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Perception and Level of Knowledge on Preconception Care Uptake Among Women of Child Bearing Age Attending Reproductive Health Clinic at Kenyatta National Hospital

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Abstract: Background: Provision of care to adolescent girls and women before and between pregnancies improves their overall health. It also improves the pregnancy outcomes and the health of the new-born. There are many health related conditions that have an impact on maternal and neonatal health. There is paucity of information regarding the uptake of pre-conception care and the effects thereof in regard to maternal and neonatal morbidity and mortality. The main aim of this study was to assess the Preconception Care (PCC) given to women of child bearing age at Kenyatta National Hospital Reproductive Health clinic. Methods: This was a descriptive prospective study that employed both qualitative and quantitative methods of data collection. The targeted population included the antenatal and postnatal women attended to at these clinics. Questionnaires were used to collect data from the respondents and the care providers were also interviewed. A total of 224 women of childbearing age who met the inclusion criteria were selected by convenient sampling technique and interviewed by use of questioners between December 2017 and March 2018. Content validity was ascertained by use of the test re-test method to establish reliability comparing with a Cronbach Alpha Reliability coefficient value. Data analysis was done by use of SPSS version 22; descriptive and inferential statistical tools like simple and multiple regressions were employed to establish association between the study variables and Chi square was used to establish if the association between independent and dependent variables were significant. Findings: Nineteen percent (19%, n=40) of the women knew about preconception care. There was positive attitude with 75.5% of the respondents stating that preconception care would improve the chances of having a healthy baby. Uptake was poor with only 23.1% had uptake of preconception care services despite the fact that 49.1% had received information on PCC. Conclusion: Women attending KNH reproductive clinic have –limited knowledge about PCC. Most of the women have positive attitude towards PCC but poor PCC practices.

Keywords: Preconception Care, Women of Reproductive Age, Kenyatta National Hospital, Maternal and Neonatal Health

1. Introduction

Preconception care is an approach to health promotion and preventive medicine, which focuses on interventions that identify and modify biomedical, behavioral and social risks to a woman's health or pregnancy outcome [1, 11]. The importance of women's preconception health and care for improving birth outcomes especially among high-risk populations has become a key area of concern for researchers, advocates, and policymakers [12]. Consequently, the Centers for Disease Control and Prevention (CDC) select panel on preconception care issued recommendations for

improving preconception health and health care in the year 2006 [4, 16]. Preconception care (PCC) guidelines and recommendations have been developed in many countries across the world. Example of the countries in developed countries with the guidelines and/or recommendations are USA [13], UK [6] [16], India [10] and Netherlands [2, 7]. Africa, India, and the Middle East tend to use more targeted interventions [8, 10]. In Kenya and East Africa there is paucity of information on preconception care strategies in general, that mitigate on the adverse pregnancy outcomes to disabling maternal conditions prior to pregnancy.

In Kenya's maternal mortality (MM) rate was at 400 per 100,000 births in 2013 [3, 14]. In KNH, maternal mortality and morbidity remain significant as indicated in the table 1. Two slums within Nairobi, Kibera and Mathari, that forms considerable client base for KNH had 706 maternal deaths per 100,000 live births for a 2-year period, from January 2003 to December 2005 [17]. These MM are largely due to direct obstetric complications such as puerperal sepsis, postpartum hemorrhage, pre-eclampsia and eclampsia, obstructed labor and indirect causes including HIV, malaria and anaemia in pregnancy [17]. Subsequently, one in every eight babies in Kenya is born prematurely [9], approximately 183,600 premature babies are born in Kenya yearly while 14, 595 die in the same period 2010 (MOH, 2014).

Table 1. *Trend of Maternal & Neonatal Mortality, Prematurity and LBW at KNH.*

Conditions	Extreme Low birth weight	Low birth weight	Prematurity	Congenital malformation	Neonatal mortality	Maternal mortality
2008	72	606	548	145	1173	116
2009	56	400	526	114	1280	120
2010	54	505	128	128	1027	115
2014	152	876	1233	237	1485	127

Source: Statistic Unit KNH Health information Department 7/05/2015

The trend in LBW, prematurity, neonatal death and MM in KNH remains high as indicated in table 1. Such maternal and perinatal complications can be minimized through preconception care. Unfortunately, these complications occur despite the provision of PCC at the KNH outpatient departments. The new paradigms lay emphasis on the health of women before they become pregnant.

