

Influence of demographic determinants on preconception care preparedness among women seeking postnatal and family planning services at the maternity unit of Coast General Hospital, Mombasa County Kenya

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ABSTRACT

Preconception care consists of the thorough and systematic evaluation of a non-gravid woman who intends to become pregnant. Interventions prior to conception can promote the health and well-being of mothers and improve subsequent pregnancy and child health outcomes. Despite preconception care been established to have a potential in ensuring maternal and foetal health, the concept still remains relatively new and has not been fully ventured into. The study aimed at determining the demographic determinants of preconception preparedness and pregnancy outcomes among mothers Seeking Postnatal And Family Planning Services at Coast Provincial General Hospital. The study adopted a mixed method that constitutes both the quantitative and the qualitative approaches (triangulation). Cross sectional study design was used under quantitative approach and phenomenological design under qualitative approach. The study was conducted in the postnatal ward among mothers who delivered regardless of the pregnancy outcome. To calculate sample size for 196 for the quantitative study, Krejcie and Morgan (2016) formula was used while data saturation method was used in determination of sample size of 12 respondents for the qualitative study. The researcher administered structured questionnaires used for quantitative data collection to obtain information from the respondents. Qualitative data on the other hand was obtained through interview guides and the key interviewees were the health care staff working at the maternity unit in CPGH. The qualitative data was transcribed, translated and then analyzed thematically. For quantitative data; descriptive statistics which include measures of central tendency such as frequencies, and percentages were calculated. Quantitative data was presented in tables, graphs, and charts. The qualitative data was presented in narration.. The study found that demographic determinants had a p-value of $0.035 < 0.05$ which implies that it had a positive and significant influence on preconception preparedness. Therefore, the study concludes that efficiency preconception on mothers is largely dependent on the demographic determinants. The study further concludes that for proper preconception preparedness to be achieved, the demographic factors ought to be well considered and any challenges arising to be well mitigated. The study recommends that the management and those in charge at the facility to highly prioritize and consider these demographic factors during the formulation and implementation of preconception care programs. The study also recommends that the government and other policy regulatory bodies to come up with measures to ensure that safe motherhood is equally protected as a human right through proper preconception. The study further recommends that the county government and other policy makers to collaborate and enhance promotion of preconception preparedness and complication readiness at different levels in the health sector by improving the welfare of the mothers.

Key Words: *Demographic factors, Determinant of preconception preparedness, Effectiveness, Morbidity, Postnatal Care, Preconception care*

1. INTRODUCTION

Since the 1980s, maternal and child health experts have sought to redefine maternity care to include preconception period by expanding prenatal care to incorporate the period before conception (Waggoner, 2013). This aims at promoting new conceptualizations of the risks which are involved in pregnancies which includes the period before the actual pregnancy occurs. Due to this, there has been immense increase in interest on matters pertaining to preconception health and health care. Mason et al., (2014) further suggested that preconception care covers the period prior to the first conception and between two pregnancies. The basic idea of preconception care is to advise child bearing women about any adverse health behaviors or conditions that might affect a future pregnancy. Reduction of maternal and childhood mortality and morbidity requires the provision of a sequential care that spans conception, childbirth, infancy, childhood, adolescence and adulthood. Interventions prior to conception can promote the health and well-being of adolescents, adult women and men, and improve subsequent pregnancy and child health outcomes (Nawal, and Goli, 2013). By 2000, there was increased sensitization that the health of both the pregnancy and the foetus could be highly affected by the women's health and behavior before the pregnancy.

