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Availability and Pregnant Women Perceived Importance of Preconception Care in Sir Yahaya Memorial Hospital Birnin-Kebbi, Kebbi State Nigeria

Jafaru, Y.
Department of Nursing Science, College of Health Sciences, Federal University Birnin-Kebbi, Kebbi State, Nigeria

Abstract: Background:*Women with preconception suboptimal health status are at higher risk of maternal and neonatal morbidity. Preconception Care (PCC) is a behavioural, social and biomedical intervention to couples in preparation for conception for curbing individual and environmental factors contributing to poor pregnancy outcomes and for improved maternal and child health. The growing needs for improving maternal and neonatal health and reducing their mortality rate indicate the need for PCC. However, there is considerable gap in provision of PCC; the availability and provision of PCC is very limited and unsatisfactory.*
Aim:*The study aim was to assess the availability and pregnant women perceived importance of PCC in Sir Yahaya Memorial Hospital Birnin-Kebbi.*
Methods and materials: *The study was descriptive that applied cross-sectional design. Ethical approval to conduct the research was obtained from Kebbi State Health Research Ethical Committee. Two Likert Scale questionnaires were used in data collection. The calculated sample size was 173 and 46 for pregnant women and healthcare personnel respectively. SPSS version 21 was used in data analysis and result was presented in percentages, with Chi square as a statistical tool.*
Results*: Majority (29.9% and 44.9%) of pregnant women strongly disagree and disagree respectively with the availability of PCC. Most of the health personnel (17.8% and 25.9%) strongly disagree and disagree respectivelywith the availability of PCC. Majority (41.3% and 28.1%) of pregnant women agree and strongly agree respectively with the importance of PCC. There was no significant relationship between pregnant women demographic variables and their views on availability of PCC across all the variables, P > 0.05. There was no significant relationship between pregnant women demographic variables and their perceived importance of PCC across all the variables, P > 0.05. There was no significant relationship between years of experience of healthcarepersonnel and their views on availability of PCC, P>0.05.*
Conclusion: *Since most of the respondents (both pregnant women and healthcarepersonnel) strongly disagree or disagree with the existence of PCC, it is indispensably important for PCC unit to be provided in health centers. Because the state of maternal and neonatal health is inexpensive by whatever cost**,** considering their stance in the society.*
Key words: *Availability, Implication, Perceived importance, Preconception care*

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I. Introduction

The preconception health and lifestyle of couple can affect pregnancy outcomes[1]. Women with preconception suboptimal health status are at higher risk of maternal and neonatal morbidity, and increase burden to healthcare system[2]. Lassi et al. asserted that increased attention to prenatal and postnatal care do not yield expected improvement in birth outcomes[3]. Thus, realising the insufficiency of prenatal care in terms of early detection and prompt treatment to curb the menace of maternal and child morbidity and mortality; and directing attention to preconception care (PCC) for early intervention, optimisation of mothers' health and prevention of foetal abnormal growth and development.

PCC is a behavioural, social and biomedical intervention to couples in preparation for conception for curbing individual and environmental factors contributing to poor pregnancy outcomes and for improved maternal and child health[4]. It aimed at controlling existing risks factors before pregnancy occur. Johnson et al. defined PCC as specified interventions aim at identifying and modifying behavioural, biomedical, and social risks factors to health of women or outcomes of pregnancy through preventive measures and risks management[5]. It includes assessment of risks due to obstetric history, maternal or paternal conditions, age, and family history[6]. Bhutta et al. described PCCas "any preventive, promotive or curative health care intervention provided to women of childbearing age in the period before pregnancy or between consecutive pregnancies, to improve health related outcomes for women, newborns or children up to 5 years of age"[7]. PCC emphasised life style

modification, chronic health problems interventions, identifying risk of getting genetically malformed children, and assisting the couple in making informed decision[8]. When referring to care given between pregnancies, the term "inter-conception care" is used. Managing implicated risk factors in previous pregnancies form an aspect of inter-conception care[9].

Centers for Disease Control (CDC) recognized PCC as a crucial component of health care provided to women of reproductive age[10]. All women of reproductive age that are capable of being pregnant need PCC, irrespective of their planned time for pregnancy. Men also need to have PCC, even though the PCC for men is not well defined as that of the women[11]. Department of Health and Human Services (HHS) called for meeting reproductive health needs for men[12], also Casey et al.[13]and Choiriyyahet al.[14]opined that majority of men need PCC. The objectives of PCC are similar for both men and women in many ways; however, men's PCC includes counseling on the pregnancy timing, fathering children, overcoming fertility issues and ensuring partner's healthy pregnancy, children and positive post-partum outcomes[15,16].

