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Birth Preparedness, Complication Readiness and Fathers' Participation in Maternity Care in a Northern Nigerian Community

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ABSTRACT

The role of men in maternity care in Africa is understudied, despite their economic dominance and decision making power. In a patriarchal society like northern Nigeria, pregnancy and childbirth are often regarded as exclusively women's affairs. Using data from interviewer administered questionnaires and in-depth interviews; we assessed birth preparedness, complication readiness and male participation in maternity care in Ungogo, a northern Nigerian community. Majority of pregnancies were unplanned (96%). Only 32.1% of men ever accompanied their spouses for maternity care. There was very little preparation for skilled assistance during delivery (6.2%), savings for emergencies (19.5%) or transportation during labour (24.2%). Young paternal age (adjusted odds ratio [AOR] = 1.5, 95% confidence interval [CI]=1.2-2.6), formal education (AOR=1.9, 95%CI=1.1-3.4) and non-Hausa Fulani ethnicity (AOR=2.3, 95%CI=1.4-3.3) were independent predictors of male participation in maternity care. There is a need to increase involvement of men in their partner's maternity care through peer-led, culturally-sensitive community education and appropriate health system reforms (Afr J Reprod Health 2010; 14[1]:21-32).

RÉSUMÉ

Etat de preparation pour l'accouchement, pour les complications et la participation du pere aux soins de maternité dans une communauté au nord du Nigeria. On a peu étudié le rôle des hommes dans les soins de maternité en Afrique malgré leur dominance économique et leur pouvoir de prendre des décisions. Dans une société patriarcale tel que le nord du Nigéria on a souvent considéré que la grossesse et l'accouchement sont exclusivement des affaires des femmes. A l'aide des questionnaires administrés par l'enquêteur et des interviews en profondeur, nous avons évalué l'état de préparation pour l'accouchement, pour les complications et la participation des hommes aux soins de maternité à Ungoro, une communauté qui se trouve au nord du Nigéria. La plupart des grossesses n'étaient pas planifiées (96%). Il n'y avait que 32,1% des hommes qui avaient jamais accompagné leurs femmes à la maternité. Il y avait très peu de préparation pour l'assistance professionnelle pendant l'accouchement (6,2%), peu d'économies pour les cas d'urgence (19,5%) ou pour le transport pendant le travail (24,2%). Le jeune âge paternel, les proportions des chances ajustés (PCA) = 1,5, 95% de l'intervalle de confiance [CI] = 1,2 - 2, 6, l'éducation formelle (PAC = 1,9, 95% (CI = 1,1 - 3,4 et le groupe qui n'appartient pas au groupe ethnique haoussa-fulani (PCA = 2,3, 95% (CF = 1,4 - 3,3, constituaient des indices indépendants de la participation masculine au soin de maternité. Il est nécessaire d'augmenter la participation des hommes aux soins de maternité de leurs partenaires à travers une éducation de la communauté qui est dirigée par les pairs et qui est culturellement sensible et à travers des reformes du système de santé appropriées (Afr J Reprod Health 2010; 14[1]:21-32).

KEYWORDS: Men, Maternity care, Northern Nigeria, Birth preparedness, Complication readiness

Introduction

Globally, more than half a million women still die annually as a result of complications of pregnancy and childbirth.¹ A disproportionately high burden of these deaths is borne by developing countries, including Nigeria. With maternal mortality ratio of 1,500 per 100,000 births and an estimated 55,000 deaths annually, Nigeria accounts for nearly 10% of the global estimates of maternal mortality.² Within Nigeria the northwest zone has one of the worst maternal mortality ratios in the world.³ In order to address this disturbing trend, the International Conference on Population and Development (ICPD) urged that special efforts should be made to emphasize men's shared responsibility and promote their active involvement in maternity care.⁴ In spite of this, pregnancy and childbirth continue to be regarded as exclusively women's affairs in most African countries. Men generally do not accompany their wives for antenatal care and are not expected to be in the labour room during delivery.⁵ However, men are socially and economically dominant especially in northern Nigeria; they exert a strong influence over their wives, determining the timing and conditions of sexual relations, family size, and access to health care. This situation makes men critical partners for the improvement of maternal health and reduction of maternal mortality. Strategies for involving men include raising their awareness about emergency obstetric conditions, and engaging them in birth preparedness and complication readiness.⁶ This is based on the premise that increased awareness of men will enable their support for early spousal utilization of emergency obstetric services. Similarly, preparing for birth and being ready for complications could reduce all three phases of delay⁷ and thereby positively impact birth outcomes.