In line with this, the Center for Disease Control and Prevention (CDC) initiated the Preconception Health and Health Initiative (Stephenson, 2011). This sought to change and promote pre-pregnancy thinking and planning. A new WHO report largely supported this showing that preconception care has a positive impact on maternal and child health outcomes (WHO, 2015). There is therefore rapid growing experience in initiatives aimed at promoting pre-conception care to both high income countries such as US, Netherlands and Italy and the low income countries as well such as Sri Lanka, Philippines and some countries in Africa (WHO, 2015). In Kenya as well, the benefits of preconception care are being slowly recognized as the Millennium Development Goals are slowly shifting in emphasis to Maternal and Newborn Health. Kenya like many other countries is signatory to many international conventions that recognize Safe motherhood as a human right and should be protected equally (MOH, 2016). Preconception care improves health of babies and children as they grow into adolescence and adulthood. It contributes to social-economic development of families and communities by supporting women's decision about their fertility and health. Despite all the effort put in place by the world leaders and the WHO on strategies there still gaps leading to maternal and neonatal mortalities and morbidities which increases concern on the factors influencing the effectiveness of the preconception preparedness measures.

2. RESEARCH PROBLEM

Maternal mortality is one of the indicators of reproductive health status of the population. In Kenya current Maternal Mortality Rate (MMR) per year, according to (KDHS, 2014) accounts for 362/100,000 live births. According to Coast Provincial General Hospital (CPGH) statistics maternal mortality rate is at 8.7% out of 10,094 deliveries in the year 2016. This being a true reflection of Kenyan MMR, where the country is committed to reduce these figures to less than 70/100,000 live births (Karmacharya *et al.*, 2016). Direct causes of MMR causes in Kenya result from complications of pregnancy, labor, and puerperium and from interventions of these events. These causes include antepartum and postpartum hemorrhages, Sepsis, Hypertensive disorders, abortion and its complications and obstructed labor. Due to these conditions, there is increased trend of maternal mortalities most of which can be prevented if they are given proper monitoring and care. Therefore, preconception care is a possible solution to most of these pregnancy related health problems.

Preconception care has the capacity to positively influence 208 million pregnancies globally, every year. Unluckily adolescent girls and women from Low and Middle Income Countries (LMICs) do not receive these services possibly due to failure of access to care or preconception care services are not offered on daily basis (Dean et al., 2013). Preconception care in Kenya and at the Coast Provincial General Hospital is a people concern in spite of improved maternal and neonatal health care. Among women of child bearing age, risks related to poor conception outcomes such as smoking malnutrition and obesity which may lead to negative pregnancy outcomes. Even though the first ANC visit is supposed to begin prior to 16 weeks, most women report when it's too late for to prevent grievous problems that may affect health of the mother the pregnancy outcome. Studies indicate that 40% of pregnancies are unintended whereby adolescent girls and women take time to acknowledge their pregnancy thus causing more delay to start prenatal care (World Health Organization, 2013). This is very similar to what happens at the Coast Provincial General hospital whereby there is delayed and poor access to preconception care and therefore poor pregnancy outcomes. This study aimed at addressing this by investigating demographic determinants of preconception preparedness among mothers seeking postnatal and family planning services in the hospital's maternity unit.

3. OBJECTIVE OF THE STUDY

To investigate the demographic determinants of preconception care preparedness among mothers who are seeking postnatal and family planning services in coast provincial general hospital.

4. THEORETICAL REVIEW

The Health Belief Model which was introduced in 1950s is far the most used theory in health education and health promotions (Glanz, Rimer and Lewis, 2002). The theory is built on four main perceptions which include perceived seriousness, perceived benefits, perceived susceptibility and perceived barriers. Based on this model, health behaviour is largely determined by personal beliefs or perceptions about a medical condition and the strategies available to decrease its occurrence as shown by Figure 1. The Health Belief Model (HBM) was adopted as a conceptual framework, which is more effective in preventing diseases. Its basis is the individual motivation to act. It applies to identify factors affecting behavior and understand effects of high risk behaviors to people's health (Janz, et al, 2012). HBM includes perceived severity which involves perception of the severity of the disease, perceived benefits of adopting preventive behaviors, perceived barriers which include beliefs about negative aspects of preventive behaviors; perceived self-efficacy includes self confidence in adopting behaviors. Cues of action are reminders that can cause continual of the behavior.