All women of childbearing age should have access to preconception care that addresses the medical, psychological and social impacts of pregnancy CDC, 2006). Accurate knowledge regarding disabling conditions prior to pregnancy is a critical component for good pregnancy outcomes among women [15]. Preconception care has a positive impact on maternal and child health outcomes [5, 14]. Providing care to adolescent girls and women before and between pregnancies improves their own health and wellbeing, as well as pregnancy and newborn outcomes. However, the benefits of these interventions are determined by the uptake of the information and attitudes towards PCC by the women of reproductive age.

2. Methods

Study Design

We adopted descriptive cross-sectional study that utilized a quantitative method. The intention was chosen to observe and describe the relationship between knowledge level & attitude of the women of reproductive age on the preconception care practice.

Study Area

The study was conducted at Kenyatta National Hospital (KNH) Reproductive health clinic. Kenyatta National Hospital is a National Referral, Teaching and Research Hospital. KNH has 50 wards, 22 out-patient clinics, 24 theatres (16 specialized) and Accident & Emergency Department. Reproductive health clinic serves women prenatally and for postnatal follow up care. The clinic also serves couples with infertility problems and gynaecological conditions. Clients who require preconception care are referred from other clinics within the hospital or from other external health facilities. The clinic is manned by obstetricians, senior registrars, nurses, health information staff and counsellors. The clinic attends to about 180 clients daily.

Data collection

The data collection instruments, questionnaires, were administered through face to face interviews (for women of reproductive age). The questionnaires were preferred in this study because they allowed easy collection of large quantity of data within a short period of time. The questions were both closed and open ended. Signed consent was sought from each participant who was willing to participate in the study before a questionnaire was administered or handed over to a participant for filling. The researcher with the assistant of two research assistants collected data from the women of the child bearing age. A total of 224 women participated in the study.

Data entry, analysis and presentation

The collected data was checked for completeness by sorting and going through question by question to confirm if all questions were responded to. From the 224 questionnaires, a total of 216 questionnaires were found to be complete and accurately filled and were the ones analyzed. Data entered in excel, coded and transferred to Statistical Package for Social Sciences (SPSS Version 22) for analysis. The data entered was counter-checked with the hard copy questionnaires by 2 data assistants. Descriptive statistics involved the use of percentages, frequencies, mean, and

standard deviation. Results were presented in tables, pie charts and graphs. Chi-square test was used to establish if associations are significant between the independent and dependent variables.

Ethical consideration

Ethical approval was sought from Kenyatta University and KNH/UON to Ethics and Research Committee carry out this study. Informed consent was sought from the voluntarily participating respondents. Ethics was further observed by observing honesty and respect when dealing with respondents and treating every information with due confidentiality. Through the informed consent principle subjects were briefed about the study and the implications to be involved in the study.

Findings

Socio-demographic characteristics

The socio-demographic characteristics of the respondents are as illustrated in table 2.

Table 2. *Socio-demographic characteristics of the respondents.*

Variable	Frequency (%)
Age (years)	
15-19	18 (8.3)
20-29	72 (33.3)
30-39	94 (43.5)
40-49	32 (14.8)
Education level	
Primary	32 (14.8)
Secondary	60 (27.8)
College	88 (40.7)
University	36 (16.7)
Marital status	
Single	72 (33.3)
Married	144 (66.7)
Religion	
Christian	194 (89.8)
Muslim	18 (8.3)
Missing	4 (1.9)
Economic activity	
Formal employment	86 (39.8)
Business	64 (29.6)
Self employed	33 (15.3)
Farmer	14 (6.5)
Unemployed	19 (8.8)

Most of the respondents (43.5%) were in the 30-39 years age category. Generally, majority of the respondents (58.3%) were mature mothers within the child bearing age. Regarding level of education, majority of the respondents had adequate education and therefore well informed generally; 40.7% had attained college level education and 16.7% had attained university level of education. Majority of the respondents (66.7%) were married and had chances of child conception. Regarding religion, majority of the respondents (89.8%) were Christians. Regarding economic activity, 39.8% of the respondents were in formal employment while 29.6% in business. This implied that majority of the respondents had a formal income flow in their households.