Birth-preparedness and complication readiness is a comprehensive strategy aimed at promoting the timely utilization of skilled maternal and neonatal health care. The key elements include: knowledge of danger signs; plan for where to give birth; plan for a birth attendant; plan for transportation and plan for

saving money.⁶ In addition, a potential blood donor and a decision maker needs to be identified. This is because every pregnant woman faces the risk of sudden, unpredictable complications that could end in death or injury to herself or to her infant.⁶

Studies on the participation of men in maternal care have been reported mostly from southern part of Nigeria.^{8,9} Odimegwu and colleagues⁸ reported a high level of awareness and participation of men in maternity care in Osun state. Likewise, Morhason-Bello and others⁹ reported that 86% of antenatal clients in University College Hospital, Ibadan, preferred their husbands as companions during labour while only 7% and 5% favored their mothers and siblings respectively. However, little such research^{10,11} has been conducted in northern Nigeria—a culturally distinct region contributing disproportionately to the country's high maternal mortality ratio. The aim of this study was therefore, to assess men's perception of high risk pregnancy and danger signs; birth preparedness and complication readiness, and participation in maternity care. In addition, the attitude of their wives towards such participation was also assessed. The study was conducted in a semi-urban community of Ungogo on the outskirts of Kano city in northern Nigeria. This study will shed light on men's participation in maternity care and provide information for the development of culturally sensitive strategies for inclusion of men in maternal health care delivery in northern Nigeria.

Methods

Study Design and Population

The study was carried out on married men resident in Ungogo town, the headquarters of Ungogo local government area (LGA), one of forty-four LGAs of Kano State, Nigeria. This semi-urban Hausa community has a projected population of 250,808 people.¹² The majority are Muslims who subsist through farming or petty trading. About 34% of the population is literate. It is bounded to the north by Dawakin Tofa LGA, to the east by Minjibir, to the south by

Nassarawa/Fagge and to the west by Gwale/Tofa LGAs respectively. Ungogo LGA has eleven health districts and forty-eight wards. The majority of the inhabitants are Hausa/Fulani. However, other Nigerian tribes like Igbo, Yoruba and Ebira are also well represented. The local government has eleven health centers, one each located in the eleven health districts. In addition, there is a general hospital and numerous health posts. The health facilities are staffed by nurses, midwives, community health extension workers and community health officers. The health care centers offer maternal and child health services, including family planning. The General hospital provides 24 hour assisted delivery and emergency obstetric care while the lower levels of care conduct normal deliveries and refer complicated cases to the General hospital. Other patients requiring specialist care are referred to Murtala Mohammed Specialist Hospital, Kano, Nigeria and occasionally to Aminu Kano Teaching Hospital, Kano, Nigeria.

Study design and sampling

The survey was descriptive and cross-sectional. A sample size of 400 was obtained using the hypothesis testing method²⁰ and based on the following assumptions: 95% confidence level, findings from a previous study¹⁴ and a 5% margin of error.

A multistage sampling technique was used for the selection of respondents. After house numbering, a total of 400 houses were selected from the 11 health districts. The number of houses sampled was proportional to the number of houses in each district. Therefore, 42, 31, 36, 38, 34, 41, 31, 28, 44, 36 and 39 houses were selected from the different districts using the systematic sampling technique with the starting point obtained using a random number table. Where >1 household was found in a house, one was selected by a single one-time ballot. Finally, eligible men (and their wives or most senior wife) in the sampled household were approached to participate in the study. These were men whose wife/wives have ever been pregnant.