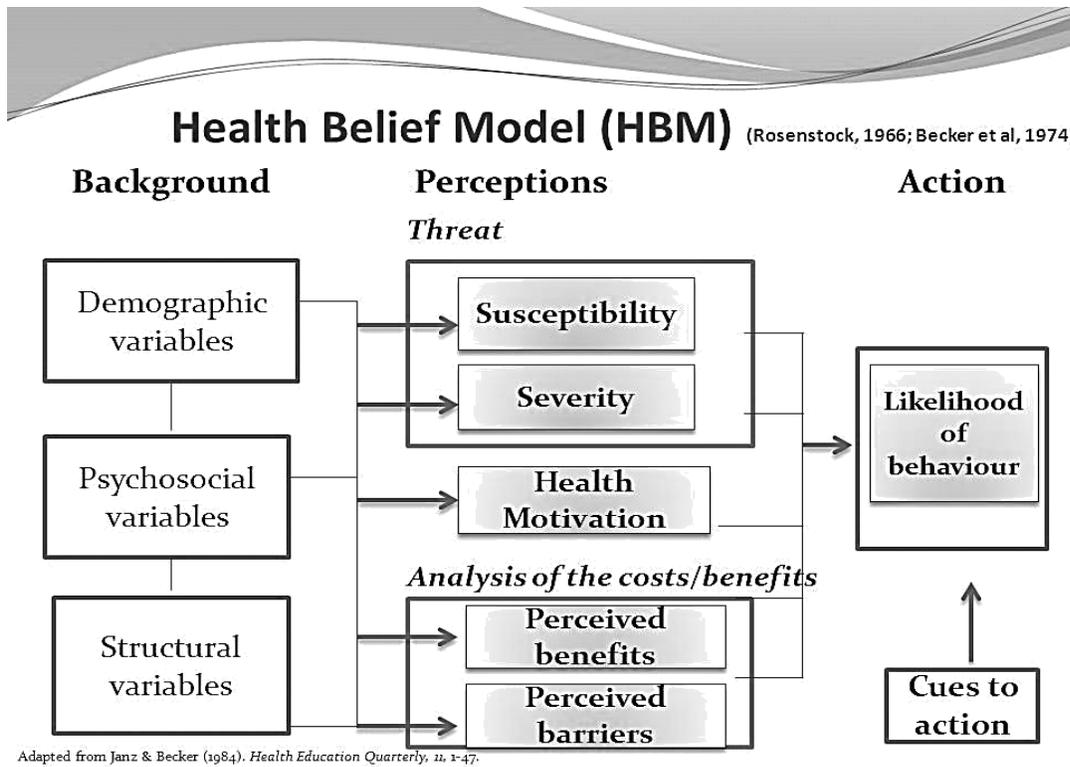


Figure 1 Health Belief Model adopted from (Becker et.al 1974)

5. CONCEPTUAL FRAMEWORK

The conceptual framework of the study is shown by Figure 2. The independent variables of the study are the factors influencing preconception care while the dependent variable is the extent of preconception preparedness amongst the mothers. The independent variables are depicted to have a direct influence on the dependent variable.

