CLINICAL ARTICLE

Understanding the relationship between access to care and facility-based delivery through analysis of the 2008 Ghana Demographic Health Survey

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ABSTRACT

Objective: To determine the types of access to care most strongly associated with facility-based delivery among women in Ghana. *Methods:* Data relating to the "5 As of Access" framework were extracted from the 2008 Ghana Demographic Health Survey and analyzed using multivariate logistic regression. *Results:* In all, 55.5% of a weighted sample of 1102 women delivered in a healthcare facility, whereas 45.5% delivered at home. Affordability was the strongest access factor associated with delivery location, with health insurance coverage tripling the odds of facility delivery. Availability, accessibility (except urban residence), acceptability, and social access variables were not significant factors in the final models. Social access variables, including needing permission to seek healthcare and not being involved in decisions regarding healthcare, were associated with a reduced likelihood of facility-based delivery when examined individually. Multivariate analysis suggested that these variables reflected maternal literacy, health insurance coverage, and household wealth, all of which attenuated the effects of social access. *Conclusion:* Affordability was an important determinant of facility delivery in Ghana—even among women with health insurance—but social access variables had a mediating role.
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1. Introduction

The majority of maternal and neonatal deaths occur during or shortly after delivery. Encouraging pregnant women in low-income countries to deliver at healthcare facilities is, therefore, considered an effective way to combat this issue [1].

Many factors relate to facility-based delivery, including the number of previous births [2,3], maternal age [2], household wealth [4,5], rural versus urban residence [6–8], and level of education [4,9,10]. "Access to care" is also an important determinant; however, it is typically described in terms of distance to the nearest facility, the ability to find transport, and whether women are insured or can afford the services provided. A meaningful discussion of what access to care encompasses for women living in Sub-Saharan Africa is still lacking.

The "5 As of Access" is a conceptual framework that considers 5 factors influencing access to healthcare [11]. Affordability covers the ability and willingness of patients to pay for the services provided. Availability considers the extent to which healthcare providers possess the technology and personnel resources to meet the needs of patients. Accessibility refers to ease of travel to the healthcare provider (e.g. distance to the facility and availability of transport). Accommodation considers the extent to which healthcare providers can meet the constraints and preferences of individual patients (e.g. hours of operation, how communications are handled, and whether appointments are required). Finally, acceptability is the degree to which patients are comfortable or uncomfortable with the characteristics of the healthcare provider (e.g. age, sex, social class, and ethnicity) [11,12] (Table 1).

It was hypothesized that the 5 As of Access framework could be applied to data obtained by the 2008 Ghana Demographic Health Survey (DHS) in order to examine the relationship between access factors and facility-based delivery among women who had given birth within the previous year. In addition, this proposed research would explore the relative merit of an additional category of "social access," defined as the extent to which social and cultural factors influence healthcare-seeking behaviors. The 2008 Ghana DHS included several questions related to affordability, availability, accessibility, and acceptability, but none related to accommodation. These 4 access factors could potentially be explored in a multivariate model. In addition, the 2008 Ghana DHS included a number of questions regarding social access.

The aims of the present study were to identify access factors strongly associated with facility-based delivery among women in Ghana and to

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determine whether social access factors have sufficient explanatory power to be included in a model of facility-based delivery.

2. Materials and methods

The 2008 Ghana DHS was a nationally representative demographic health survey that recruited 4916 women aged 15–49 years. The sample population analyzed in the present study was weighted [13] to account for the complex design of the 2008 Ghana DHS. The present study relied upon secondary analysis of anonymous, publicly available data. As a consequence, it was exempt from the processes of ethical review and informed consent.

Participants completed detailed interviews about a variety of health-related topics. The dependent variable of interest was "place of delivery," which was associated with 10 different response options in the 2008 Ghana DHS. All response options reflective of deliveries in any healthcare setting (e.g. private hospital, district hospital, regional health center, health post) were collapsed into a single category to reflect deliveries in any facility. All response options reflective of deliveries outside a healthcare setting (e.g. respondent's home, other home) were collapsed to reflect non-institutional delivery.

Sociodemographic factors included age-related variables, number of previous births, education level, marital status, household wealth, religion, and ethnicity. Table 1 illustrates the categories of access evaluated, as well as the 2008 Ghana DHS items used for measurement. Social access was assessed through 3 primary items: needing permission to seek healthcare, not wanting to go to a healthcare facility alone, and level of participation in the final decision regarding healthcare.