Instrument Description/Data Collection

Two methods of data collection were used in this study. This included the administration of questionnaires on married men and conduct of in-depth interviews (IDI) with community leaders. The later was mainly to elicit reasons for low participation of husbands in maternity care. Informed consent was obtained from prospective respondents prior to commencement of the interviews. The content of the consent form was translated into local language (Hausa). Literate respondents indicated acceptance by signing the consent form, while illiterate participants used a thumbprint. Approval for the study was obtained from the Institutional Review Board at Aminu Kano Teaching Hospital, Nigeria.

A pre-tested, structured, interviewer administered questionnaire containing both open and closed-ended questions was used. The questionnaire was adapted from the survey tools developed by JHPIEGO Maternal and Neonatal Health Program.²⁶ It was divided into four parts. The first section inquired about personal data, including age, occupation, ethnicity, religion and educational level. The second part elicited information about perception of high risk pregnancy and danger signs during pregnancy. The third section assessed birth preparedness and complication readiness while the fourth part inquired about participation of men and spousal attitudes towards those issues. The questionnaire was pre-tested and revalidated at Kumbotso (a town with similar characteristics to the study area). Some of the questions were rephrased for clarity based on observations made during the pretest. The questionnaires were administered by 10 Hausa-speaking Nigerian medical students. They worked in teams consisting of two interviewers (male and female). Each team had a female member so as to facilitate access to wives of respondents. The interviews were conducted in Hausa language. A separate in-depth interview guide was developed and administered on community leaders to elicit reasons for low participation of men in maternity care.

Data Analysis

The data was cleaned, validated and analysed using EPI info version 6 (CDC Atlanta, Georgia, USA).¹³ Quantitative variables were summarised using range, mean and standard deviation. Categorical variables were tabulated using frequencies and percentages. The Chi-square test was used for testing the significance of association between categorical variables. A bivariate analysis was carried out, including the calculation of crude odds ratios (ORs). All variables that were significantly associated with male participation in maternity care were included in a multivariate logistic regression analysis in order to determine their independent effects. Adjusted ORs and their respective 95% Confidence Interval (CI) were obtained. The level of significance was set at $P < 0.05$. Qualitative analysis involved the extraction of common themes from responses by respondents to the in-depth interviews. Quotes illustrating some of the responses were also obtained.

Results

Socio-demographic characteristics

Of the 400 married men sampled for the study, 389 interviews were completed, giving a response rate of 97.3%. The non-respondents were either not available at home for the interview after repeated visits (n=6) or declined consent (n=5) citing concerns of breach of confidentiality and suspicion of government agents posing as interviewers. The socio-demographic characteristics of study participants are shown in Table 1. The age of respondents ranged from 22 to 70 years (mean \pm standard deviation = 38.8 \pm 11.5 years). Over 59% of the respondents were between 20 and 39 years. The majority (91.0%) of respondents were Muslims and belonged to the Hausa-Fulani ethnic group (87.1%). One hundred and forty seven respondents (37.7%) were employed privately or by the government; 82 (21.1%) were farmers. The remaining 138 (35.4%) were self-employed in business and other different types of work. A total of 89 respondents (22.9%) had a tertiary education, 105 (27.0%) had

a secondary education, 78 (20.1%) had a primary education, and 117 (30.1%) had no formal education. A total of 386 (99.2%) were currently married while 3 (0.8%) were divorced.

