

# Correlates of Preconception Care among Mothers Prone to Hypertensive Disorders in Nairobi City County

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**Abstract:** Improved uptake of preconception care has been associated with reduced rates of maternal mortality yet the awareness and uptake of preconception care services among pregnant women, and healthcare teams remain low. This study assessed the awareness of preconception care among pregnant mothers with hypertensive disorders, to examine the influence of male partners in seeking of preconception care and to determine the perceived effects of lack of preconception care among pregnant mothers with hypertensive disorders. This was a cross-sectional study in which a sample of 325 mothers seeking ante-natal care was selected from Mbagathi District Hospital, Pumwani Maternity Hospital and Langata Health Centre respectively. A stratified proportionate sampling was used to select the 325 mothers from the three health facilities. Structured questionnaires were used in data collection. Descriptive statistics (mean, median, frequency) were used in analyzing characteristics of the sample. Inferential statistics (Chi-square) was used to test for the relationship between the study variables and seeking of pre-conception care. A p-value of 0.05 was considered significant at a 95% confidence level. A majority of respondents n=232 indicated that preconception care consists of advice prior to conception, medical care during pregnancy and receiving ante-natal care. Health workers at 63% (n=174) were the main source of information on pre-conception care. 72.5% of the respondents had discussed a joint pre-conception care with their male partner. About 27.5% of the respondents had not discussed a pre-conception care plan with their male partners with the leading reason being that partners did not see the reason to accompany their wives for pre-conception care. Marital status at p=0.000 ( $\chi^2 = 25.365$ , df=4), education at p=0.048 ( $\chi^2 = 18.465$ , df=10), discussing and making joint plans with partner on pre-conception care at p=0.008 ( $\chi^2 = 9.782$ , df=2) significantly influenced decision to attend pre-conception care. 44.67 % (n=130) of respondents indicated that lack of pre-conception care increases the risk of hypertension disorder causing miscarriage. Twenty-eight percent (n=80) of the respondents indicated that lack of pre-conception care exposes a mother to birth complications that develop due pre-eclampsia. This study identified views of mothers on the uptake of pre-conception care. Perceived lack of time and lack of interest among men were the main barriers that hindered male partners from accompanying their female partners for pre-conception care. Factors that promoted uptake of pre-conception care included, being married, discussing a joint plan with a male partner and having a higher level of education. This study highlights the need for health promotion activities to encourage the need of preparing for pregnancy in the general population. In this regard, health care workers should incorporate health messages on preconception care during ante-natal, immunization and post-natal care sessions to increase awareness on the importance of preconception care.

**Keywords:** Preconception care, hypertensive disorders, conception, birth complications.

## INTRODUCTION

Until recently, preconception care has been a feeble linkage in the continuum of care [1]. Offering care to women before and between pregnancies, also known as inter-conception care enhances the chances of babies and mothers being healthy [1]. Extending the reproductive, maternal, neonatal, and child health (RMNCH) band to the preconception time enhances the well-being and health of newborns, mothers, and children as well as the health of women and girls in their right [2].

Preconception care prevents maternal and child health issues through both proximal and distal preconception care [3]. It includes and addresses both married and unmarried people and can begin early before pregnancy. Preconception care improves the

chances of women entering pregnancy to do so in good health [4]. Even robust public health programs do not suffice in promoting good health during this critical time as much as preconception care promises. Such care can make a significant contribution to minimizing maternal and childhood morbidity and mortality, and enhance maternal and child health in both developed and developing countries [5].

Although studies document the effectiveness of preconception care [6], the uptake of preconception care services among mothers, pregnant women, and healthcare teams remains low. Improved uptake of preconception care has been associated with reduced rates of maternal mortality that currently stands at 488 deaths per 100,000 live births [7]. Despite the importance of pre-conception care in reducing maternal mortality in Kenya, the awareness and uptake of preconception care remain undocumented especially among pregnant mothers susceptible to hypertensive disorders. Some factors such as the inactive

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implementation of national guidelines on preconception care in both public and private health facilities, cultural and socio-economic factors have been implicated as contributing to low uptake of preconception care [8]. Therefore, this study seeks to identify modifiable factors that can be targeted with public health interventions to improve access and uptake of preconception care in mothers prone to hypertensive disorders.

