

LEVEL OF KNOWLEDGE, PRACTICE OF PRECONCEPTION CARE AND BARRIERS TO ITS UTILIZATION AMONG HEALTH CARE PROVIDERS IN SOUTH EAST NIGERIA.

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Abstract

Background: Preconception care (PCC) practice found globally to improve maternal/perinatal outcome has remained poor in developing countries.

Objectives: To assess the level of knowledge and practice of PCC as well as barriers to its utilization among health workers in a tertiary hospital in south-east Nigeria.

Methods: This cross-sectional survey obtained information on socio-demographic characteristics, knowledge, practice and perceived barrier to PCC among doctors and nurses of Obstetrics and Gynecology (OBGY) and Family Medicine (FM) departments of the study center over a three-month period.

Results: Of the 151 respondents, most (70.2%) of them were doctors and those from OBGY were in the majority (68.2%). Most (85.4%) of respondents had heard of PCC and are knowledgeable (73.5%) about the concept with sixty-three (41.7%) and twenty-six (41.3%) practicing some and all the components of PCC respectively. Younger age group and recently trained health professional were significant determinants of awareness, practice and satisfactory practice of PCC ($P < 0.05$). Major barrier to practice of PCC are poor knowledge and absence of PCC clinic.

Conclusion: There is need for training and re-training of health workers on the principles and practice of PCC, awareness campaign to educate the populace on benefits of PCC and establishment of PCC clinic in every hospital setting.

KEYWORDS: knowledge, practice, preconception-care, health workers

Introduction

Maternal and perinatal morbidity and mortality is still alarming in the developing parts of the world.¹ The reasons for this include high rates of unplanned pregnancies, high parity, poor health seeking behavior and low level of maternal health care.² These preventable causes can be addressed by ensuring comprehensive obstetric care^{3, 4} of which preconception and antenatal care are components.⁵ Antenatal care alone may not be enough to solve the maternal and perinatal mortality burden owing to the fact that some pregnancy complications arise as a result of events and lifestyles that precede pregnancy.⁵ It is very important therefore to identify, modify or avoid those events and lifestyles that may be hindrances to good obstetric outcomes.

Preconception care (PCC) is a preventive strategy that improves obstetric outcomes by identifying and modifying biomedical, behavioral and social risks to women's health.^{6,7} Earlier concept of PCC involved only women with chronic medical conditions and poor obstetric history.⁵ However, PCC is for every couple because of the possibility of having one risk factor for adverse pregnancy outcome.⁵ Several preconception care models have been developed.^{8, 9, 10} The American Academy of Pediatrics and the American College of Obstetricians and Gynecologists classify the main components of preconception care into four categories: physical assessment, risk screening, vaccinations, and counseling.¹¹ Some documented specific components include folic acid and vitamins supplementation; cessation of tobacco, alcohol and other harmful drugs to fetus; weight, blood pressure, glycaemic and other chronic illness control.^{5,12,13}

The documented benefits of PCC are very glaring in developed countries where it is effectively being implemented.^{14, 15} Studies amongst health care providers in such

developed countries showed good knowledge and practice of PCC.^{14, 15} PCC practice in developing countries including Nigeria is only partially implemented and almost none existent in greater parts. In a study among health workers in Zaria, Northern Nigeria, majority of them were reported to have a good knowledge of PCC but only a few of them offered some form of PCC,² with only folic acid supplementation being the commonly practiced.

Most of the other studies on PCC from Nigeria^{3,5, 16} explored knowledge and practice of PCC from the perspective of the clients and the findings indicated that their knowledge and practice of PCC was very poor. The questions then are why the poor knowledge? Are there adequate health education of the clients on PCC and its benefits? What of the knowledge base of the health educators who are supposed to carry out the PCC awareness campaign? Are the PCC clinics available and functional? These and many more formed the basis for this study.

The study is therefore aimed at determining the level of awareness, knowledge and practice of PCC among health care providers in Enugu, south east Nigeria. It also evaluated the barriers militating against effective PCC services. Information from this research will help policy makers in developing a sustainable frame work in the establishment of efficient and effective preconception care services in Enugu and the entire South-east Nigeria.

Subject and Methods

This was a cross-sectional study of all the consultants, resident doctors and nurses of the Obstetrics and Gynaecology (OBGY) and Family Medicine (FM) Departments of a Teaching Hospital in South east Nigeria. The hospital is the pioneer Teaching Hospital, in South east Nigeria, that offers both primary and specialized health services for the people of Enugu State and its environment. The centre has a General out Patients Department (GOPD)

which serves as the first point of consult for every patient presenting to the hospital and is run by the family medicine physicians and an Obstetrics and Gynaecology Unit that has an antenatal clinic and other women centred clinics (family planning, gynaecology clinic). Both departments run clinics every weekday.

