

Levels and Factors Associated with Birth Registration in the slums of Nairobi

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Draft: Please do not cite without the authors' authorization.

Abstract

In this paper, we look at levels and factors associated with birth registration in Nairobi slums using data from the Nairobi Cross-sectional Slum Survey 2012, a DHS-type survey that the African Population and Health Research Center (APHRC) conducted in 2012 in all Nairobi slums, Kenya. Using descriptive statistics and logistic regression, we established that children who are at least 3 years are more likely than those aged less than a year to have a birth certificate. Children born to Kikuyu/Meru/Embu mothers are more likely to be registered and to have a birth certificate as compared to those born to mothers from other ethnic groups. Children whose mothers are at least 25 years are more likely to be registered and get a birth certificate after registration. Mother's with a college or university education are twice as likely to register their children compared to those with no education. Delivery in health facility and presence of a health professional is also associated with increased registration and certification.

Introduction

Birth registration is not only a matter of human rights [1] but it also serves as an important instrument for a country's development planning. Unfortunately, the births of nearly one third of the global population of under-five children have never been registered according to Unicef [1]. In sub-Saharan Africa, 55% of children below the age of five are unregistered [2]; it is the case of 40% of children in Kenya [3]. There is a huge gap between births registration in urban areas (19% unregistered) compared to rural areas (43% unregistered) while little is known about the proportion of unregistered children in slums [4]. By missing out on birth registration, it means these children are potentially disenfranchised risking their recognition before the law and citizen entitlements.

According to a Unicef report, 60 percent of children aged five years and below do not have a birth certificate in Kenya [1]. The higher registration in older children is explained by a requirement for a birth certificate to access education and health care. The report also indicate that many mothers lack knowledge on how to register a child but gender parity in birth registration appears to be the norm in almost all countries. Differences in birth registration levels can be found among children of different religious backgrounds. In some countries, children living in urban areas are six times more likely to be registered compared to those living in rural areas [1]. The report appreciates this generalization may hide inequalities in some geographic areas such as slum populations. There is correlation between a family's wealth and birth registration rates, with children from the richest households being more than twice as likely to be registered as children from the poorest households. Children of mothers with some level of education are more likely to be registered.

The law governing registration of births in Kenya is known as the births and deaths registration Act [5]. The registration of birth of a new born child typically is facilitated by the local hospital where the child is born or the community healthcare worker present at birth. Currently about 84% of women reported to deliver in health facilities in Kenya[6]. Some of the health facilities in slums are not recognized by the government and hence cannot offer birth registration services. If the birth does not take place in a recognized hospital or is not presided over by a community health worker, the parents are expected to report the birth of their child to the nearest government office or government health center to register the child as soon as possible after birth. Unlike in

the rest of Kenya, the registration process in Nairobi does not involve the provincial administration but the City County medical officer of health who manages the registry of births and deaths[5]. Birth registration that is sought beyond six months is considered late registration and it attracts not just penalties but more scrutiny.

In this paper, we look at levels and factors associated with birth registration in Nairobi slums using data from the second Nairobi Cross-sectional Slum Survey that the African Population and Health Research Center (APHRC) conducted in 2012 in all Nairobi slums, Kenya. The proportion of urban population that resides in slums or lives in slum-like conditions is about 60% for Nairobi [6]. Various studies have indicated that slums score poorly compared to other urban and rural areas when it comes to health indicators and service delivery [7], [8]. Informal schooling and limited access to health facilities has also been reported[6]. Some slum settlements experience frequent fire outbreaks that lead to loss of lives, property and vital documents. Being registered confers benefits of legal identity to individuals. It is therefore important to understand why children are not registered, meaning they maybe in many ways invisible, and may be therefore denied their rights to access to social protection and inheritance, and may be more vulnerable to be subjected to exploitation, child labor and human trafficking practices. As such, slum children who live in a very challenging environment deserves more attention to help reduce their vulnerabilities.

