

ORIGINAL RESEARCH ARTICLE

Knowledge and Perceptions of Maternal Health in Kaduna State, Northern Nigeria

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Abstract

This cross-sectional descriptive study explored knowledge and perceptions of maternal health and awareness of health services among women and men of reproductive age in rural communities in Zaria, Kaduna state Nigeria. Among the sample of 647 respondents, 72.6% of men and only 35.9% of women had received formal education. Knowledge of maternal health was very low. In a three point scale (poor, fair, good), only 3.1% of men and 1.2% of women had good knowledge of maternal health. The association between the respondents' educational level and their maternal health knowledge was statistically significant. Socio-economic barriers were identified as limiting this population's optimal utilization of maternal health services. Furthermore, some respondents' perceived available health care services to be of low quality. In order to improve reproductive health in rural northern Nigeria, it is imperative to improve access to formal education, increase knowledge about maternal health care, and improve the quality of care offered in health care facilities (*Afr. J. Reprod. Health* 2010; 14[3]: 71-76).

Résumé

Connaissance et perceptions de la santé maternelle dans l'état de Kaduna, au nord du Nigéria. Cette étude transversale et descriptive a exploré la connaissance et les perceptions de la santé maternelle et la conscience des services de santé chez les femmes et les hommes en âge de procréation dans les communautés rurales à Zaria, dans l'état de Kaduna. Parmi les 647 répondants, 72,6% des hommes et seules 35,9% des femmes ont reçu l'instruction formelle. La connaissance de la santé maternelle était faible. Dans une échelle à trois points (mauvais, passable, bon) seuls 3,1% des hommes et 1,2% des femmes avaient une bonne connaissance de la santé maternelle. L'association entre le niveau d'instruction et leur connaissance de la santé maternelle était statistiquement significative. Les obstacles socio-économiques ont été identifiés comme limitant l'utilisation optimale des services de santé. En plus, quelques répondants ont aperçu les services de soins médicaux comme étant de base qualité. Pour améliorer la santé de la reproduction dans les régions rurale du nord du Nigéria, il est obligatoire d'améliorer l'accès à l'instruction formelle au nord du Nigéria, d'augmenter la connaissance en matière de la santé maternelle et d'améliorer la qualité des services rendus dans les établissements de santé. Plus important encore, il faut explorer les options d'accouchements plus sûrs qui seront acceptables dans les communautés où traditionnellement les femmes accouchent à domicile (*Afr. J. Reprod. Health* 2010; 14[3]: 71-76).

Key words: Maternal health, reproductive health, knowledge, perception, health care utilization, rural, northern Nigeria.

Introduction

The fifth Millennium Development Goal seeks to reduce the maternal mortality ratio (MMR) by three fourths by 2015¹. In order to move towards this goal, adequate knowledge of maternal health is a prerequisite. It is well known that higher education is strongly correlated with improved maternal health knowledge², but on average, girls in Africa only attend formal schooling for an average of 2.8 years before they drop out³. In northwestern Nigeria, Quranic studies, focusing on Arabic and Islamic teach-

ings, is highly valued but less than 20% of women complete primary school⁴.

Maternal mortality is a marker of vast disparities. A woman who gives birth in Africa is 300 times more likely to die from complications related to pregnancy or child birth compared to her counterpart living in a developed country⁵. Maternal health indicators in Nigeria are particularly bleak. In fact, one in every nine maternal deaths worldwide is a Nigerian woman⁷. The maternal mortality ratio is just the tip of the iceberg, because for every maternal death that occurs, 20 women suffer severe preg-

nancy-related complications, some of which can result in lifelong disabilities⁶.

Socio-cultural factors also play a key role in influencing men's and women's knowledge and practices related to maternal health. Northern Nigeria is primarily Hausa and Muslim⁸⁻⁹. Since men hold the primary decision-making power in the society, the decision to go to a health facility in an emergency must wait until the husband (or in-laws) give consent³. Furthermore, the low value placed on girls' education leads to a low rates of girl' primary school enrolment. Even though knowledge about maternal health is not taught in school, the very fact of having attended school seems to increase overall awareness and ability to obtain new knowledge, as has been seen in Nepal, Venezuela, and South-western Nigeria¹⁰⁻¹¹.