Knowledge on preconception care among women

Majority of the respondents (47%) were not sure, 42% had understanding about what preconception care is while a few 11% (n=24) did not understand what preconception care is (figure 1). A significant number of the women had no information that could help them understand preconception care thus would not be sure about its importance.

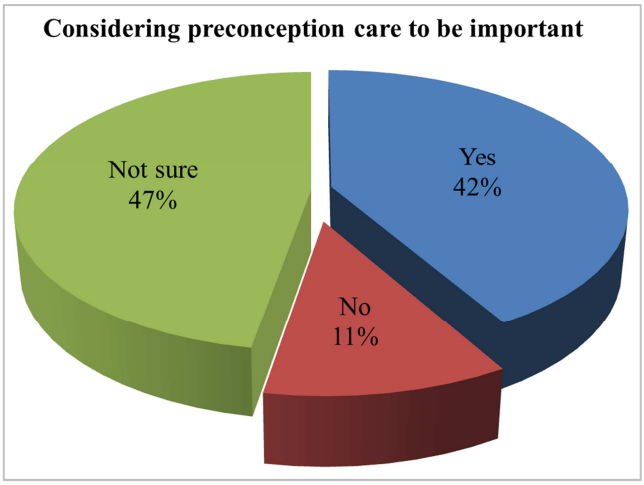

Figure 1. *Knowledge on importance of preconception care.*

Table 3 summarizes the responses of the participants on the type of medical examination screening done to them before pregnancy.

Table 3. *Types of medical examination screenings done for all the mothers for Health Promotion practices before pregnancy, where n=224.*

Medical examination screening done	Frequency (%)
HIV	116 (53.7)
Blood pressure	96 (44.4)
Breast self-examination	70 (32.4)
BMI	62 (28.7)
Lab tests BG Rh factor	60 (27.8)
Urine analysis	52 (24.1)
Hb testing	48 (22.2)
Pap smear	46 (21.3)
STI	40 (18.5)
Random blood sugar	28 (13.0)
Clinical Breast examination	14 (6.5)
Oral health screening	10 (4.6)

The respondents reported that HIV screening was the medical condition screened by most 53.7% followed by hypertension (blood pressure) at 44.4% and breast self-examination at 32.4%. All the other medical examinations were screened in less than 30% of the women. However only a fraction of the respondents had been screened for major medical conditions during health promotion screening before pregnancy, ranging between 4.6% to 53% of the respondents

Screening for these conditions is important given a good fraction of the respondents had various types of pre-existing medical conditions as summarized in table 4.

Table 4. *Pre-existing Medical conditions among the respondents where n=216.*

Variable	Frequency (%)
Are you suffering from any of the following medical conditions?	
Hypertension	52 (24.1)
Diabetes mellitus	26 (12.0)
HIV	26 (12.0)
Hematologic conditions like anaemia	22 (10.2)
Asthma	22 (10.2)
Cardiovascular diseases	18 (8.3)
STIs	16 (7.4)
Epilepsy	16 (7.4)
Autoimmune diseases	16 (7.4)
Thyroid disorder	12 (5.6)
Hepatitis	8 (3.7)
Thromboembolism	6 (2.8)
Tetanus	6 (2.8)
Renal disorders	4 (1.9)
Psychiatric disorder	4 (1.9)
Cancer	2 (0.9)

The commonest pre-existing medical condition was hypertension at 24.1%. Others included diabetes mellitus at 12%, HIV (12%), anaemia (10.2%) and asthma (10.2%). Several other conditions reported in less than 10% of the population were as shown in the table.

Exposure to Periodic risk assessment

The results are as illustrated in table 5.