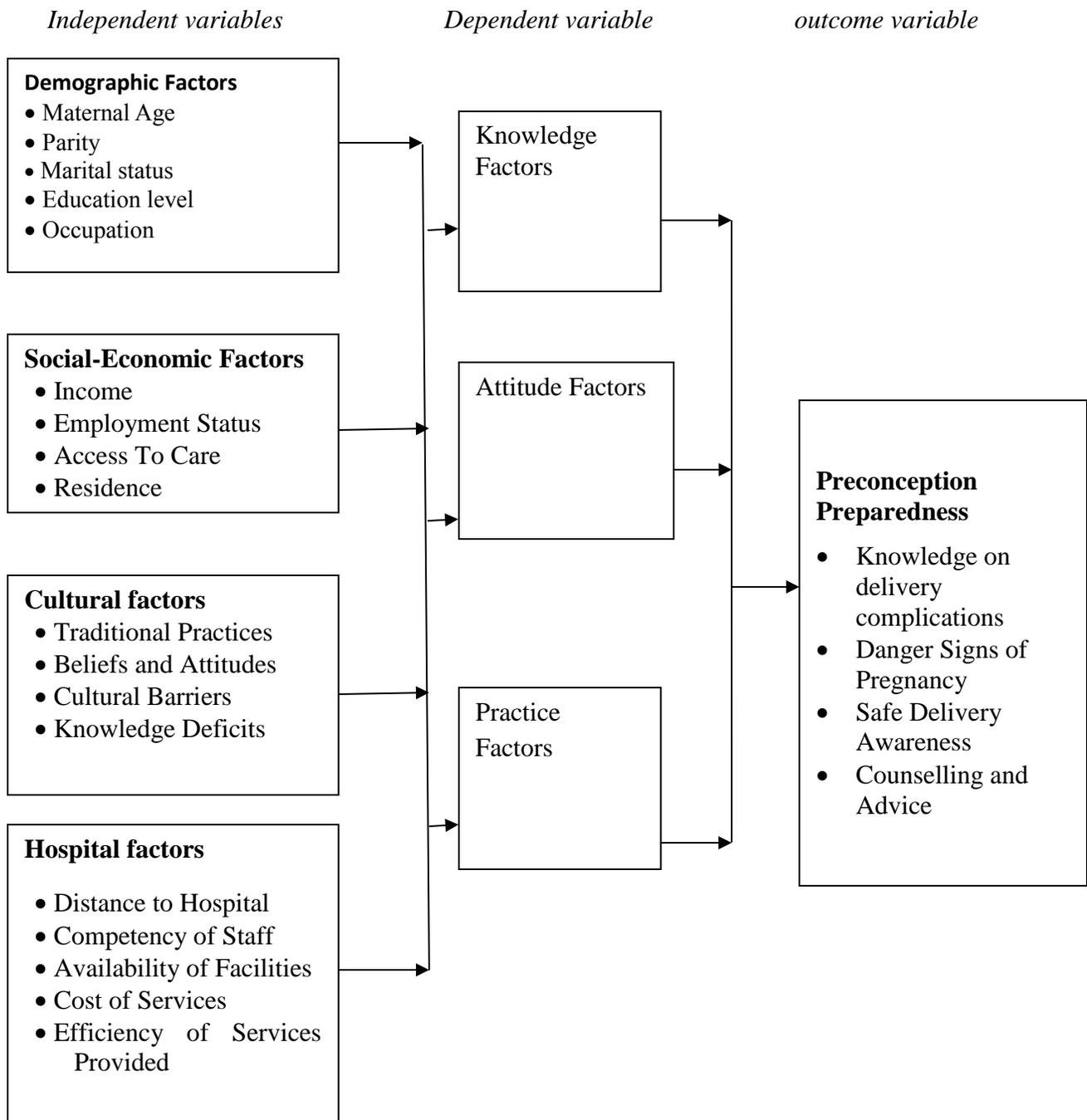


Figure 2 Conceptual Framework

6. RESEARCH METHODOLOGY

The study adopted a mixed method that constitutes both the quantitative and the qualitative approaches (triangulation). The quantitative study was through the analytical cross-sectional research design. Through the cross section research design, the researcher was able to measure the outcome and the exposures in the study participants at the same time and therefore the relationship between the research variables may be established. The research design involved an

approach of data collection through the use of questionnaires which were undertaken at CPGH postnatal wards and MCH/FP Department. The qualitative study on the other hand was through the phenomenological research design. The objective of phenomenology approach is to directly investigate and describe phenomena as consciously experienced without theories about their casual explanation or their objective reality (Husserl, 2006). Key Informant Interviews were used where respondents were given an opportunity to describe their experiences in details. The study population comprised of all women receiving post natal services at least six weeks after delivery at the hospital and those seeking family planning services with a future plan of conceiving. The key informant interviewees on the other hand comprised the health care staff working at maternity department of CPGH from maternity department of CPGH sum up to approximately 400 mothers per month. To calculate sample size for mothers in postnatal ward in maternity unit who undertook in the quantitative study, Krejcie and Morgan (2016) formula was used. According to Krejcie and Morgan (1970), from normal distribution the population proportion can be estimated to be

$$\frac{X^2NP(1 - P)}{d^2(N - 1) + X^2P(1 - P)}$$

Indicated by:

S is the sample size which is required.

