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Gender Equality and Childbirth in a Health Facility: Nigeria and MDG5

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Abstract

This paper examined how addressing gender equality can lead to reductions in maternal mortality in Nigeria through an increased use of facility delivery. Because the majority of maternal complications cannot be predicted and often arise suddenly during labor, delivery and the immediate postpartum period, childbirth in a health facility is key to reducing maternal mortality. This paper used data from the 2008 Nigeria Demographic and Health Survey (DHS) to examine associations of gender measures on the utilization of facility delivery after controlling for socio-demographic factors. Four gender equality measures were studied: household decision-making, financial decision-making, attitudes towards wife beating, and attitudes regarding a wife's ability to refuse sex. Results found older, more educated, wealthier, urban, and working women were more likely to have a facility delivery than their counterparts. In addition ethnicity was a significant variable indicating the importance of cultural and regional diversity. Notably, after controlling for the socioeconomic variables, two of the gender equality variables were significant: household decision-making and attitudes regarding a wife's ability to refuse sex. In resource-poor settings such as Nigeria, women with more decision-making autonomy are likely better able to advocate for and access a health facility for childbirth. Thus programs and policies that focus on gender in addition to focusing on education and poverty have the potential to reduce maternal mortality even further (*Afr J Reprod Health 2012; 16[3]: 122-128).*

Résumé

Cette étude a examiné comment le traitement de l'égalité des sexes peut aboutir à des réductions de la mortalité maternelle au Nigeria, grâce à une utilisation accrue des services des établissements de santé pour l'accouchement. Parce que la majorité des complications maternelles ne peuvent pas être prédites et parce qu'elles surviennent souvent subitement pendant le travail, pendant l'accouchement et la période immédiate du post-partum, l'accouchement dans un établissement de santé est la clé pour réduire la mortalité maternelle. Cette étude a utilisé les données de l'Enquête Démographique et de Santé de 2008 au Nigéria (DHS) pour examiner les associations entre les mesures des sexes sur l'utilisation des établissements de santé pour l'accouchement après le contrôle de facteurs sociodémographiques. Quatre mesures d'égalité des sexes ont été étudiées: les décisions du ménage, la prise de décisions financières, les attitudes envers la violence conjugale, et les attitudes concernant la capacité d'une femme pour refuser des rapports sexuels. Les résultats ont révélé que les femmes plus âgées, plus éduquées, plus riches, qui habitent en milieu urbain et les femmes qui travaillent, sont plus susceptibles d'accoucher dan un établissement de santé que leurs homologues. En outre, l'appartenance ethnique était un variable significatif qui montre l'importance de la diversité culturelle et régionale. Notamment, après le contrôle pour des variables socioéconomiques, deux des variables d'égalité entre les sexes étaient importantes: les décisions du ménage et les attitudes en ce qui concerne la capacité d'une femme de refuser des rapports sexuels. Dans les milieux défavorisés tels que le Nigéria, les femmes qui ont plus d'autonomie décisionnelle sont probablement mieux placées pour plaider en faveur de l'établissement de santé et de l'accès à l'accouchement. Ainsi, les programmes et les politiques qui mettent l'accent sur les sexes en plus de mettre l'accent sur l'éducation et la pauvreté ont le potentiel de réduire la mortalité maternelle même davantage (*Afr J Reprod Health 2012; 16[3]: 122-128).*

Keywords: decision-making, autonomy, gender norms, facility delivery, maternal mortality

Introduction

Globally maternal mortality has declined from 546,000 in 1990 to the current estimate of 358,000 [1]. However this represents only a 34% decline, far less than three-quarters decline (from 1990 to 2015) set by Millennium Development Goal (MDG) 5. A large burden of this mortality occurs in Africa which has only 15% of the world's population but 51% of maternal deaths. Within Africa, Nigeria has the largest number of maternal deaths with the latest estimate a staggering 50,000 per year. Maternal mortality in Nigeria has declined from 1,000 maternal deaths per 100,000 live births in 1990 to the current estimate of 840 maternal deaths per 100,000 live births in 2008[1], but this is only a 16% reduction. A key strategy to preventing maternal mortality is promoting childbirth attended by a skilled birth attendant in a health facility equipped to handle common maternal complications such as post-partum hemorrhage or obstructed labor[2, 3]. According to the latest demographic health survey in 2008, only 35% of all births in Nigeria were delivered at health facilities[4].