Table 5. *Exposure to Periodic risk assessment.*

Variable	Frequency (%)	
	Yes	No
Pregnancy outcome with hereditary disease (*child born with hereditary disease*)	40 (18.5)	176 (81.5)
Child born with congenital anomalies	72 (33.3)	144 (66.7)
Genetic counselling	20 (9.3)	196 (90.7)
Referred for specialized care	88 (40.7)	128 (59.3)

A significant proportion of the respondents (40.7%) had been referred for specialized care. About 18.5% of the mothers had pregnancy outcomes with hereditary diseases, whereas 33.3% of the mothers had children born with congenital anomalies. Surprisingly, only 9.3% of the mothers had been referred for genetic counselling, yet these are conditions that require genetic counselling.

Knowledge on Health promotion

Majority (62%, n=134) of the respondents were aware that their health condition can affect child bearing with the source of information mainly from the clinic (38.9%, n=84) and the hospital (24.1%, n=52) as shown in figure 2.

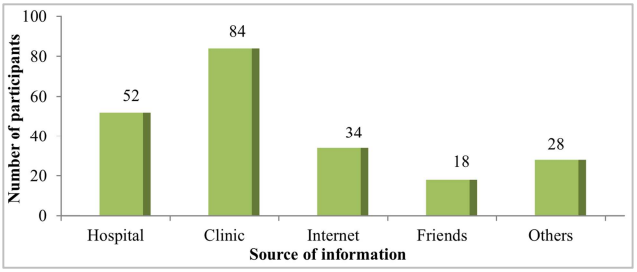

Figure 2. *Sources of information on how own health condition affect child bearing.*

History of domestic violence was reported in 31% (n=68) of the respondents and 33% (n=72) knew that domestic violence may affect pregnancy outcomes as shown in figure 3.

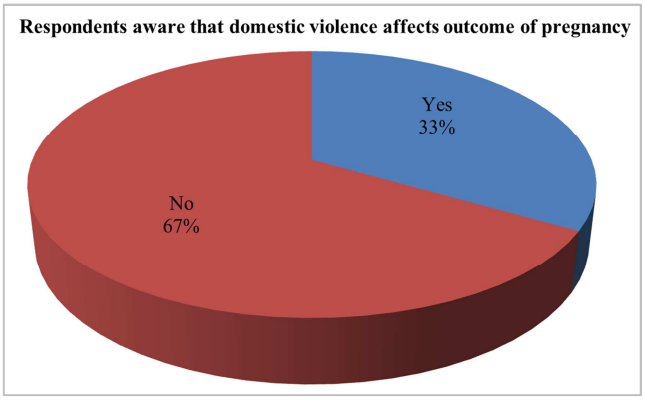

Figure 3. *Awareness of effects of domestic violence on pregnancy.*

Knowledge awareness of the effects of social habits other health conditions on pregnancy

The results are summarized in table 6.

Table 6. *Health information and health risk associated with pregnancy.*

Variable	Frequency (%)
Has been given information about:	
HIV and its effects on pregnancy outcomes	172 (79.6)
Safe sex practice and HIV prevention	160 (74.1)
Nutritional supplements like folate	148 (68.5)
Birth spacing	132 (61.1)
Genetic diseases	58 (26.9)
Diseases dangerous to pregnancy	90 (41.7)
Aware that health risk during pregnancy is associated with:	
Alcohol	136 (63.0)
Smoking	112 (51.9)
Substance abuse	104 (48.1)
Dietary habits	94 (43.5)
Exercises	82 (38.0)
Domestic violence	68 (31.5)
Obesity	64 (29.6)
Psychological and mental history	48 (22.2)

On the health information on pregnancy, 79.6% of the respondents had been given information on HIV and its effects on pregnancy outcomes, 74.1% on sex practice and HIV prevention birth spacing, 68.5% on nutritional supplements and 61.1% on birth spacing. On the contrary, less than a half (41.7%) of the respondents have been informed on dangerous diseases to pregnancy and only 26.9% were informed about genetic diseases. As for the association of the health risk during pregnancy, majority of the respondents were aware that alcohol (63.0%) and smoking (51.9%) were the most health risks to pregnancy. Others were on substance abuse (48.1%), diary habits (43.5%), exercises (38.0%), domestic violence (31.5%), obesity (29.6%) and psychological and mental conditions (22.2%).

Exposure to Preconception and Pregnancy Counseling

The responses are summarized in table 7.

