Male Involvement in the Maternal Utilization of Health Services among Childbearing Women in Tertiary Healthcare Outstations in South-East Nigeria

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ABSTRACT

Background: In African societies, males play the role of decision-makers and providers. It has become necessary for maternal and child survival, to involve them in maternal health service utilization actively. This concept will not only improve maternal outcomes but also strengthen the relationships within the family. **Objective:** This study sought to assess male involvement in maternal utilization of health services among childbearing women in Nnamdi Azikiwe University Teaching Hospital (NAUTH), Anambra state, Nigeria outstations. **Methodology:** A cross-sectional survey was conducted involving 200 consented male participants whose spouses had earlier provided consent and met the eligibility criteria. The participants were chosen through simple random sampling between February 1st and March 1st, 2021. Data was gathered using a semi-structured, interviewer-administered questionnaire and subsequently analyzed using Statistical Package for Social Sciences (SPSS) version 24.0. The study's level of significance was established at $P < 0.05$ for all analyses. **Results:** The mean age and standard deviation of the respondents was 41.15±5.98 years. Only 35% and 29% of respondents ever accompanied their spouses to antenatal and postnatal visits respectively. The majority accompanied their spouses to the hospital for delivery but only 22% were present in the delivery room. Busy work schedules were identified as major reasons for low levels of involvement. **Conclusion:** The study showed a low level of involvement among participants in spouses' maternal health services. The positive attitude shown by the participants is an indication that if proper awareness campaigns are organized, men can improve their rate of involvement in the utilization of maternal health services.

Keywords: Male involvement, Women, Child, Utilization, Tertiary, Cross-sectional study.

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INTRODUCTION

Globally, health policies are driven by accessibility and utilization of the healthcare delivery system.[1,2] In the area of maternal healthcare, it means the ability of women to access antenatal, facility-based delivery and postnatal services.[3] Maternal health has become a public health concern worldwide, including in Nigeria, as the lives of millions of women in the reproductive age group are endangered by poor utilization.[4,5]

For decades, maternal health has been seen as solely women's responsibility, and this has contributed to intervention programmes' restricted focus on women in particular; but it has become increasingly recognized that involving men can have significant benefits for both the mother and the child.[6,7,8] Including men as partners in maternal health programmes is not a new strategy; in fact, it dates back to the Cairo Conference in 1994, where men's role players in maternal health care were emphasized.[9] This concept was also advocated as an essential element by the World Health Organization (WHO) initiative for making pregnancy safer.[10] They established the Making Pregnancy Safer initiative, focusing on Individuals, Families, and Communities (IFC) with the aim of empowering mothers, fathers, families, and communities, and improving access to comprehensive maternal and child health care.[10,11]

Male involvement (MI) in the utilization of maternal health services can be defined as the active participation of men in supporting and promoting maternal healthcare.[6] Several researchers have defined MI in different ways depending on the context in which the research applies it. Gibore and Bali in their study defined men's involvement as men attending antenatal care (ANC) visits and relieving their pregnant partners from performing heavy workloads.[12] Alio et al,[13] consider men's involvement as men being accessible, engaged, responsible, and maintaining a relationship with the woman carrying the child regardless of their partnership status.[13] In this study, MI was defined as men attending antenatal and post-natal care visits, being in the delivery room and relieving their pregnant partners from performing heavy workloads.

Many efforts have been taken to enhance maternal health service utilization including information, education, and communication to raise awareness, yet several studies still show poor utilization by childbearing women due to low levels of healthcare-seeking behaviour especially in developing countries.[14] Another reason attributed to this is the male factor since women's decisions are greatly influenced by their husbands' decisions.[15] In most African societies men are decision-makers and can influence actions needed within the households and communities, often determining women's access to health and economic resources.[6,7] Some researchers feel that lack of knowledge can impact men's decisions, so involving them in maternal health is an essential component to impacting positively the health of the mother, child and societal wellbeing.[15,16,17,18,19] Studies have shown that the effect of men's involvement on health outcomes for women and children is associated with their knowledge, education, attitudes and behaviours.[15,20]