Place of delivery is another important factor. The 2008 Nigerian Demographic and Health Survey (NDHS) reported that 90.2% of deliveries in the Northwest region took place without a skilled birth attendant (SBA). The report also reveals that North-western women who gave birth without a SBA were perfectly divided: 44% were assisted by relative or a traditional birth attendant and the other 44% delivered completely alone⁴. Although delivering alone is quite rare in other countries, it is commonplace among women in Hausa-Fulani society because it is considered shameful to be heard crying out during childbirth¹². Rates of home deliveries exceed 90% in rural areas. Adamu et al., in a study based in rural Kano, found that 96.3% of women delivered or planned to deliver at home¹².

Methods

A descriptive cross-sectional study was carried out in 2008 to assess the reproductive health knowledge and perception of maternal health care services among men and women living in three communities in northern Nigeria. Respondents were between the ages of 15 and 49, except for 17 younger married girls and 49 men and women who were over 50 years of age. The three communities, Dakace, Shika Dam and Tsibiri, each had a health post and a public primary school, although only Dakace had its own secondary school.

Respondents from the three communities were selected randomly. All households were given a serial number from which every third household was selected. Closed-ended questionnaires were used to collect information from 326 women who had delivered within the past two years and 321 adult male heads of household. The questions were asked of husbands and wives, with some men having more than one wife.

The knowledge questionnaire was modeled after the NDHS⁴. Sixty-two questions were used to

assess maternal health knowledge, including questions about danger signs in pregnancy and childbirth, complications, utilization of health services, and antenatal care (ANC). Each correct answer was given one mark and each wrong answer was given no marks. Each respondent's level of knowledge was scored on a scale of 0 to 100. Respondents with a score of 25% or below were coded as having 'poor' knowledge, 26-75% coded as 'fair' knowledge and those with scores greater than 75% were considered to have 'good' knowledge. Twelve fellows from the Population and Reproductive Health Programme (PRHP) were trained for two weeks on how to develop and administer the survey instrument. A subset of the fellows translated and back-translated the questionnaire into Hausa before administration. The questionnaire was pretested in a community with similar demographic characteristics to the three study communities. Data was analyzed using SPSS version 17.0. Chi-square tests of association were done to determine the difference in respondents' levels of knowledge.

Ethical approval was obtained from the ethical and scientific committee of Ahmadu Bello University Teaching Hospital in Zaria. At each local government area, permission was obtained from the Chairman. At the community level, community leaders granted permission to conduct the study. The respondents and their spouses gave verbal consent prior to being interviewed.

Results

The mean age of men was 37.4 years and the mean age of women was 25.8 years (Table 1). The study population was primarily married (97.9%) and Muslim (88% of men and 99% of women) Almost 73% of men had some formal education while only 36% of the women had any form of formal education. *Knowledge of maternal health* Overall men and women had extremely poor knowledge of maternal health (Figure 1). Only 3% of men and 1% of women received a score in the 'good' range. A considerable number (44.2% of men and 55.7% of women) have fair knowledge of maternal health but the remainder has poor knowledge. More than 50% of men and 43% of women gave answers that fell into the category of 'poor' knowledge. There was a statistically significant association between the respondents' level of education and their knowledge score ($p = 0.001$) for both men and women: knowledge of maternal health was higher among those with more education.

Awareness of health facilities

Table 2 shows men and women's awareness levels regarding available maternal health care. 53% of the

Table 1. Socio-demographic Characteristics of Respondents, 2008.

Characteristic	N = 321 Males		N = 326 Females	
	Freq	%	Freq	%
Age				
<15	-	-	17	5.1
15-19	-	-	41	12.4
20-24	8	2.5	99	29.7
25-29	41	12.9	42	12.6
30-34	80	25.2	73	21.9
35-39	69	21.7	18	5.4
40-44	53	16.7	24	7.2
45-49	31	9.7	14	4.2
>50	36	11.5	3	0.9
Marital status				
Single	1	0.3	4	1.2
Married	318	99.7	326	97.9
Divorced	-	-	2	0.6
Widowed	-	-	1	0.3
Religion				
Islam	279	88.0	330	99.1
Christianity	38	12.0	3	0.9
Education				
No education	84	26.5	10	3.0
Quranic	-	-	203	60.9
Primary	92	29.0	64	19.2
Secondary	77	24.3	45	13.5
Tertiary	29	9.1	7	2.1
Others	35	1.01	3	0.9