X^2 is the table value of chi-square for 1 degree of freedom at the desired confidence level which is 3.841 for the 0.95% confidence level.

N is the size of the population.

P is the population proportion (assumed to be .50 since this would provide the maximum sample size).

d is the degree of accuracy expressed as a proportion (.05).

Therefore;

$$S = \frac{3.84(400)(0.5)(0.5)}{0.05^2(399) + 0.96}$$

$$S=196$$

The sample size for the qualitative study sample size from Key Informants on the other hand, was defined using data saturation where 12 respondents are involved (Polit and Beck, 2012). For quantitative data, the researcher employed consecutive sampling technique. This is a sampling technique in which every subject meeting the criteria of inclusion is selected until the required sample size is achieved (Mathieson, 2014). For qualitative data, purposive sampling was used in obtaining the sample population for the interviews upon identification of the group. The sampling units which were the most appropriate were then selected. A researcher administered structured questionnaire were used for quantitative data collection to obtain information from the respondents. The questionnaires were divided into sections containing closed and open ended questions. The close-ended questions included a 5-point Likert scale, and respondents completed the open ended questions on their insight of the particular item. Qualitative data on the other hand were obtained by key informants interview guide with the aid of a tape recorder. Interviews are important in obtaining in depth details from the respondent giving them a chance to express themselves fully.

After the completion of the data collection process, the collected questionnaires were first accessed for completeness. The questionnaires were then edited and coded. The collected data were analysed by (SPSS) version by a statistician. The data received was in both qualitative and quantitative forms since this research employed triangulation (use of both qualitative and quantitative methods). The qualitative data was analysed using transcription of the recorded information / data, verbatim. This was followed by translation and thematic analysis as the focus was on interpretation of the results rather than quantification. While quantitative data descriptive statistics which included measures of central tendency such as frequencies, and percentages were calculated. Quantitative data inferential statistics, were sought through Pearson’s Chi-square to test significance. The Chi square test of significance enabled the determination for associations between factors of study. The 5% level of significance was used to cut off statistical significance at 95% confidence level whereby a p-value of less than 0.05 was considered statistically significant. Quantitative data was presented in tables. The qualitative data was presented in narrations.

7. DATA ANALYSIS RESULTS

The study sought to determine the demographic determinants influencing preconception preparedness among mothers who are seeking postnatal and family planning services in Coast Provincial General Hospital. The demographic factors refer to those that affect the health of the mother to the extent of exposing her to the risk of ill-health or utilization of the preconception care. Specifically, the demographic determinants investigated by the study included; age, religion, residence, education, marital status, parity and deliveries of the respondents. The findings are shown by Table 3.

Table 3 Demographic Characteristics of Respondents

Residence	Frequency(n)	Percent(%)
Rural	58	45%
Urban	71	55%
Education Level		
None	3	2%
Primary	24	19%
Secondary	59	46%
Tertiary	43	33%
Marital Status		
Single	26	20%
Married	87	68%
Divorced	4	3%
Unspecified	12	9%
Number of children		
Less than 2	67	52%
3-4 Children	49	38%
5-6 Children	11	9%
More than 6	2	2%
Number of Pregnancies		
Less than 2	32	25%

3-4 Pregnancies	61	47%
More than 4	36	28%
Number of Deliveries		
Less than 2	69	53%
3-4 deliveries	51	40%
More than 4	9	7%
Total	129	100%

The results obtained revealed that most of the respondents 44 (34%) were between 26-30 years while only 8(6%) were below 20 years, the predominant religion was Islam 57(44%), followed by Christianity 42(33%), the study found out that majority 58 (55%) of the respondents came from the urban areas while a minority 58 (45%) of the respondents came from the rural areas, the study results revealed that most 59(46%) of the respondents had reached up to secondary level, and only 3 (2%) were uneducated, the study found out that 87(68%) were married while only 4(3%) were divorced majority of the respondents 67(52%) had less than 2 children 2(1%), almost half of the respondents 61(47%) had 3-4 pregnancies and only 32(25%) had less than 2 pregnancies, majority of the respondents 69(53%) had less than 2 successful deliveries and this was attributed to the efficiency in the preconception preparedness practices.