However, no common set of evidence-based indicators exist for assessing MI in maternal health, despite considerable evidence about the positive impact.[21] Researchers seem to agree that MI is a multifaceted term but the concept itself has taken different forms according to the context and the researcher's interest yet assessment of the concept differs globally. Most researchers appear to concentrate on just one specific component of the idea, leading to a skewed measurement of MI in maternal health.[21] In their study conducting a systematic review on the subject, Galle et al. found that a significant portion of researchers rely solely on a single indicator.[21] They identified two major conceptualizations in the literature: a focus on psychosocial and a focus on instrumental support for utilizing maternal health care.[21] They concluded that while the context affects how MI is measured, a critical reflection of the

measurement is necessary for an accurate interpretation of the findings.[21] Our study also identified this gap in the literature regarding the measurement of MI.

Men who are involved in the health of their families may also enjoy better health and closer relationships with family members.[22,23] To encourage male partner involvement in antenatal care, a country like Uganda, implements a policy of attending to mothers who come for antenatal with a male partner first as a strategy to support.[24] Previous researchers have shown that men not only act to restrict women and children from healthcare-seeking but if involved may lead to better healthcare-seeking behaviour and better utilization of antenatal, delivery, and postnatal care services.[25,26] This study, therefore, sought to determine male involvement in maternal utilization of health services among childbearing women in Nnamdi Azikiwe University Teaching Hospital (NAUTH), Anambra state, Nigeria outstations.

METHODOLOGY

Study Setting: The study was conducted at the outstations of Nnamdi Azikiwe University Teaching Hospital, Nnewi (NAUTH) which offers maternal health services. NAUTH is a federal government teaching hospital whose permanent site is located at Akamili village in Nnewi town of Nnewi North local government area. Nnewi is an ancient village surrounded closely by two towns- Oraifite and Ozubulu, with an estimated population of 1,239,000 in 2023.[27] The hospital provides primary, secondary and tertiary care services as well as referral centres for people in the state and neighbouring Delta, Imo and Kogi states. It offers services in all clinical specialties, as well as community health. It offers residency training programmes in many specialties. The outstations where this research was conducted include: The Centre for Community and Primary Healthcare, Neni, the Centre of Community/Primary Health Care, Ukpo, the Centre of Community/Primary Health Care, Umunya and Nnamdi Azikiwe University Teaching Hospital Annex, Awka. Other outstations like - the Guinness Eye Hospital Onitsha, and the Trauma Centre Oba, Idemili South were not selected because they are special centres for eyes and bones respectively. The centres are run by consultants, resident doctors, medical officers and other medical staff including Nurses. The average attendance of childbearing women who visited the centres at Neni, Umunya, Ukpo and Awka were approximately 102, 94, 115 and 65 respectively for the period of study (from data in medical records). A total of 376 childbearing women were seen. They were asked to bring their spouses to the clinic on their next visit which was within the study period. They were told to explain to their spouses that they would participate in a study that relates to their healthcare and that it would be held in absolute confidence and that no part or whole of the information provided shall be divulged to anybody except the investigators. A total of 376 consenting males whose spouses were of childbearing age presented, but only 200 participants were recruited.

Study design: This was a descriptive cross-sectional study carried out among 200 consenting men whose spouses consented and met the eligibility criteria and were selected to participate in the study from 1st February to 1st March 2021.

Study Population: This study included consenting males whose spouses were of childbearing age.
Inclusion criteria include:Men whose spouses were within the childbearing age range (women who are of the age group 15-49 years), men whose spouses have given birth to a child in the past, men whose spouses have given consent for the study and men who fit into the above criteria were willing to participate in the study.

Sample size determination:
The sample size was determined using the Cochran formulae[28] which is:

$$N = \frac{Z^2PQ}{D^2}$$

Where

N = minimum sample size for an infinite population (>10,000)
Z= standard normal deviation usually 1.96 (constant)
P = prevalence, taken as 0.72 from a previous study done on male involvement in maternal care services [29].