## METHODOLOGY

This was a descriptive cross-sectional study design conducted in Nairobi County, which is the also the capital city of Kenya. The study included at Mbagathi District Hospital, Pumwani Maternity Hospital, and Langata Health Centre as study locations. This study comprised of pregnant mothers in the first to the third trimester attending prenatal care and women attending postnatal care at Maternal Child Health (MCH) facilities the targeted hospitals in Nairobi City County. Proportionate random sampling was used to sample participants from the health facilities. Data on the antenatal care attendance was used to calculate the desired sample size for every facility, and with Yemane *et al.*'s formula, 325 respondents were included. Data was collected using a semi-structured questionnaire administered to the sampled mothers. To conduct the study, approvals were obtained from the Hospital Administration of Mbagathi District Hospital, Pumwani Maternity Hospital and langata Health Centre through the Public Health Department of Nairobi City County. Relevant ethical and academic approvals were sought from the National Commission for Science, Technology and Innovation, University of Eastern Africa, Baraton Institutional Review Board and School of Public Health of Texila American University, respectively. Descriptive statistics (mean, median, frequencies, percentages, standard deviations) was used to explain the sample variables. Univariate statistics (Chi-Square test of independence) was used to test for a relationship between variables and uptake of pre-conception care. A *P* value of less than 0.05 was considered statistically significant. A case was coded as 1 if pre-conception care was sought and as 0 if no pre-conception care was sought. The analysis was done using Statistical Package for Social Sciences (SPSS) software Version 23. Data analyzed have been presented by the use of tables, graphs as well as a discussion of findings.

## RESULTS

In this study, a total of 325 women were sampled to participate in this study. 291 mothers accepted to

participate in this study representing 89.5% response rate.

## Demographic Profile of Respondents

As indicated in Table 1, the majority of the respondents were below 30 years of age. Most of whom were married as represented by 78.7% (n=229) while 19.6% (n=57) were single. In this study, most respondents had achieved a secondary level of education as represented by 55% (n=160) while 19% (n=55) had achieved a tertiary level of education consisting of both college and university education.

**Table 1: Demographic Characteristics of Respondents**

| Demographic Factor        | Categories          | n   | %    |
|---------------------------|---------------------|-----|------|
| Age                       | 15-19               | 25  | 8.6  |
|                           | 20-24               | 91  | 31.3 |
|                           | 25-29               | 103 | 35.4 |
|                           | 30-34               | 61  | 21.0 |
|                           | 35-39               | 7   | 2.4  |
|                           | >40 Years           | 4   | 1.4  |
| Marital Status            | Single              | 57  | 19.6 |
|                           | Married             | 229 | 78.7 |
|                           | Separated           | 5   | 1.7  |
| Education                 | No Formal Education | 2   | 0.7  |
|                           | Primary             | 73  | 25.1 |
|                           | Secondary           | 160 | 55.0 |
|                           | Tertiary            | 55  | 19.0 |
| Employment                | Unemployed          | 152 | 52.2 |
|                           | Self-Employed       | 93  | 32.0 |
|                           | Formal Employment   | 45  | 15.5 |
| Household Income (in KES) | <5000               | 29  | 10.0 |
|                           | 5001-10000          | 86  | 29.6 |
|                           | 10001-15000         | 39  | 13.4 |
|                           | >15,000             | 35  | 12.0 |
|                           | Unclassified        | 102 | 35.1 |
| Number of Pregnancy       | 1                   | 121 | 41.6 |
|                           | 2                   | 100 | 34.4 |
|                           | 3                   | 52  | 17.9 |
|                           | >4                  | 18  | 6.1  |
| Number of Children        | 1                   | 117 | 40.2 |
|                           | 2                   | 105 | 36.1 |
|                           | 3                   | 54  | 18.6 |
|                           | >4                  | 15  | 5.1  |

**Table 2: Importance of Pre-Conception Care**

| Pre-Conception care statements                                | Mean | Standard Deviation | Coefficient of Variation |
|---|------|--------------------|--------------------------|
| Preconception care essential for women in childbearing period | 2.77 | 1.47               | 53.07                    |
| Preconception care cannot affect pregnancy outcome            | 3.11 | 1.34               | 43.09                    |
| Hospital is the right place for preconception care            | 2.79 | 1.44               | 51.61                    |
| Preconception care is important                               | 2.76 | 1.37               | 49.64                    |
| There is no time to receive preconception care                | 2.63 | 1.14               | 43.35                    |
| Preconception care is a luxury                                | 3.60 | 1.38               | 38.33                    |

Likert scale: 1 = strongly agree, 2 = disagree, 3 = uncertain, 4 = agree, 5 = strongly agree.