Table 1: Socio-demographic characteristics of respondents (n=389)

Characteristic	Frequency No. (%)
Age	
20-29	97 (24.9)
30-39	134 (34.4)
40-49	75 (19.3)
≥ 50	83 (21.3)
Total	389 (100.0)
No. of wives	
1	232 (59.6)
2	96 (24.7)
3	45 (11.6)
4	16 (4.1)
Total	389 (100.0)
Educational status	
Non-formal	117 (30.1)
Primary	78 (20.1)
Secondary	105 (27.0)
Tertiary	89 (22.9)
Total	389 (100.0)
Religion	
Muslim	354 (91.0)
Christian	35 (9.0)
Total	389 (100.0)
Ethnicity	
Hausa	246 (63.2)
Fulani	93 (23.9)
Igbo	14 (3.6)
Yoruba	14 (3.6)
Others	22 (5.7)
Total	389 (100.0)

Men's perception of high risk pregnancy and danger signs in pregnancy

Table 2 shows that nearly half (48.1%) of men viewed pregnancy in sick women as high risk. Approximately a quarter of respondents considered pregnancy while a woman is still

Table 2: Men’s perception of high risk pregnancy and danger signs in pregnancy, Ungogo, Nigeria, 2009

Variable	Frequency (%)		
	Yes	No	Total
Pregnancies considered as high risk			
Pregnancy in the sick	187 (48.1)	202 (51.9)	389 (100.0)
Pregnancy while breastfeeding	103 (26.5)	286 (73.5)	389 (100.0)
Too frequent pregnancies	99 (25.4)	290 (74.6)	389 (100.0)
Pregnancy in the young mother	92 (23.7)	297 (76.3)	389 (100.0)
Previous operative delivery	77 (19.8)	312 (80.2)	389 (100.0)
Pregnancy in the older mother	59 (15.2)	330 (84.8)	389 (100.0)
Others	7 (1.8)	382 (98.2)	389 (100.0)
Danger signs in pregnancy			
Bleeding	202 (51.9)	187 (48.1)	389 (100.0)
Convulsions	147 (37.8)	242 (62.2)	389 (100.0)
Loss of consciousness	129 (33.2)	260 (66.8)	389 (100.0)
Paleness	84 (21.6)	305 (78.4)	389 (100.0)
Swollen legs/face	65 (16.7)	324 (83.3)	389 (100.0)
Baby stops kicking	60 (15.4)	329 (84.6)	389 (100.0)
Water breaks before labour pains	49 (12.6)	340 (87.4)	389 (100.0)
Difficulty in breathing	48 (12.3)	341 (87.7)	389 (100.0)
Dizziness/Blurred vision	36 (9.3)	353 (90.7)	389 (100.0)
Severe Headache	35 (9.0)	354 (91.0)	389 (100.0)
High Fever	16 (4.1)	373 (95.9)	389 (100.0)

breastfeeding (26.5%) and too frequent pregnancies (25.4%) as high risk. Less than a quarter of men considered pregnancy in the young mother (23.7%) and previous operative delivery (19.8%) as high risk pregnancies. Furthermore, only 1.8% of men considered twin pregnancy and other high order pregnancies as being high risk.

When asked to identify situations they would consider as danger signs in pregnancy, more than half (51.9%) considered bleeding, about a third considered convulsions (37.8%) and loss of consciousness (33.2%). Others considered a pale appearance in the mother (21.6%) and cessation of fetal movement (15.4%) as danger signs. Not as many men considered labour pains before term (12.6%), difficulty in breathing (12.3%), headache and dizziness as signs of danger in a pregnant woman. Fever was considered a serious sign by only 4.1% of respondents.

Men’s birth preparedness and complication readiness

Majority of pregnancies were unplanned (96%). Table 3 shows that most men made plans for the baby’s naming ceremony (71.5%). Less than a third made plans for mother’s health care (30.8%), transportation (24.2%), delivery (23.1%)

Table 3: Men’s birth preparedness, Ungogo, Nigeria, 2009 (n=389)

What men plan for	Frequency (%)
Naming ceremony	278(71.5)
Postpartum cultural expenses	54(46.7)
Mother’s health care	120(30.8)
Transportation	94(24.2)
Delivery	90(23.1)
Baby/Mother’s clothes	88(22.6)
Savings for emergencies	76(19.5)
Identifies decision-making process in case of obstetric emergency	41(10.5)
Decision on place of delivery	35(9.0)
Arrange skilled assistance	24(6.2)
Blood donation	3(0.8)

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and baby/mother's clothes (22.6%). Only 19.5% of respondents made savings for obstetric emergencies and a mere 10.5% identified a decision-making process in case of obstetric emergency. Similarly, decision on place of delivery, arrangement for skilled assistance at delivery and preparations for blood donation were made by only 9.0%, 6.2% and 0.8% of respondents respectively.