Nigeria has health policies that have the potential to reduce maternal mortality, but these policies have been criticized for being poorly implemented. Facilities are being under-utilized due to inequitable spatial distribution of services between urban and rural sub-regions making it difficult for laboring women in rural areas to reach adequately staffed and supplied health facilities. In addition Nigeria has been criticized for health care mismanagement by proposing 15% of its annual budget for health care but actually then only allocating 5%[5]. Despite hopes that decentralized healthcare would aid in health improvements, the shortage of health workers, medicine stock-outs at health facilities, and inadequate transportation have limited women's access to care, particularly in rural districts[5].

While Nigeria's implementation of health policies contributes to poor maternal health, this paper focuses on other structural factors that contribute to maternal mortality, specifically the influence of gender-defined roles and norms on women's ability to access health facilities for childbirth. This is measured at the micro–level through individual responses to specific constructs of gender equality - autonomy and attitudes towards gender norms. Autonomy is often defined as one's ability to make decisions through control over resources or information and to act upon those decisions[6, 7]. Autonomy within the household is particularly important because the household is the center of the lives of many women[8, 9]. In addition household level autonomy has been shown to have an influence on an individual's health behaviors and outcomes[6, 10, 11]. Autonomy within the household is often dependent on the social context (i.e. cultural norms, social institutions) in which a woman lives[12] thus the importance of a woman's attitudes towards gender norms.

Research has shown that women with less autonomy have to get permission from husbands, in-laws or other family members before seeking health care and in some cultures women need someone to accompany them to a health facility. A clear positive relationship has been demonstrated between gender factors and a woman's ability to seek and advocate for services for herself in Asia[10, 13-15]. However, only two studies have focused on studying associations of gender equality on maternal health outcomes for women in Africa. A study of women in the slums of Nairobi, Kenya found that among poor and middle income households, gender measures (decision-making, freedom of movement and overall autonomy) were weakly associated with facility delivery[16]. Woldemicael[17] found for women in Ethiopia and Eritrea, gender measures (household decision-making, freedom of movement and attitude towards wife beating) were not significantly associated with facility delivery after controlling for socioeconomic factors.

With Africa carrying such a high burden of maternal mortality, research is needed to understand if the promotion of gender equality can be a mechanism to reduce maternal mortality. This study explores whether autonomy and attitudes towards gender norms are associated with facility delivery in Nigeria, a country where facility delivery may not be easily available to all women because of distance or cost. If women with more autonomy and more positive gender norms are better able to access a facility delivery, then the

promotion of gender equality could be seen as a means to give women access to life-saving care and treatment.

Methods

Description of Nigeria and Data

Nigeria, located in western Africa, is the most populous country on the continent. The population is estimated at 151 million including individuals from more than 250 ethnic groups. While there are more than 521 spoken language, English is the official language. Fifty one percent of the population is Muslim, 48% Christian and 1% follows other religions. Northern Nigeria is predominantly Muslim, while the Southern Region and the Niger Delta are predominantly Christian. Nigeria is ranked 158 on the Human Development Index (HDI), has an under-five mortality rate of 186/1100 and life expectancy of 48 [18].

Data for this analysis came from the 2008 Nigeria Demographic Health Survey (DHS). Data for currently married women or cohabiting women who had a birth in the past five years were included for a full sample of 17,025.

Gender equality variables

The DHS includes questions on autonomy (household decision-making, financial decision-making) and attitudes regarding inequalities in gender roles. Four specific questions were used to create a household decision-making variable - decisions regarding health care, the purchase of major household goods, daily goods and visits to family/friends. Women who made all decisions either alone or jointly were categorized as having high household decision-making authority. Those who were not involved in all four decisions were categorized as having low decision-making authority.

A question on decisions regarding husband's earning was used as a measure of financial decision-making. Women who made this decision either alone or jointly were categorized together (as having high decision-making authority) while husband only and other were categorized together (as low decision-making authority).

Two indicators for capturing gender norms regarding inequities were used in this analysis. Respondents were asked their perceptions of wife-beating in regards to specific circumstances (a wife going out without telling her husband, neglecting the children, arguing with her husband, refusing to have sex with her husband and burning food). Respondents who indicated that a husband is not justified in beating his wife for any of the reasons were categorized together as believing wife beating is not acceptable. Those who indicated that wife beating is justified for at least one of the items on the list where classified as indicating that it is acceptable.

The second question was on whether a wife was justified in refusing sex with her husband under certain circumstance (knowing her husband has an STI, her husband has sex with other women or is tired or not in the mood). Respondents who indicated that a wife could refuse sex for all of the three reasons were classified together (as believing a wife is justified in refusing sex), while those indicating that a wife could not refuse sex for at least one of three reasons were classified together (as believing a wife is not justified in refusing sex).