Two (n=2) of the respondents had not attained formal education. In terms of economic status, 52.2% (n=152) of the respondents were unemployed with only 15.5% (n=45) being in formal employment. In terms of income level, only 12% (n=35) of the respondents had an income level of above KES 15,000. Majority of the respondents at 41.6% (n=121) had a parity of one, while 40.2% (n=117) of the respondents had one child.

#### **Awareness of preconception Care among Pregnant Mothers Prone to Hypertensive Disorders**

The respondents considered constituting pre-conception care. Fourteen (n=14) respondents indicated pre-conception care is advice given to a mother before conceiving, n=35 indicated that it consists of medical care during pregnancy while n=10 equated pre-conception care to ante-natal care. A majority of respondents n=232 indicated that

preconception care consists of advice before conception, medical care during pregnancy and receiving ante-natal care.

Health workers at 63% (n=174) were the main source of information on pre-conception care followed by friends and relatives at 33% (n=93). A significant proportion below 3% relied on media; Television, Radio and Newspaper for information on preconception care. One percent (n=2) of the respondents indicated that they searched for information online.

Having no time to receive pre-conception care had the lowest mean rank of 2.63 in contrast to the notion that pre-conception care is a luxury which had a highest mean rank of 3.60. This indicates that lack of time had more effect on the ability of respondents seeking preconception care.

**Table 3: Relationship between Opinions and Attending Pre-Conception Care**

| Opinion on preconception care                   | Categories | Attended Preconception care |    |                                       |
|---|------------|-----------------------------|----|---------------------------------------|
|   |            | Yes                         | No | Chi-Square Test                       |
| Pre-conception care is essential                | Agree      | 89                          | 72 | $\chi^2 = 3.760$<br>df=1<br>p=0.05*   |
|   | Disagree   | 75                          | 37 |                                       |
| Pre-conception care affects Pregnancy outcomes  | Agree      | 82                          | 57 | $\chi^2 = 0.138$<br>df=1<br>p=0.710   |
|   | Disagree   | 82                          | 52 |                                       |
| Pre-conception care is important/priority       | Agree      | 54                          | 51 | $\chi^2 = 4.832$<br>df=1<br>p=0.028*  |
|   | Disagree   | 107                         | 58 |                                       |
| There is no time to receive pre-conception care | Agree      | 56                          | 15 | $\chi^2 = 14.589$<br>df=1<br>p=0.000* |
|   | Disagree   | 106                         | 94 |                                       |
| Pre-conception care a luxury                    | Agree      | 78                          | 48 | $\chi^2 = 0.357$<br>df=1<br>p=0.579   |
|   | Disagree   | 82                          | 58 |                                       |

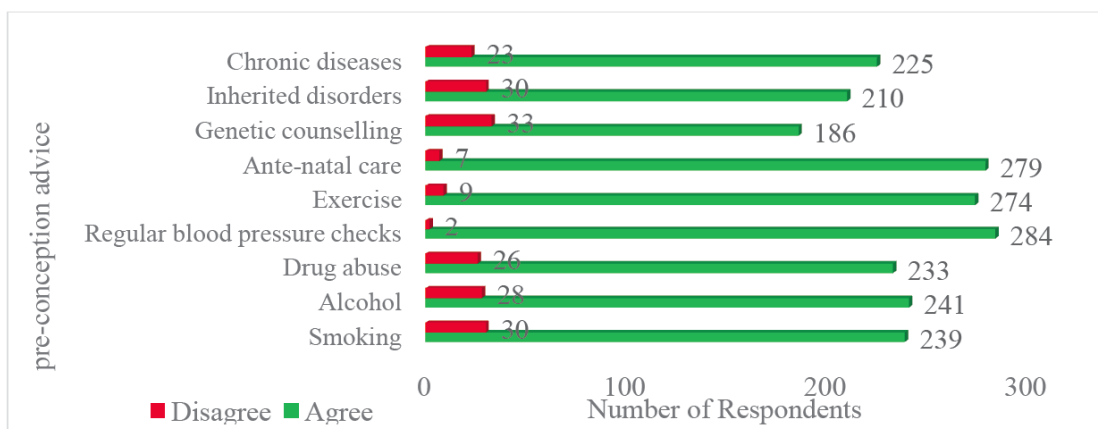


Figure 1: Types of Pre-conception advice.

