maternal health and therefore have an effect on family health. Midwifery job has a key role to play in the normal pregnancy and delivery process. Various universal studies have shown that the continuing presence of midwives in pregnancy and childbirth has enhanced maternal and neonatal health and increased maternal satisfaction level. The role of knowledge and clinical decision making are the most factors in terms of suitable and accurate care. Sound and adequate knowledge of preconception care give an average midwife especially clinicians the opportunity to know how to design and handle pregnancy and delivery process.

Another factor in the similitude of knowledge is quality of clinical decision making in medicine which is one of the top value that every midwife needs, because it determines the success or failure of any preconception care. A wrong clinical decision will prevent promotion; weaken resources and cause loss or damage. So understanding the concept of clinical decision making and knowing its models and strategies in order to function properly and promptly is very important for midwives. Midwives must from time to time apply clinical decision making skills given to them by medical personnel, as decision making is important in evaluation.

Clinical decision making is an important part of midwifery practice, constantly used by midwives in order to take care of patients. Clinical decision making is a phenomenon that midwives frequently utilize in some stages of midwifery process. Patient assessment; determining, accepting, or rejecting the possible diagnosis; and selecting best care strategies are the stages of nursing process for which nurses should make decisions (Robinson, 2002). Midwives make important clinical decisions which have a major impact on patient care and the professional performance of sisters. Clinical decision-making covers at least three practice areas as clinicians take diagnosis, surveillance and interventions decisions. Diagnoses are made in order to identify a condition, e.g. its course, distress or seriousness, treatment or prognosis. Diagnoses shall be established for the purpose required. The monitoring mainly focuses on the detection of changes in practice and tends to ask: Does the patient improve or get worse? Does a procedure work?

Does a particular therapy have cause for revision? Are further diagnostic studies suitable? Intervention decisions support care, therapy and referral options. Magi and Max (2009) defined clinical decision making as a cognitive process concerned with recognition of problems through the cues identification or of relevant clinical features, gathering of data, assimilation, analysis, evaluation and choice, to produce an operational decision. An operational decision is what you do or do not do as a consequence of your judgment. Operational decisions are made in the course of managing and delivering care. Sound clinical decision making and operational decisions depend upon fully informed assessments and astute, analytic judgments. Midwives should be concerned about making their decisions to improve healthcare professionals' accuracy and agreement and ensure professional accountability

Clinical decision making is an index of a smart judgment with a complex stage of clinical problems diagnosis and resolution. This is essential when it comes to patients. Patient management problem (PMP) is a typical example of clinical decision-making; this is a clinical decision-making method. PMP is a reliable means of measuring the ability of clinical decision making which midwives can use to evaluate and score items that could not be evaluated using common clinical methods. PMP might be papered or computerized (Minoo, Nafisehsadat, Zohreh & Mahmud, 2008). Knowledge and clinical decision making among midwives are the most important factors in offering suitable and accurate care in a health system. Considering the importance of preconception as a part of primary care in preventive medicine, the level of knowledge and clinical decision making of midwives cannot be overlooked therefore the goal of this study is to find out midwives' knowledge and clinical decision making on preconception care.

Objectives of the Study

Specifically, the objectives of the study were to;

1. determine the knowledge on preconception care among midwives in Teaching Hospitals in Rivers State.
2. identify the clinical decision-making skill on preconception care among midwives in Teaching Hospitals in Rivers State.
3. ascertain the factors that influence the provision of preconception care among midwives in Teaching Hospitals in Rivers State.

METHODOLOGY

This study adopted cross sectional research design with a population which consisted of all the seven hundred and ninety-three (793) midwives in Teaching Hospitals in Rivers State. A sample of 266 midwives were selected using purposive sampling technique. The instrument for this study was Knowledge and clinical decision-making Inventory (KCDMI), modified from instruments of Uprety and Kalikotay (2019). The instrument ((KCDMI) was relatedly structured but with more items. However, 30 items were structured. The instrument contained two basic sections. Section A and Section B. Section A consisted midwives' demographic data while Section B consisted Knowledge and clinical decision-making on preconception care among midwives and consisted of three clusters. Cluster 1, gathered information on the knowledge on preconception care among midwives while cluster II, gathered information on clinical decision-making skill on preconception care among midwives and cluster III gathered information on the factors that influence the provision of preconception care among midwives. The reliability of the inventory for Knowledge and clinical decision-making Inventory (KCDMI) was determined through test retest method and, a reliability coefficient of 0.86 was obtained. Data collected was analyzed using mean and standard deviation. For ethical considerations, the researcher obtained permission letter from the Head of Department where a formal permission was obtained from the Teaching Hospitals.