Data were analyzed using STATA version 11.1 (StataCorp, College Station, TX, USA). Univariate and bivariate statistics were calculated for demographic variables, health and health system utilization variables, and potential access barriers. The final weighted sample for the multivariate regression analyses excluded all women with missing data on any of the key variables found to be significant in the bivariate analysis. Multivariate logistic regression was conducted with clusters of similar variables to identify the related variables most strongly associated with facility-based delivery. The access-related clusters examined were limited to those factors found to be significant in the bivariate analysis. Variables found to be significant ($P < 0.05$) within their clusters were carried forward for inclusion in the comprehensive models. Forward stepwise multivariate logistic regression was conducted using the strongest predictors from each cluster to create a final model of facility-based delivery.

3. Results

Of the 4916 women recruited to the 2008 Ghana DHS, 2992 reported on the location of their previous delivery, 1177 reported giving birth within the past year, and 1161 indicated that their delivery was either at home or in a facility setting. The final weighted sample comprised 1102 women.

Table 2 shows the sociodemographic characteristics stratified by place of delivery. Across the sample as a whole, women had a mean age of 29 years, more than 3 previous births, and first experienced delivery at approximately 20 years of age. In all, 55.5% of the women had delivered their most recent child in a healthcare facility. Women who delivered in healthcare facilities were more likely to be better educated, more literate, live in an urban area, identify as a Christian, be in a non-polygamous union, and have partners with higher education level than the women who delivered at home. Women delivering in healthcare facilities also had fewer previous births, were older at the time of their first birth, and had more prenatal care visits than women who did not deliver in such facilities. Across the sample, 41.3% of respondents reported having health insurance, of which 93.8% reported being covered by Ghana's National Health Insurance scheme.

The bivariate analysis indicated that women who delivered in healthcare facilities had fewer issues with affordability, accessibility, and social access, and were more likely to have high previous healthcare utilization, than women who delivered at home (Table 3). Although availability variables were reported to be a "big problem" by more than 4 out of 10 women, they did not significantly influence facility-based delivery rates. Acceptability variables were not considered a major problem for most women, nor were they significantly associated with delivery in a healthcare facility.

In all, 8.3% of the sample population was excluded from the multivariate analysis. No significant differences were observed in terms of facility-based delivery rates or literacy between the included and excluded women. However, women with missing data were slightly younger (mean 25.6 vs 29.0 years; $P < 0.001$) and reported fewer previous births (mean 2.8 vs 3.7; $P = 0.003$) than the women included in the multivariate analysis.

In multivariate analysis examining clusters of related variables separately (Table 2), the sociodemographic variables most strongly associated with facility-based delivery were age at first marriage, maternal literacy, partner's education level, not being in a polygamous relationship, urban residence, traditional or Muslim religion, and

Table 1

The "5 As of Access" framework as assessed in the 2008 Ghana Demographic Health Survey.

5 As of Access category	5 As of Access definition	DHS item
Affordability	How the provider's charges relate to the patient's ability and willingness to pay for services	Mean wealth index Health insurance coverage Cost as a perceived barrier[a]
Availability	Extent to which the provider has the resources, such as personnel and technology, to meet his or her patients' needs	Concern about there being no provider at the facility[a] Concern about there being no medication available at the facility[a]
Accessibility	Geographic accessibility	Distance to nearest facility[a] Having to find transport[a] Rural vs urban residence Region of residence
Accommodation	Extent to which the provider's operation is organized in ways that meet the constraints and preferences of the patient	N/A
Acceptability	Degree to which the patient is comfortable with the characteristics of the provider, and vice versa	Concern about there being no female provider available at the facility[a]
Social access	N/A[b]	Needing permission to seek healthcare[a] Not wanting to go to healthcare facility alone[a] Who has final say in healthcare decisions?

Abbreviations: DHS, Demographic Health Survey; N/A, not applicable.

[a] Question focused on barriers to utilization of general healthcare services (big problem vs not a big problem).

[b] Social access was not included in the original 5 As of Access model. The working definition of this category was the degree to which social and cultural factors influence care-seeking behavior.