Table 3 shows the relationship between opinion on pre-conception care and attending pre-conception care. Considering pre-conception care as being essential  $p=0.05$  ( $\chi^2 = 3.760$ ,  $df=1$ ) and belief that pre-conception care is a priority  $p=0.028$  ( $\chi^2 = 4.832$ ,  $df=1$ ) significantly influence the decision to attend pre-conception care. Lack of time to attend pre-conception care  $p=0.000$  ( $\chi^2 = 14.589$ ,  $df=1$ ) was significantly related to the ability to attend pre-conception care among respondents in this study. On the other hand, belief that pre-conception

care affects pregnancy outcome  $p=0.710$  ( $\chi^2 = 0.138$ ,  $df=1$ ) and considering pre-conception as a luxury  $p=0.579$  ( $\chi^2 = 0.357$ ,  $df=1$ ) did not significantly influence attending pre-conception care.

Figure 1 shows the opinion of respondents on what constitutes pre-conception advice. Receiving regular blood pressure checks, ante-natal care, engaging in exercise, advice against alcohol and smoking ranked as the top five pre-conception pieces of advice

Table 4: Relationship between Demographic Profiles and Importance of Pre-Conception Care

| Demographic Factor        | Categories          | Pre-Conception care is important |    |   |
|---------------------------|---------------------|----------------------------------|----|---|
|                           |                     | Yes                              | No | Chi-Square Test                           |
| Age                       | 15-19               | 24                               | 1  | $\chi^2 = 10.437$<br>$df=5$<br>$p=0.04^*$ |
|                           | 20-24               | 90                               | 0  |   |
|                           | 25-29               | 100                              | 0  |   |
|                           | 30-34               | 59                               | 0  |   |
|                           | 35-39               | 7                                | 0  |   |
|                           | >40 Years           | 4                                | 0  |   |
| Education                 | No Formal Education | 2                                | 0  | $\chi^2 = 0.835$<br>$df=5$<br>$p=0.975$   |
|                           | Primary             | 73                               | 0  |   |
|                           | Secondary           | 154                              | 1  |   |
|                           | Tertiary            | 54                               | 1  |   |
| Household Income (in KES) | <5000               | 29                               | 0  | $\chi^2 = 3.083$<br>$df=3$<br>$p=0.379$   |
|                           | 5001-10000          | 82                               | 4  |   |
|                           | 10001-15000         | 38                               | 1  |   |
|                           | >15,000             | 35                               | 0  |   |
| Number of Pregnancy       | 1                   | 119                              | 1  | $\chi^2 = 1.383$<br>$df=5$<br>$p=0.927$   |
|                           | 2                   | 96                               | 0  |   |
|                           | 3                   | 51                               | 0  |   |
|                           | >4                  | 18                               | 0  |   |

\*Significant at  $p \leq 0.05$ .

respectively. Those who disagreed stated that advice against smoking, receiving genetic counselling, counselling on inherited disorders and advice on alcohol respectively as not being part of pre-conception care.

Table 4 shows the relationship between demographic factors and importance of pre-conception care. Age at  $p=0.04$  ( $\chi^2 = 10.437$ ,  $df=5$ ) was the only sociodemographic factor that was significantly related to respondents' belief that pre-conception care is important. Socio-demographic factors such as education, household income and the number of pregnancies were not significantly related to respondents' belief that pre-conception care is essential.

### Male Involvement in Pre-Conception Care

In Figure 2 it is evident 72.5% of the respondents had discussed a joint pre-conception care with their male partner. About 27.5% of the respondents had not discussed a pre-conception care plan with their male partners.

Table 5 shows health workers response when men accompany their wives to the hospital for pre-conception care. It was observed that 83.5% ( $n=243$ ) of the respondents indicated that health workers had a

positive attitude towards men who accompany their wives to the hospital for pre-conception care.

Figure 3 shows the reasons why male partners did not attend pre-conception care. The leading reason was that partners did not see the reason to accompany their wives for pre-conception care as represented by  $n=113$ , which was followed by ( $n=46$ ) who avoided going to the clinic due to the social stigma on men accompanying their wives for pre-conception care. Cultural taboo ( $n=20$ ) was among the top three leading reason why male partners were not attending pre-conception care.