Men's participation in antenatal, delivery and postnatal care

Overall, only 32.1% of husbands accompanied their wives at least once to the hospital for antenatal, delivery or postnatal care. Table 4 shows that for routine antenatal care, most respondents provided money for transport and medication (77.1%). Only 13.0% of respondents accompanied their spouses to the hospital for routine antenatal care, with less than 1% donating blood. However, when complications arose, a significantly higher proportion of men (36.2%) ($\chi^2=73.5$, $P<0.001$) accompanied their spouses to hospital and a higher proportion (1.8%) donated blood. A similar pattern occurred during delivery whereby in the absence of complications, most respondents (71.4%) provided money for transport/drugs with only 18.7% personally accompanying their spouses to the hospital and only 3.7% donating blood. However, when complications occurred, the proportion of respondents that accompanied their wives rose significantly to 33.9% ($\chi^2=16.7$, $P<0.001$). A higher proportion (15.2%) also donated blood. The trend was maintained during postnatal care where for routine postnatal care, majority of respondents gave money for transport/drugs with only 12.0% accompanying their spouses and 1.3% donating blood. However, when complications occurred, a significantly higher proportion (33.2%) ($\chi^2=55.2$, $P<0.001$) of respondents accompanied their wives. Those who donated blood increased from 1.3% to 8.7%.

Table 4: Men's participation in antenatal, delivery and postnatal care, Ungogo, Nigeria, 2009 (n=389)

Level of involvement	Frequency (%)
During antenatal care	
Gives permission only	47 (15.3)
Money for transport/drugs	219 (77.1)
Personally accompanies	40 (13.0)
Donates blood	2 (0.76)
During Delivery	
Gives permission only	17 (6.2)
Money for transport/drugs	195 (71.4)
Personally accompanies	51 (18.7)
Donates blood	10 (3.7)
Postnatal care	
Gives permission only	22 (6.3)
Money for transport/drugs	116 (80.4)
Personally accompanies	43 (12.0)
Donates blood	5 (1.3)

Factors associated with male participation

Table 5 shows that forty three of the 97 respondents under the age of 30 years (44.3%) ever accompanied their wives to the hospital for maternity care compared to 82 (28.1%) of 292 men 30 years or older. This difference was statistically significant ($\chi^2=8.8$, $P<0.003$). Men who had formal education (n=103, 37.9%) were more likely to participate in maternity care compared to those with non-formal education (n=22, 18.8%) ($\chi^2=13.6$, $P<0.001$). Similarly, a significantly higher proportion (n=101, 43.5%) of men in monogamous marriages accompanied their spouses for maternity care compared to (n=24, 15.3%) of their polygamous counterparts ($\chi^2=3.6$, $P<0.001$). In addition, a higher proportion of men belonging to Yoruba, Igbo and other minor tribes (n=29, 58.0%) were more likely to attend hospitals with their wives compared to Hausa-Fulani men (n=96, 28.3%) ($\chi^2=17.6$, $P<0.001$). Furthermore, a higher proportion (n=18, 51.4%) of non-Muslim men participated in maternity care compared to their Muslim counterparts (n=107, 30.2%) ($\chi^2=6.6$, $P<0.01$). Table 6 shows that after adjustment for the effect of confounding using logistic regression

Table 5: Factors associated with male participation in maternity care, Ungogo, Nigeria, 2009