Based on the responses from the interview, the main demographic determinants which influenced preconception preparedness were organized into five sub-thematic areas which included education level, marital status, parity of the women, number of deliveries and history of birth complications. The researcher found out that the education of the mother influenced their perspective and awareness levels concerning preconception care. An interviewee noted, *“Well educated women are more compliant and easily embrace preconception care from a positive perspective as compared to those who were illiterate. They will also enquire and be willing to try out additional preconception preparedness measures. Educated women understand the essence of the preconception preparedness and its importance in reducing maternal and child mortality prevent unintended pregnancies and complications during delivery” (Respondent 1).*

The interviewees also argued that the marital status of the women seeking postnatal and family planning services highly influenced their extent of preconception preparedness. As such, those having the support of their spouses will tend to be more encouraged and motivated to seek preconception care as compared to those who are single or divorced. Additionally, an interviewee further stated that, *“Some of our hospital staff may develop a negative attitude towards the unmarried women which tends to discourage them from accessing the preconception care. This will in turn lead to negative health/pregnancies effects in the long run that could be avoided.” (Respondent 2)*

On the number of deliveries, it was established from the interviews that those mothers who had delivered more than once were deemed more experienced in terms of the kind of preconception care they perceived to be important. Specifically, an interviewee stated, *“The mothers who have had a delivery or two will seek information depending mostly on their past pregnancy outcomes and health during the preconception period.”* She further added that, *“Those who are at their first delivery will tend to be more cautious and will yearn to know almost everything concerning their pregnancy and will tend to visit the hospital more frequently throughout the perinatal period.”(Respondent 8).*

This shows that the number of deliveries highly determined the extent of preconception. In a similar way, the parity of the mother was also established to determine whether the mother will perceive any importance in the preconception care. An interviewee informed that, *“Women with their first pregnancy will tend to be more prepared as compared to their multiparous counter parts. This is because the multiparous ones will not see any relevance of the preconception care as they have had enough children in the past and therefore to them, preparations are not absolutely without it. Hence women who of a parity ranging 2-4 are more likely to prepare for birth and its complications as compared to the grand multiparous ones (more than 4 deliveries).”* (Respondent 3)

It was found out that the women who have had an history of birth complications such as still births, pregnancy loss, preterm birth or preeclampsia were more likely to prepare as compared to those who had normal pregnancies. It was specified that: *“They tend to be more cautious and scared of the birth complication from occurring. They will therefore strictly follow the preconception care to the later, and even at times feel they are still not prepared enough after the process,”* (Respondent 5). This shows that the birth risk perception was a great influence to the need of preconception preparedness perception among the women.

To enable the determination of the associations between the factors of the study, Pearsons Chi-square test of significance was employed. The 5% level of significance was used to cut off statistical significance at 95% confidence level whereby a p-value of less than 0.05 was considered statistically significant. The results of the Chi square test of significance as shown by Table 4 indicated that demographic determinants had a p-value of $0.035 < 0.05$ which implies it had a positive and significant influence on preconception preparedness among the women seeking MHC/FP services at CPGH as the p-value was ≤ 0.05 .

Table 4 Pearson’s Chi-square Test

	FP_preconception preparedness	Demographic_det
Chi-Square	8.000 ^a	45.469 ^b
Df	34	30
Asymp. Sig.	1.000	.035

a. 35 cells (100.0%) have expected frequencies less than 5. The minimum expected cell frequency is 1.2.