Table 6 shows the relationship between factors that influence decision making for attending pre-conception care. It was observed that marital status at  $p=0.000$  ( $\chi^2 = 25.365$ ,  $df=4$ ), education at  $p=0.048$  ( $\chi^2 = 18.465$ ,  $df=10$ ), discussing and making joint plans with partner on pre-conception care at  $p=0.008$  ( $\chi^2 = 9.782$ ,  $df=2$ ) were significantly influenced the decision to attend pre-conception care.

### Perceived Effects of on Lack of Preconception Care

Table 7 shows the relationship between attending pre-conception care, education and if hypertension leads to a problematic pregnancy. Attending pre-conception care at  $p = 0.008$  ( $\chi^2 = 9.740$ ,  $df=2$ ) was

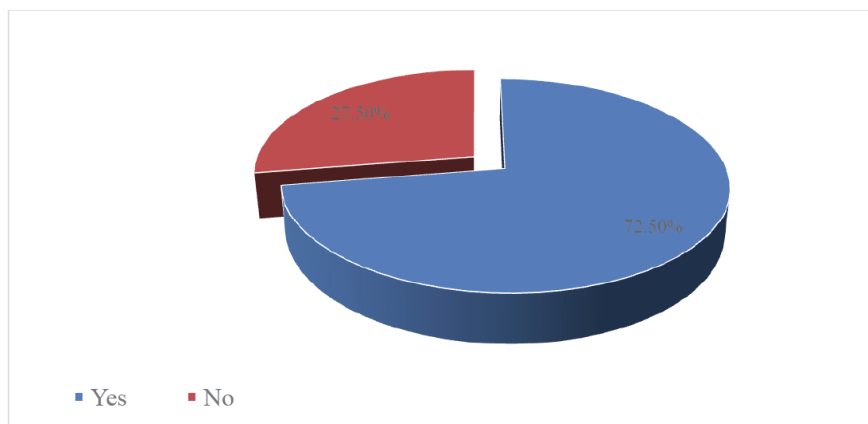


Figure 2: Proportion of respondents who have discussed a joint pre-conception care with the male partner.

Table 5: Response Towards Men who Accompany Wives to Hospital

| Health workers Response             | Frequency | Percent |
|-------------------------------------|-----------|---------|
| Attitude and responses are positive | 243       | 83.50   |
| Response and attitude is negative   | 23        | 7.90    |
| The Health workers are indifferent  | 25        | 8.59    |
| Total                               | 291       | 100     |

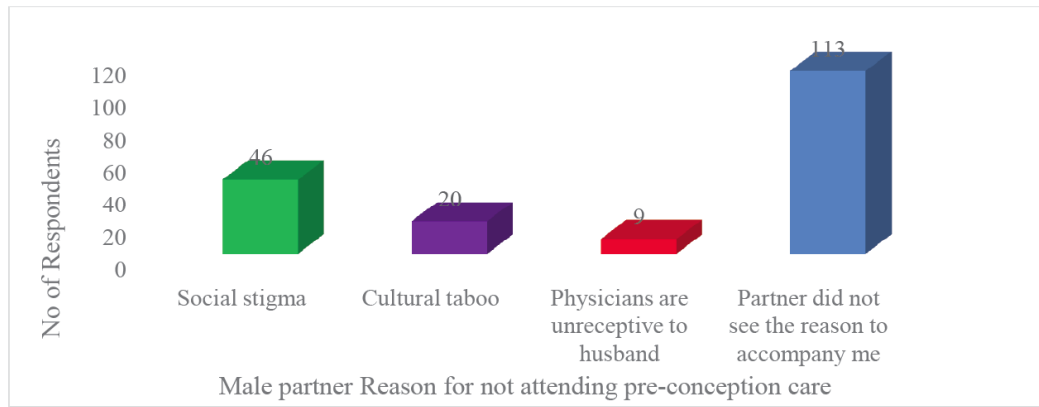


Figure 3: Reasons why male partner did not attend pre-conception care.