Characteristics	Frequency (%)			χ^2	P-value
	Ever participated	Never participated	Total		
Age group (yrs)					
<30	43(44.3)	54(55.7)	97(100.0)	8.81	0.003
≥30	82(28.1)	210(71.9)	292(100.0)		
Total	125(32.1)	264(67.9)	389(100.0)		
Educational status					
Non-formal	22(18.8)	95(81.2)	117(100.0)	13.6	<0.001
Formal	103(37.9)	169(62.1)	272(100.0)		
Total	125(32.1)	264(67.9)	389(100.0)		
Type of marriage					
Monogamy	101(43.5)	131(56.5)	232(100.0)	3.6	<0.001
Polygamy	24(15.3)	113(72.0)	157(100.0)		
Total	125(32.1)	264(67.9)	389(100.0)		
Ethnicity					
Hausa/Fulani	96(28.3)	243(71.7)	339(100.0)	17.6	<0.001
Others	29(58.0)	21(42.0)	50(100.0)		
Total	125(32.1)	264(67.9)	389(100.0)		
Religion					
Muslims	107(30.0)	247(70.0)	354(100.0)	6.6	<0.01
Christians	18(51.4)	17(48.6)	35(100.0)		
Total	125(32.1)	264(67.9)	389(100.0)		

Table 6: Predictors of male participation in maternity care, Ungogo, Nigeria, 2009

Characteristic	Crude OR	Adjusted (95% CI) OR	P-Value
Age group (yrs)			
<30	2.04(1.23-3.37)	1.51(1.2-2.6)	0.03
≥30	Referent		
Education			
Non-formal	Referent		0.01
Formal	2.64(1.51-4.61)	1.93(1.1-3.4)	
Marriage type			
Monogamous	3.63(2.12-6.35)	1.37(0.59-4.75)	0.20
Polygamous	Referent		
Ethnicity			
Hausa-Fulani	Referent		0.03
Others	3.5(1.82-6.72)	2.3(1.4-3.3)	
Religion			
Muslims	2.44(1.15-5.20)	1.63(0.73-4.36)	0.16
Christians	Referent		

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analysis, husband's age (Adjusted OR=1.51, 95% CI=1.2 to 2.6), educational status (Adjusted OR=1.9, 95%CI=1.1 to 3.4) and ethnicity (Adjusted OR=2.3, 95%CI=1.4 to 3.3) remained significant predictors of male participation in maternity care.

Reasons for low participation of husbands in maternity care

Respondents during in-depth interviews outlined some of the reasons for low participation of husbands to include: ignorance, poverty, cultural and religious factors. For instance, one of the respondents, a 54 year old community leader said "We didn't know that we are expected to accompany our wives to the hospital. Some of our wives will not buy this new idea you are bringing here".

A 61 year old community leader said "You don't expect us to go to women's place (maternity unit). Our religion and culture forbids the free mingling of men and women you know. If you want husbands to come to the hospital, you need to make separate shades for men". Other respondents indicated that men don't feel welcomed in the maternity units of hospitals or clinics. For instance, a 49 year old respondent said, "We don't feel welcomed in antenatal and especially labour wards. There are notices that say no entry except for health workers. Even when you accompany your wife they (health workers) ignore you. We are only summoned when things go wrong when you will be required to donate blood, pay for surgery or buy drugs". Another interviewee opined that "You are coming with something new to us. Many people will not support this idea of accompanying their wives to hospitals except people that have gone to university like you. We are busy looking for food and money".

Attitude of spouses toward husband's participation in maternal care

Table 7 shows that while most wives were in agreement with husbands accompanying their spouses for antenatal care (65.0%), delivery

(60.7%) and postnatal care (60.2%). However, there was a strong opposition to the physical presence of husbands in the labour room (58.6%). The main reason cited by women opposing men's presence is that it is against our culture and religion for men to witness the delivery of the baby. Similarly, women's perceived reasons for low participation of their spouses in maternity care were as follows: culture/religion (25.7 %), financial reasons (18.0%), pregnancy and delivery are women affairs (17.5%), lack of interest (14.1%) and lack of knowledge (12.6%).