Data and Methods

We used data from the second Nairobi Cross-sectional Slum Survey (NCSS 2012), a DHS-type survey that the African Population and Health Research Center (APHRC) conducted in 2012 in all slums of Nairobi city, Kenya (4). The main objective of the NCSS 2012 was to measure the progress made on key health and wellbeing indicators in urban slums and compare them with those from non-slum Nairobi and other parts of the country. In total, 4564 households were interviewed and a random sample of 4240 women aged 12-49 years were interviewed in the selected households. In this paper, we restricted the analytical sample to 2134 children aged 0-5 years who were recorded in the household roster administered to all households interviewed during the survey. The Kenya Medical Research Institute's ethical review board provided ethical approval for the NCSS 2012.

During the survey, the following question was asked for all household members aged 5 years and below: “Has (NAME) ever been registered with the civil authority”? Possible responses included: “Not registered”, “Yes registered without birth certificate”, “Yes registered with birth certificate within 6 months after birth”, “Yes registered with birth certificate later”, “Don’t know”. Based on these responses, we considered two dependent variables: birth registration (Yes if registered and No if not) and possession of birth certificate after registration (Yes if birth certificate issued and No if not) were collected in a household listing module of the survey. Independent variables include: child’s age, gender, place of birth, age, religion, ethnicity, marital status and education of the child’s mother as well as the household wealth index that were collected both in the household and women’s module.

We use descriptive statistics and multivariate logistic regression to look at levels of and factors associated with birth registration in Nairobi slums in 2012. Stata 13.1 was used for all analyses [9]. To account for potential lack of independence for children living in the same household, we used robust estimates for the standard errors.

Descriptive Findings

Overall, 71% of children were registered at birth but only 19% had a birth certificate as can be observed in Table 1. More children are registered at age 2 and 3. The birth certificate is sought more as the child gets older and it peaks as the child turns 3. Consistent with literature, there is gender parity as far as birth registration and getting certificate is concerned. As expected, children born in Nairobi have a marginal advantage in terms of registration (73.3% vs 68.9%) and in certification compared to those born elsewhere in Kenya (31.0% vs 26.4%). Children of older mothers are more likely to be registered compared to those of young mothers. Children born to Protestant mothers are also more likely to be registered compared to those born to mothers from other religious groups. Ethnicity is another important factor that has cultural underpinnings that could affect birth registration. Mothers from Kikuyu ethnic groups (including Meru and Embu) and Kisii are most likely to register their children’s birth (76.7% and 77.5% respectively as compared to 70.8% for Luhyas; 70.2% for Kambas; 66.5% for Luo mothers).

Children whose mother have college and university education have an advantage over those who have secondary and primary education. Compared to mothers who have no education at all,

mothers with primary and secondary education only have a marginal advantage. Kibera holds an advantage over all other divisions in Nairobi but for Dagoretti which is in the peri-urban. Children in richer households were more registered compared to those from poor households (78.4% vs. 61.4%). They were also more likely to get a certificate after registration (37.7% vs 18.1%). As expected, children delivered in health facilities (74.2%) are more likely to be registered compared to those whose birth occurred at home (55.4%) and elsewhere (59.4%).

Table 1. Percentage of children whose birth was registered and with a birth certificate in Nairobi slums, NCSS 2012.

Socio-demographics	% Registered	N	Among Registered % with certificate	N
Child's age*:				
< 1 year	71.4	430	19.2	307
1	71.2	372	26.4	265
2	72.6	398	30.8	289
3	72.3	364	35.7	263
4	69.7	313	35.3	218
5	68.1	257	34.9	175
Child sex:				
Male	71.7	1066	28.8	764
Female	70.5	1068	30.5	753
Child's place of Birth:				
Other Kenya	67.4	377	27.2	254
Nairobi	71.9	1757	30.2	1263
Mother's age*:				
Less than 25yrs	67.7	761	20.6	515
25-29 yrs	72.9	816	31.8	595
30-34yrs	71.7	343	37.0	286
35+yrs	75.2	214	39.8	161
Mother's religion:				
Catholic	71.9	545	31.6	392
Protestant	72.0	626	26.2	451
Pentecostal/Charismatic	70.7	628	32.2	444
Other Christian	68.5	238	28.2	163
Other	70.5	95	28.4	67
Mother's ethnicity:				
Kamba	70.2	439	28.9	308
Kikuyu/Meru/Embu	76.7	463	34.7	355
Kisii	77.5	173	35.1	134
Luhya	70.8	530	27.2	375
Luo	66.5	421	23.6	280
Other	62.5	104	35.4	65
Mother's Marital status:				
Never married	72.6	168	23.8	122
Currently married	71.3	1820	30.3	1297
Formerly married	67.4	135	27.5	91
Mother's education*:				
No education	71.4	35	47.1	25
Primary	66.3	1128	23.6	748
Secondary	75.4	816	35.2	615