Table 6: Factors Related to Decision Making for Attending Pre-Conception Care

| Factors  | Categories          | Husband | Couple | Wife | Chi-Square Test                        |
|--|---------------------|---------|--------|------|--|
| Marital Status   | Married             | 54      | 44     | 124  | $\chi^2 = 25.365$<br>df=4<br>p=0.000*  |
|  | Single              | 3       | 11     | 6    |  |
|  | Separated           | 0       | 4      | 0    |  |
| Education  | No Formal Education | 1       | 0      | 1    | $\chi^2 = 18.465$<br>df=10<br>p=0.048* |
|  | Primary             | 21      | 18     | 28   |  |
|  | Secondary           | 31      | 27     | 71   |  |
|  | Tertiary            | 4       | 13     | 28   |  |
| Discussed and made joint plans with Partner on pre-conception care | Yes                 | 47      | 38     | 116  | $\chi^2 = 9.782$<br>df=2<br>p=0.008*   |
|  | No                  | 9       | 13     | 10   |  |
| Number of Pregnancy  | 1                   | 15      | 24     | 49   | $\chi^2 = 11.975$<br>df=6<br>p=0.287a  |
|  | 2                   | 25      | 15     | 48   |  |
|  | 3                   | 14      | 17     | 21   |  |
|  | >4                  | 3       | 3      | 12   |  |

\*Significant at p<=0.05.

Table 7: Perceptions on the Impact of Hypertension

| Factor                               | Categories   | Hypertension leads to a difficult pregnancy |    | Chi-Square Test                      |
|--------------------------------------|--------------|---|----|--------------------------------------|
|                                      |              | Yes   | No |                                      |
| Attended Pre-conception care session | Yes          | 125   | 16 | $\chi^2 = 9.740$<br>df=2<br>p=0.008* |
|                                      | No           | 92  | 19 |                                      |
| Education                            | No Education | 2   | 0  | $\chi^2 = 8.058$<br>df=6<br>p=0.623  |
|                                      | Primary      | 51  | 12 |                                      |
|                                      | Secondary    | 126   | 19 |                                      |
|                                      | Tertiary     | 46  | 5  |                                      |

\*Significant at p<=0.05.

**Table 8: Effects of having Hypertension on Attending Preconception Care**

| Factor                               | Categories   | Does having hypertension affects decision to attend pre-conception care. |    | Chi-Square Test                    |
|--------------------------------------|--------------|--|----|------------------------------------|
|                                      |              | Yes  | No |                                    |
| Attended Pre-conception care session | Yes          | 156  | 16 | $\chi^2=9.740$<br>df=2<br>p=0.008* |
|                                      | No           | 108  | 19 |                                    |
| Education                            | No Education | 2  | 0  | $\chi^2=19.066$<br>df=5<br>p=0.002 |
|                                      | Primary      | 67   | 2  |                                    |
|                                      | Secondary    | 153  | 2  |                                    |
|                                      | Tertiary     | 53   | 2  |                                    |

**Table 9: Lack of Preconception Care can Lead to**

| Effects   | N   | %     |
|---|-----|-------|
| Hypertension disorder causing miscarriage           | 130 | 44.67 |
| Birth complications due to pre-eclampsia            | 80  | 27.49 |
| Exposes a pregnant mother to cardiovascular disease | 55  | 18.90 |
| Any of the above                                    | 109 | 37.46 |
| No significant effect                               | 6   | 2.06  |
| Total   | 291 | 100   |

significantly related to knowledge that hypertension leads to a difficult pregnancy. On the other hand education at  $p=0.623$  ( $\chi^2=8.058$ ,  $df=6$ ) was not significantly related to knowledge that hypertension leads to a difficult pregnancy.

Table 8 shows if having hypertension affects the decision to attend pre-conception care. It was observed that attending pre-conception care at  $p=0.008$  ( $\chi^2=9.740$ ,  $df=2$ ) and education at  $p=0.002$  ( $\chi^2=19.066$ ,  $df=5$ ) was significantly influenced by the belief that having hypertension affects the decision to attend preconception care.

Table 9 shows the perceived effects that can occur due to lack of pre-conception care. Most respondents

at 44.67% ( $n=130$ ) indicated that lack of pre-conception care increases the risk of hypertension disorder causing miscarriage. Twenty-seven percent ( $n=80$ ) of the respondents indicated that lack of pre-conception care exposes a mother to birth complications that develop due pre-eclampsia. A significant proportion of respondents at 37.46% ( $n=109$ ) indicated that lack of pre-conception care exposes a mother to cardiovascular diseases during pregnancy, the occurrence of hypertension disorder that might lead to miscarriage, and occurrence of birth complications due to pre-eclampsia.