PCC was initially given to women that had an adverse pregnancy outcome, and later became part of recommendations for all women[17]. It is used to bring about improved maternal and child health[18]. PCC would complement the prenatal care and could improve neonatal and maternal outcomes through its long-term impact on the health of women[17]. Thus, Bialystok, Poole, and Greaves[17] pointed out that a woman-centered preconception care would provide solution to the health of any hypothetical future children through the health of the woman.

Health problems like chronic diseases pose risks to maternal and fetal wellbeing[19], and there is a close relationship between healthy pregnancy and woman's health before conception. Substantial evidences exist on effectiveness of treatment of maternal diabetes and hypertension preconceptionally in decreasing adverse pregnancy outcomes on women and neonate[20,21,22]. Wahabi et al. opined that there is appreciable effect of PCC on couple with previous history of stillbirth, preterm birth, low birth weight, or major birth defect[23]. Therefore, PCC addresses women's problems affecting pregnancy and birth outcomes as well as maternal and fetal health on continual basis. It also reduces the occurrence of unwanted pregnancies. Considering the impacts of the burden of maternal and newborn mortality, addressing it from the grass root is paramount important. Thus, the study was aimed at assessing the availability and pregnant women perceived perceived importance of preconception care in Sir Yahaya Memorial Hospital Birnin-Kebbi.

II. Components of PCC

The components of PCC are categorised into four, physical assessment, risk screening, vaccinations, and counseling[24]. Preconception Interventions include necessary vaccination, folic acid supplementation, pre-gestational diabetes control, hypothyroidism management, and avoidance of teratogenic agents such as warfarin, alcohol, tobacco and some antiseizure medications25.Interventions such as improving nutritional status, folic acid supplementation/fortification, micronutrient supplementation, prevention and treatment of infection, chronic diseases and mental health as well as awareness of reproductive health are essential elements that should be addressed before pregnancy for maternal, neonatal and child health[3]. PCC also targets birth spacing and prevention of teenage pregnancy, preventing risk of death, disability from premature birth, low birth weight, obstructed labor and fistulas.

Physical assessments, risk screening, vaccinations, and counseling are the major component of preconception care[26]. Physical assessments assess risk factors, reproductive plan and history, medical history, drugs use, mental health, substance abuse, toxins exposure, infectious diseases and immunization, family history of genetic disorders, assessment of nutritional status, and laboratory testing (Including full blood count, urine analysis, blood grouping, screening for diabetes, gonorrhea, syphilis thyroid disorders and HIV). Other assessments include vaccination against hepatitis B, rubella, human papillomavirus, influenza, varicella and assessing risk of chromosomal or genetic disorders[26,27]. Preconception counselling includes counselling on the effects of teratogenes such as certain drugs, chemicals, toxins; consequences of alcohol, tobacco and substance abuse on the health of pregnant woman and fetus[26,27]. Interventions in PCC include folic acid supplementation, birth spacing, control of hypertension and pre-gestational diabetes, management of hypothyroidism, rubella and hepatitis B, vaccination. Promoting health by health education, nutritional education, and risk factors management is part of the intervention[28].

III. Problem statement

The growing needs for improving maternal and neonatal health and reducing their mortality rate indicate the need for preconception care and improved pregnancy outcomes. However, there is considerable gap in provision of PCC due to assumption that life style, attitude and behaviour affect pregnancy outcomes only when woman is pregnant[18]. At least 40% of pregnancies globally were unplanned, indicating the need for massive population-based orientation and awareness on PCC[1]. Majority of the modifiable risk factors with the potentiality of affecting coming pregnancies outcomes can be identified and managed pre-conceptually.

However, the availability and provision of PCC is very limited and unsatisfactory. Most women of child bearing age do not seek any pregnancy related care or may not have access to till they are pregnant[9].

In a Lancet reviewed neonatal series of 39 preconception and antenatal interventions, it was found that only two interventions were targeted toward PCC[29]. At the time of first prenatal visit, some birth defects or placental development disorders may be unpreventable. Organogenesis starts at early pregnancy, thus folic acid supplementation after neural tube closure is of benefit in preventing a neural tube defect[30]. However, development of the placenta starts even earlier than organogenesis. Inadequate placental formation is linked to preterm birth and preeclampsia[31].