Q = 1 – P (1 – 0.72) = 0.28
D = level of precision required = 0.05
N = estimated population size of 376
n = sample size to be used.

$$N = \frac{(1.96)^2 X\ 0.72\ X\ 0.28}{0.05^2}$$

N= 309
Adjusting the sample for a finite population size of less than 10,000;
$N^f = N/[1+(N/n)]$
Where N^f is the adjusted sample size when the population is less than 10,000 (finite).
N is the minimum sample size calculated (309)
n is the size of the population of interest/source population estimated at 376
$N^f = 309/[1+(309/376)]$
$N^f = 169.6$

However, to take care of those that may be lost due to non-submission of the questionnaire and to improve the reliability of the study results, the sample size was increased to 200.

Sampling technique
In this study, there were six outstations of the Nnamdi Azikiwe University Teaching Hospital. They were selected by stratified sampling technique. The six outstations were divided into two strata: "Outstations with Maternal Healthcare Services" and "Outstations without Maternal Healthcare Services." There are four outstations with maternal healthcare services and two without. Simple random sampling was used to select a sample from the four outstations that provide maternal healthcare services. Microsoft Excel was used to generate a table of random numbers used in the selection of participants. The participants were numbered 1-376 and randomly selected until a sample size of 200 was attained.

Data collection: Four research assistants who were midwives working in the outstations and had collected data for other studies were recruited to help with data collection. After a thorough explanation of the research purpose, ethics and most importantly the inclusion and exclusion criteria, the research assistants were trained on how to administer and complete the questionnaire. Prior consent had been obtained from the childbearing women before inviting their spouses to the clinics. The team members were introduced to the participants, rapport was established and explain the aims of the study and research protocol. The research team was able to communicate fluently in English and the local dialect (Igbo language). Consented male partners who met the inclusion criteria were selected.

Information was obtained through an interviewer-administered questionnaire. The questionnaire was divided into four (4) sections (A, B, C, and D). Section A assessed the socio-demographic data of the respondents. Section B assessed knowledge and attitude to male involvement in the utilization of maternal health services, featured questions to assess the expected role of men in their spouses' antenatal visit, delivery and other aspect of maternal health services. Section C assessed the practice of male involvement in the utilization of maternal health services and featured questions that assessed attendance to antenatal visits and postnatal visits, accompanying spouses to the hospital for delivery and presence in the labour room. Section D assessed factors that affect male involvement in the utilization of maternal health services.
The clinical state of the respondents was ascertained before the interview so that chronically ill men would be excluded.

Data analysis: Data was cleaned, coded and analysed using Statistical Package for Social Sciences (SPSS) version 24.0. Descriptive statistics were carried out using frequencies, percentages, means and standard deviation and results were presented with tables and charts. Associations between variables were sought

by cross-tabulating them and testing them using chi-square, a P value that is less than 0.05 was considered to be significant. Descriptive statistics was used to summarize variables like age, gender, education level, marital status, the number of antenatal visits and postnatal care attendance, attendance to antenatal and postnatal visits, accompanying to the hospital for delivery and presence in the labour room

Ethical consideration: The research work was done with permission from the Nnamdi Azikiwe University Teaching Hospital Ethical Committee (NAUTHEC), NAUTH/C5/66/VOL14/VER.3/95/2021/026. Subjects were also assured of utmost confidentiality to any information provided in the questionnaire and no names of the respondents were recorded in the questionnaire.

RESULTS

The results show that the mean age and standard derivation of the respondents in this study was 41.15±5.98 years. The majority have secondary education as the highest level of education (47%) and live with their spouse (94%).

The above table shows a chi-square test of association between some selected practices and level of male involvement variables and attendance to antenatal visits and postnatal visits, accompanying to the hospital for delivery and presence in the labour room.

Table 1: Showing the socio_demographic data of the study participants.