Table 10 shows what the respondents considered to be effects of late access to pre-conception care on the infant. Majority of the respondents at 47.08% ( $n=137$ )

**Table 10: Effects of Late Access to Pre-Conception Care**

| Effects                          | n   | %     |
|----------------------------------|-----|-------|
| Affects infant birth weight      | 74  | 25.43 |
| Increases risk for pre-term baby | 137 | 47.08 |
| Affects infant's immunity        | 72  | 24.74 |
| No effect of the child           | 18  | 6.19  |
| Any of the above                 | 31  | 10.65 |

indicated that late of access to pre-conception increases the risk of having a pre-term baby. Seventy-four respondents representing 25.43% indicated that late access to pre-conception care could affect an infant birth weight, while 24.74%(n=72) of the respondents indicated that late access of pre-conception care leads to conditions that affect infant's immunity.

## DISCUSSION

### Awareness of Preconception Care among Pregnant Mothers with Hypertensive Disorders

In this study, it was realized that high level of awareness existed among respondents on what constitutes pre-conception care. It was observed that respondents considered pre-conception as consisting of both advice received before conception, medical care during pregnancy and receiving ante-natal care. It was observed that receiving regular blood pressure checks, ante-natal care, engaging in exercise, advice against alcohol and smoking were ranked among the top five pre-conception advice respectively. Advice against smoking, receiving genetic counselling, counselling on inherited disorders and advice on alcohol respectively were considered by respondents as elements that are not part of pre-conception care. This shows that there is a varied understanding among respondents on what constitutes pre-conception care. These findings concur with those others that the awareness concerning preconception care varied among women already receiving pregnancy wellness care and those who are not receiving wellness care [6, 9, 10]. The high level of awareness observed in this study concurs with the findings of Delgado who observed high awareness on pre-conception cares among college-age women and men [11].

It was realized from the findings of this study that health workers are the main source of information on pre-conception care closely followed by friends and relatives respectively. In concurrence with the findings of this study Palmer [12] observed that health workers act as the main source of in-depth information on pre-conception care. Similar findings were observed by Kitamura, Fetters and Ban [13] who in a systematic review of the pre-pregnancy interventions conducted on women concluded that health workers have a huge role to play in disseminating information regarding preconception care, even to women who do not have positive pregnancy tests. In this regard, it's important to recognize that healthcare workers need to demonstrate

the importance of pre-conception care to yet to be parents as an essential part of maternal health services. It was observed that a low proportion of respondents about 3% relied on media; Television, Radio and Newspaper for information on preconception care while some respondents searched for information online. This finding contrasts with observations reported by researchers [14] who indicated that television, by far, stands as the most utilized medium to reach women with information regarding preconception care. In concurrence with the findings of this study, it has also been observed that in developing countries majority of women in rural areas and poor regions of urban areas do not own a television set hence they might not rely on television as a medium of information on pre-conception care [15].

It was observed that most respondents considered pre-conception care as important and essentially which in turn significantly influenced the ability to attend pre-conception care session. Similarly, it was observed in this study that lack of time significantly influenced the ability to attend pre-conception care sessions among respondents in this study, which shows that despite the majority of respondents considered pre-conception care as important, lack of time might be a barrier that hinders many from attending pre-conception care sessions. The role played by socio-demographic factors in influencing the opinion on the importance of pre-conception care was assessed in this study. It was observed that age at  $p=0.04$  ( $\chi^2 = 10.437$ ,  $df=5$ ) was the only sociodemographic factor that was significantly related to respondents' perception that pre-conception care is important. There was consensus across all age groups that pre-conception care is important for all mothers who plan to have children.

### Male Involvement in Pre-Conception Care

It was observed in this study that majority of respondents had discussed a joint pre-conception care plan with their male partner. This can indicate that most pregnancies that occurred among respondents were planned. The high proportion of respondents who had a planned pre-conception care with their partner observed in this study can be attributed to high level of awareness on the importance of pre-conception care equally reported in this study. The findings of this study reinforce the concept suggested by researchers that involvement of men in reproductive health matters is important as it increases their knowledge and understanding on reproductive health issues [15]. Health workers attitudes towards men who accompany



their female partners for pre-conception plays a role in influencing men to get involved in pre-conception care sessions. In this study, it was observed that health workers had a positive attitude towards men who accompany their wives to the hospital for pre-conception care. This finding concurs with the recommendations advanced by scholars that the focus of health care workers should be on increasing the role of men as partners in reproductive health [16-18].