College/University	84.9	152	42.6	129
Location in Nairobi*:				
Dagoretti	79.4	334	33.7	267
Kibera	79.0	309	27.5	244
Embakasi	71.8	606	25.1	435
Makadara	71.2	170	54.6	121
Central	53.9	154	28.9	83
Kasarani	63.0	278	17.1	175
Pumwani	61.6	99	31.2	61
Westlands	71.2	184	34.4	131
Wealth tertile*:				
Lowest	61.4	523	18.1	321
Middle	69.0	710	25.7	490
Highest	78.4	901	37.7	706
Delivery Place*:				
Health facility	74.2	1777	30.1	1318
Home	55.4	325	27.2	180
Other	59.4	32	26.3	19
Delivery provider*:				
Doctor/Nurse/Midwife	73.4	1791	30.3	1315
TBA/CHW	58.3	175	24.5	102
Relative/Other Provider	46.9	64	16.7	30
None	67.3	104	30.0	70
Total	71.7	2134	30.3	1517

* Significant at 5% level.

Findings from multivariate analysis

Results from multivariate analysis for birth registration and having a birth certificate after registration for children aged 0-5 years are presented in Table 2. Although child's age is not significantly associated with birth registration, data show that children 3 years and beyond are twice as likely to have a birth certificate after registration compared to those aged less than a year, with the difference being significant at the 5% level. There are no significant differences in terms of gender and place of birth (Nairobi vs other Kenya including rural areas). In terms of ethnicity, children born to Luo mothers are 32 percent less likely to be registered compared to those born to Kikuyu/Meru/Embu mothers. Children from other smaller tribes are also less likely to be registered compared to those from the dominant tribe in Kenya. However, among those that are registered in the small tribes including Maasai, Nubians, Somali, Mijikenda, Swahili and others are more likely to get a birth certificate underscoring how identification is important to minority groups. Older mothers (aged at least 25) are significantly more likely than those aged less than 25 to register their child's birth and get a birth certificate.

Mother's level of education attainment does not have significant influence on birth registration in slums. In fact, women with no education are twice as likely to get birth certificate for their children upon registration compared to those with college or university education. The location in Nairobi from which a child's household resides has a significant influence on birth registration. Compared to Kibera which is one of the largest slum settlements with a big presence of civil society organizations, all other slum settlements are less likely to register their children's birth. However, when it comes to certification, most children in Kibera are not given certificates of birth and they only hold an advantage over Kasarani and Embakasi. Children from the highest wealth tertile are more than twice as likely to not only be registered but also be awarded a birth certificate. Children born in health facilities and whose delivery was assisted by a health professional are more likely to be registered and given certificates.

Table 2: Factors associated with birth registration and having a birth certificate after registration for children aged 0 – 5 years (Logistic regression).

