Male partners' involvement in maternal health: a community- based cross-sectional descriptive study in urban and rural settings in Anambra, Nigeria.

Abstract

Background: Maternal health indicators vary with the dynamics of care delivery and utilization. Active paternal support remains a key driving force towards efficient management of maternal health

Objective: To assess male partners' involvement in maternal health in Anambra State Nigeria.

Materials and methods: Multistage sampling technique wasere used in enrolling a cross-section of 372 male partners in urban and rural communities in Anambra Nigeria, into this survey. Semi- structured questionnaires were designed from relevant literatures, and administered by face to face interviews on consenting enrollees. Statistical analysis of data was done using Statistical Package for Social Sciences version 22, tests of association, by chi square at $p \leq 0.05$.

Results: Majority, 307 (82.5%) of respondents reported awareness of paternal role in maternal health, with the commonest sources of information as television, 145 (39%); radio 125 (33.4%); social media 115 (30.9%). Also, 301 (97%) respondents knew about paternal role, with financial support as the commonest form reported, 330(58.7%). They reported positive attitude to, and 302 (88%) high practice of male partners role in maternal health. Statistically significant associations were found between practices and age (p=<0.001) as well as occupation (p=<0.001).

Conclusions: This study finds apparently high awareness of, high knowledge of, positive attitude to, and high practice of paternal role in maternal health, which is associated with age and

occupation. There is need to sustain the reported levels of awareness, knowledge, attitude and practice of paternal role via quality assured need- targeted education on maternal health.

Keywords/phrases: Maternal health, male partners' role, Anambra state Nigeria, communities

1. Introduction

Overall maternal survival and curtailing of biases and dominance in power and relations pertaining to gender have been associated with levels of partner role (1). Achieving this goal; thus requires a state of complete physical, mental and social wellbeing in a woman during pregnancy, child delivery and the postpartum and not merely the absence of disease or infirmity (1). The target here is to reduce maternal morbidity and mortality by monitoring and ensuring that women remain healthy throughout pregnancy, averting impediments to the progress of labour, delivering safely to healthy babies and recovering fully and timely from the resultant physiological changes (2,3).

The World Health Organization (WHO) estimates that about 295,000 women die of pregnancy-related causes yearly (4), This figure is unacceptably high. Pregnancy and childbirth account for morbidity in 10 million women and 830 avoidable deaths, also in women (4). with 50-66% of these deaths occurring in sub-Saharan Africa including Nigeria (5).

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Despite the wide range in the administration of maternal health service strategies including free antenatal care, training of skilled birth attendants, Essential Obstetric Care (EOC), Conditional Cash Transfer, Community involvement (State and Community Health Insurance Scheme),

Home visits and Home Delivery Management as well as the availability of resources, the state of maternal health remains one of the worst in Africa as evidenced by prevailing maternal health indices (6).

The traditional trend is to view maternal health as a woman's issue (7). This has contributed to a narrow focus of targeting mostly women, [particularly mothers] in intervention efforts .Most maternal and child health (MCH) programme seek to address the health needs of women and children by engaging and educating pregnant women and mothers, in care- seeking practices for themselves and their children (7). Thus, males are often sidelined from reproductive health and MCH issues (7). In most contexts globally, males wield heavy influence on decisions regarding health care for women and children. Yet males are often unable to make informed choices in such matters as a result of their incessant exclusion from reproductive, maternal and child health services and education (8). The role of males in maternal health ranges in strategies from education, awareness and knowledge to evidence-based active participation (9) and in two dimensions (10). males as supportive partners in women's reproductive health needs, choices, and rights as well as male's own reproductive and sexual behaviors. Research suggests that efforts to engage males can positively influence birth spacing and use of contraceptives, reduces maternal workload during pregnancy, birth preparedness, postnatal care attendance, and couple communication and emotional support for women during pregnancy (11,12).

