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SOCIO-DEMOGRAPHIC DETERMINANTS OF MALE INVOLVEMENT IN MATERNAL AND CHILD HEALTHCARE IN RIVERS EASTSENATORIAL DISTRICT OF RIVERS STATE

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Abstract
Maternal and child health (MCH) issues are among the critical global health burdens threatening underdeveloped nations, especially African countries where patriarchal tendencies are deeply rooted. This study, therefore, investigated the socio-demographic determinants of male partner involvement in maternal and child health care in the Rivers East Senatorial District of Rivers State. The descriptive correlational research design was adopted with a population consisting of 109,235 married men in the Rivers East Senatorial District. A sample size of 1,197 was selected using the multi-stage sampling procedure. Data were collected using a questionnaire with a reliability coefficient of 0.84 and analyzed using mean and linear regression models at 0.05 alpha level. The result showed a high extent (3.45±0.64) of male involvement in components of maternal and child healthcare. A high positive relationship was found between male involvement and socio-demographic variables such as age (r = 0.97), occupation (r = 0.93) and educational level (r = 0.96). The tested hypotheses revealed that a statistically significant relationship was found between male involvement and all the factors listed above ($p<0.05$). It was concluded that male involvement in maternal and child healthcare is determined by the socio-demographic characteristics (age, occupation and educational level of the men). It was recommended among others that, public Health Educators should organize sensitization programmes aimed at reaching out to older as well as young male partners through church and market outlets to encourage their participation.

Keywords: Male Involvement, Socio-Demographic Determinants, Maternal and Child Healthcare

Introduction

Maternal and child health (MCH) issues are among the critical global health burdens threatening underdeveloped nations, especially African countries where patriarchal tendencies are deeply rooted. These patriarchal inclinations find expression in the concept of gender which places the responsibility of pregnancy, breastfeeding (sex role) and child-rearing (social-construct role) on women (Ogbujah, 2012; Aronson et al. 2010), making men passive towards maternal and child health issues and influencing the health-seeking behaviour of women towards utilization of health facilities. As a result, women tend to visit unsafe places for MCH services.

Globally, the lack of male partner involvement in MCH services has contributed to an increase in maternal and newborn mortality and child morbidity (Mersha, 2018; Muheirwe & Nuhu, 2019). Ganchimeg et al. (2014) stated that maternal mortality is higher within 15 – 19 years than in 20-24 years because the former has more complications in pregnancy and childbirth. According to UNICEF (2019), approximately 800 women lose their lives every day as a result of complications during pregnancy and childbirth, and for every such death, about 20 other women suffer severe injuries, infections or disabilities. Byregion, sub-Saharan Africa and South Asia account for 86% of maternal deaths globally, with sub-Saharan Africa accounting for the highest rate at 533 deaths per 100,000 live births, or 200,000 deaths every year (UNICEF, 2019).

For instance, in 2017, Nigeria was one of the countries with a "very high alert" index for maternal mortality rate, an indication of the fact that their life span risk of death owing to pregnancy was high (WHO, 2019). Nigeria's MMR in 2017 was 917 deaths per 100,000 live births which Fragile States Index (FSI), an annual assessment of 178 countries, labeled a fragile state with "very high alert."In the same vein, child mortality is still at a painful level globally which can be prevented. According to UNICEF (2021), an estimated 13,800 under-five deaths occurred every day in 2020 alone. These mortalities are attributable to infectious diseases such as pneumonia, diarrhoea and

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malaria alongside preterm birth and intrapartum-related complications. Among the countries with the highest death occurrences among children in the world, almost all of them are in the region of Africa. In 2020, Nigeria recorded an estimated 114 under-five deaths out of 1000 live births (World Bank, 2021).