Socio-demographics	Logistic regression model for being registered	Logistic regression model for having a birth certificate
<i>Age of child (years)</i>		
< 1 year	Ref.	Ref.
1	1.00 (0.72 - 1.38)	1.48* (0.97 - 2.26)
2	1.10 (0.80 - 1.53)	1.64** (1.09 - 2.48)
3	1.01 (0.72 - 1.41)	2.23*** (1.47 - 3.39)
4	0.88 (0.62 - 1.24)	2.01*** (1.30 - 3.09)
5	0.74 (0.51 - 1.07)	1.76** (1.10 - 2.81)
<i>Child sex</i>		
Male	Ref.	Ref.
Female	0.94 (0.77 - 1.15)	1.11 (0.87 - 1.41)
<i>Child's birth place</i>		
Outside Nairobi	Ref.	Ref.
Nairobi	0.99 (0.75 - 1.29)	1.15 (0.81 - 1.64)
<i>Mothers ethnicity</i>		
Kikuyu/Meru/Embu	Ref.	Ref.
Kamba	0.83 (0.60 - 1.14)	0.87 (0.60 - 1.25)
Kisii	1.00 (0.64 - 1.56)	0.98 (0.61 - 1.59)
Luhya	0.77 (0.57 - 1.06)	0.75 (0.53 - 1.07)
Luo	0.68** (0.49 - 0.94)	0.71* (0.48 - 1.05)
Other	0.40*** (0.24 - 0.68)	1.26 (0.63 - 2.55)
<i>Mother's religion</i>		
Catholic	Ref.	Ref.
Protestant	0.94 (0.71 - 1.24)	0.68 (0.49 - 0.96)
Pentecostal/charismatic	0.97 (0.74 - 1.27)	1.09 (0.80 - 1.50)
Other Christian	0.94 (0.66 - 1.34)	1.04 (0.68 - 1.61)
Other	1.50 (0.82 - 2.72)	0.58 (0.27 - 1.22)
<i>Mother's age</i>		
Less than 25yrs	Ref.	Ref.
25-29yrs	1.17 (0.92 - 1.49)	1.45** (1.07 - 1.98)
30-34yrs	1.04 (0.75 - 1.42)	1.77*** (1.21 - 2.58)
35+	1.42* (0.98 - 2.07)	1.93*** (1.26 - 2.95)
<i>Mother's marital status</i>		
Never Married	Ref.	Ref.
Currently married	0.80 (0.54 - 1.17)	1.40 (0.88 - 2.21)
Formerly married	0.81 (0.47 - 1.38)	1.16 (0.60 - 2.23)
<i>Mother's education</i>		
No education	Ref.	Ref.
Primary	1.13 (0.25 - 1.35)	0.23*** (0.10 - 0.55)
Secondary	0.77 (0.33 - 1.81)	0.37** (0.15 - 0.91)
College/University	1.11 (0.43 - 2.89)	0.50 (0.20 - 1.28)
<i>Location in Nairobi</i>		
Kibera	Ref.	Ref.
Dagoretti	1.02 (0.67 - 1.54)	1.19 (0.78 - 1.80)
Embakasi	0.59*** (0.41 - 0.84)	0.65** (0.44 - 0.97)
Makadara	0.51*** (0.32 - 0.80)	2.70*** (1.65 - 4.40)
Central	0.30*** (0.19 - 0.46)	0.92 (0.51 - 1.65)
Kasarani	0.44*** (0.30 - 0.65)	0.54** (0.33 - 0.90)
Pumwani	0.35*** (0.21 - 0.58)	1.06 (0.56 - 2.02)
Westlands	0.56** (0.36 - 0.87)	0.98 (0.59 - 1.62)
<i>Wealth tertile</i>		

Lowest	Ref.	Ref.
Middle	1.38** (1.07 – 1.77)	1.51** (1.04 -2.19)
Highest	2.011*** (1.62 – 2.74)	2.46***(1.73 – 3.51)
Delivery Place		
Health facility	Ref.	Ref.
Home	0.62** (0.40 – 0.96)	1.54 (0.81 – 2.95)
Other	0.67 (0.28 – 1.59)	0.80 (0.27 – 2.39)
Delivery provider		
Doctor/Nurse/Midwife	Ref.	Ref.
TBA/CHW	0.92 (0.54 – 1.55)	0.78 (0.37 – 1.65)
Relative/Other Provider	0.60 (0.31 – 1.17)	0.41 (0.13 – 1.30)
None	1.10 (0.65 – 1.88)	0.95 (0.48 – 1.89)
Wald Chi-square	159.4	162.8
N	2116	1,510

*** p<0.01, ** p<0.05, * p<0.1

Discussion and Conclusion

The main objective of this paper was to examine levels and factors associated with birth registration in Nairobi slums. Findings indicate that child's age is a significant factor for birth certification with a 3 year old being twice as likely to have a birth certificate as a one year old. Most of the registration is done at birth primarily because most births are in hospitals[6]. In Kenya, most children are admitted to pre-unit school at age three. The Ministry of education gazette new requirements requiring children to have a birth certificate before being admitted in schools. Although this has not been strictly enforced, it acts as a reminder for parents to get birth certificates for their children. However, it is a requirement for all those planning to seat national exams at primary and secondary level to have a birth certificate[10]. Attempts to incentivize birth registration through making a birth certificate mandatory for access to services (such as entry to school exams) creates additional barriers to access to services for unregistered children, who are often already vulnerable [3]. Most of the children in slums attend informal schools [11] which may waive the requirement for birth certificates in order to have more numbers. Eventually, these children end up as disadvantaged adults when they fail to transit to formal secondary schools.