The United Nations Population Fund recognizes the importance of active inclusion of males in maternal health issues (13). Here, fathers and other males in the community facilitate access to better healthcare facilities and services for women and girls (14,15). A male is involved if he is

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present, accessible, available, understanding, willing to learn about the pregnancy process and willing to provide emotional, physical and financial support to the woman carrying the child (16,17,18). However, there remains a wide gap between male partner involvement policies and the actual involvement in maternal health (18). The maternal and child health policy document by the Anambra State government, describes the need for male partners involvement. ‘‘Anambra State saving one million lives,’’ was adopted as a strategy on the need to involve male partners in maternal health (19).

Information on male partners role in maternal health in Nigeria is backed by little published literature (7,21,22). It has particularly become apt to document the role of male partners on the aforementioned topic in our study area. The index study will help bridge knowledge gaps, guide recommendations and could be adapted in health policy formulations. Appropriate practical public health intervention strategies based on the study findings will be valuable to Non-governmental organizations ~~that their~~ whose project is based on maternal and child health. Also, the Federal Ministry of Health can apply the study findings as country wide approaches in improving maternal health. The current study thus set out to assess male partners’ involvement in maternal health in Anambra state, Nigeria.

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2. Materials and Methods

2.1 Study design: This is a community- based cross-sectional descriptive study, carried out from June 2021 to January, 2022

2.2 **The study area**

This research was conducted in Anambra state, Nigeria. Situated in the South Eastern part of the Country, the State covers an estimated land area of 4.865sqkm (20). The state is made up of three senatorial zones namely: Anambra Central, Anambra North and Anambra South. 21 Local Government Areas (7 urban and 17 rural) and about 177 communities (20). Its State Capital is Awka. Anambra has a population of 5,527,800 persons (20). The people of Anambra state are mostly business men and women, civil servants and farmers.

Data collection employed a questionnaire designed from relevant literature (7,9,10,21,22,23,24). This consisted~~s~~ of five sections a) socio- demographics of respondents- e.g. age, marital status, highest level of education, occupation, b) knowledge of male partners' involvement in maternal health among respondents, c) attitude to male partners' involvement in maternal health, d) practice of male partners' involvement in maternal health, e) perceived barriers to male partners' involvement in maternal health.

2.3 Study participants:

The target population comprised ~~of~~s males in relationships and have been resident in communities in the State.

2.3.1 Inclusion criteria: Males, resident in the communities for at least one year, who were up to 25 years of age, in relationship and had at least one child for at least six months prior to this survey, had accessed care for at least two times at the clinic (This allows adequate time for issues related to male involvement, if any, to have manifested). And directly or indirectly influence decisions on maternal health.

2.3.2 Exclusion criteria: Such males as above, whose conditions may affect their participation in this survey. E.g. the deaf and dumb. Also, those who declined full informed consent to participating in the study

2.4 **Variables**

The dependent outcome variable for this study is male involvement (knowledge, attitude, practice and barriers), while the independent variables are: Socio- demographics - age, marital status, ethnicity, religion, highest level of education attained, occupation and monthly income.

2.5 Data sources/measurement

Frequencies, percentages and rates of the variables.

2.6 Bias: The questions could appear sensitive to some participants and could lead to reporting bias. Assuring participants of strict confidentiality of the responses they made and the anonymity of study tools reduces these effects.

2.7 Study size

2.7.1 Sample size determination: The sample size was determined based on the sample size formula for cross-sectional studies in populations greater than 10,000 stated thus (25): $n=Z^2pq/d^2$, where n= minimum sample size; Z=Standard normal deviate set at 1.96 (95% confidence interval); p = prevalence of male involvement in maternal health. Mbadugha, *et al.*, (18), reported 39% of respondents who remindeds their partners of theier medications, antenatal visits and other examinations in Achara Enugu South LGA of Enugu State, while q=1-p, i.e. p=0.39 and q=0.61, with d = Maximum allowable error (5% = 0.05) (25). The minimum sample size calculated (nf) = 366 male partners.