A recent study has shown that in Rivers State, the maternal death ratio is high and the trend is worsening (Awoyesuku et al., 2020). This conclusion was made by Awoyesuku et al. based on a review of 110 maternal deaths that occurred out of 17,080 total births from 2012 to 2018 in a tertiary hospital in Rivers State, giving an overall MMR of 644 deaths per 1,000 live births. The most common causes of death were pre-eclampsia and eclampsia 40%, postpartum haemorrhage 22.7% and uterine rupture 11.8%. These are usually referral cases from rural areas where spiritual houses and quacks are the first points of call for pregnant women whose partners lack knowledge of reproductive health, have a phobia for hospital bills and caesarean section, and cultural idiosyncrasy which places antenatal visits/delivery on women's shoulders, creating low involvement of male partners in mother and child health care services. There are many determinants of male partner's involvement in maternal and child health care including socio-demographic variables like age, level of education, and occupation (Warugongo et al., 2022; Abiiro et al., 2022; Asmare et al., 2022).

By age, the current study adopts the chronological concept of age which is essentially a measurement of time of one's birth and not necessarily their social-construct perception. This position lends itself to Schwall (2012) that chronological age is the most frequently used operationalization of the effects of ageing on behavioural studies. Age plays a role in male partner involvement in MCH. This fact finds expression in research conducted by Asmare et al. (2022) to verify the issues that affect men's participation in delivery waiting houses. The authors noted, through multivariable logistic regression analysis, that an increase in age was associated with a decrease in the likelihood of men's participation.

Another important associated factor of male participation in mother and child health is the level of education of the male partner (Ditekemena et al., 2011). Here, assessing the needed medical services information by male partners has several important impacts on MCH. First, well-educated husbands will be more likely to participate actively in the decision-making for the good health of the family. Again, women who are supported by their husbands will be more encouraged to access health facilities for MCH services. Thirdly, well-enlightened husbands and wives are more likely to take on a low-threat action and increase reciprocal assistance and favourable disposition towards MCH issues regardless of their financial implications and distance to facilities. Consequently, family planning which is related to MCH in several ways should be a collective decision of couples. Therefore, male partner involvement is very likely to bring about sustainable results on the acceptability of MCH guidelines by women.

Occupation or profession (what one does to earn a living) has been spotlighted as a determinant of male partner involvement in maternal and child health (MCH) services (Reece et al., 2010; Ditekemena et al., 2012). Reece et al., for example, noted that Kenyan men who had seasonal employment were less likely to be involved in MCH services. The implication here is that one cannot guarantee that men in rural and urban parts of Rivers State are likely to participate in MCH services given the fact that rural and urban communities are characterized by a lack of employment opportunities, paid jobs, sustainable farming and fishing. Granted that this is an assumption, however, it portends a threat to MCH services and intervention programmes because men's participation in MCH is critical. Therefore, the current study would establish the veracity of the position of Reece et al. on the relationship between a man's occupation and his participation in MCH services and the extent of its generalization about male partners in the current study area. If we applied this outcome to male partners in Rivers East Senatorial District, it would be a presumption which may not be reliable for an effective MCH intervention.

Therefore, the current study seeks to ascertain the extent to which the foregoing determinants affect male partner involvement in MCH in Rivers East Senatorial District. Most of the studies on male partner participation in MCH were done outside Nigeria. The few studies carried out in Nigeria did not adequately explore community perspectives, creating assumptions for the low male partners' involvement in MCH services which has contributed to the high maternal and child mortalities in the study area, while those that explored community perspective used only one component of MCH.

Rivers East Senatorial District is patriarchal like other societies in Nigeria, where reproductive health issues are termed as 'woman affairs. Women are made to cater for their health and those of their children alone; this is

evidenced by the scarcity of men in the maternal clinics. The report given by Muloongo et al. (2019) revealed that only one in twelve women went to a maternal care clinic with the man responsible for either their pregnancy or the father of the child. This is not proper given that the time of pregnancy is when a woman needs the support of the husband/partner to be able to cope adequately and to meet both the emotional, physical, and health demands created by the pregnancy. Aside from pregnancy, men need to be involved in the care of their wives both during the time a woman has given birth to a baby after giving birth, caring for both mother and baby. This would help to reduce complications leading to mortality. Given the high under-five mortality rate in Rivers State which was 58 per 1000 live births (reported by the National Bureau of Statistics & United Nations Children's Fund, 2018), the involvement of the men becomes imperative however, literature has (Nyang'au et al., 2021; Olajubu et al., 2021; Guspianoto et al., 2022) shown a low level of male involvement in maternal and child healthcare. Certainly, several factors might be implicated. Thus, this study investigated socio-demographic determinants of male partner involvement in maternal and child health care in Rivers East Senatorial District of Rivers State. The work was guided by the following research questions:

1. What is the extent of male partner involvement in maternal and child health care in Rivers East Senatorial District of Rivers State*?*
2. What is the relationship between age and male partner involvement in maternal and child health care in Rivers East Senatorial District of Rivers State*?*
3. What is the relationship between occupation and male partner involvement in maternal and child health care in Rivers East Senatorial District of Rivers State*?*
4. What is the relationship between educational level and male partner involvement in maternal and child health care in Rivers East Senatorial District of Rivers State*?*

Hypotheses

The following hypotheses postulated were tested at 0.05 level of significance:

1. There is no significant relationship between age and male partner involvement in maternal and child health care in Rivers East Senatorial District of Rivers State.
2. There is no significant relationship between occupation and male partner involvement in maternal and child health care in Rivers East Senatorial District of Rivers State.
3. There is no significant relationship between educational level and male partner involvement in maternal and child health care in Rivers East Senatorial District of Rivers State.

Methodology

The descriptive correlational research design was adopted with a population consisting of 109,235 married men in Rivers East Senatorial District, based on the data from the National Social Safety (Nets Coordinating Office, 2021). A sample size of 1,197 was selected using the multi-stage sampling procedure which included three stages. Stage one involved the use of the simple random sampling technique to select three local government areas in Rivers East Senatorial District (from three clusters representing the three language blocs) through balloting. Stage two involved a Simple random sampling technique used to select two communities from each of the three Local Government Areas selected in stage one through balloting. At the final stage, the systematic sampling technique was used to select married men from the households in each selected community, applying inclusive and exclusive criteria of having a female partner who is pregnant or nursing a baby or had delivery, at most, three years before the study.

Data were collected using a questionnaire with a reliability coefficient of 0.84. The questionnaire was titled "Socio-demographic Determinants of Male Partner Involvement in Maternal and Child Health Questionnaire" (HSPIMPCHQ). The questionnaire was structured by the researcher based on the research questions. The questionnaire consisted of two sections A and B. Section "A" elicited information on the demographic characteristics of the respondents such as age, level of education and occupation; while section "B" was on male partner involvement in main components of maternal and child health care with 19-item with response option on a modified four-point Likert scale of "very high extent" – 4 points, "high extent" – 3 points, "low extent"– 2 points and "very low extent" – 1 point. Sections "B" – "E" consisted of statements based on a Likert scale ranging from strongly disagreed as = 1 to strongly agreed as = 4. Data was collected by a face-to-face delivery of the questionnaire to the respondents and analysis was done with the aid of the Statistical Product and Service Solution (SPSS V-23) using linear regression model at 0.05 alpha level.

Results

The results of the study are presented below in Tables:

Table 1: Mean and standard deviation on the extent of male involvement in components of maternal and child healthcare in Rivers East Senatorial District

SN	Items	$\bar{X}$	SD	Decision
1	Involved in planning for seeking care of wife during pregnancy	3.63	.63	VHE
2	Accompanied wife to a healthcare facility	3.41	.50	HE
3	Provided physical support to wife during pregnancy by assisting in household work	3.84	.46	VHE
4	Discussed antenatal visits with wife and healthcare providers	3.37	.83	HE
5	Discussed signs of labour/delivery date with wife and her healthcare providers	3.54	.60	VHE
6	Accompanied wife to buy delivery items	3.19	.84	HE
7	Accompanied wife to health facility for delivery	3.49	.67	HE
8	Waited patiently at the health facility during the delivery	3.26	.92	HE
9	Assisted in arranging the home during labour	3.62	.58	VHE
10	Discussed the number of children to have with wife	3.64	.48	VHE
11	Discussed family planning methods with wife and healthcare provider	3.77	.44	VHE
12	Accompanied wife to facility for family planning	3.02	.79	HE
13	Assisted in preparing wife's food	3.05	.54	HE
14	Assisted in bathing my child when the need arises	3.56	.54	VHE
15	Discussed immunization issues with wife	3.83	.46	VHE
16	Planned immunization visits with wife	3.57	.53	VHE
17	Accompanied wife and child to health facility for immunization	2.70	1.08	HE
18	Involved in planning breastfeeding with wife	3.54	.80	VHE
19	Discussed nutritional status of child with healthcare providers	3.68	.58	VHE
	Grand mean	**3.45**	**0.64**	**HE**