Outcome measure

Delivery of the birth of the last child was classified as either a facility or non-facility delivery. The response categories of hospital, clinic and health center were considered facility deliveries. Other sites such as the home were considered non-facility deliveries. If a woman had more than one birth in the past five years, the delivery site for the youngest child was used.

Socio-demographic Factors

Several covariates were studied: age, parity, residence (urban/rural), education level, wealth, working status, religion and ethnicity. Unfortunately no community-level factors such as distance to the nearest health facility offering delivery services were available.

Multivariate logistic regression was used to study the influence of the covariates of interest on facility delivery. Sampling weights were applied

and the cluster sampling approach of the DHS was taken into account using STATA's svy command. In Model 1 only the socioeconomic variables were included in the regression, while Model 2 included both the socioeconomic variables and the gender equality measures.

Results

Table 1 presents descriptive statistics for the gender measures. In terms of decision-making 37% of women had high household decision-making and 30% had high financial decision-making. In terms of attitudes towards gender norms 53% indicated that wife beating is never acceptable and 45% indicated that a wife always has the right to refuse sex. Table 2 presents a description of the sample of women. About 60% were Muslim or follows of traditional religions while 40% were Christian. Women were evenly split between having and not having an education, while about half of women were in the lowest two wealth quintiles.

Table 1. Description of Gender Measures

	Nigeria N(%)
Household Decision-making Authority	
High	6303(37.0)
Low	10722(63.0)
Total	17025(100)
Financial Decision-making (Husband's Earnings)	
Alone/Jointly	4929(29.5)
Husband/Other	11759(70.5)
Total	16688(100)
Attitudes Towards Wife Beating	
Never Acceptable	8949(52.7)
Acceptable	8030(47.3)
Total	16979(100)
Attitudes towards whether Wife Has Right to Refuse Sex	
No	9377(55.1)
Yes	7648(44.9)
Total	17025(100)

Table 2. Description of Sociodemographic Factors

	Nigeria N (%)
Age	
15-19	1080(6.3)
20-24	3227(18.9)
25-34	8041(47.2)
34+	4677(27.5)
Total	17025(100)
Parity	
1	2601(15.3)
2-3	5408(31.8)
4+	9016(53.0)
Total	17025(100)
Religion	
Christian	6836(40.2)
Muslim	10189(59.8)
Total	17025(100)
Ethnicity	
Fulani	1694(9.9)
Hausa	4754(27.9)
Igbo	1623(9.5)
Yoruba	2034(12.0)
Other	6920(40.7)
Total	17025(100)
Education	
None	8663(50.9)
Primary	3755(22.1)
Secondary or higher	4607(27.1)
Total	17025(100)
Residence	
Urban	4551(26.7)
Rural	12474(73.3)
Total	17025(100)
Working	
No	5311(31.2)
Yes	11714(68.8)
Total	17025(100)
Wealth Index	
Poorest	4549(26.7)
Poor	4015(23.6)
Middle	3250(19.1)
Rich	2826(16.6)
Richest	2385(14.0)
Total	17025(100)

Table 3. Multivariate Analysis for Facility Delivery Models 1 and 2

	Model 1: Facility Delivery		**Model 2: Facility Delivery**	
	OR	**CI**	**OR**	**CI**
Age				
15-19	0.88	(0.67, 1.14)	0.93	(0.72,1.22)
20-24	0.75**	(0.65,0.88)	0.76**	(0l.65,0.89)
25-34	Ref		Ref	
34+	1.22**	(1.08, 1.36)	1.18*	(1.05,1.33)
Parity				
1	Ref		Ref	
2-3	0.68**	(0.57, 0.80)	0.69**	(0.58,0.81)
4+	0.51**	(0.42,0.63)	0.52**	(0.43,0.64)
Education				
None	Ref		Ref	
Primary	1.89**	(1.62,2.21)	1.83**	(1.56,2.14)
Secondary+	3.21**	(2.68,3.84)	3.11**	(2.59,3.73)
Religion				
Christian	Ref		Ref	
Muslim/Other	0.84	(0.68,1.0)	0.90	(0.73,1.12)
Ethnicity				
Fulani	1.44*	(1.07,1.95)	1.42*	(1.05,1.93)
Hausa	Ref		Ref	
Igbo	9.71**	(7.00,13.49)	9.52**	(6.86,13.21)
Yoruba	8.13**	(6.21,10.63)	7.38**	(5.62,9.67)
Other	3.16**	(2.52,3.96)	3.00**	(2.39,3.76)
Residence				
Urban	Ref		Ref	
Rural	0.70**	(0.57,0.84)	0.68**	(0.56,0.82)
Working				
No	Ref		Ref	
Yes	1.28**	(1.12,1.46)	1.26**	(1.10,1.43)
Wealth Index				
Poorest	Ref		Ref	
Poor	1.74***	(1.38,2.19)	1.71**	(1.35,2.17)
Middle	3.04**	(2.34, 3.95)	2.91**	(2.23,3.79)
Rich	5.73**	(4.35,7.53)	5.41**	(4.10,7.16)
Richest	12.07**	(8.92,16.32)	11.36**	(8.35,15.45)
Household Decision-Making Authority (12-23 months)				
Low			Ref	
High			1.26**	(1.10,1.44)
Financial Decision-Making				
Husband/Other				
Alone/Jointly			Ref	
			1.02	(0.90,1.16)
Attitudes Towards Wife Beating				
Acceptable				
Never acceptable			Ref	
			1.07	(0.96,1.20)
Wife Has Right To Refuse Sex				
Yes			Ref	
No			0.79**	(0.71,0.88)