2.7.2 Sampling technique: This survey adopted and used multistage sampling technique. Firstly, stratified sampling technique was used to split the State into three on the basis of the senatorial

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zones thus; Anambra North, Anambra Central and Anambra South. Secondly, stratified sampling technique was used to split the senatorial zones into local government areas (further split into Urban, and Rural). Thirdly, Simple random sampling technique by balloting, was used to select six LGAs (one Urban, one Rural respectively, per Senatorial zone thus: North – (Onitsha North and Oyi); Central- (Awka south and Njikoka); South- (Nnewi North, Orumba North). Fourthly, Simple random sampling technique by balloting, was used to select six communities (one per LGA). The study was conducted during select monthly meetings of the communities chosen. Then using systematic random sampling technique, with the town union register as the sampling frame. A sampling fraction was determined by dividing the number of monthly meeting attendees on each data collection day by the minimum number of monthly meeting attendees to be interviewed. Then, every 5^{th} eligible consenting monthly meeting attendee was enrolled into this study and interviewed consecutively, adopting complete enumeration, until the target sample size was attained. However, 372 questionnaires were administered.

2.8. Data collection

Data were collected using pre-tested, interviewer-administered semi-structured questionnaire. To ensure data quality, training of data collection team, field monitoring and day end reviews were done.

2.9 Data Management and Analysis

2.9.1. Statistical methods: The data were reviewed, entered into the computer and cleaned via range and consistency checks. Descriptive and analytical statistics of the data were carried out using statistical package for social sciences (SPSS) Windows version 22.0 (26). Quantitative data obtained, were analysed by computing frequency tables, presented as simple frequencies

and percentages. Bivariate analysis using chi-square tests was used to determine associations between variables, with level of significance set at < 0.05.

2.10. Pre-test

Pre-test wais conducted on 20 male partners who were not enrolled in this study. Reliability of the research tool was ensured using test-retest method and the outcome was, used to modify the tool.

3. Results

Three hundred and seventy-two respondents were interviewed. All the questionnaires were completely filled, returned and analysed, giving a response rate of 100%. Table 1 summarizes some socio-demographic characteristics of the respondents. The study revealed that some summary indices in years: Mean age, 45.5; Median age 44; Standard deviation, 14.1, Variance, 198.6; Minimum age,18 and Maximum age: 80 years respectively. The modal age group was 36-45, 98 (26.3%). Majority of respondents 230 61.8%) were currently married, 292 (78.5%), attained at least secondary level of education, and 201 (54%) earned at least N50,000 per month.

Table 2 shows knowledge of male partners' involvement in maternal health among respondents. Majority, 307 (82.5%) of respondents have heard of male partners' involvement in maternal health. The commonest sources of information on male partners' involvement in maternal health include: television, 145 (39%); radio 125 (33.4%); social media 115 (30.9%). Three hundred and thirty-two (89%) respondents reported that male partners should follow their female partners to maternal health services and majority 207 (71.8$), were specific on delivery services, followed by 167 (44.9%) for antenatal care services, then 164 (44.1%) for family planning services. Also,

301 (97%) respondents knew that males should support their female partners, with the commonest form of support reported being 330(58.7%) financial.

Table 3 summarizes the attitude of the respondents to male involvement in maternal health. The respondents reported positively towards their involvement in maternal health, thus: 189 (50.8%) males as decision makers in maternal health; 310 (83.3%) routine appointment; 323 (86.8%) routine medication; Three hundred and nineteen (82.8%) were positive that males should attend maternal health services, while regarding the components, they reported thus; males should attend maternal services, 319 (85%); Antenatal care, 179 (48.1%); Delivery, 263 (70.7%); Post-partum, 108 (29%) and Family planning, 145 (39.1%). Then, the following reported in the positive for these questions on knowledge: should female relatives be allowed to accompany partner? 325 (87.4%); Is there any stigma or discrimination when male partners are involved in maternal health, 122 (32.8%); Is there need for preparation before delivery? 337 (90.6%); Does your wife resume house chores? 190 (51.1%); Do you make money available as family budget? 331 (89%); Are there any socio-cultural factors influencing male involvement? 70 (18.8); Do you know or ask expected date of delivery? 331 (89%); Buy things in anticipation of arrival of baby, 349 (93.8%).