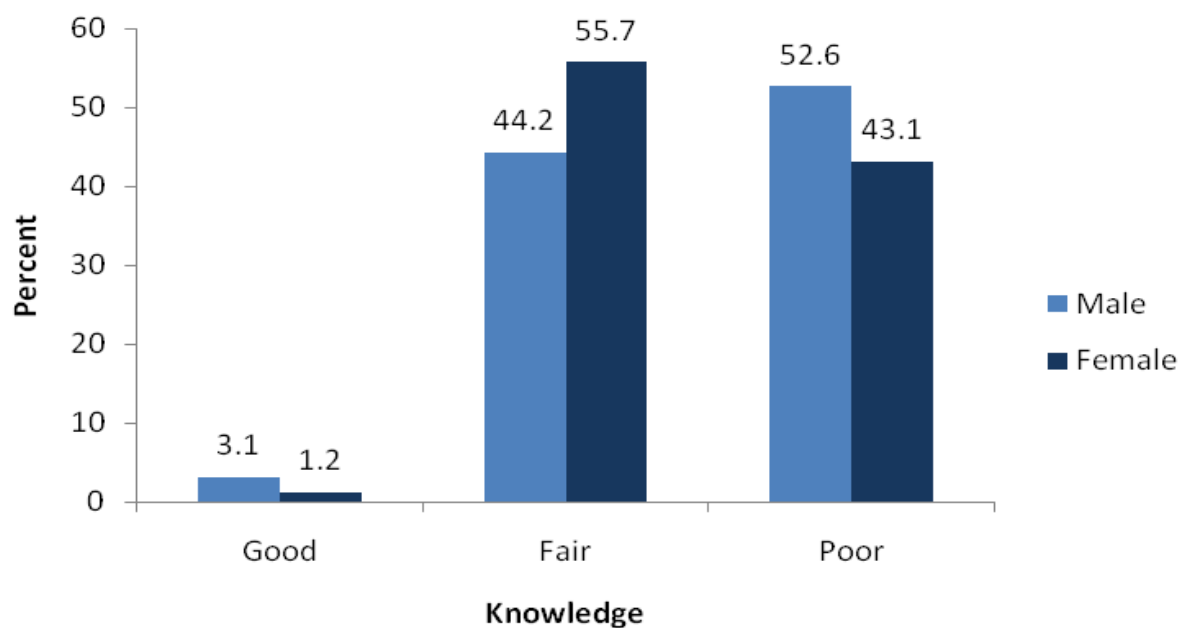


Figure 1. Knowledge score of maternal health by gender (n= 647).

Table 2. Respondents awareness about and assessment of local health facilities.

Problems	Men (n)	(n=321) (%)	Female (n)	(n=326) (%)
Health facility not always open	61	(21.6)	24	(11.1)
No enough trained workers	80	(28.3)	24	(11.1)
Staff unfriendliness	37	(31.1)	24	(11.1)
Lack of delivery facilities	32	(11.3)	11	(5.1)
Lack of equipment	68	(23.9)	17	(7.9)
Lack of availability of drugs	100	(35.2)	65	(31.5)
No transport for referrals	6	(2.1)	25	(11.6)
Facility cannot handle complications	24	(8.5)	17	(7.9)
Awareness				
Family planning	9.6	(3)	39	(11.9)
ANC	170	(53)	245	(75.2)
Delivery services	1.6	(0.5)	66	(20.2)
Assessment of services				
poor	29	(9)	6	(2)
Excellent	45	(14)	26	(8)

men and 75.2% of the women were aware of ANC services offered at primary and/or secondary facilities in their area. Less than 1% of men and 20.2% of the women said they were aware of the delivery services offered by health facilities. Only 3% of the men and 11.9% of the women were aware that family planning was one of the services offered. The low level of awareness appears to be matched by an equally low rate of patronage of health facilities for delivery or for family planning services. (Tukur et al., Avidime et al. in this issue).

Barriers to Seeking Care

The respondents reported a number of barriers to accessing health facilities for antenatal care and delivery. Over half of the women (63%) felt they must seek consent from their husbands before they could visit a hospital, which is higher than the 52% of the women in the Kano study who reported they need to wait for their husband's permission before visiting a hospital¹³.

Financial concerns are often another major barrier to accessing services¹⁴⁻¹⁵. In the Kano study, 25% of study participants cited lack of money as a reason for not using health facilities¹³. Tukur et al found an even greater proportion of women (35%). Policy makers need to consider how subsidies for medical services, supplies, drugs and transportation can be efficiently implemented to benefit the poorest families, who experience a disproportionate amount of maternal and child death and disability.

Eighty-eight percent of female respondents expressed a strong preference for female health workers, especially for matters pertaining to women's health, which has been confirmed by Population and Reproductive Health Partnership (PRHP) commu-

nity-based researchers through informal conversations with the communities. While Community Health Extension Workers (CHEWs) are supposed to serve their designated community, most communities only have male CHEWs, which often results in complete avoidance of care-seeking for female health problems, whether or not women urgently require advice and care.