This section puts our empirical findings into a broader context and compares them to other findings in the literature. Regarding the residence of the respondents the study found out that only slight majority were from the urban areas and therefore more informed and accessible to the preconception care services. Those who lived in the rural areas indicated that access to preconception care services was a challenge due to poor infrastructure and difference in lifestyle. This concurs with Steel, Lucke, and Adams, (2015) who found out that the residence influenced the women’s readiness and ability to seek for advice concerning preconception care programs

Education was established to be an important factor in determination of the most efficient preconception services to utilize. The positive relationship coincides with Dean et, al (2014) who investigated the possible impact of preconception care for adolescents, women and couples of reproductive age. The findings of the study were the more educated the woman was, the more likely they will seek and fully attend the preconception care services. This compares with Ayalew, et al, (2017) who established that a well-educated mother may have a more positive perspective

and easily embrace preconception preparedness than an illiterate

On the marital status of the respondents, majority of the respondents were married. The married respondents were further established to be the most likely to undergo for preconception care services due to the emotional support and advices provided by their partners. Parity of the women found out to both positively and negatively influence the preconception care levels. This is attributed by the facts that mothers who have had more than one child in the past may be sensitized on the importance and need to undergo preconception care. While on the other hand, due to their past experience, they may ignore and assume any need preconception preparedness. These findings are similar to those by Babalola, and Fatusi, (2009) who indicated the past experiences of the mother will have either long or short term negative health/ pregnancy effects. While Kasim, et al (2016) established that the women may seek for more information on preconception care depending with the past pregnancy outcome and her health, the multiparous may not see the relevance of preconception care because they have had enough of children and any more preparations are not necessary

The interview responses further revealed that found out that the women who have had a history of birth complications such as still births, pregnancy loss, preterm birth or preeclampsia were more likely to prepare as compared to those who had normal pregnancies. In a similar way, Gitonga, (2015) who conducted a study on the determinants of birth preparedness among women attending maternal and child health in Tharaka sub-county found out that women with history of birth complications were three fold more likely to want preconception care as compare to those with no complications in the recent past.

It was established from the interviews that those mothers who had delivered more than once were deemed more experienced in terms of the kind of preconception care they perceived to be important. Therefore showing that the demographic characteristics, though they could not be controlled, influenced the preconception preparedness of the mothers to a great extent. This was supported by the test of significance which indicated that demographic determinants had a significant positive effect on preconception preparedness. However, this contradicts Dean et, al (2014) who investigated the possible impact of preconception care for adolescents, women and couples of reproductive age on MNCH outcomes and established that the demographic determinants had a minimal and insignificant effect on the preconception care preparedness. According to this study, demographic factors are already a predetermined state hence should not hinder the rate of access of the preconception care services in hospitals.

8. CONCLUSIONS RECOMMENDATIONS

The study found out that the main demographic determinants having an influence on the preconception care preparedness included residence, education, marital status, parity and deliveries of the respondents. Therefore, the study concludes that efficiency preconception preparedness initiatives made by both the hospital and the mothers is largely dependent on these demographic determinants. The study further concludes that for proper preconception preparedness to be achieved, these factors ought to be well considered and any challenges arising to be well mitigated.

The study therefore recommends that the management and those in charge at the facility to highly prioritize and consider these factors during the formulation and implementation of preconception care programs. Also the already existing programs should be tailored and improved to ensure that these determinants are fully catered for. The study recommends that health promoters and health

educators need to introduce a sense of urgency to engage in preconception care. The study recommends that initiatives be enhanced on community-based education not only around the Coast Region, but also other parts of the country. This will act to promote and strengthen preconception preparedness among women on sustainable basis.

The study recommends that the government and other policy regulatory bodies to come up with measures to ensure that safe motherhood is equally protected as a human right through proper preconception. This will ensure that the preconception services are available in all maternity hospital facilities and not only Coast Provincial General Hospital. This will ensure that the women are readily accessible to the MHC/FP services at a low and convenient cost. The study further recommends that the county government and other policy makers to collaborate and enhance promotion of preconception preparedness and complication readiness at different levels in the health sector.

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