Figure 1 shows the reported practice of male involvement in maternal health. Three hundred and twenty (88%) of respondents reported practice of male involvement in maternal health.

Figure 2 shows component specific areas of male involvement in maternal health. These areas include: (44.1%) Antenatal, (25.3%) Delivery, (30.9%) Post-natal, (39.4%) Family planning.

Table 4 highlights the perceived barriers to male partners' involvement in maternal health. The following proportions of respondents, strongly agree to these as barriers to male partners' involvement in maternal health: tight work schedule 73 (19.6%), My religious belief/background

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14 (3.8%), refusal of assistance 39 (10.4%), My cultural practices/ beliefs 34(9.1%), Poor knowledge on the role of male partner 179 (48.1%).

Table 5 summarizes association between practice of male involvement and socio-demographic profile There are statistically significant associations between practice of male partner involvement in maternal health among respondents and age ($\chi 2$ =23.775, p=<0.001) and occupation ($\chi 2$ =21.099, p=<0.001)

4. Discussion

This cross-sectional descriptive study assesses male partners' involvement in maternal health at the community level in Anambra State Nigeria. The present study shows that findings on select socio- demographics, which include: summary indices such as mean , median, modal class, standard deviation, variance, minimum and maximum for ages in years among participants (male partners) respectively; proportion of the currently married; those that have tertiary level of education and monthly income of participants, are in tandem with reports of related studies (1,7,9,10,21). For example, reports elsewhere suggested that an appreciably higher proportion of the participants in the reference studies were married during the periods of the studies

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The current study determines the knowledge of male partners' involvement in maternal health among participants. From the findings, majority, about eight in every ten participants reported awareness of male partners' involvement in maternal health. This finding agrees with the finding in Osogbo southwest Nigeria, where 98.9% of male partners reported awareness of the need of maternal health generally, while 81.4% of this same group understands their role in the subject matter under discussion (27). Also, from the index study, the commonest sources of the reported

awareness on male partners' involvement in maternal health were media- based- television, radio; social media, then town meetings. With proliferation of the media- mass media like television, radio stations, etc., and social media like WhatsApp, Tik tok, Facebook, etc., important information such as ideas of maternal health care services are made easily accessible to the people (28,29) . It is thus imperative to sustain the effect of the sources in this instance by assuring the quality and content of media messages as well as those delivered during town meetings and the reinforcing of same.

The current study reports that almost ninety percent of participants were in the know that male partners should accompany their female partners to centres for maternal health services. Considering specific components of maternal health services, close to seventy percent were particular about delivery services, then antenatal care services. Also, virtually all the participants reported they knew that males should support their female partners, with the commonest form of support being financial. These findings are in tandem with the findings in Nigeria and elsewhere (17,21,30).

In furtherance to the assessment of participants, the current research summarizes their attitude to male involvement in maternal health. The participants reported positively towards their involvement in maternal health, thus: 50.8% males as decision makers in maternal health, 83.3% routine appointment; 86.8% routine medication; Also, 82.8% were positive that males should attend maternal health services, while regarding the component specifics, the reports ran thus; males should attend maternal health services, 85%, Antenatal, 48.1%; Delivery, 70.7%; Post-delivery, 29% and Family planning, 39.1%. These findings of the index study, draw comparative

similarities (29,31,32) and differences (33,34) from reports of other studies. This could be interpreted in the light of the consistencies and variations in study methodologies; study settings- community versus facility- based (35), study designs- cross-sectional descriptive versus prospective (36) or randomized controlled trial (8), study subjects- male partners versus female proxy-participants (35), data collection methods- quantitative versus qualitative (12,16,37). This has obvious strengths and limitations that should be put in perspective while interpreting the findings of this study. It thus, emphasizes the stated need by stakeholders for attitudinal development, sustenance and educating the people via behavioral change communication strategies on the benefits of male partners' active involvement in maternal health. This no doubt is a proven cost- effective intervention tool in encouraging males to be fully involved in and supportive of female's reproductive health needs, choices and rights, addressing male's reproductive health needs, as well as spousal sexual behaviors (8,38,39).

