Cheikh-ing on maternal health care utilization in Nairobi and Ouagadougou

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The importance of maternal health care utilization to prevent maternal deaths

- Maternal mortality remains high in sub-Saharan Africa
- Poor access to health care during pregnancy and delivery are key drivers of the high maternal morbidity and mortality
- Antenatal care (ANC) serves to detect possible obstetric complications and helps in bringing women to deliver in health facilities (Soubeiga et al. 2013)
- Skilled attendance at delivery is among the most important factors of maternal survival to deal with obstetric emergencies (Campbell Graham 2006)

Contrasted situation in the slums of two Subsaharan African capital cities

- In the Nairobi Urban Health and Demographic Surveillance System (NUHDSS)
- high ANC, but non-skilled delivery remains common (Izugbara et al. 2009, 2010)
- In the Ouagadougou Health and Demographic Surveillance System (Ouaga HDSS)
- both ANC and skilled delivery nearly universal

Obstacles to maternal health care utilization in urban slums

Three supply-side obstacles identified so far :

- The cost of health services

$\Rightarrow$ *In both countries, fee reduction policies were implemented in 2002-2007, but they were unevenly implemented in Kenya* (Chuma et al. 2009, De Allegri et al. 2012)

- Distance to health services (esp. for deliveries)

$\Rightarrow$ *Greater in Nairobi, lower in Ouagadougou due to visionary health planning*

- Quantity /quality of services (staff, equipment, etc.)

$\Rightarrow$ *Nairobi's public hospitals are overloaded, public sector more developed in Ouagadougou*

Research objectives

- Compare maternal health care utilization in the informal areas of the capital cities of two sub-Saharan African countries, Kenya and Burkina Faso, home of the only two urban-only HDSS on the continent
- By comparing the practices of women with similar characteristics in the two cities, we will produce a more nuanced picture of the contextual factors, which promote (or hinder) ANC utilization and skilled delivery among the poor in urban sub-Saharan Africa
- A paradox: why such good ANC (and poor skilled delivery) in the Nairobi slums compared to Ouaga given greater problems of costs / distance / quality?

=> Other contextual factors must by at play

Data

- Data from ongoing HDSS of populations living in the two study sites in Nairobi and Ouagadougou for the period 2009 to 2011 (Ouaga starts 2009)
- For comparison with Nairobi, only informal areas from the Ouagadougou site
- Information was collected for each birth on antenatal clinic attendance (only since mid- 2010 in Ouaga), the place of delivery, and the type of professional attending to her during delivery
- Altogether, 3,346 live births were recorded during that period in the Nairobi site and 4,239 (2,501 births for ANC use) in the Ouagadougou site

Methods

- In each site, we examine differences in ANC utilization and place of delivery (type of provider done but similar) by the following socioeconomic characteristics: household socioeconomic status (SES), mother's educational level, mother's ethnic group, and neighborhood of residence.
- We also control for several demographic variables, including mother's age, marital status, parity, and year of data collection.
- Bivariate and multivariate analysis
- In the multivariate analysis, antenatal care was added as a factor of skilled delivery

Bivariate results: ANC use

Nairobi Urban HDSS				Ouagadougou HDSS			
	0 time	1-3 times	4 times &+		0 time	1-3 times	4 times &+
Household SES**				**Household SES**		0.0	0.0
Poor	3.2	51.9	44.9	**Poor**	3.5	79.2	17.3
Not poor	1.3	50.3	48.4	**Not poor**	4.4	69.9	25.7
Mother's education**				**Mother's education**			
Inc prim/no educ	3.9	55.7	40.3	**Not educated**	4.5	77.3	18.2
Completed primary	1.7	50.7	47.6	**Primary**	3.6	69.2	27.2
Secondary+	0.8	46.3	52.9	**Secondary+**	3.1	67.3	29.6
Total	**2.1**	**51.0**	**46.9**	**Total**	**4**	**74.0**	**22.0**
N= 3346				**N= 2501**			