Table 2
Sociodemographic characteristics of a weighted sample from the 2008 Ghana Demographic Health, stratified by place of delivery.[a]

Variable	Weighted sample (n = 1102)	Women who delivered in a healthcare facility (n = 612; 55.5%)	Women who did not deliver in a healthcare facility (n = 490; 44.5)	P value[b]
Age-related cluster				
Age, y	28.6	28.6	28.6	0.981
Age at first birth, y	20.2	20.8	19.3	0.001
Age at first marriage, y	19.0	19.8	18.0	<0.001
Age difference, y[c]	-7.2	-6.7	-7.9	0.045
Birth-related cluster				
Total births	3.6	3.2	4.0	<0.001
Living children	3.2	2.9	3.5	<0.001
Children aged ≤5 y in the household	2.0	1.9	2.2	0.002
Education cluster				
Highest level of education				
No education	34.9	22.9	50.2	<0.001
Primary school	24.0	22.7	26.9	
Secondary school	37.6	49.5	22.7	
Higher education	3.4	5.9	0.2	
Literacy				
Cannot read at all	69.6	55.2	87.1	<0.001
Can read partial sentences	11.0	15.2	5.2	
Can read complete sentences	19.4	28.7	7.7	
Partner's level of education				
No education	29.3	16.6	45.0	<0.001
Primary school	11.2	9.4	13.3	
Secondary school	51.5	60.9	40.0	
Higher education	8.0	13.1	1.7	
Marriage cluster				
Married	73.2	75.4	71.4	0.307
No polygamist union	73.2	78.4	66.8	0.002
Region and ethnicity clusters				
Religion				
Christian	67.6	76.2	57.0	<0.001
Muslim	21.4	18.0	25.6	
Traditional[d]	6.0	1.8	11.2	
None	5.0	4.0	6.2	
Ethnicity				
Akan	41.0	63.8	36.2	<0.001
Ga-Adangbe	4.7	53.1	46.9	
Ewe	14.1	65.1	34.9	
Guan	3.3	40.9	59.1	
Mole-Dagbane	21.3	46.1	53.9	
Grussi	3.8	65.6	34.4	
Gruma	6.9	22.5	77.5	
Mande	0.5	83.6	16.4	
Other	4.8	51.7	48.3	
Prior utilization cluster				
PNC from a doctor, nurse, or midwife	84.2	92.7	71.3	<0.001
Told about pregnancy complications at PNC visit	68.4	77.1	54.2	<0.001
Told where to go for complications during PNC visit	92.9	92.8	93.1	0.918
PNC visits	5.8	6.6	4.5	<0.001

Abbreviation: PNC, prenatal care.
[a] Values are given as mean or percentage, unless otherwise indicated.
[b] Means compared using binary logistic regression for continuous variables and χ^2 test for categorical variables.
[c] A negative value indicates that the woman was younger than her partner.
[d] Traditional religion refers to beliefs and practices reflective of indigenous peoples, typically including communication with ancestors and other spirits.

Akan ethnicity (Tables 2 and 3). These variables were combined in a multivariate model (Table 4).

Models 2–5 in Table 5 illustrate the relationship between access-related variable clusters and facility-based delivery. In terms of affordability, both wealth index and having health insurance were associated with a more than doubling of a woman's likelihood of delivery in a healthcare facility. In terms of accessibility, urban location was associated with an increased likelihood of facility-based delivery; the odds ratio (OR) was 6.3 (95% confidence interval [CI], 3.8–10.6; $P < 0.001$). By contrast, living in the Northern region of Ghana was associated with a reduced likelihood of facility-based delivery; the OR was 0.2 (95% CI, 0.1–0.4; $P < 0.001$). Notably, distance to the facility and finding transport were not significantly related to facility-based delivery.

The number of prenatal visits correlated with facility-based delivery, whereas being told where to go for complications at the prenatal care visit decreased the likelihood of delivery at a healthcare facility, although this latter finding may reflect sample size issues (Table 6). The social access variables of needing permission to go to a healthcare facility and not participating in the final healthcare decision were both significantly associated with a lower likelihood of delivery in such a facility (Table 6).