Variables	Frequency (n=200)	Percentage %
Age (years)		
<30	2	1.00
30-39	78	39.00
40-49	104	52.00
50 and above	16	8.00
Mean±SD 41.15 ± 5.98		
Highest level of education		
No formal education	14	7.00
Primary	20	10.00
Secondary	94	47.00
Tertiary	72	36.00
Marital status		
Married	196	98.00
Separated	4	2.00
Type of marriage		
Monogamous	200	100.00
Occupation		
Formally employed	38	19.00
Self-employed	142	71.00
Unemployed	20	10.00
Duration of marriage		
<1 year	16	8.00
1-5 years	84	42.00
>5 year	100	50.00
Do you live with your spouse?		
No	12	6.00
Yes	188	94.00
Total	**200**	**100**

Table 2: **Expected role of men in prenatal/antenatal care aspect of maternal health services**

Variable	Likert scale			Mean score	Remark
	Disagree (1)	Undecided (2)	Agree (3)		
Prenatal / antenatal care					
Ensure that the spouse gets proper Antenatal care	6 (3.0)	4 (2.0)	190 (95.0)	2.9	Accepted
Accompany the spouse in Antenatal care	110 (55.0)	22 (11.0)	68 (34.0)	1.7	Rejected
Learn about changes during pregnancy, pregnancy complications and danger signs.	42 (21.0)	16 (8.0)	142 (71.0)	2.5	Accepted
Ensure that the spouse receives good nutrition and adequate rest	0 (0.0)	0 (0.0)	200 (100.0)	3.0	Accepted
Assist spouse in planning delivery of the baby	2 (1.0)	4 (2.0)	194 (97.0)	2.9	Accepted
Provide transportation and finances for spouse antenatal visits	0 (0.0)	0 (0.0)	200 (100.0)	3	Accepted
Discuss maternal issues with the spouse	4 (2.0)	2 (1.0)	194 (97.0)	2.9	Accepted
Ensure spouse receives tetanus immunizations, malaria prophylaxis and other pregnancy routine drugs.	16 (8.0)	6 (3.0)	178 (89.0)	2.8	Accepted

Table 2 showed that most participants had a positive attitude towards the involvement of men in the utilization of antenatal care services except in accompanying a spouse to antenatal care.

Table 3: Expected role of men in the delivery aspect of maternal health services.

Variable	Likert scale			Mean score	Remark
	Disagree (1)	Undecided (2)	Agree (3)		
Delivery					
Ensure that delivery is taken by a trained and skilled attendant	20 (10.0)	24 (12.0)	156 (78.0)	2.6	Accepted
Pay for delivery services and arrange transport to the health facility for delivery	2 (1.0)	0 (0.0)	198 (99.0)	2.9	Accepted
Avoiding delays in deciding and seeking health care	0 (0.0)	0 (0.0)	200 (100.0)	3.0	Accepted
Supporting and encouraging the spouse during labour	0 (0.0)	4 (2.0)	196 (98.0)	2.9	Accepted
Being with the spouse in the delivery room	118 (59.0)	18 (9.0)	64 (32.0)	1.7	Rejected
Plan for emergency situations	22 (11.0)	36 (18.0)	142 (71.0)	2.6	Accepted

Table 3 showed that the majority of participants (59%) disagreed on being with the spouse in the delivery room as an expected role of men in delivery services, the majority of participants showed a positive attitude to other expecte d roles of men in delivery services as seen in the table.

Table 4: Expected role of men in the postnatal aspect of maternal health services

Variable	Likert scale			Mean score	Remark
	Disagree (1)	Undecided (2)	Agree (3)		
Post-natal care					
Males should help with heavy household chores during this period	22 (11.0)	4 (2.0)	174 (87.0)	2.7	Accepted
Ensure that the woman and the baby visit the doctor within 6 weeks of delivery	2 (1.0)	2 (1.0)	196 (98.0)	2.9	Accepted
Accompanies the woman with the baby to see the doctor within 6weeks of delivery	94 (47.0)	22 (11.0)	84 (42.0)	1.9	Rejected
Ensure that the child is breastfed and also receives all immunizations	0 (0.0)	2 (1.0)	198 (99.0)	2.9	Accepted

Table 4 showed that the majority of participants (47%) disagreed with accompanying spouses with the baby to see the doctor within 6 weeks of delivery.