Criterion mean = 2.50

Table 1 revealed the mean and standard deviation on the extent of male involvement in maternal and child healthcare. The result showed that the grand mean of 3.45±0.64 was greater than the criterion mean of 2.50 indicating a high extent. Thus, the extent of male partner involvement in maternal and child healthcare in Rivers East Senatorial District of Rivers State was high.

Table 2: Regression analysis on the relationship between age and male partner involvement in maternal and child healthcare in Rivers East Senatorial District

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Decision
1	.97	.95	.89	1.15	**Very High relationship**

Table 2 illustrates the relationship between age and male partner involvement in maternal and child healthcare in Rivers East Senatorial District. The result of the study indicated that there was a very high positive relationship between age and male involvement (r = 0.97). The result further showed that age contributed 95.1% of the variance in male involvement ($R^2 = 0.951$). Therefore, the relationship between age and male partner involvement in maternal and child healthcare in Rivers East Senatorial District was very high.

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Table 3: Regression analysis on the relationship between occupation of men and male partner involvement in maternal and child healthcare in Rivers East Senatorial District

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Decision
1	.93	.87	.87	1.15	**Very High relationship**

Table 3 illustrates the relationship between the occupation of men and male partner involvement in maternal and child healthcare in Rivers East Senatorial District. The result of the study indicated that there was a very high positive relationship between occupation and male involvement (r = 0.93). The result further showed that occupation contributed 87.2% of the variance in male involvement (R^2 = 0.872). Therefore, the relationship between the occupation of men and male partner involvement in maternal and child healthcare in Rivers East Senatorial District was very high.

Table 4: Regression analysis on the relationship between educational level and male partner involvement in maternal and child healthcare in Rivers East Senatorial District

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Decision
1	.96	.92	.92	1.15	**Very High relationship**

Table 4 illustrates the relationship between educational level and male partner involvement in maternal and child healthcare in Rivers East Senatorial District. The result of the study indicated that there was a very high positive relationship between educational level and male involvement (r = 0.96). The result further showed that educational level contributed 92.1% of the variance in male involvement (R^2 = 0.921). Therefore, the relationship between educational level and male partner involvement in maternal and child healthcare in Rivers East Senatorial District was very high.

Table 5: Regression analysis on the significant relationship between age and male partner involvement in maternal and child healthcare in Rivers East Senatorial District

Model		Sum of Squares	df	Mean Square	F	Sig.	Decision
1	Regression	13566.80	1	13566.80	22989.72	.00*	**H_oRejected**
	Residual	695.16	1178	.590			
	Total	14261.97	1179				

***Significant; P<0.05**

Table 5 revealed the regression analysis on the relationship between age and male partner involvement in maternal and child healthcare. The findings of the study revealed that there was a significant relationship between age and male partner involvement in maternal and child healthcare [f(1,1178) = 22989.72, p<0.05]. Therefore, the null hypothesis which stated that there is no significant relationship between age and male partner involvement in maternal and child healthcare in Rivers East Senatorial District, Rivers State was rejected.