When the significant variables from all previous models were entered into a single model (data not shown), wealth index, health insurance, urban location, and maternal literacy were all associated with an increased likelihood of facility-based delivery, whereas being told where to go in the event of complications during prenatal visits and traditional and Muslim religion were associated with a

Table 3

Access-related characteristics of a weighted sample from the 2008 Ghana Demographic Health Survey, stratified by place of delivery.[a,b]

Variable	Weighted sample (n = 1102)	Women who delivered in a healthcare facility (n = 612; 55.5%)	Women who did not deliver in a healthcare facility (n = 490; 44.5%)	P value[c]
Affordability cluster				
Mean wealth index, scale of 1–5	2.7	3.3	1.9	<0.001
Covered by health insurance	41.3	57.3	21.3	<0.001
Showed valid NHIS card if answered "yes" to health insurance	69.6	68.8	71.9	0.784
Cost of treatment as a barrier to seeking healthcare[d]	47.3	39.5	57.1	<0.001
Availability cluster				
Concern no provider available as a barrier to seeking healthcare[d]	41.3	41.9	40.4	0.741
Concern no drugs available as a barrier to seeking healthcare[d]	42.5	40.7	44.8	0.367
Accessibility cluster				
Distance to facility as a barrier to seeking healthcare[d]	29.7	23.8	37.1	0.001
Having to find transport as a barrier to seeking healthcare[d]	29.1	23.6	35.9	0.004
Urban residence	37.0	55.0	14.6	<0.001
Region of residence				
Greater Accra	10.8	79.4	20.6	<0.001
Western or Central	21.5	56.1	43.9	
Volta or Eastern	17.7	56.9	43.1	
Ashanti or Brong Ahafo	24.0	67.2	32.8	
Northern	18.5	23.0	77.0	
Upper West or Upper East	7.5	60.1	39.9	
Acceptability cluster				
Concern no female provider available as a barrier to seeking healthcare[d]	18.8	16.4	21.7	0.101
Social access cluster				
Needing permission as a barrier to seeking healthcare[d]	9.5	6.7	13.0	0.007
Not wanting to go alone as a barrier to seeking healthcare[d]	15.8	12.7	19.8	0.008
Who has the final say in healthcare decisions?				
Woman alone or with partner	59.9	63.6	55.2	0.040
Partner or someone else	40.1	36.4	44.8	

Abbreviation: NHIS, National Health Insurance Scheme.
[a] Values are given as mean or percentage, unless otherwise indicated.
[b] Accommodation variables not included.
[c] Means compared using binary logistic regression for continuous variables and χ^2 test for categorical variables.
[d] Respondents rated the factor as "a big problem."

decreased likelihood of facility-based delivery. In the final model—Model 6—the non-significant variables were removed and results suggested that wealth index, having health insurance, being told where to go for complications during prenatal care, maternal literacy, and Muslim religion were the factors most strongly associated with facility-based delivery, even after adjusting for urban status (Tables 5 and 6). In the terminology of the 5 As of Access, affordability is one of the most important access-related factors in influencing facility-based delivery. The influence of Muslim religion indicates the importance of social access.

Table 4

Multivariate logistic regression analysis of sociodemographic variables associated with facility-based delivery in the 2008 Ghana Demographic Health Survey (n = 1010).

Variable	Model 1 Facility-based delivery OR (95% CI)	P value
Age at first marriage	1.1 (0.9–1.1)	0.09
Maternal literacy		
Cannot read	Reference	
Can read partial sentences	3.0 (1.4–6.0)	<0.01
Can read complete sentences	2.3 (1.3–4.2)	<0.01
Partner's education level		
No education	Reference	
Primary	1.5 (0.7–3.0)	0.31
Secondary	1.7 (1.0–2.9)	<0.05
Higher education	4.6 (1.5–13.9)	<0.01
No polygamist union	0.9 (0.6–1.6)	0.83
Urban residence	5.2 (3.0–8.9)	<0.001
Traditional religion	0.4 (0.1–0.9)	<0.05
Muslim religion	0.4 (0.2–0.8)	<0.01
Akan ethnicity	1.0 (0.6–1.6)	0.96

Abbreviations: CI, confidence interval; OR, odds ratio.

Other than the influence of Muslim religion, social access factors were not sufficiently robust to warrant inclusion in the final multivariate model. Once affordability and accessibility variables were entered into the model (Table 5), the impact of social access was markedly attenuated. Table 6 illustrates how the ORs and levels of significance for the strongest social access variables (i.e. needing permission to go to a healthcare facility and not participating in the final healthcare decision) changed with the addition of each factor included in the final models of the other access variables (Table 5). Individually, maternal literacy, health insurance coverage, and wealth index each overpowered the statistical significance of the social access variables.

