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Paper Title: Gender Equity and Maternal Health in Urban Nigeria

Significance/Background: Gender empowerment plays a significant role in determining maternal health in sub-Saharan Africa. This may be a consequence of women who have greater gender empowerment having a greater say over their own and their children's health care utilization. Recent research has demonstrated that more empowered women, measured as having greater access to financial resources, greater decision-making autonomy, and greater mobility, are more likely to access antenatal care during pregnancy and to have deliver in a health facility or with the aid of a trained attendant (Ying, 2011; Ahmed, 2010; Kumar, 2011-PAA). Most of the studies on the role of gender equity and maternal health come from studies in rural settings primarily in Asia where access to health care is limited and traditional values often determine relationship dynamics. To date, there is a lack of evidence and data available for urban populations in Africa, specifically research into the association between urban women's empowerment and maternal health outcomes. This study addresses this research gap by examining the role of women's empowerment on indicators of maternal health using recently collected data from six major urban areas in Nigeria.

Main Question/Objective: The objective of this study is to investigate whether women's empowerment in urban Nigerian settings is associated with maternal health outcomes. The study explores and presents the concept of empowerment through a multi-dimensional approach including the themes of economic freedom, equitable decision-making, autonomy and domestic violence perceptions.

Methodology: The study uses baseline household survey data from the Measurement, Learning & Evaluation Project for the Urban Reproductive Health Initiative being implemented in six major cities of Nigeria namely, Abuja, Benin City, Ibadan, Ilorin, Kaduna and Zaria. A two-stage sampling approach was used to select a representative sample from each city; at the first level, we randomly selected city-level primary sampling units (PSU). A household listing was then completed for all selected PSUs and, at the second stage, a random sample of 41 households was selected in each selected PSU. In all selected households, all women ages 15-49 were eligible for interview; in half of the households, men were also interviewed (not included in this study). The total sample size across the six cities is 16,144 women. The data were collected between October, 2010 and March, 2011.

A number of measures were included in the questionnaires to capture various dimensions of empowerment. For each domain, multiple measures were included; thus we created composite measures for each of the gender-related domains including: dimensions of decision-making power, autonomy, and domestic violence perceptions. Economic freedom was measured with one variable indicating whether or not women have access to money that they can decide themselves how to spend. Correlation matrices were run both among variables within a given empowerment domain and across the constructed composite measures and the economic freedom indicator. There was a high level of correlation among variables within domains and relatively low correlation across composite measures. The economic freedom indicator and the three composite measures are the key independent variables of interest. Three dependent variables related to maternal health were explored; attendance of any antenatal care visit among women who were currently pregnant, presence of a skilled birth attendant

and institutional delivery at last birth; the second and third outcomes are among women who have had a child in the 3 years preceding the survey. Multivariate analyses techniques are used to examine the associations between the empowerment dimensions and the maternal health variables among women across the 6 cities. All models control for key demographic variables including age, education, religion, employment status in the last year, city, parity and marital status. Additionally, the ANC model controls for duration of pregnancy.

Results/key findings: Preliminary results show that across the six Nigerian cities, only 56% of women currently pregnant have attended an ANC visit. Institutional delivery in urban areas is also low at 67%, with most of the remaining women giving birth at home. Use of a skilled birth attendant at delivery is slightly higher at 75% (see Table 3). Gender empowerment is based on the four dimensions of economic freedom, decision-making, autonomy (does the women's partner/husband prohibit her to do certain activities) and domestic violence perceptions. In relation to economic freedom, only about 60% of the women interviewed have access to money that they have the freedom to spend as they please. Notably, 54% of women have worked in the last year (see Table 1).

Decision-making as a dimension of women's empowerment is measured through a series of questions related to social norms and decision-making in the areas of household management, seeking medical care and visits to friends and family. The majority of women (74%) believe that husbands should have the greater say in deciding on large household purchases as compared with one-quarter of women who believe this with small household purchases.