The benefits of PCC have been established[32,33], but integrating it into healthcare services has been problematic[34].The recognised obstacles in PCC delivery include poor health services organisation, limited PCC programmes, lack of PCC awareness among couples, and lack of PCC effectiveness recognition among health facilities[34,35]. Moreover, Atrash and Jack asserted that the practice of preconception care is unsatisfactory[36].

Traditionally prenatal care primarily focuses on fetal health, considering woman as an object to be modified for healthy fetal development[37,38]. This is criticized for an afterthought position of a woman[39]. Some modified behaviour may relapse after the pregnancy since the fetus is no more a concern[40,41]. A woman centered approach provides healthy future children through the woman's health. Globally, 287,000 maternal deaths, 2.9 million newborn deaths and 2.6 million still births occur annually[42,43]. South Asia and Sub-saharan Africa constitute at least 90% of global maternal and child mortality[44]. Therefore, this research work assessed the availability and pregnant women perceived importance of preconception care in Sir Yahaya Memorial Hospital Birnin-Kebbi.

Objectives of the study

1. To assess the availability of preconception care in Sir Yahaya Memorial Hospital Birnin-Kebbi
2. To determine the perceived importance of preconception care among pregnant in Sir Yahaya Memorial Hospital Birnin-Kebbi

IV. Method and materials

The study was descriptive that employed cross-sectional design to assess the availability and perceived importance of preconception care among pregnant women in Sir Yahaya Memorial Hospital Birnin-Kebbi. The respondents were pregnant women attending antenatal care (ANC) at the hospital and selected healthcare personnel in obstetric and maternity units of the hospital; including midwives, nurses and medical doctors.Ethical approval to conduct the research was obtained from Kebbi State Health Research Ethical Committee. The calculated sample size for the pregnant women was 173, and for the healthcare personnel was 46. Systematic sampling was used in the sample from the sampling frame of pregnant women; and simple random sampling was used in selecting the sample from sampling frame of the healthcare personnel. Two questionnaires were used as instruments for data collection. The questionnaire for pregnant women assessed the availability and perceived importance of PCC, while the questionnaire for healthcare personnel assessed the availability of PCC only. The questionnaires were self-administered, and for pregnant women that cannot read, interview was conducted to fill the questionnaire. However, 166 and 40 questionnaires for pregnant women and healthcare personnel respectively were retrieved back after administering. SPSS version 21 was used in data analysis and result was presented in percentages with Chi square as a statistical tool.

V. Result

Table1: Age brackets of the respondents (pregnant women)

Age (years)	**Frequency**	**Percentage**
15 – 22	61	36.7
23 – 30	62	37.3
31 – 38	31	18.7
≥39	12	7.2
Total	166	100.0

Table 1 above indicates that the respondents age concentrated around age bracket 15-22 and 23-30, with 36.7% and 37.3% respectively.

Table2: Educational level of the respondents (pregnant women)

Level of education	**Frequency**	**Percentage**
Primary Education	28	16.9
Secondary Education	54	32.5
Tertiary Education	67	40.4
Non-formal Education	17	10.2
Total	**166**	**100.0**

Table 2 above shows that majority (40.4%) of the respondents had tertiary education, while only 16.9% had only primary education.

Table3: Occupation of the respondents (pregnant women)

Occupation	**Frequency**	**Percentage**
Civil Servant	49	29.5
Artisan	35	21.1
House Wife	64	38.6
Business	18	10.8
Total	**166**	**100.0**

Table 3 above revealed that majority (38.6%) of the respondents were house wife, and only 10.8% involved in businesses.

Table4: Parity of the respondents (pregnant women)

Parity	**Frequency**	**Percentage**
Primigravida	66	39.8
Multigravida	54	32.5
Grand multigravida	28	16.9
Great Grand Multigravida	18	10.8
Total	**166**	**100.0**

Table 4 above shows that majority (39.8%) of the respondents were primigravida and only 10.8% were found to be great grand multigravida.

Table5: Percentage distribution of pregnant women views on availability of preconception care

Variables	**Frequency**	**Percentage**
Strongly Disagree	348	29.9
Disagree	522	44.9
Uncertain	268	23.1
Agree	23	2.0
Strongly Agree	1	0.1
Total	**1162**	**100.0**

Table 5 above revealed that 29.9% and 44.9% of respondents (pregnant women) strongly disagree and disagree respectively with the availability of preconception care. While only 2.0% 0.1% agree and strongly agree respectively with availability of preconception care.