Table 5.1: Showing practice and level of male involvement in utilization of maternal health services.

Variables	Frequency (n=200)	Percentage %
Did you assist your spouse during her last pregnancy?		
No	10	5.00
Yes	190	95.00
If YES, in what way? * (n=190)		
Discussion	150	78.95
Encouragement	120	63.16
Antenatal Visits	50	26.32
Avoiding heavy work	146	76.84
Provision of money	184	96.84
Who made the decision on where to attend antenatal care?		
Both members of the couple	88	44.00
Husband	58	29.00
Wife	54	27.00
Did you attend antenatal care (at least once) with your spouse during your last pregnancy?		
No	130	65.00
Yes	70	35.00
Did you assist your spouse during her last labour or delivery?		
No	16	8.0
Yes	184	92.0

Table 5.2: Showing practice and level of male involvement in utilization of maternal health services *contd*.

Variables	Frequency (n=200)	Percentage %
Made sure she was handled by a trained and skilled health worker	118	64.13
Paid all the expenses covering the delivery process	184	100.0
Who made the decision on where to give birth/deliver?		
Both couples	88	44.00
Husband	50	25.00
Wife	62	31.00
Were you present in the labour room with your wife during delivery?		
No	156	78.00
Yes	44	22.00
If NO, why? (n=156)		
It is culturally not allowed	2	1.28
Fear of observing the delivery process	22	14.10
Health workers don't allow men in the delivery room	72	46.15
Busy with work	76	48.72
Did you assist your spouse during her last postnatal (after birth) period?		
No	24	12.0
Yes	176	88.0
Did you accompany your spouse to seek care in the health facility within 6weeks after the delivery of the last baby?		
No	142	71.0
Yes	58	29.0
Yes	118	59.0

Table 5 shows that while the majority of men assisted their spouse during pregnancy (95%) only a few stayed with their woman during labour (25%).

Table 6: Showing factors/barriers that affect male involvement in the utilization of maternal health services.

Variables	Frequency (n=200)	Percentage %
Ridicule from friends does not allow men to accompany their spouse for antenatal, delivery and postnatal services.	**60**	**30.0**
In our culture, men are not allowed to accompan y their spouse to antenatal, delivery and postnatal care.	22	11.0
Men will be seen as controlled by their spouses if they escort their wives to antenatal, delivery and postnatal care.	88	44.0
Even if a woman is pregnant or just delivered, she still ha s to perform her normal duties in the house.	36	18.0
Long waiting time at the health facility.	146	73.0
The unwelcoming approach of health providers and refusal to carry the men along in the clinics and delivery activities by health providers	90	45.0
Lack of space/ facilities to accommodate male partners in the antenatal and postnatal clinics and delivery rooms.	118	59.0
The cost of health care prevents the men from accompanying their wives to the clinics and delivery.	22	11.0
The workload and busy schedule of the men prevents them from actively participating in maternal health services.	178	89.0
Lack of knowledge on the role of men in maternal health services	106	53.0
Rejection of assistance from female partners	86	43.0
Lack of appropriate policy that supports men's role. E. g. Paternity leave	56	28.0

Table 6 shows the barrier that affects male involvement in the utilization of maternal health services, with the highest identified factor being workload and busy schedule of men (89%) and the least being cultural factor and cost of health care factor (11%). Healthcare related factors also contributed significantly with the highest being the long waiting time at the health facility (73%).

Table 7: Chi-square analysis showing the relationship between socio-demographic variables and attendance to antenatal visits and postnatal visits, accompanying to hospital for delivery and presence in labour room (n=200).