Autonomy measured by whether the woman is not prevented from doing certain activities by her partner is measured through a set of questions that include items such as working outside the home, having visits from people, visiting friends and family and using a mobile phone. Twenty percent of women report that they are prohibited from working outside the home and about 9% are prohibited from visiting friends. Only 6% and 5% of women are prohibited from visiting family and using mobile phones, respectively.

Women were asked about a series of domestic situations which might, in their opinion, warrant physical punishment for a woman. Domestic violence perceptions vary, with the highest proportion of women reporting that hitting/beating is justified when infidelity is suspected (22%) and the lowest (6%) if the woman refuses to have another child. Initial multivariate analyses were conducted controlling for key demographic factors to permit an assessment of whether different empowerment domains are important to ANC visits, institutional and skilled attendant deliveries. Initial results show the strongest positive association (significant at $p \leq .001$ level) between higher levels of equitable decision-making and delivery with a skilled birth attendant. Other significant results include a positive association between attitudes not in support of domestic violence (significant at $p \leq .05$ level) as well as greater autonomy (significant at $p \leq .10$ level) with the outcome of delivery in an institutional setting (see Table 4).

Conclusion: Efforts should be made to improve women's decision-making to support better maternal health outcomes including institutional delivery with skilled birth attendants. Additionally, programs should address domestic violence perceptions among women and men to improve the overall physical and mental health as well as maternal health outcomes of women living in urban areas of Nigeria.

Table 1: Demographic characteristics of urban women in Nigeria		
Characteristic		**Percent**
Age group	< 20 years	18.4
	20-34 years	52.5
	35-49 years	29.1
Religion	Christian	46.5
	Muslim	52.6
	None/Missing	0.9
Parity	0	36.5
	1	10.7
	2	11.5
	3	11.3
	4	10.4
	5+	19.6
Currently married/ living together	Yes	63.0
	No	37.0
City	Abuja	13.2
	Benin	15.6
	Ibadan	18.1
	Ilorin	15.2
	Kaduna	17.7
	Zaria	20.3
Education	None/Quranic	12.9
	Primary	14.9
	Junior sec.	11.5
	Senior sec.	37.6
	Higher	23.2
Worked in the last year		
Yes		54.3
No		45.7

Table 2: Gender-related Characteristics of urban women in Nigeria	
Characteristic	**Percent**
Economic freedom – woman has money of her own she can use.	
Yes	60.2
No	34.8
Equitable decision making	
0	22.4
1	35.1
2	42.4
3	
4	
Autonomy: permitted by husband to do certain activities	
0	38.6
1	1.1
2	1.0
3	1.4
4	5.1
5	12.8
6	40.0
Attitudes not in support of domestic violence	
0	6.0
1	1.7
2	2.2
3	3.3
4	4.7
5	6.5
6	10.1
7	65.5

Table 3: Maternal Health Characteristics of urban women in Nigeria	
Characteristic	**Percent**
ANC	
Yes	56.5
No	43.5
Institutional delivery	
Yes	66.8
No	33.2
Assisted delivery	
Yes	74.7
No	25.3

Table 4: Multivariate Logistic Regression Findings for ANC attendance, institutional delivery, and delivery assisted by a skilled birth attendant among urban women in Nigeria

Outcome variable	**ANC** (n=1204) OR (95% CI)	**Institutional delivery** (n= 5491) OR (95% CI)	**Assisted delivery** (N=5491) OR (95% CI)
Economic freedom – woman has money of her own that she alone can decide how to use	1.53 (0.65-3.59)	0.87 (0.56-1.33)	0.80 (0.53-1.21)
Equitable decision making	1.00 (0.89-1.13)	1.03 (0.98-1.09)	1.10 (1.04-1.17)***
Autonomy: permitted by husband to do certain activities	1.08 (0.93-1.26)	1.07 (1.00-1.08)+	0.99 (0.92-1.07)
Attitudes not in support of domestic violence	1.00 (0.92-1.09)	1.04 (1.00-1.08)*	1.02 (0.98-1.06)

All models control for age, employment status in the last year, religion, education, city, parity, and marital status; the ANC model also controls for duration of pregnancy; +p≤.10; *p≤.05; **p ≤ .01; ***p ≤.001

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