Table6: Percentage distribution of pregnant women perceived importance of preconception care

Variables	**Frequency**	**Percentage**
Strongly Disagree	2	0.2
Disagree	4	0.3
Uncertain	184	15.8
Agree	480	41.3
Strongly Agree	326	28.1
Total	**996**	**100.0**

Table 6 showed that 0.2% and 0.3% of pregnant women **s**trongly disagree and disagree respectively with the importance of preconception care. While 41.3% and 28.1% agree and strongly agree respectively with importance of preconception care.

Table7: Chi square statistical relationship between pregnant women demographic variables and their views on availability of preconception care at 95% CI

Variables	**Chi-square**	**Df**	**P**
A**ge**	36.08	36	0.47
E**ducational level**	40.720	36	0.27
O**ccupation**	26.41	36	0.88
P**arity**	37.664	36	0.39

Table 7 shows that there is no significant relationship between pregnant women demographic variables and their views on availability of preconception care across all the variables, P > 0.05.

Table8: Chi square statistical relationship between pregnant women demographic variables and their perceived importance of preconception care at 95% CI

Variables	**Chi-square**	**Df**	**P**
A**ge**	18.00	33	0.98
E**ducational level**	20.74	33	0.95
O**ccupation**	29.06	33	0.66
P**arity**	28.66	33	0.68

Table 8 indicated that there is no significant relationship between pregnant women demographic variables and their perceived importance of preconception care across all the variables, P > 0.05.

Table9: Staff distribution by profession

Profession	Frequency	Percentage
Obstetrician specialist	2	5.0
Nurse	7	17.5
Nurse/Midwife	29	72.5
No response	2	5.0
Total	**40**	**100**

Table 9 revealed that majority (72.5%) of the respondents (staff) were nurse/midwife, and only 5.0% obstetricians among the respondents.

Table10: Staff distribution by years of experience

Profession	Frequency	Percentage
<5 years	14	35.0
5-10 years	12	30.0
11-15 year	3	7.5
>15	9	22.5
Non-response	2	5.0
Total	**40**	**100**

Table 10 above shows that 35.0% of the respondents (staff) were having <5 years working experience. While 22.5% were having working experience of >15 years.

Table11: Percentage distribution of healthcare personnel views on availability of preconception care

Variables	Frequency	Percentage
Strongly Disagree	57	17.8
Disagree	83	25.9
Uncertain	58	18.1
Agree	86	26.9
Strongly Agree	29	9.1
Non-response	7	2.2
Total	**320**	**100.0**

Table 11 above indicated that 17.8% and 25.9% of the healthcare personnel strongly disagree and disagree respectively with the availability of preconception care. However, 26.9% and 9.1% agree and strongly agree respectively with availability of the preconception care.

Table 12: Chi square statistical relationship between staff years of experience and their views on availability of preconception care at 95% CI

Variables tested	Chi-square	Df	P
Years of experience	64.39	60	0.33

Table 12 above shows that there is no significant relationship between years of experience of healthcare personnel and their views on availability of preconception care, P>0.05.

VI. Discussion

There is very high disagreement on the availability of preconception care. Pregnant women highly disagreed that preconception care exist. Also, most of the staff disagree with the existence of preconception care, though some few others agreed with its existence. These findings are in accordance with the Lancet review of neonatal series of 39 preconception and antenatal interventions, in which it was found that only two interventions were targeted toward PCC[29]. Also, M'hamdi et al. asserted that integrating PCC into healthcare services has been problematic[34]. According to M'hamdi et al. Poels et al. among the recognised obstacles in PCC delivery is limited PCC programme among health facilities[34,35].

There is a very good acceptance of PCC as important among pregnant women. Most of the pregnant women agree or strongly agree with the importance of PCC. This is contrary to the assertion by Annadurai et al. that assumption of life style, attitude and behaviour affect pregnancy outcomes only when woman is pregnant brings about gap in the provision of PCC[18]. The socio-demographic variables of the respondents (pregnant women) had no relationship with their view on the availability of the PCC. Thus, age, educational level, occupation and parity of pregnant women did not influence their view on the availability of PCC, and their perceived importance of PCC. Also, years of staff experience did not influence their view on the availability of PCC.

VII. Conclusion

Since most of the respondents (both pregnant women and healthcare personnel) strongly disagree or disagree with the existence of PCC, it is indispensably important for PCC unit to be provided in health centers. Because the state of maternal and neonatal health is inexpensive by whatever cost, considering their stance in the society.Enlightening and passing awareness to the public about PCC is paramount important and should be considered in an effort to make couples to seek for PCC.

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