The present study also assesses the reported practices of male involvement in maternal health. Almost nine in ten participants reported practice of male involvement in maternal health. Though there is dearth of studies on reported level of male partners involvement in maternal health generally, studies have concentrated relatively on male involvement in antenatal care. Such scenarios were encouraged by health promotion activities incorporated in antenatal care by ensuring male partners' involvement, motivated via offering incentives such as the gift of free long- lasting insecticide treated bed nets (LLITNs) in prevention of malaria in pregnancy services (30,40,41). However, in North-eastern Nigeria a lesser proportion (65.4%) of male partners attended antenatal care (21). Though this study was limited by not specifying the extent of practices of male involvement as regards the components of maternal health care, findings

elsewhere on male partners' involvement during labour and delivery ranged from 27.1% in Nigeria (9) to 36.6% in Ghana (42), while male partners involvement in postpartum care ranged from less than a quarter of male participants in Ghana (42) to 29% in Nigeria (9) . Further studies are thus warranted, more so with the consideration that male partner's involvement in maternal health necessitates the expansion of in-depth understanding and awareness of the male partner's health perceptions, performance and practices.

Findings from the index study show component specific areas of male involvement in maternal health. These areas in decreasing order of frequency are: Antenatal care, Delivery, Post-natal, then Family planning. Since most reports are on antenatal care and general maternal health, with apparently no report in literature to corroborate or negate the index finding, it is key that these citations on the components of maternal health~~,~~ need validation

Furthermore, the findings of the index and reference studies highlight~~s~~ the perceived barriers to male partners' involvement in maternal health. The following proportions of participants, strongly agree to these as barriers to male partners involvement in maternal health: Tight work schedule 19.6%, My religious belief/background 3.8%, refusal of assistance 10.4%. My cultural practice and belief 9.1%, Poor knowledge on the role of male partner 48.1%. Some of these findings can be extrapolated from the findings of several studies (29,43,44,45,46). B~~b~~ut for considerable paucity in supportive literature, further studies are recommended to validate these findings.

Finally, in the current study, the bivariate analysis examines and summarizes the statistically significant association between practice of male partners' involvement and socio-demographic variable- in this instance: age and occupation respectively. This finding is consistent with the findings of previous studies here and elsewhere showing evidence and support on associations among select variables (34,35,36,37). In similar inferences, involvement of male partner in maternal health, age is an essential determinant for the use of antenatal care services (32) Also, job holders rather than the unemployed use the maternal health services (32) Kwansa reported that working male partners demonstrate more active involvement in childcare and share domestic duties with their partners (47). However, male partners' employment situation has been noted as constraints to attending antenatal clinics (48). The study setting is male dominated, and male counterparts are regularly the principal decision makers, even on health issues (49). The researcher thus suggests that relevant stakeholders ensure careful considerations of these determinants and deterrents in the provision of quality support systems in maternal health care. This would help boost the participation of male partners in maternal health and thus positively affect processes such as input to health policy formulations, implementation in health service delivery and outcome in maternal health (34).

Limitations and strength of the Study: The possibility of reporting bias exists in this study as the participants may have reported involvement in maternal health when they know a study was on. This was however overcome by assuring them of the confidentiality of the study and that the aim of the study was to improve the male partners' involvement and not for fault finding. A mix method could have helped to provide a more in-depth view of the male partners' involvement to further explore the beliefs and attitudes of the study participants. This could have given the study

participants opportunity to freely express themselves, understand outcome variations.and to gauge and complement the findings of the index survey. Further studies are thus warranted.

The strengths of this study include: the 100% response rate obtained, pre-testing of study instrument to standardise it. The strength of this study lies in the fact that it is a community-based study. The studied population is representative of the general population, including the rural and urban settings in the State.