Table 7. *Exposure to Counselling.*

Variable	Frequency (%)	
	Yes	No
Ever been counselled by anybody regarding your condition	72 (33.3)	144 (66.7)
Aware on how your condition would affect future pregnancy	68 (31.5)	148 (68.5)

One third (33.3%) of the women had been counselled regarding their condition whereas 31.5% had been informed on the effect on their future pregnancy.

Women Attitude and behaviours on preconception care

The results on the whether the respondents would consider preconception care necessary and when and if planning to have a child is presented in table 8.

Table 8. *Respondents' attitude towards preconception care.*

Variable	Frequency (%)	
	Yes	No
Would you consider preconception care if you are planning to have a child?	198 (91.7)	18 (8.3)
Is preconception care necessary before having another pregnancy?	194 (89.8)	22 (10.2)

Majority (91.7%) of the women would consider preconception care in their plans for child bearing and 89.8% thought it was necessary before having another pregnancy.

Rating attitude

Table 9. *Respondents' rating on preconception care statements.*

Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Do you lack time and resources to seek preconception care?	127 (58.8)	34 (15.7)	17 (7.9)	25 (11.6)	13 (6.0)
Would PCC improve chances of having a healthy baby	4 (1.9)	9 (4.2)	40 (18.5)	101 (46.8)	62 (28.7)
Pregnancy is a natural occurrence and I hardly prepare for it	59 (27.3)	73 (33.6)	40 (18.5)	35 (16.2)	9 (4.2)
I know all the things I should not do when pregnant to ensure the baby is fine	63 (29.2)	69 (31.9)	27 (12.5)	25 (11.6)	32 (14.8)
I don't see the need of preconception care when I can take care of myself at home	112 (51.9)	79 (36.6)	13 (6.0)	10 (4.6)	2 (0.9)
The hospital staff are friendly and they provide good and relevant care	48 (22.2)	71 (32.9)	25 (11.6)	40 (18.5)	32 (14.8)

Lack of time and resources was not a barrier to seeking preconception care in 74.5% of the women and more than three quarters (75.5%) thought preconception care would improve the chances of having a healthy baby. 61.1% of the women did not think pregnancy is a natural occurrence that one need not prepare for and the same percentage did not know about the things to avoid during pregnancy that could hurt the baby. On the need of preconception care, 88.5% strongly disagreed and disagreed with the statement that preconception care is not necessary. More than a half (55.1%) thought the hospital staff were unfriendly and did not provide good and relevant care.

Uptake of preconception care

Responses on the uptake of preconception care are summarized in table 10.

Table 10. *Uptake of preconception care.*

Variable	Frequency (%)
When you attended the clinic, was your health profile taken	
Yes	198 (91.7)
No	18 (8.3)
Have you ever used preconception care service?	
Yes	50 (23.1)
No	148 (68.5)
Do not remember	18 (8.3)
Were you given information on how your health condition is going to affect your future child bearing?	
Yes	106 (49.1)
No	110 (50.9)

Variable	Frequency (%)
Are you ready to receive preconception care for the subsequent pregnancies?	
Yes	200 (92.6)
No	16 (7.4)

Only 23.1% had uptake of preconception care services despite the fact that 49.1% had received information on how their health conditions would affect their future child bearing and 91.7% had their health profile taken. However, nine out of ten women (92.6%) were ready to receive preconception care for their subsequent pregnancies.

3. Conclusions

Women attending KNH reproductive clinic have limited knowledge on preconception care (PCC) and most of them received information on PCC from the clinic, whereas a significant proportion have pre-existing medical conditions that would affect their pregnancy. From the study, it was also noted that utilization of medical services provided before pregnancy was erratic and the uptake of the information on PCC by the women was poor. However, most of the women had good attitudes towards PCC but with poor PCC practices.

Recommendation from the study

There is need for Provision of Health Education on Preconception care to Women attending reproductive clinics and creation of systems for screening comprehensively for preexisting medical conditions that would affect their pregnancy

Formulation of Health Policies to enhance utilization of medical services should be provided before pregnancy.

Health education regarding importance of permissive culture that would guarantee the right in their culture to prepare for pregnancy.