Children born in Nairobi slums have no advantage compared to children born outside Nairobi. Although Nairobi has better health facilities for delivery, higher numbers of hospital deliveries reported may be in facilities that are not recognized by the government for birth registration. However, proximity to administrative offices may explain the slight advantage when it comes to birth certification. Older mothers are more likely to register and get a birth certificate for their children. This may be explained by the fact that older women have more information based on their previous births.

Mothers' level of education does not affect birth registration and certification significantly. This is contrary to literature that was discussed in the introduction [3]. Administrative and informal fees can pose a prohibitive financial barrier to participation, so is complex procedure or inconsistent information in the public domain on registration[12]. In the slums, informal knowledge may play a more important role of passing information compared to mainstream media where more educated women may be more dependent on. Women with no education may be more adapted to slum life and be more involved in agency compared to those who have

education and hope to leave the slum as soon as the opportunity arises. For women who do not deliver in recognized hospital or do so at home, the process of getting the birth of their child registered is through the local administration. This process requires a lot of patience.

The enhancing or constraining factors to birth registration are place of birth of child, child's age, education and ethnicity of the mother. Bigger communities that may have better education tend to have a greater agency and thus can easily access civil authorities and register their children. Because slums have vulnerable communities with little access to facilities, birth registration should be done in the available delivery facilities within these slums even though most of the facilities are informal. The alternative will be to strengthen the referral system by traditional birth attendants and community health workers that are active in these slum communities.

References

- [1] United Nations, “Convention on the Rights of the Child,” *New York*. 1989.
- [2] P. W. Setel, S. B. Macfarlane, S. Szreter, L. Mikkelsen, P. Jha, S. Stout, and C. Abouzahr, “Who Counts ? 1 A scandal of invisibility : making everyone count by counting,” vol. 370, pp. 2003–2006, 2007.
- [3] C. M. Lewandowski, “Birth registration and childrens rights: a complex story,” *Eff. Br. mindfulness Interv. acute pain Exp. An Exam. Individ. Differ.*, vol. 1, 2015.
- [4] Unicef, “UNICEF fact sheet: Birth registration.” 2003.
- [5] C. A. Pages, “Births and Deaths Registration Act, 1926.,” *Br. Med. J.*, vol. 1, no. 3467, pp. 1118–1119, 1927.
- [6] African Population and Health Research Center, “Population and Health Dynamics in Nairobi ’ s Informal Settlements,” no. April, pp. 1–185, 2012.
- [7] C. Kyobutungi, A. Ziraba, A. Ezeh, and Y. Yé, “The burden of disease profile of residents of Nairobi’s slums: Results from a Demographic Surveillance System,” *Popul. Health Metr.*, vol. 6, no. 1, p. 1, 2008.
- [8] E. M. Zulu, D. Beguy, A. C. Ezeh, P. Bocquier, N. J. Madise, J. Cleland, and J. Falkingham, “Overview of migration, poverty and health dynamics in Nairobi City’s slum settlements,” *J. Urban Heal.*, vol. 88, no. SUPPL. 2, pp. 185–199, 2011.
- [9] StataCorp, *Stata Statistical software*, Release 13., vol. Statistica. College Station, TX: StataCorp LP, 2013.
- [10] “Instructions for registration of National exams.” Kenya National Exams Council, Nairobi, 2012.
- [11] M. Oketch, M. Mutisya, M. Ngware, and A. C. Ezeh, “Why are there proportionately more poor pupils enrolled in non-state schools in urban Kenya in spite of FPE policy?,” *Int. J. Educ. Dev.*, vol. 30, no. 1, pp. 23–32, 2010.
- [12] M. Brewer, N. Menzies, and J. Schott, “Making Identification Systems Work for the Bottom 40%,” *Just Dev.*, no. 8, 2015.