RESULTS

The results of the study are presented below:

Table 4.1: Mean and standard deviation of knowledge of preconception care

S/N	Item	Mean	Std. Deviation	Decision
1	Women seeking for child spacing require preconception care	3.6	.48972	Accepted
2	Preconception care is offered in family planning clinic	3.5	.57745	Accepted
3	Obese women are at risk of adverse pregnancy outcome	3.2	.63134	Accepted
4	Adolescents are eligible for preconception care	3.1	.81272	Accepted
5	Preconception genetic counseling is required by sickle cell anaemia clients.	3.3	.96587	Accepted
6	The diabetics need preconception counselling	3.4	.84144	Accepted
7	The chronic hypertensive clients need genetic counseling test	3.3	.83684	Accepted
8	Preconception care should start four weeks before conception	2.6	.74945	Accepted
9	Asthmatic women planning pregnancy should avoid ventolin ingestion one month prior and after pregnancy	2.5	.80155	Accepted
10	Regular mild exercise should be recommended for women planning for pregnancy.	3.1	.71877	Accepted
11	Only tetanus toxoid is recommended for women in pregnancy	2.5	.90797	Accepted
12	Early identification of diseases and treatment reduce the occurrence of adverse pregnancy outcome	3.7	.55791	Accepted
13	All women of reproductive age should take folic acid daily	3.1	.91043	Accepted
14	Women in their first trimester should avoid exposure to environmental hazard or toxins e.g. mercury, lead.	3.7	.68157	Accepted
15	Infertility screening and management is not the concern of preconception care	1.8	.83484	Rejected

An observation of the table above which displays the analysis result of the midwives in Teaching Hospitals in Rivers State level of knowledge of preconception care revealed that items 1-15 have mean values of 3.6, 3.5, 3.2, 3.1, 3.3, 3.4, 3.3, 2.6, 2.5, 3.1, 2.5, 3.7, 3.1, 3.7, and 1.8 respectively. Using our already established assumption which pegged our criterion mean at 2.5; items 1-14 possess mean values which are above the criterion hence were accepted while item 15 mean value is beneath it hence was rejected.

The implication of these mean values is that midwives in Teaching hospitals in Rivers State agreed that women seeking for child spacing require preconception care; preconception care is offered in family planning clinic; Obese women are at risk of adverse pregnancy outcome; adolescents are eligible for preconception care; preconception genetic counseling is required by sickle cell anaemia clients; the diabetics need preconception counselling. They also agreed that the chronic hypertensive clients need genetic counseling test; preconception care should start four weeks before conception; asthmatic women planning pregnancy should avoid ventol in ingestion one month prior and after pregnancy; regular mild exercise should be recommended for women planning for pregnancy.

Furthermore, they agreed that only tetanus toxoid is recommended for women in pregnancy; early identification of diseases and treatment reduce the occurrence of adverse pregnancy outcome; all women of reproductive age should take folic acid daily; women in their first trimester should avoid exposure to environmental hazard or toxins e.g. mercury, lead. They disagreed that infertility screening and management is not the concern of preconception care.

Table 4.2: Mean and standard deviation of level of clinical decision making skill of midwives

S/N	Item	Mean	Std. Deviation	Decision
1	Providing basic nursing care	3.4	.63290	Accepted
2	Making decisions to change patient medication.	2.9	.82733	Accepted
3	Informing patients about their medical conditions	3.4	.74706	Accepted
4	Providing psychological support to post natal women is the midwife's responsibility	3.6	.49525	Accepted
5	Midwives should provide safe environment to provide preconception care	3.5	.57778	Accepted
6	Arranging patients' investigations is midwife's role	2.4	.74671	Rejected

An observation of the table above which displays the analysis result of the midwives in Teaching Hospitals in Rivers State level of clinical decision making skill on preconception care revealed that items 1-6 have mean values of 3.4, 2.9, 3.4, 3.6, 3.5 and 2.4 respectively. Using our already established assumption which pegged our criterion mean at 2.5; items 1-5 possess mean values which are above the criterion hence were accepted while item 6 mean value is beneath it hence was rejected.

The implication of these mean values is that midwives in Teaching hospitals in Rivers State affirmed that; they provide basic nursing care; they make decisions to change patient medication; they inform patients about their medical conditions; providing psychological support to post natal women is the midwife's responsibility; and midwives should provide safe environment to provide preconception care.

Furthermore, they rejected the notion that arranging patients' investigations is a midwife's role.