The ability of male partners to attend pre-conception care is dependent on some factors. For example, in this study, it was observed that male partners opted not to attend pre-conception care with their partners because they did not find any valid reason why they should attend. A significant number of respondents avoided going to the clinic due to the social stigma on men accompanying their wives for pre-conception care while other men avoided going for pre-conception care due to cultural taboo which dictates that pregnancy is a women issue in which men have no role to play. In this regard, studies [4] concurred that preconception care fails to find complete acceptance and in-depth diffusion in Africa because of such attitudes regarding the place of men and women in health matters.

### **Perceived Effects of Lack of Preconception Care**

In this study, there was concurrence among respondents that hypertension leads to complications in pregnancy. It was observed that attending pre-conception care was significantly related to increases in knowledge among respondents that hypertension leads to complications during pregnancy. However, education level of respondents did not significantly influence the knowledge of respondents on effects of hypertension during pregnancy. In this regard, researchers concur that all women with significant risk factors for developing preeclampsia and planning a future pregnancy should be counselled appropriately about risk factors, symptoms, and management [16].

In this study, it was observed that having hypertension affects the decision to attend pre-conception care. It was realized that a majority of the respondents regardless of their age and parity believed that having hypertension would influence their decision to attend pre-conception care. A chi-square result showed that those who attended pre-conception care were those who believed that being diagnosed with hypertension would make them seek for pre-conception care. It was further observed that education level of a participant influenced the decision to seek for pre-

conception care with those having higher levels of education were more likely to seek for pre-conception care.

There was concurrence among respondents that lack of pre-conception care increases the risk of hypertension disorder causing miscarriage. A significant proportion of respondents indicated that lack of pre-conception care exposes a mother to birth complications that develop due pre-eclampsia. On the other hand lack of pre-conception care was associated with the risk of having a pre-term baby, giving birth to a baby with low birth weight as well as infants with poor immunity. In concurrence with the findings of this study Dean *et al.* [15] asserts that preconception is so essential that it helps minimize the rates of low birth weight and prematurity. The findings of this study show that infants will derive a lot of benefits when their parents seek and attend pre-conception care. Therefore it was observed that most of the mothers in this study had a desire and willingness to attend pre-conception care to reduce the risks of adverse birth outcomes.

While this study highlights significant findings on the role of pre-conception care among pregnant mothers, there are limitations that would limit the generalizability of the study findings. First, this was a cross-sectional study design without the follow-up of mothers from the time of attending pre-conception care to delivery that would have allowed better analysis of effects of pre-conception care. Secondly, this study was limited to a small population group in an urban setting as such varied perspectives may exist for groups of women not targeted in this study.

### **CONCLUSIONS**

This study identified views of mothers on the uptake of pre-conception care. It further confirms that healthcare workers are the main source of information on pre-conception care which they transmit to the client through health messages. All mothers regardless of their age considered pre-conception care as an important. Perceived lack of time and lack of interest among men were the main barriers that hindered male partners from accompanying their female partners for pre-conception care. Factors that promoted uptake of pre-conception care included, being married, discussing a joint plan with a male partner and having a higher level of education. Mothers with adequate information on potential benefits of pre-conception care on pregnancy outcome are therefore more likely to

seek for pre-conception care. This study shows that lack of pre-conception care would lead to adverse birth outcomes and the study encourages both potential mothers and fathers to seek pre-conception care. This study, therefore, highlights the need for health promotion activities to encourage the need of preparing for pregnancy in the general population.

## RECOMMENDATIONS

There is a need for healthcare workers to incorporate health messages on pre-conception care during ante-natal, immunization and post-natal care sessions to increase awareness on the importance of pre-conception care. Therefore, there is a need for the ministry of health and relevant stakeholders to scale up male partner involvement in maternal health issues through targeted interventions and behaviour change communication. This would help address masculine misconceptions on their role in as far as attending pre-conception care is concerned. Increasing access to pre-conception care by incorporating it as part of maternal health services would be one key intervention in the implementation of pre-conception care. There is a need for more research to assess the effectiveness of pre-conception care in the prevention of pregnancy-related complications.

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