Traditional or Muslim religion did not substantially influence social access factors. This finding was noteworthy given that needing permission to seek healthcare was associated with traditional religious practice (P = 0.01). When all factors were entered together, health insurance coverage (OR, 2.9; P < 0.001), ability to read at least partial sentences (OR, 2.7; P < 0.01), and wealth index (OR, 2.1; P < 0.001) remained statistically significant, whereas religion and the social access factors did not. This finding suggests that social access factors are important determinants because they are linked to lower educational attainment, lack of health insurance, and lower household wealth.

4. Discussion

Analysis of the 2008 Ghana DHS suggested that affordability was the most important access barrier related to facility-based delivery. Multivariate analysis indicated that even after adjusting for urban status and maternal literacy, health insurance coverage was associated with a 3-fold increase in the odds of facility delivery, while each unit increase on a 5-point wealth index nearly doubled the odds of

Table 5

Multivariate logistic regression analysis of access-related variables associated with facility-based delivery in the 2008 Ghana Demographic Health Survey (n = 1010).

Variable	Model 2 OR (95% CI)	Model 3 OR (95% CI)	Model 4 OR (95% CI)	Model 5 OR (95% CI)	Model 6 OR (95% CI)
Affordability					
Wealth index	2.3 (2.0–2.7)[b]				1.8 (1.4–2.2)[b]
Covered by health insurance	2.7 (1.8–4.2)[b]				2.8 (1.9–4.2)[b]
Cost of treatment as a barrier	0.7 (0.4–1.0)				
Accessibility					
Distance as a barrier		0.6 (0.3–1.2)			
Finding transport		1.0 (0.5–2.2)			
Urban location		6.3 (3.8–10.6)[b]			1.9 (1.0–3.6)[c]
Region					
Accra		Reference			
Western or Central		0.7 (0.3–1.8)			
Volta or Eastern		1.1 (0.4–3.1)			
Ashanti or Brong Ahafo		1.4 (0.5–3.6)			
Northern		0.2 (0.1–0.4)[b]			
Upper West or Upper East		1.5 (0.5–4.2)			
Prior utilization					
PNC visits with MD			1.4 (0.8–2.6)		
PNC visits with nurse or midwife			1.6 (0.9–2.8)		
Told where to go for complications at PNC visit			0.4 (0.3–0.7)[b]		0.7 (0.6–0.9)[b]
Told about complications at PNC visit			0.4 (0.1–1.0)		
Number of PNC visits			1.5 (1.0–2.2)[c]		
Social access					
Needing permission				0.5 (0.3–0.9)[c]	
Not wanting to go alone				0.7 (0.4–1.0)	
Not having final say in healthcare decisions				0.7 (0.5–0.9)[c]	
Maternal literacy					
Cannot read					Reference
Can read partial sentences					2.7 (1.3–5.7)[d]
Can read complete sentences					1.6 (0.9–3.0)
Traditional religion[a]					0.6 (0.3–1.6)
Muslim religion					0.5 (0.3–0.9)[c]

Abbreviations: CI, confidence interval, OR, odds ratio; MD, medical doctor; PNC, prenatal care.

[a] Traditional religion refers to beliefs and practices reflective of indigenous peoples, typically including communication with ancestors and other spirits.

[b] P < 0.001.

[c] P < 0.05.

[d] P < 0.01.

facility-based delivery. By contrast, availability, accessibility (with the exception of urban status), acceptability, and social access variables were not significant in the final multivariate models.

Social access variables, including needing permission to visit a healthcare facility and not being involved in the final decision regarding healthcare, were significantly associated with a lowered likelihood of facility-based delivery when examined individually. However, multivariate analysis suggested that these variables reflect maternal literacy, health insurance coverage, and possibly household wealth. In other words, social access factors may influence maternal literacy, health insurance, and household wealth. For example, women who require permission to seek healthcare might also need permission to attend school, obtain health insurance, or get a job. As a consequence, they may have low literacy, be less likely to have health insurance, or less likely to have a steady income and accumulate family wealth. These social access factors could in turn influence facility-based delivery rates. Such a mediating relationship seems plausible given the findings of the present study.