Table 7: Attitude of wives toward husband's participation in maternal care, Ungogo, Nigeria, 2009 (n=389)

Statement	Frequency (%)
Husband should accompany wife during ANC	
Strongly Agree	181 (46.5)
Agree	72 (18.5)
Undecided	48 (12.3)
Disagree	58 (14.9)
Strongly disagree	30 (7.7)
Husband should accompany wife to hospital during delivery	
Strongly agree	165 (42.4)
Agree	71 (18.3)
Undecided	66 (17.0)
Disagree	57 (14.7)
Strongly disagree	30 (7.7)
Husband should be present in labour room	
Strongly agree	50 (12.9)
Agree	64 (16.5)
Undecided	47 (12.1)
Disagree	172 (44.2)
Strongly disagree	56 (14.4)
Husband should accompany wife for postnatal care	
Strongly agree	178 (45.8)
Agree	56 (14.4)
Undecided	71 (18.3)
Disagree	52 (13.4)
Strongly disagree	32 (8.2)

Discussion

The low participation of men in maternity care observed in this study (32.1%) is similar to findings among men in South Africa (33.3%)²⁸ but lower than the level among men in Osun (93.9%)⁸ and Oyo (72.5%)¹⁴ states in south west Nigeria and India (98.2%).¹⁵ It is also in agreement with the participation rate of men in Nepal (40.0%).¹⁶ Our findings are also in contrast with findings from El Salvador (90%)²⁷ and with results of a study in Greece which showed that only 10% of Greek fathers attended the birth of their last child.¹⁷ Similarities between our findings and those of South Africa may be due to the shared African culture and level of gender sensitivity. When men accompany their wives to hospitals, they have more access to reproductive health information and could result in greater communication between men and women on subjects related to reproductive health and child care. This improved interspousal communication could enhance pregnancy planning, birth preparedness and complication readiness, as observed in MIMS India Research Evaluation of intervention.¹⁵

This study also found that men were more likely to accompany their wives and pay for treatment when complications arose. In both routine care and treatment of problems, husbands participated more often by paying for care than accompanying their wives. Men also considered maternity units as exclusively meant for women. In addition, attitude of health staff and poor conditions in health centers imply that even husbands who accompany their wives to clinics are often ignored or made to hang around somewhere. Participants identified cultural, religious and health system issues as well as poverty and ignorance as factors militating against male participation in maternity care. This concurs with the findings from other African²⁸ and Asian studies.^{15,21}

Our respondents considered in descending order the following pregnancy groups as being high risk: sick women, breastfeeding women, high parity mothers, very young women and women with previous operative delivery. This finding concurs with results from a study of men

in South West Nigeria.⁸ Husbands that perceive pregnancies under the preceding conditions as high risk are more likely to support the use of family planning for their spouses or themselves compared to those who don't perceive such pregnancies as high risk.

We found that a substantial proportion of men correctly identified vaginal bleeding, convulsions and loss of consciousness as obstetric emergencies. Other conditions identified were paleness, cessation of foetal movement, preterm labour, headache, fever and dizziness. These responses are similar to those mentioned by men in Osun state, south west Nigeria.⁸ It is of immense importance for husbands to correctly identify symptoms related to obstetric complications and emergencies because they constitute serious situations for both mother and child. Failure to correctly perceive these conditions as serious by the main decision-maker and financier of obstetric care may have disastrous consequences.

Majority of reproductive health programs unfortunately focus exclusively on women and the environment in maternity units is often not welcoming or understanding of the needs of men. Men's exclusion is usually on the premise that they would not be interested or that they would be uncomfortable. The result is that women receive the bulk of reproductive health education. However, gender dynamics make men the primary decision-makers. In most settings in northern Nigeria, men act as gatekeepers to women's access to reproductive health services and hold the decision-making power over such matters, even if the life of the mother is at stake. Men decide on *when* and *where* to seek emergency obstetric care, the place of delivery and use of family planning methods during the postpartum period. Fortunately, there is a growing awareness and acceptance that men have an important influence on women's health and also have distinct reproductive health needs of their own. Reaching out to men as partners may improve spousal communication and may help in early decision-making for seeking care if complications arise.¹⁵