References

[1] Anderson, J. E., Ebrahim, S., Floyd, L., & Atrash, H. (2006). Prevalence of risk factors for adverse pregnancy outcomes during pregnancy and preconception period: United States, 2002-2004. *Maternal and Child Health Journal,* 10, 101-106.

[2] Bekkers RL, Eskes TK. Periconceptional folic acid intake in Nijmegen, Netherlands. Lancet 1999: 353 (9149): 292.

[3] Chatterjee, S., Sambmoorthi, U., & Kotelchuck, M. (2008). Prevalence of chronic illness in pregnancy, access to care and health care costs: Implications for interconception care. *Women's Health Issues,* 18 (Suppl.), S107–S116.

[4] Coonrod, D. V., Bruce, N. C., Malcolm, T. D., Drachman, D., & Frey, K. A. (2009). Knowledge and attitudes regarding PCC in a predominantly low-income Mexican American population. Presented at the 75th annual meeting of the Pacific Coast Obstetrical and Gynecological Society, Victoria, BC, Canada.

[5] De Jong-Potjer, L. C., Elsinga, J., Le Cessie, S., Van der Pal-de Bruin, K. M., Neven, A. K., Buitendijk, S. E., et al. (2006). GP-initiated preconception counselling in a randomised controlled trial does not induce anxiety. *BMC family practice, 7 (1),* 66.

[6] Elsinga, J., de Jong-Potjer, L, van der Pal-de Bruin, K., Cessie, S., Assendelft, A., & Buitendijk, S. (2008). The effect of preconception counseling on lifestyle and other behavior before and during pregnancy. *Women's Health Issues* 18 (6, suppl), S117-S125.

[7] Frey, K. A.,& Files, J. A. (2006). Preconception health care: What women know and believe. *Maternal and Child Health Journal*, 10, 73-77.

[8] Hillemeier, M. M., Weissman, C. S., Chase, G. A., Dyer, A., & Shaffer, M. L. (2007). Women's preconceptional health and use of health services: Implications for preconception care. *Health Research and Educational Trust*, XX, 54-75.

[9] Kenya National Bureau of Statistics (KNBS) and ICF Macro. 2010. Kenya Demographic and Health Survey 2008-09. Calverton, Maryland: KNBS and ICF Macro.

[10] Kroelinger, C. D., & Ehrenthal, D. (2008). Translating policy to practice and back again: Implementing a preconception program in Delaware. *Women's Health Issues,* 18 (Suppl.), S74–S80.

[11] Johnson, K., Posner, S. F., Biermann, J., Cordero, J. F., Atrash, H. K., Parker, C. S.,... & Curtis, M. G. (2006). Recommendations to improve preconception health and Health Care—United States: report of the CDC/ATSDR preconception care work group and the select panel on preconception care. *Morbidity and Mortality Weekly Report: Recommendations and Reports*, *55* (6), 1-CE.

[12] Lassi, Z. S., Dean, S. V., Mallick, D. *et al.* Preconception care: delivery strategies and packages for care. *Reprod Health* 11, S7 (2014). https://doi.org/10.1186/1742-4755-11-S3-S7.

[13] Liu, Y., Liu, J., Ye, R., & Li, Z. (2006). Association of preconceptional health care utilization and early initiation of prenatalcare. Journal of Perinatology, 26, 409–413. Doi: 10.1038/sj.jp.7211537.

[14] Meeting to develop a global consensus on preconception care to reduce maternal and childhood mortality and morbidity. Geneva, World Health Organization, 2013.

[15] Rumbold, A.,&Crowther, C. A. (2005). Vitamin C supplementation in pregnancy. *Cochrane Database of Systematic Reviews 2005*; Issue 1: Art. No. CD004072.

[16] Tough, C.(2006). Pre-conception practices among family physicians and obstetrician-gynaecologists: Results from a national survey. *Journal of Obstetrics and Gynaecology Canada*, 28 (9), 780-788.

[17] Ziraba AK, Mills S, Madise NJ, Saliku T, Fotso JC. The state of emergency obstetric care services in Nairobi informal settlements and environs: Results from a maternity health facility survey. BMC Health Serv Res. 2009; 9: 46. doi: 10.1186/1472-6963-9-46.