Many African studies have shown that the poorest women in a community are the least likely to use delivery services [4,5,9,14–20]. Several reports have highlighted the direct relationship between health insurance coverage and facility-based delivery rates [2,16,21–

Table 6

Multivariate logistic regression analysis of social access-related variables associated with facility-based delivery in the 2008 Ghana Demographic Health Survey (n = 1010).

Variable	Model 1 OR (95% CI)	Model 2 OR (95% CI)	Model 3 OR (95% CI)	Model 4 OR (95% CI)	Model 5 OR (95% CI)	Model 6 OR (95% CI)
Needing permission	0.5 (0.3–0.8)[b]	0.6 (0.3–1.0)	0.6 (0.3–1.1)	0.7 (0.4–1.4)	0.5 (0.3–0.9)[c]	1.0 (0.5–1.8)
Not having final say in healthcare decisions	0.7 (0.5–1.0)[c]	0.8 (0.5–1.1)	0.7 (0.5–1.0)	0.9 (0.6–1.3)	0.7 (0.5–0.9)[c]	0.9 (0.6–1.4)
Maternal literacy						
Cannot read		Reference				
Can read partial sentences		4.4 (2.3–8.3)[d]				2.7 (1.3–5.5)[b]
Can read complete sentences		6.5 (3.7–11.4)[d]				1.7 (0.9–3.2)
Covered by health insurance			4.7 (3.1–7.0)[d]			2.9 (1.9–4.3)[d]
Wealth index				2.5 (2.1–2.9)[d]		2.1 (1.8–2.5)[d]
Traditional religion[a]					0.1 (0.1–0.4)[d]	0.6 (0.2–1.5)
Muslim religion					0.5 (0.3–0.8)[b]	0.6 (0.4–1. 0)

Abbreviations: CI, confidence interval, OR, odds ratio.

[a] Traditional religion refers to beliefs and practices reflective of indigenous peoples, typically including communication with ancestors and other spirits.

[b] P < 0.01.

[c] P < 0.05.

[d] P < 0.001.

23]. However, none of these studies compared social access and affordability factors in their analyses. The findings of the present study suggest that social access is a valuable construct, yet its impact may be difficult to discern independently from the more powerful poverty-related variables.

The National Health Insurance scheme in Ghana fully covers both prenatal and delivery care. Nevertheless, only 41.3% of the present study sample reported having such insurance. This observation may be a function of the timing of the 2008 Ghana DHS: a national system of health insurance was adopted in principle in 2003 but did not become widely available until several years later. The Ghana DHS data were collected in 2008; despite insurance being available at roadside kiosks and healthcare centers, it is not implausible to suggest that women had not yet 'opted in' to the scheme in sufficient numbers. Nearly half of all women in the present study reported cost of treatment as a "big problem" when seeking healthcare services. Indeed, this factor was the most frequent barrier reported. Research is needed to examine whether Ghana's national opt-in insurance scheme is the optimum method to reach the majority of its population or if an alternative approach, such as automatic enrollment, should be considered. Research is also needed to explore the implications of increased uptake of health insurance over time, especially given that the national scheme was still in its infancy at the time of the 2008 Ghana DHS.

Several limitations of the present study should be considered. The use of cross-sectional data did not allow causation to be determined. In addition, analyses were limited to only those items assessed in the 2008 Ghana DHS. Thus, potentially important factors that may influence access could not be evaluated in the present study. These factors included the attitude of maternity staff, perceived or actual quality of the facilities, and the importance women place on characteristics of the delivery environment. The present study also combined many different types of facilities into a single unit for the purposes of the analysis. Further research with more complex analyses is required to help understand the distinctions between facilities, both in terms of perceived access and ultimate delivery outcomes.

In summary, the results of the present study demonstrated that in Ghana in 2008, affordability variables were an appreciable correlate of facility-based delivery among women who gave birth within the previous year. Accessibility and social access variables were also associated with facility-based delivery; however, affordability variables were the strongest in the multivariate models. Taken together, the results of the present study indicated that the 5 As of Access framework, with the addition of a social access category, represented a valid method to conceptualize access to healthcare in low-income countries. The data illustrated that improving affordability by making health insurance available to all women might not necessarily improve access and utilization if social rules dictate that they must first seek permission before attending a clinic. Future research is needed to explore the concept of social access in greater detail, generate potential tools to measure all types of access, and test potential interventions to address access-related barriers to seeking healthcare.

Conflict of interest

The authors have no conflicts of interest.

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