4.1 Conclusions

This study found apparently high awareness of male partners' involvement in maternal health, with the media as key sources of information on male partners' involvement in maternal health. e.g. television, radio and social media., with the commonest form of support reported being financial. Also, the reported attitude to and practice of male involvement in maternal health, were apparently high, while the perceived barriers to male partners' involvement in maternal health include; tight work schedule, religious belief/background, refusal of assistance, cultural practice and belief, poor knowledge on the role of male partner. The~~ir~~ practice of male partners' involvement in maternal health was influenced by age and occupation.

Based on the above, we recommend improved multi- sectoral and need based programs and strategies on male partners' involvement in maternal health with full collaboration among the community, government and private sectors. All tiers of government should muster strong political will and rational decision making in developing synergy with stakeholders towards re-enforcing public awareness about male partners' involvement in maternal health through efficient and viable channels such as the media, so as to improve and sustain their awareness,

level of knowledge of, attitude to and standard practices on male partners' involvement in maternal health, through comprehensive positive attitudinal change education in Maternal Health, quality,, need- based multi-sectoral approach cum collaboration among relevant stakeholders to intensify the effect of behavioral change interventions that target socio-demographic differences in enhancing levels of male partners involvement in maternal health. Communities, governments and funding partners of maternal health, should establish the needed support for couples whose female counterpart were of reproductive ages. This will also help to channel the positive attitude to male partners' involvement in maternal health.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Consent: As per international standard or university standard, the participants' written full informed consent for the conduct and publication of this study has been collected and preserved. Study participants were assured of confidentiality and that they were free to refuse or withdraw from the study at any time without any penalty. The study's aim and objectives were explained to each participant prior to interview

Ethical approval: The study has been examined and approved by the Nnamdi Azikiwe University Teaching Hospital Ethical Committee and the College of Postgraduate Studies, Nnamdi Azikiwe University. Permission to conduct and publish the study was sought and obtained from the relevant authorities All authors hereby declare that the study has been performed as per University standard, or international ethical standards laid down in the 1964 Declaration of Helsinki.

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Tables and figures

Table 1**: Select socio-demographic characteristics of the Respondents**

Variable		Frequency (N = 372)	Percentage (%)
Age (in years)	≤ 25	26	7.0
	26 – 35	68	18.3
	36 – 45	98	26.3
	46 – 55	87	23.4
	56 – 65	56	15.1
	> 65	37	9.9
Mean age, 45.5; Median age 44; Standarddeviation,14.1, Variance, 198.6; Minimum age, 18 Maximum age : 80			
Highest Level of Education			
	No Formal Education	32	8.6
	Primary	48	12.9
	Secondary	91	24.5
	Tertiary	201	54.0
Tribe	Ibo	349	93.8
	Hausa	8	2.2
	Yoruba	15	4.0

Religion	Roman Catholic	213	57.3
	Protestant	73	19.6
	Pentecostal	73	19.6
	Moslem	9	2.4
	Traditional	4	1.1
Marital Status	Currently Married	230	61.8
	Cohabiting	24	6.5
	Never Married	38	10.2
	Widowed	41	11.0
	Separated	26	7.0
	Divorced	13	3.5
Occupation	Junior Civil Servant	48	12.9
	Senior Civil Servant	163	43.8
	Petty Trading	46	12.4
	Big Business	75	20.2
	Artisan	40	10.8
Income	< N5000	13	3.5
	N5000 – N9,999	34	9.1
	N10,000 – N49,999	124	33.3
	N50,000 – N99,999	106	28.5
	≥ N100,000	95	25.5

Table 2: **Knowledge of male involvement in maternal health services**

Variable		Frequency (N = 372)	Percentage (%)
Have you heard of male involvement in maternal health	YES	307	82.5
	NO	65	17.5
Sources of information: (n= 307)**	Radio	125	33.4
	Television	145	39.0
	Church	97	26.1
	Friend	97	26.1
	Relative	111	29.8
	Social Media	115	30.9
	Town Meeting	89	23.9
	School	53	14.2
Should male partners follow their female partners to maternal services?	YES	331	89.0
	NO	41	11.0
If YES,	Antenatal	167	44.9
	Delivery	267	71.8
	Post Delivery	125	33.6