**p<0.01, *p<0.05

As can be seen from the results presented in Table 3, all the socioeconomic variables except religion were significant in Model 1. Of particular interest was the incremental increases seen with the wealth index with an increase in the odds ratio for every increase in the five-tier wealth index. The richest women had an odds ratio of 12.07 ($p<0.01$) compared to the poorest women. Overall older, wealthier, more educated, working and urban women had a higher odds of a facility delivery than their counterparts. Ethnicity was also significant as women of Fulani, Igbo, Yoruba and other tribes more likely to have a facility delivery than women of the Hausa tribe. In Model 2 the socio-economic variables retained their significance, including the strong incremental effect of the wealth variable. In addition two of the gender measures were also significant. Women with high decision-making authority had a higher odds of facility delivery than women with low decision-making authority (OR=1.29, $p<0.01$). In addition women who believed that a wife is not justified in refusing sex had lower odds of facility delivery (OR=0.79, $p<0.01$).

Discussion

This paper brings to attention the potential of the promotion of gender equality as a means to enable Nigeria to reduce maternal mortality and come closer to reaching MDG-5. There is a global focus on the promotion of gender equality and women's empowerment as seen in MDG-3; however few studies have explored associations of gender equality and maternal health outcomes in Africa[16, 17]. Findings from this paper indicate that health policies and programs that incorporate a gender focus have the potential to lead to improvements in maternal health in African countries. Given that the many maternal complications cannot be predicted or prevented and that many arise during labor, delivery and the immediate post-partum period, childbirth in a health facility is instrumental in reducing maternal mortality.

Two of the four gender measures studied were significant after controlling for socioeconomic factors including education, wealth and cultural diversity (ethnicity and religion). Women with high decision-making authority were more likely to have a facility delivery than women with low decision-making. Women with high decision-making authority likely have more ability to advocate for services and solicit assistance in obtaining those services. The attitude variable of whether a wife has the right to refuse sex was also significant. Women who believed a wife does not have such a right were less likely to have a facility delivery. The policy implications for greater focus on gender should include context-specific changes that enable women to utilize needed health services and provide protection to those who chose to exercise that right. More also needs to be at the community level to challenge regional norms that support gender inequity and that ultimately may block access to services.

Results from this research also indicate that socioeconomic variables and cultural factors are important for childbirth in a facility. Of note are the significant associations of education, working status and wealth. Resources, such as education, wealth and employment, are often seen as a component of empowerment or as enabling factors that can lead to women's equality[19]. For example it may be difficult for a woman in dire poverty to have autonomy because the concept of autonomy implies that an individual has choice. A woman in dire poverty may not have much choice – the ability to obtain a facility delivery may not be feasible because of a complete lack of resources. However, of particular relevance is that even after controlling for wealth, working status and education, two of the gender equality measures were significant. Thus a focus on gender equality in addition to a focus on education and poverty-reduction can do more to improve maternal health than a focus on education and poverty-reduction alone.

A key limitation of this analysis is the lack of a variable on accessibility or distance to nearest health facility. It could be that a woman has autonomy and positive gender attitudes but the nearest health facility is too far away. However, we believe this limitation is somewhat mitigated by the inclusion of the residence (urban/rural) variable which may account for some of the differences in accessibility.

A programmatic and policy focus on gender has particularly important implications for reducing

maternal mortality in Nigeria as well as other countries where the burden of maternal mortality is high. By enabling women to have the autonomy to deliver their child in a health facility, we can enable countries to see significant reductions in maternal mortality and achieve MDG-5. Most importantly we will see fewer children, families and communities devastated by the loss of a mother.

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