The total number of doctors and nurses in the two departments were obtained from the office of the heads of department and was 171. Intern doctors and four consultants on leave of absence were excluded from the study. The number of included doctors in the Department of Obstetrics and Gynecology was 79 while the nurses were 28. The number of doctors at the Family Medicine department was 38 while nurses in the same department were 22. The overall number of included participants was 167. Pretested, semi-structured self-administered questionnaires were distributed consecutively to all consenting participants between November 2018 and January 2019, following approval from the Ethics committee of the hospital (Reference number: NHREC/05/01/2008B-FWA00002458-1RB00002323, dated 29th October 2018). Information obtained were age, sex, marital status, occupation, department of practice and number of years of practice. Information was also obtained on awareness, knowledge, practice and perceived barriers to practice of PCC. For the purpose of this study, participants were termed to have 'good knowledge of PCC' if they knew three or more of the four components of PCC: folic acid and other vitamins supplementation; cessation of tobacco usage, alcohol and other harmful drugs to fetus; weight, blood pressure, glycaemic and other chronic illness control; vaccination, screening of and treatment of infections that may affect a fetus adversely,¹² 'Poor knowledge of PCC' was regarded as participants with less than or equal to two of the above four components, while 'no knowledge of PCC' was regarded as not knowing any of the four components. Satisfactory practice was regarded as provision of the four components of PCC, while unsatisfactory practice was regarded as provision of less than the four components.

Data collected was keyed into the statistical

package for social sciences (SPSS) computer software version 20 for windows. Continuous variables were analyzed using the mean \pm SD. Relationships were expressed using odd ratio at 95% confidence interval. *P* value of <0.05 was considered statistically significant.

Results:

A total of 167 questionnaires were distributed over the study period and out of these, 151 were correctly filled, returned and analyzed. This gave a response rate of 90.4%.

The mean age of the respondents was 38.76(7.70) (range: 24-62) years. Most (70.2%) of the respondents were doctors and the Obstetrics and Gynaecology Department constituted majority (68.2%) of the two departments involved in the study. Details of the respondents' basic characteristics are shown on table 1. More than half of both participating doctor and nurses (52.8%, 56/106 and 51.1%, 23/45) had worked or more than 10 years. Table 2 shows homogenous distribution of vital characteristic among the participating doctors and nurses.

One hundred and twenty-nine (85.4%) respondents had heard of PCC and 73.5% and 26.5% had good and poor knowledge of PCC respectively. The number of respondents with no knowledge of PCC was zero. More than half of the participants (58.3%) do not practice PCC while only 41.3% of the 63 participants who practice PCC, do so satisfactorily.

Multivariate logistic regression on table 3a to 3c shows younger age group and lesser duration of practice were significant determinants of awareness of PCC ($P=<0.05$) while working in Obstetrics and Gynaecology department, younger age group and lesser duration of practice were significant determinants of good knowledge ($P=<0.05$). However, working in either Obstetrics and Gynaecology or Family medicine departments did not differ as a significant determinant of satisfactory practice ($P=<0.05$).

Sources of information for the one hundred and thirty-eight respondents with knowledge of PCC were formal training (34.8%), text book/journal (62.9%) and media health promotion (2.9%). The barriers to offering PCC identified by the respondents are lack of PCC clinic (58.9%), lack of knowledge of PCC among health workers (25.2%) and ignorance on concept of PCC by patients (15.9%).

Discussion

This present study showed a high level of awareness and knowledge of PCC but the practice was abysmally low with only a few components of PCC being practiced by the respondents. This is similar to the findings from the study in Zaria,² Northern Nigeria where only 33% of the respondent practice PCC in the form of folic acid supplementation. The reason for this poor practice may be attributed majorly to lack of designated PCC clinics, as evident from this study as well as low level of awareness by women and absence of evidence-based guidelines to improve uptake and pregnancy outcome,⁵

The present study showed that more than half of the health care providers have not had formal training on PCC, emphasizing the need for increase in formal training programs in PCC for this group of workers. Younger practitioners with less than 10 years of practice had higher knowledge of PCC probably be due to the fact that PCC is relatively a new health concept and probably is been emphasized more in current educational curriculum and during health promotional programs.

In this study respondents working in the Department of Obstetrics and Gynaecology did not significantly practiced PCC more than their counterpart in Family Medicine department. This could be due to the fact that majority of the participants from Family medicine department in the present study were

within the younger age group (70.8%) and also most of the had practiced for less than 10 years (64.6%). Family Medicine Department is the first point of contact for every patient presenting to a teaching hospital and as such, the best point for education and initiation of PCC to all patients. This further emphasizes the need for training and continued education of all health care providers on PCC to ensure contact counseling of women of reproductive age on various aspect of PCC.