	Family Planning	164	44.1
Should males offer support their female folks	YES	361	97.0
	NO	11	3.0
If YES,	Emotional	237	63.7
	Financial	330	88.7
	Physical	118	31.7
	In Normal cases	103	27.7
	Emergencies	111	30.0

* multiple responses apply

Table 3: Attitude of the Respondents to the Male involvement

Variable		Frequency (N = 372)	Percentage (%)
Males should be in charge of decision making regarding maternal health	YES	189	50.8
	NO	183	49.2
Remind appointment	YES	310	83.3
	NO	62	16.7
Remind medication	YES	323	86.8
	NO	49	13.2
Males should attend maternal services	YES	319	85.8
	NO	53	14.2
Antenatal Care (ANC)	YES	179	48.1
	NO	193	51.9
Delivery	YES	263	70.7
	NO	109	29.3

Post Delivery	YES	108	29.0
	NO	264	71.0
Family Planning	YES	145	39.1
	NO	226	60.9
Should female relatives be allowed to accompany partner?	YES	325	87.4
	NO	45	12.6
Any stigma or discrimination when males accompany their female partners	YES	122	32.8
	NO	250	67.2
Is there need for preparation before delivery	YES	337	90.6
	NO	35	9.4
Does your wife resume house chores after delivery	YES	190	51.1
	NO	182	48.9
Do you make money available as family budget	YES	331	89.0
	NO	41	11.0
Are there any socio-cultural factors affecting male partners role in maternal health	YES	70	18.8
	NO	302	81.2
Know or ask expected date of delivery	YES	331	89.0
	NO	41	11.0
Buy things in anticipation of arrival of delivery of the baby	YES	349	93.8
	NO	23	6.2