Table 6: Regression analysis on the significant relationship between occupation and male partner involvement in maternal and child healthcare in Rivers East Senatorial District

Model		Sum of Squares	df	Mean Square	F	Sig.	Decision
1	Regression	12429.91	1	12429.91	7992.34	.00*	**H_oRejected**
	Residual	1832.05	1178	1.55			

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	Total	14261.97	1179

***Significant; P<0.05**

Table 6 revealed the regression analysis on the relationship between occupation and male partner involvement in maternal and child healthcare. The findings of the study revealed that there was a significant relationship between occupation and male partner involvement in maternal and child healthcare [f(1, 1178) = 7992.34, p<0.05]. Therefore, the null hypothesis which stated that there is no significant relationship between occupation and male partner involvement in maternal and child healthcare in Rivers East Senatorial District, Rivers State was rejected.

Table 7: Regression analysis on the significant relationship between education level and male partner involvement in maternal and child healthcare in Rivers East Senatorial District

Model		Sum of Squares	df	Mean Square	F	Sig.	Decision
1	Regression	13133.04	1	13133.04	13703.89	.00*	**H_oRejected**
	Residual	1128.92	1178	.95			
	Total	14261.97	1179				

***Significant; P<0.05**

Table 7 revealed the regression analysis on the relationship between education level and male partner involvement in maternal and child healthcare. The findings of the study revealed that there was a significant relationship between education level and male partner involvement in maternal and child healthcare [f(1, 1178) = 13703.89, p<0.05]. Therefore, the null hypothesis which stated that there is no significant relationship between education level and male partner involvement in maternal and child healthcare in Rivers East Senatorial District, Rivers State was rejected.

Discussion

The result of the study in Table 1 showed a high extent of male partners in maternal and child healthcare in Rivers East Senatorial District (3.45±0.64). This result was surprising; it was expected that male involvement would have been low to moderate owing to the high rate of maternal and child mortality in Rivers State and the general perception that men hardly accompany their partners to health facilities, and those who accompany their wives had been bewitched by their partners (commonly known as "woman wrapper" in the local parlance). The high extent of male involvement could be a result of the State government MCH activities and enlightenment programmes on male involvement in MCH carried out by NGOs and strengthened by social media messages and radio jingles, to leverage the challenges faced by women. By implication, as more males are involved, it will encourage more women to utilize maternal and child healthcare services. This finding gives credence to several other studies. The finding of this study in consonance with that of Mfuh et al. (2016) in Adamawa State which revealed a level of male involvement in maternal and child healthcare.

The findings of this study are in tandem with that of Kumbeni et al. (2019) whose study on factors influencing male partner involvement in Ghana revealed a high level of male involvement in maternal and child healthcare. The result also corroborates that of Gibore et al. (2019) whose findings on male involvement in Central Tanzania revealed a high extent of male involvement. The finding of this study is similar to that of Falade-Fatila and Adebayo (2020) whose study in Ibadan, Nigeria also showed a high extent of male involvement in maternal and child healthcare. The findings of this study are similar to that of Nyamai et al. (2022) whose study on male partner involvement in Kenya revealed a high extent of male partner involvement in maternal and child healthcare. This similarity found between the previous studies and the present one might be attributed to the homogeneity of the study respondents as they were both focused on men only, unlike some studies which elicited information about male involvement from their female partners. However, the findings of this study differ from some others. The finding of the present study is at variance with the finding of Peter-Kio (2019) in Rivers State, Nigeria where male involvement in family planning was found to be moderate.

The variance observed could be a result of the study settings. The previous study focused on only one ethnic nationality, the Kalabari people, while the present study focused on three ethnic nationalities: Ikwerre, Etche and Kirikesi. Also, the variance could be a result of the fact that the previous study focused on only one component of maternal and child healthcare whereas the present study focused on all the components of MCH. The finding of this study is also in dissonance with that of Nyang'au et al. (2021) whose study on male partner involvement in Kenya revealed a low level of male involvement. The finding of this study is also at variance with the finding of Olajubu et al. (2021) in South West Nigeria and Guspianoto et al. (2022) in Indonesia which showed a low level of male partner involvement in maternal and child healthcare. This variation could be attributed to the difference in the study locations.