Perceptions of health care services

Fourteen percent of men and 8.0% of women assessed the health services to be excellent, 9.0% of the men and 2.0% of women said the health services were poor. Of those who were disappointed with the quality of care, the reasons given were as follows: 22% of men and 11.1% of women complained that the health facility was not always open, 35.2% of men and 31.5% of women complained of lack of prescription of drugs in the health facilities, and 31.1% of the men and 11.1% of the women mentioned staff un-friendliness. Indeed, all three primary health facilities in the study area were judged to be substandard because they not only lacked essential medicines but also basic equipment such as thermometers and blood pressure monitors. All were understaffed, and none of the PHCs had a qualified midwife on duty.

Discussion

This study found a very small percentage of men and women to have a good knowledge of maternal health. Men's knowledge was considerably worse than women's. Findings also revealed that both sexes are poorly informed about the range of

services offered in nearby health facilities. Although the vast majority of maternal health programs target women, this finding highlights the importance of strategies aimed at educating men about maternal health danger signs and the benefits of maternal health care. The fact that a considerable number of boys leave school before they get a chance to complete their education (Nmadu et al. in this issue) exacerbates the problem of low knowledge levels among men.

As amply demonstrated the literature on education and women's health, the study team found a significant association between having attended conventional education and knowledge of maternal health ($p=0.001$)¹⁵⁻¹⁸. The number of years of school completed appears to change women's perceptions about health services, leading to better knowledge and better utilization of most types of health care¹⁰. A 2001 study by Levine et al. in Nepal and Venezuela (2001) found that a woman who completes six years of schooling will maintain her basic reading skills into her adult years, although she may slip back somewhat in her level of proficiency. Levine et al argue that even if the quality of schools are terrible, students benefit from learning an "academic register" which is quite similar to the language of all bureaucracies, whether the bureaucracy is a school, a hospital or a government office. Confidence that arises through familiarity with institutions may in turn, lead to greater utilization of health services¹⁹.

At present, only 13% of women in north-western Nigeria attend formal schooling for more than seven years. In this study, two-thirds of women had not attended any form of conventional education. In fact, the preponderance of male CHEWs in northern Nigeria is most likely due to the fact that there are not enough girls staying in school and out of marriage long enough to meet minimum educational qualifications to qualify for CHEW training in the first place.

Limitations

Considering the fact that secondary hospitals are less than 40 minutes away from these three communities, it seems implausible that 99% of men and nearly 80% of women are not aware that secondary hospitals in the area provide delivery care. This finding warrants further investigation. There is no question that home deliveries are the norm in rural Hausa society, so unless a dire emergency arises, many families simply assume that childbirth will take place at home. Nevertheless, these communities have enough collective experience with complications in pregnancy, labour and delivery to have had direct experience with the near-misses of family members. On a parallel note, 97% of men and 88% of women claimed that they were not aware of fa-

mily planning services, which seems implausible considering that contraception is a controversial and highly taboo issue. As such, it is likely to be discussed from time to time among the most rebellious among the women or between open-minded men and their wives.

Limited by a cross-sectional design, this study was unable to investigate the more puzzling findings. It is possible that the question was not conveyed in a clear enough manner, or that the investigators failed to probe in a way that revealed respondents true feelings and levels of knowledge. The community members may have also misinterpreted questions such as: "Do you know about any methods women can use to prevent getting pregnant if they would like to rest between births" to mean "Do you have any personal experience with using contraceptives..."

The principal barrier in conducting this study was the community's suspicion about the research team's motives for carrying out a study in their community. Northern Nigerian rural communities are generally wary of outsiders, especially if they mention the idea of family planning. The presence of the authors was seen by some community members as a strategy to covertly introduce family planning into their community. Researchers had to take pains to reassure respondents of the true purpose of the study. This strong sense of distrust within the communities may also prevent inhabitants from acquiring new knowledge.

Conclusions

This study was an initial investigation about the knowledge of maternal health in three northern Nigerian communities, which found surprisingly poor levels of knowledge of maternal health. Socio-economic barriers, low educational attainment and community perceptions about the quality of care appear to limit optimal utilization of maternal health services. To improve reproductive health in rural areas, it will be necessary to increase men and women's knowledge of the importance of maternal health care, and improve the quality of care offered in nearby health care facilities. Finally, while the education of girls and women is certainly a priority for maternal health, improved coverage and quality of education for Nigerian youth of *both* sexes would greatly benefit men, women, children and society as a whole.

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