Variable	ANC		p-value	Hospital		p-value	Labour room		p-value	Postnatal care		p-value
	No	Yes		No	Yes		No	Yes		No	Yes	
Age (years)												
<30	2 (1.0)	0 (0.0)		0 (0.0)	2 (1.0)		2 (1.0)	0 (0.0)		0 (0.0)	2 (1.0)	
30-39	44 (22.0)	34 (17.0)	0.007*	10 (5.0)	62 (31.0)	0.938	52 (26.0)	26 (13.0)	0.012*	48 (24.0)	30 (15.0)	0.007*
40-49	68 (34.0)	36 (18.0)		14 (7.0)	80 (40.0)		90 (45.0)	14 (7.0)		80 (40.0)	24 (12.0)	
50 and above	16 (8.0)	0 (0.0)		2 (1.0)	14 (7.0)		12 (6.0)	4 (2.0)		14 (7.0)	2 (1.0)	
Highest level of education												
No formal education	12 (6.0)	2 (1.0)		0 (0.0)	14 (7.0)		14 (7.0)	0 (0.0)		12 (6.0)	2 (1.0)	
Primary	16 (8.0)	4 (2.0)	0.021*	8 (4.0)	12(6.0)	0.002*	14 (7.0)	6 (3.0)	0.001*	20 (10.0)	0 (0.0)	<0.001*
Secondary	64 (32.0)	30 (15.0)		12 (6.0)	76 (38.0)		82 (41.0)	12 (6.0)		70 (35.0)	24 (12.0)	
Tertiary	38 (19.0)	34 (17.0)		6 (3.0)	56 (28.0)		46 (23.0)	26 (13.0)		40 (20.0)	32 (16.0)	
Occupation												
Formally employed	20 (10.0)	18 (9.0)		4 (2.0)	28 (14.0)		24 (12.0)	14 (7.0)		18 (9.0)	20 (10.0)	
Self-employed	102 (51.0)	40 (20.0)	0.004*	20 (10.0)	112 (56.0)	0.793	122 (61.0)	20 (10.0)	<0.001*	112 (56.0)	30 (15.0)	<0.001*
Unemployed	8 (4.0)	12 (6.0)		2 (1.0)	18 (9.0)		10 (5.0)	10 (5.0)		12 (6.0)	8 (4.0)	
Years of marriage (years)												
<1	8 (4.0)	8 (4.0)		8 (4.0)	66 (33.0)		10 (5.0)	6 (3.0)		10 (5.0)	6 (3.0)	
1-5	46 (23.0)	38 (19.0)	0.005*	2 (1.0)	14 (7.0)	*0.508*	58 (29.0)	26 (13.0)	0.002*	48 (24.0)	36 (18.0)	<0.001*
>5	76 (38.0)	24 (12.0)		16 (8.0)	78 (39.0)		88 (44.0)	12 (6.0)		84 (42.0)	16 (8.0)	
Number of children												
1-2	62 (31.0)	50 (25.0)		10 (5.0)	90 (45.0)		80 (40.0)	32 (16.0)		70 (35.0)	42 (21.0)	
3-4	48 (24.0)	18 (9.0)	0.002*	10 (5.0)	54 (27.0)	0.059	56 (28.0)	10 (5.0)	0.034*	56 (28)	10 (5.0)	0.006*
>=5	20 (10.0)	2 (1.0)		6 (3.0)	14 (7.0)		20 (10.0)	2 (1.0)		16 (8.0)	6 (3.0)	

/=significant p-value<0.05/*

Table 8: Chi -square analysis showing the relationship between practice and level of male involvement variables and attendance to antenatal visits and postnatal visits, accompanying to hospital for delivery and presence in labour room (n=200).