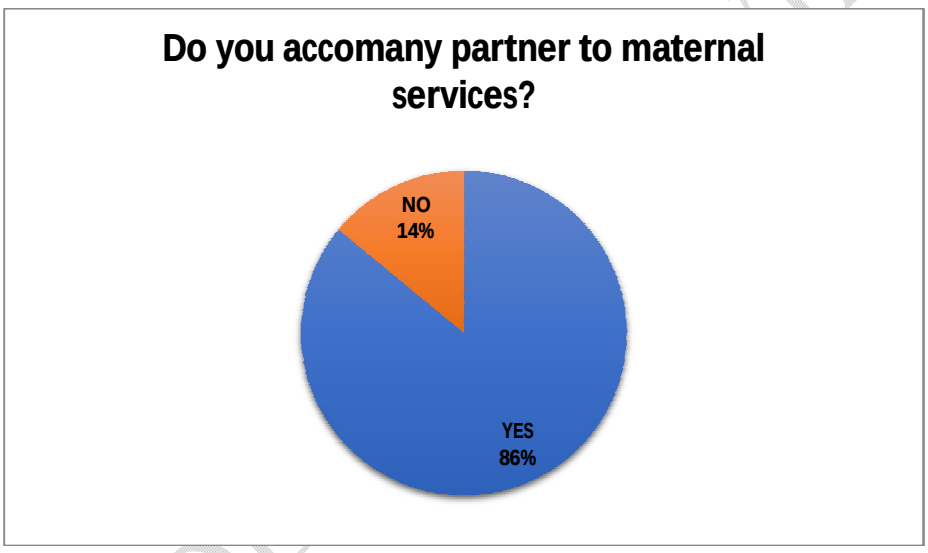

Figure 1: **Practice of male involvement in maternal health services.**

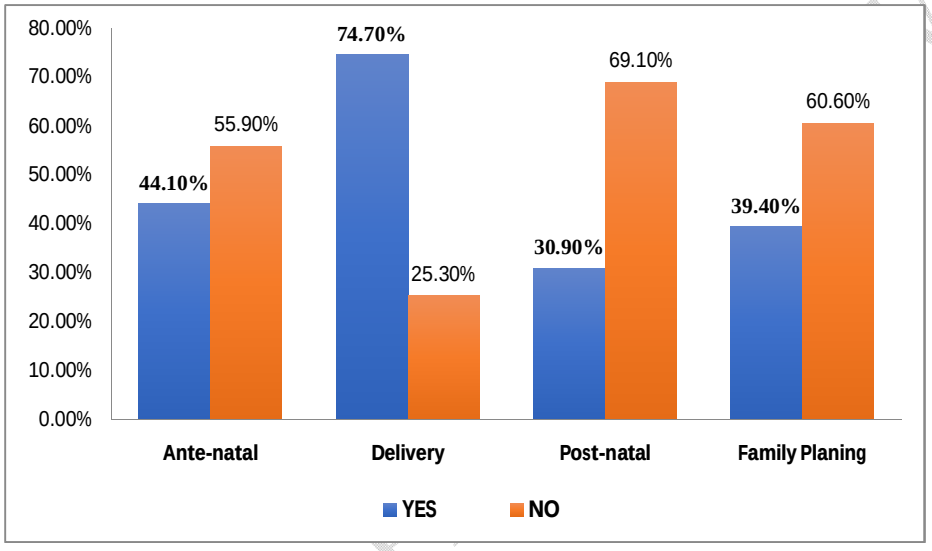

Figure 2: **Areas of male partner involvement in maternal health.**

Table 4: Perceived barriers to male partners involvement in maternal health

	Strongly Agree (%)	Agree (%)	Disagree (%)	Strongly Disagree (%)	Total (%)
Tight work schedule does not allow male role	73 (19.6)	86 (23.1)	98 (26.3)	115 (30.9)	372 (100)
My religious belief/background does not support male involvement	14 (3.8)	29 (7.8)	161 (43.3)	168 (45.2)	372 (100)
Refusal for assistance from the males	39 (10.5)	166 (44.6)	97 (26.1)	70 (18.8)	372 (100)
My cultural practice and belief do not support male involvement	34 (9.1)	47 (12.6)	121 (32.5)	170 (45.7)	372 (100)
Poor knowledge on the role of male partner	179 (48.1)	93 (25.0)	64 (17.2)	36 (9.7)	372 (100)

Table 5**: Association between practice of male partners involvement and socio-demographic profile**

Variables		Accompany partner for maternal services		χ^2	p-value
		YES (%)	NO (%)		
Age (in years)	≤ 25	15 (57.7)	11 (42.3)	23.775	< 0.001
	26 – 35	56 (82.4)	12 (17.6)		
	36 – 45	89 (90.8)	9 (9.2)		
	46 – 55	81 (93.1)	6 (6.9)		

	56 – 65	48 (85.7)	8 (14.3)		
	> 65	31 (83.8)	6 (16.2)		
Occupation	Junior Civil Servant	41 (85.4)	7 (14.6)	21.090	< 0.001
	Senior Civil Servant	148 (90.8)	15 (9.2)		
	Petty Trading	30 (65.2)	16 (34.8)		
	Big Business	64 (85.3)	11 (14.7)		
	Artisan	37 (92.5)	3 (7.5)		
Highest Level of Education	NFE	23 (71.9)	9 (28.1)	6.687	0.080
	Primary	40 (83.3)	8 (16.7)		
	Secondary	81 (89.0)	10 (11.0)		
	Tertiary	176 (87.6)	25 (12.4)		
Income status	< N5000	10 (96.9)	3 (23.1)	1.935	0.751
	N5000 – N9,999	28 (82.4)	6 (17.6)		
	N10,000 – N49,999	106 (85.5)	18 (14.5)		
	N50,000 – N99,999	94 (88.7)	12 (11.3)		
	≥ N100,000	82 (86.3)	13(13.7)		

NFE = Non formal education