The barriers to the practice of PCC identified in this study were majorly lack of preconception care clinics, lack of knowledge of all components of PCC among health care providers, absence of retraining programs for health care provider on PCC and ignorance of PCC among patients. In a similar study from south-east Nigeria which evaluated PCC from the patients' perspective, poor uptake of PCC was influenced by patients' level of education, place of residence and information from health care providers,⁵

The cross-sectional design of the study may not fully explain the temporal relationships between the outcome variable and certain explanatory variables and furthermore the findings cannot be generalized for the entire sub region. Despite these limitations, the findings will contribute to understanding of factors associated with limited PCC in the study area.

In conclusion, there is need for training and re-training of health workers on the principles and practice of PCC, awareness campaign to educate the populace on benefits of PCC and establishment of PCC clinic in every hospital setting. These will no doubt enhance the practice of PCC in Nigeria and will positively impact on the maternal and perinatal morbidity and mortality in Nigeria and other developing countries.

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Table 1: Sociodemographic Characteristics of participants

Characteristics	Frequency n = 151	Percentage (%) 100%
Age Category(Years)		
20-29	15	9.9
30-39	74	49.0
40-49	46	30.5
50-59	14	9.3
≥60	2	1.3
Sex		
Male	89	58.9
Female	62	41.1
Tribe		
Igbo	148	98
Hausa	0	0.0
Yoruba	1	0.7
Others	2	1.3
Marital status		
Single	31	20.5
Married	120	79.5
Widowed	0	0.0
Separated	0	0.0
Occupation		
Doctors	106	70.2
Nurses	45	29.8
Department		
Obstet. and Gynae	103	68.2
Family Medicine	48	31.8
Years of experience		
0-5	20	13.2
6-10	52	34.4
11-15	47	31.1
>15	32	21.2

Table 2: Distribution of characteristics amongst participants

Characteristics	Occupation		P value
	Doctors n(%) 106(100.0%)	Nurses n(%) 45(100.0%)	
Age(years) <40 ≥40	63(59.4%) 43(40.6%)	26(57.8%) 19(42.2%)	0.858
Department OBGY Family Med.	77(72.6%) 29(27.4%)	26(57.8%) 19(42.2%)	0.087
Years of practice ≤10 >10	50(47.2%) 56(52.8%)	22(48.9%) 23(51.1%)	0.861

Table 3: Predictors of awareness, knowledge and Practice of PCC**3a: Awareness**

Characteristics	Awareness		P value	OR	95% CI
	Yes n(%)	No n(%)			
Age(years) <40 ≥40	88(68.2%) 41(31.8%)	1(4.5%) 21(95.5%)	0.003	25.79	2.93- 226.87
Department OBGY Family Med.	87(67.4%) 42(32.6%)	16(72.7%) 6(27.3%)	0.056	5.72	0.95- 34.34
Duration of practice ≤10 >10	78(60.5%) 51(39.5%)	2(9.1%) 20(28.2%)	0.021	12.74	1.46- 111.21
Occupation Doctor Nurses	91(70.5%) 38(29.5%)	15(68.2%) 7(31.8%)	0.823	1.12	0.42-2.96

OR = Odds ratio; CI = Confidence interval

3b: Knowledge

Characteristics	Knowledge		P value	OR
	Good n(%) 95% CI	Poor n(%)		
Age(years) <40 ≥40	77(69.4%) 34(30.6%)	12(30.0%) 28(70%)	0.013	3.48 1.30-9.31
Department OBGY Family Med.	80(72.1%) 31(27.9%)	23(57.5%) 17(42.5%)	0.001	9.86 2.59-37.60
Duration of practice ≤10 >10	69(62.2%) 42(37.8%)	11(27.5%) 29(72.5%)	0.003	8.25 2.05-33.22
Occupation Doctor Nurses	81(73.0%) 30(27.0%)	25(62.5%) 15(37.5%)	0.216	1.62 0.75-3.48

OR = Odds ratio; CI = Confidence interval

3c: Practice

Characteristics	Practice		P value	OR
	Satisfactory n(%) 95% CI	Unsatisfactory n(%)		
Age(years) <40 ≥40	39(60.9%) 25(39.1%)	50(57.5%) 37(42.5%)	0.814	1.00 0.34-2.93
Department OBGY Family Med.	32(50.0%) 32(50.0%)	71(81.6%) 16(18.4%)	<0.001	0.20 0.09-0.49
Duration of practice ≤10 >10	33(51.6%) 31(48.4%)	39(44.8%) 48(55.2%)	0.958	0.98 0.34-2.86

OR = Odds ratio; CI = Confidence interval