This study found that men gave high priority to making plans for naming ceremonies rather

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than critical components of birth preparedness such as deciding on place of delivery, skilled assistance and identification of a blood donor. More worrisome is the lack of plans for decision making and savings for obstetric emergencies. Little wonder that only 39% of women in Nigeria were delivered by a skilled attendant.¹⁹ Even in other financially less endowed African countries a higher proportion of couples made adequate preparations and contingency plans in case of complications. For instance, in Burkina Faso, ²² 46.1% and 83.3% of respondents had a plan for transportation and saving money respectively. Similarly, in Kenya 84.3% of respondents had set aside funds for transport to hospital during labour while 62.9% had funds for emergencies.²³ Furthermore, in Ethiopia, ²⁴ taking into account identification of place of delivery, means of transportation and cost-savings, about 22% of the respondents were prepared for birth and its complications. The variation in level of preparedness could be due to differences in literacy level, cultural practices, poverty and in effectiveness of implementation of safe motherhood by the different national health systems. Expectedly, a substantial proportion of wives in the present study disapproved of their husband's presence in the labour room in contrast to antenatal attendees in the University College Hospital Ibadan.⁹ This could be due to existing cultural mindset and variations in literacy level among women in the two study areas.¹⁹

The observed higher participation among younger educated men is similar to the findings among Indian men.²¹ This could be due to the fact that younger men are more adventurous and likely to challenge cultural norms. In addition, education is known to positively influence health seeking behaviour.²⁵ Furthermore; cultural factors may act as deterrents for the participation of Hausa-Fulani men in maternity care.

Northern Nigeria is by no means homogenous; there is a need for caution in extrapolating our findings to other parts of the north. This notwithstanding, there are similarities of cultures and male dominance permeates across the region. Considering the semi-urban nature of our study area, findings from the present study could differ from those in large cities or rural

areas. Expansion of the men questionnaire in subsequent Demographic and Health Surveys in the country would capture data on birth preparedness, complication readiness and male participation from these different settings, thereby providing an opportunity to make comparisons.

In conclusion, our findings suggest that male involvement in reproductive health initiatives and services in northern Nigeria is limited. Most husbands feel responsible for routine care and treatment of problems. Men indicated that they didn't know they were expected to be involved and perceived hospitals as unwelcoming, even if they did want to participate in their spouses' maternity care. A low proportion of men accompanied their spouses for routine care. Men in northern Nigeria were more likely to accompany their wives and pay for treatment when complications arose. In both routine care and treatment of problems, husbands participated more often by paying for care than accompanying their wives.

In order to address maternal mortality, low contraceptive uptake and mother to child transmission of HIV men involvement in maternity should be considered a key priority. Very little can be achieved for either mothers or infants unless reproductive health programmers and providers realize the strategic position occupied by men and the important roles they can play in the provision of reproductive services. Active steps need to be taken towards involving men in reproductive health services. Development partners and non-governmental organizations need to place this issue on the agenda in upcoming national conferences. Educational efforts on maternal care with men should go beyond basic information to also include specifics of pregnancy planning, birth preparedness and complication readiness. There is a need to create an enabling environment by working with the health system in improving conditions – such as lack of privacy – that make it difficult for husbands to participate, and identify other ways health staff could encourage husbands to be present.

In this study, the ethnic minorities, the educated and younger husbands tend to accompany their wives for maternity care. This

provides an opportunity for NGOs to identify and train a critical mass of these “change agents” as peer educators to enlighten and encourage others to participate. Occupationally, most of the ethnic minorities are also traders like the indigenous Hausa Fulani with good negotiation and persuasive skills that can be brought to bear in their new roles. Health care workers should be trained in interpersonal communication skills to improve their attitudes towards men who accompany their spouses. Another long term strategy is to educate the young, since younger educated men were more likely to participate in maternity care. This can be enhanced by inclusion of responsible parenthood in family life education for schoolboys in anticipation of their future roles as husbands.

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