Better ANC use but more inequalities in Nairobi

- Better ANC use in Nairobi: especially for 4 visits, but also fewer had 0 visits
- No significant difference by SES and educational attainment in Ouaga, but differences in Nairobi
- No differences by residence or ethnicity in the bivariate analysis in both sites
- Marital status, parity: significant differences in Nairobi and not in Ouaga

Bivariate results: Place of delivery

Nairobi Urban HDSS				Ouagadougou HDSS			
	Home	Health facility	Other		Home	Health facility	Other
Household SES**				Household SES			
Poor	21.6	77.8	0.6	Poor	3.5	94.4	2.1
Not poor	16.9	82.0	1.1	Not poor	2.4	95.5	2.1
Mother's education**				Mother's education			
Incomplete pri/no educ	18.2	80.8	1.0	Not educated	3.7	94.1	2.2
Completed primary	20.6	78.4	1.0	Primary	2.2	95.7	2.1
Secondary+	16.4	83.1	0.5	Secondary+	0.7	97.4	1.9
Total	18.9	80.2	0.9	Total	2.9	95.0	2.1
N=3346				N=4239			

Less health facility deliveries and more inequalities in Nairobi

- More women have a birth at home in Nairobi: 19% versus 3% in Ouagadougou

$\Rightarrow$ In Ouaga, anectotal evidence shows suggest that those who delivered outside of the hospital did so on their way to the hospital

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- No differences by residence or ethnicity in the bivariate analysis in both sites
- Marital status, parity: significant differences in Nairobi and not in Ouaga

Multivariate results

- The multivariate analyses (see paper) confirm:

- in Nairobi, poorer and less educated women are less likely to have at least one ANC visit and deliver more often at home; ANC use is related to place of delivery
- in Ouaga, no difference by wealth or education in likelihood of having at least one ANC visit (not true for four visits) or place of delivery; ANC use not related to place of delivery

Discussion

- The absence of socio-economic differentials in Ouaga in the place of delivery is likely due to a well-enforced policy which prohibits non-medical birth attendants from assisting with deliveries in the city

$\Rightarrow$In Ouagadougou, women **cannot** deliver at home

- Moreover, in Ouaga, women need proof of at least one ANC visit (not four) to deliver in a health center: strong incentives for the first visit (but not for four)
- Altogether, women who do not benefit from any ANC or are unable to make it to the facility in time do not belong to specific socio-demographic groups in Ouagadougou, and these two variables are not linked

Discussion 2

- Women with similar caracteristics have better ANC use (4 visits) in Nairobi than in Ouaga, despite greater obstacles to public health care utilization (costs, distance, quality). Why?

$\Rightarrow$Higher access to close-by, affordable, for-profit health facilities, numerous in the Nairobi site. But many of these for-profit facilities do no meet minimum standards (Fotso et al. 2008)

$\Rightarrow$Test of voucher program to improve the quality of health services in the Nairobi slums (Amendah et al. 2013, Njuki et al. 2013)

Conclusion

- The presence of numerous for-profit health facilities within slums in Nairobi seem to help women have all four ANC visits, although the services received may be of substandard quality
- In Ouagadougou, the lack of socioeconomic differentials in having at least one ANC visit and in delivering at a health facility suggests that these practices stem from the application of well-enforced maternal health regulations; however, these regulations do not cover the entire set of four visits
- *Limitations*: further research is needed to confirm these hypotheses; also, further work is needed to render socioeconomic and demographic variables more completely comparable across the two sites

References and funding

- For complete references see Rossier C., K. Muindi, A. Soura, B. Mberu, B. Lankoande, C. Kabiru, R. Millogo (2014) « Maternal Health Care Utilization in the Slums of Nairobi and Ouagadougou: Evidence form HDSSs*", Global Health Action,* 7: 24351

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