Table 4.3: Mean and standard deviation of factors that influence the assessment of preconception care in Teaching Hospitals in Rivers State

S/N	Item	Mean	Std. Deviation	Decision
1	My health facility does not have a written protocol regarding preconception care	2.3	.87335	Rejected
2	Preconception care is provided in the hospital where I practice	3.2	.63969	Accepted
3	Midwives are not properly remunerated	2.7	.81750	Accepted
4	There is not enough time to provide preconception care	2.1	.59606	Rejected
5	In this practice population planning for pregnancy often does not happen	2.0	.67445	Rejected
6	I am not the most suitable person to offer preconception care	1.8	.69781	Rejected
7	There are no enough resources to work with	2.8	.79632	Accepted
8	Shortage of midwives to provide preconception care	2.6	.79534	Accepted
9	Lack of proper supervision of junior midwives by the seniors.	2.4	.80459	Rejected

An observation of the table above which displays the analysis result of the factors that influence the provision of preconception care among midwives in Teaching Hospitals in Rivers State revealed that items 1-9 have mean values of 2.3, 3.2, 2.7, 2.1, 2.0, 1.8, 2.8, 2.6, and 2.4 respectively. Using our already established assumption which pegged our criterion mean at 2.5; items 2, 3, 7 and 8 possess mean values which are above the criterion hence were accepted while items 1, 4, 5, 6, and 9 mean values are beneath it hence were rejected.

The implication of these mean values is that midwives in Teaching hospitals in Rivers State agreed that; preconception care is provided in the hospital where they practice; midwives are not properly remunerated in their hospital; there are no enough resources to work with at their hospital; and there is shortage of midwives to provide preconception care at their hospital.

Furthermore, they disagreed with the notions that their health facility does not have a written protocol regarding preconception care; there is not enough time to provide preconception care at their facility; population planning practice for pregnancy does not happen at their hospital; they are not the most suitable person to offer preconception care; and that there is lack of proper supervision of junior midwives by the seniors at their hospital.

DISCUSSION OF FINDINGS
From the analysis presented in table 4.1; it can be deduced that midwives working at teaching hospitals in Rivers state have a good knowledge of the fundamentals of preconception care. This conclusion is grounded in the fact that the midwives know the characteristics of individuals that must undergo preconception care, the kind of cares that constitutes preconception care, and also the benefits of preconception care. This finding affirms the findings of Uprety and Kalikotay (2019) in their investigation of the knowledge on preconception care among bachelor level nursing students and reported that 9.4%had adequate level of knowledge, 85.9% had moderate level of knowledge. Furthermore, finding also confirmed the conclusion of Kassa, Human and Gemeda (2018) who reported that 31% of the healthcare providers demonstrated a good level of knowledge on preconception care after examining the knowledge of preconception care among healthcare providers working in public health institutions in Hawassa, Ethiopia.

From the analysis presented in table 4.2; the study revealed that midwives working at teaching hospitals in Rivers state possess the vital and fundamental clinical decision making skills needed to effectively provide preconception care to women. This conclusion is grounded in the fact that the midwives have always provided preconception care services to women at their hospitals and have a good command of the skills needed to perform all the necessary procedure, test involved in preconception care. This finding affirms the findings of Packguhar, Nekui, Khakbazan, and Mahmudi (2009) who conducted a study on the midwifery students' knowledge and clinical decision making skills about preconception care and concluded that the knowledge and decision making skills of midwives were in an average level.

From the analysis presented in table 4.3; the finding was able to ascertain that the major factors that negatively influence the delivery of preconception care by midwives working at teaching hospitals in Rivers state are shortage of manpower, inadequate resources, and poor remuneration. This finding confirms the finding of Goossens et al (2018) who conducted a study on the barriers and facilitators at multiple levels that influence the provision of preconception care by health care providers and opined that limited resources and poor remuneration among other factors influenced the provision of preconception care.

CONCLUSIONS
In conclusion, the findings of this study demonstrated that midwives working in teaching hospitals in Rivers State have good knowledge of the fundamentals of preconception care, and they possess the vital and fundamental clinical decision making skills needed to effectively provide preconception care to women of child bearing age. All necessary preconception care is being provided to women who visit the hospital in Rivers State before conception. But then, even though the midwives and nurses have the required knowledge on preconception care, they still have major challenges facing them in the course of delivering preconception care to women such as shortage of manpower, inadequate resources, poor remuneration and lack of awareness on preconception care were some of the factors identified by the midwives to negatively affect the provision of proper preconception care at the teaching hospitals in Rivers State.

RECOMMENDATIONS
Based on the findings of the study, the following recommendations were proposed.
1.   The Federal Ministry of Health, the Federal Ministry of Education and other concerned organizations and individual stakeholders are advised to maintain the observed Pre-conception care knowledge of the Health Care Providers by providing continuous in-service training.
2.   The Federal Ministry of Health and Regional health bureaus should consider to availing resources such as guidelines and other published information sources to increase the knowledge of Health Care Providers working in the health centres by involving universities and other professional organizations
3.   The use of smartphone technology to download and sharing clinical practice like Preconception Care and other guidelines to have up-to-date guidelines to practice or apply the evidence-based practice. Provision of access to technology as sources for information is highly recommended. This could take the form of an allowance to key stakeholders to use Internet or by providing Internet facilities
4.   In-service training and provision of mentorship in the implementation of Preconception Care at facility level will promote a positive attitude and increased knowledge on preconception care, so should be encouraged by health care centres that provide preconception care.

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