Variable	ANC		p-value	Hospital		p-value	Labour room		p-value	Postnatal care		p-value
	No	Yes		No	Yes		No	Yes		No	Yes	
Decision on where to attend ANC												
Both couples	42 (21.0)	46 (23.0)		4 (2.0)	74 (37.0)		60 (30.0)	28 (14.0)		58 (29.0)	30 (15.0)	
Husband	42 (21.0)	16 (8.0)	<0.001*	4 (2.0)	54 (27.0)	<0.001*	46 (23.0)	12 (6.0)	0.003*	44 (22.0)	14 (7.0)	0.364
Wife	46 (23.0)	8 (4.0)		18 (9.0)	30 (15.0)		50 (25.0)	4 (2.0)		40 (20.0)	14 (7.0)	
Decision on where to deliver												
Both couples	38 (19.0)	50 (25.0)		4 (2.0)	80 (40.0)		58 (29.0)	30 (15.0)		54 (27.0)	34 (17.0)	
Husband	36 (18.0)	14 (7.0)	<0.001*	4 (2.0)	46 (23.0)	<0.001*	40 (20.0)	10 (5.0)	<0.001*	40 (20.0)	10 (5.0)	0.028*
Wife	56 (28.0)	16 (8.0)		18 (9.0)	30 (15.0)		58 (29.0)	4 (2.0)		48 (24.0)	14 (7.0)	

/=significant p-value<0.05/*

From the derived results, there was a statistically significant difference between these associations; decision on where to deliver with attendance to antenatal visits and postnatal visits, accompanying to the hospital for delivery and presence in the labour room. There was also a statistically significant difference between the association of decision on where to attend ANC with attendance to antenatal visits, accompanying to the hospital for delivery and presence in the labour room.

However, there was no statistically significant difference between the association of decision on where to attend ANC with postnatal care.

DISCUSSION

In this study, there was a low level of involvement among the study participants. The majority of the respondents agreed to the named expected role of men in antenatal, delivery and postnatal services, except accompanying the spouse to antenatal visits, being with the spouse in the delivery room and accompanying the spouse to postnatal visits which 55%, 59% and 47% disagreed respectively. This positive attitude may be due to the fact that most respondents are literate and this is similar to the findings of Adenike et al, Omolola et al, Falade-Fatila and Adebayo despite different cultural backgrounds, geopolitical zones and statically considerations.[15,29,30]

Almost all the respondents in this study (98.7%) agreed about the important roles to play during and after pregnancy but only 92 (25.1%) agreed that men should attend ANC clinics with their wives. This also agreed with a study that was done in Ghana by Atuahene et al which showed that 81.6% of men have never accompanied their wives to Antenatal care.[31]

The practice and level of male involvement in the utilization of maternal health services show that a high percentage were indirectly involved in the antenatal, delivery and post-natal care of their wives, but only a few males were directly involved in the maternal health services of their spouses in terms of attending antenatal care visit with spouse (35%), accompanying the spouse to the hospital/health centre for delivery (85%), staying with her in the delivery room during labour (22%), attending a postnatal visit with her (29%). This is similar to the work done by Falade-fatila and Adebayo which showed that men are more indirectly involved than actual presence.[15]

This study agrees with a study done by Adenike et al on the perception, attitude and involvement of men in maternal health care which showed that only 24% and 27.1% of men have ever followed their wives to antenatal clinics and delivery rooms respectively.[30] This was also similar to a study done by Sharma and colleagues which discovered a strong consensus among men, about presence in the delivery room, except under exceptional circumstances.[32] This study showed that both men expressed similar expectations and socially accepted conventions around male involvement. This is not surprising, as socially constructed norms around gender remain a key obstacle to men's involvement in maternal and child care.