The result in Table 2 indicated that there was a very high positive relationship between age and male involvement ($r = 0.97$) which was significantly related ($p<0.05$). This finding may not be surprising because as men grow older they become more emotionally attached and involved in maternal and child healthcare in the specific and general wellbeing of the family. The argument might be that as men grow older, their reasoning becomes wider and accommodative to see things as it should be, also, they may reduce their level of engagement in circular activities and thus have more time to be involved in maternal and child healthcare. The finding of this study gives credence to that of Peter-Kio (2019) whose study in Rivers State, Nigeria showed increasing spousal communication with increasing age.

The finding of this study is also in line with that of Gibore et al. (2019) whose findings on male involvement in Central Tanzania revealed a significant relationship between age and male involvement in maternal and child healthcare. The findings of this study are in tandem with that of Kumbeni et al. (2019) whose study on factors influencing male partner involvement in Ghana revealed a significant relationship between age and male involvement in maternal and child healthcare. This similarity found between the previous studies and the present one might be attributed to the homogeneity of the study respondents as they were both focused on men only. However, the findings of this study differ from that of Starting with age, it is possible to link the high involvement of male partners in the study area to their age distribution. The respondents within the age range of 30 – 49 years were 796 (67.5%) hence, the position of Asmare et al. (2022) whose study revealed that the younger the men, the more likelihood of their involvement in maternal and child healthcare. This variation could be due to the difference in the study area.

The result of the study indicated that there was a very high positive relationship between occupation and male involvement ($r = 0.93$). The result further showed that occupation contributed 87.2% of the variance in male involvement ($R^2 = 0.872$). This finding is also not surprising because the occupation of men can take almost all their time. By implication, men who have regular paid jobs which take them out from morning to evening do not have all the time to be directly involved, though they may be ready to spend whatever is needed. The finding of this study is in line with that of Gibore et al. (2019) whose findings on male involvement in Central Tanzania revealed a significant relationship between occupation and male involvement in maternal and child healthcare. The finding of this study is also in line with that of Diketemena et al. (2011) whose findings on male involvement revealed a significant relationship between occupation and male involvement in maternal and child healthcare. This similarity found between the previous studies and the present one might be attributed to the homogeneity of the study respondents as they were both focused on men only.

The result of the study indicated that there was a very high positive relationship between educational level and male involvement ($r = 0.96$). The result further showed that educational level contributed 92.1% of the variance in male involvement ($R^2 = 0.921$). This finding which implies that a higher level of education is implicated for a higher level of male involvement might not be surprising because education is a vital tool for behaviour change. Education exposes men to diverse information and enlightens them, which by implication influences their decisions even to be involved in their children's and wives' healthcare. The finding of this study corroborates that of Gibore et al. (2019) whose findings on male involvement in Central Tanzania revealed a significant relationship between educational level and male involvement in maternal and child healthcare. The findings of this study are also in tandem with that of Kumbeni et al. (2019) whose study on factors influencing male partner involvement in Ghana revealed a significant relationship between educational status and male involvement in maternal and child healthcare. This similarity found between the previous studies and the present one might be attributed to the homogeneity of the study respondents as they were both focused on men only.

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Conclusion

It was concluded that male involvement in maternal and child healthcare is determined by the socio-demographic characteristics of men such as age, occupation and level of education. Maternal and child health is a critical index in advancing a nation hence its recognition in MDG Goal 3 for the reduction in the rate of mortalities. Consequently, male partner involvement in the processes leading to improved uptake on aspects of maternal and child health care is one potential factor that reduces the rate of mortality and morbidity.

Recommendations

Based on the findings of the study the following recommendations were put forward.

1. Public Health Educators should organize sensitization programmes aimed at reaching out to older as well as young male partners through church and market outlets to encourage their participation.
2. The government or other employers of labour should permit male partners who may take excuses to accompany their pregnant wives to the maternity clinics and the facilities should extend their operating hours for MCH to accommodate more men with engagements at work.
3. Community-based organizations (CBOs) should carry out enlightenment programmes on maternal and child health care to specifically reach the less educated men in their communities to encourage their involvement.
4. Women should continue to encourage their male partners through continuous dialogue or discussion about their health and that of their children, this will help them to prepare beforehand to accompany, help or be involved in any way they are required to do so.

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