There was a low level of direct male involvement in this study as only 68 (34%), 64 (32%) and 84(42%) ever accompanied, stayed in the delivery room and followed their spouse to postnatal care respectively. These could be attributed to the several barriers which were highlighted in the results. However this was in contrast to the study done in Yangon, Myanmar by Wai et al and this disparity may be due to socio-cultural factors, Nigeria being a highly patriarchal society, men may be ridiculed and seen as controlled by their wives when they accompany them to these hospital visits.[33]

Concerning factors/ barriers that affect male involvement in the utilization of maternal health services among women of childbearing age. The result of this study showed that healthcare-associated factors affect male involvement in the utilization of maternal health services with long waiting time at the facility being the highest (73%) followed by lack of space/ facilities to accommodate male partners in the antenatal and postnatal clinics and the delivery room (59%). The socio-cultural factors identified husbands being seen as controlled by their spouse if they escort their wives to antenatal, delivery and postnatal care as the highest (44%), followed by ridicule from friends not allowing husbands to accompany their spouse to health facilities (30%). The other factors identified workload and busy schedule of men preventing them from active participation in maternal health services (89%) as the highest cause followed by a lack of knowledge on the role of men in maternal health

services (53%). These results are very similar to various studies done in Africa, especially in Nigeria which highlighted various socio-cultural, health care and economic factors, as well as ignorance and even rejection of assistance from spouse as barriers to male involvement in the utilization of maternal health services.[15,32,34] The most significant barrier found in this study is the workload and busy schedule of men, this was also what was discovered by Mbadugha et al in Enugu State.[35] Their study indicates that failure to incorporate men in maternal health promotion, prevention and care programs by policymakers, program planners, and implementers has had a serious impact on male involvement in the health of women including maternal health care.[36]

Association between socio-demographic factors and level of male involvement in the utilization of maternal health services showed there is a significant association between the age of males, their level of education, occupation, years of marriage, number of children, who made the decision on where to attend antenatal care and delivery and the level of male involvement in utilization of maternal health services of childbearing women. The younger men (aged 30-39years) were more involved in attending antenatal, delivery and postnatal visits with their spouse while the older men (aged 50-59years) were less likely to be involved, this is similar to a finding done by Annoon et al in Sekondi, Ghana on the perception of women on the socio-demographic barriers to ANC.[36] Also, men with secondary and tertiary education were significantly more involved in the utilization of maternal health services of childbearing women in Nnamdi Azikiwe University Teaching Hospital outstations, this is in agreement with similar studies done in Nigeria.[37]

This study also showed that in couples who have been married for less than 5 years, the males were significantly more involved in utilizing maternal health services than those whose marriage is more than 5 years, and also in couples with less number of children (1-2), the males were more significantly involved in utilizing maternal health services than those with more number children, with the lowest involvement seen in those with greater than 5 children. This is similar to the result of a cross-sectional study of men in a peri-urban region of Myanmar, South East Asia, to determine correlates of male involvement in maternal and newborn health conducted among 210 men in 2012 which showed that the number of children also exhibited a significant independent association in the multivariable model, with the odds of being involved in maternal and new-born health decreasing by 22 % for every additional child.[32\]

This study shows that decision-making on issues concerning maternal health services also influenced significant male involvement, with more male involvement seen when there is a couple of joint decision-making than when the decision was made by the husband or the wife

CONCLUSION

There was a low level of male involvement among the participants in this study. There was a positive attitude shown by the participants which indicates that if proper awareness campaigns are organized, men can improve their rate of involvement in the utilization of maternal health services.

Limitations of the study

The limitations of this study include using a cross-sectional design which can only capture a snapshot of data at a single point in time, limiting the ability to examine changes over time or establish causality. Also relying on self-reported data, participants may provide inaccurate or biased information unintentionally.

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Author contributions

S.I.E conceived and carried out the research, partcipated in protocol writing, data analysis, manuscript writing and review. A.I.M: implementation and revision of the manuscript. U.C.O conceived and carried out the research with the guidance of A.I.M. and S.I.E., participated in protocol writing and review of the manuscript. C.S.E was involved in the writing of the protocol as well as the review of the manuscript. A.L.O.N participated in manuscript writing and review. B.E.E was involved in the writing of the protocol as well as the review of the manuscript. G.I.U participated in manuscript writing and review. The authors read and approved the final manuscript and agreed to be accountable for all aspects of the work.

Data availability

The data used to support the findings of this study are available from the corresponding author upon reasonable request.

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