Abstract

Submitted by

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Explaining rural-urban gap in infant mortality in Kenya

Background: Developing countries have been characterized by high childhood mortality with infant mortality being the largest proportion. Inequalities are observed between different socioeconomic classes and geographical clusters within countries with rural-urban gap in infant mortality rapidly declining. Some countries experience higher infant mortality rates in urban than in rural areas: In Kenya, infants in urban areas experiencing higher risk of dying than those in rural areas since the year 2003. While rural-urban differentials in infant mortality is well documented, turning a blind eye to factors contributing to the rural-urban gap. This study establishes how factors associated with infant mortality contribute to the rural-urban gap. Mosley and Chen analytical framework to study child survival was used to investigate factors that explain the gap between urban and rural infant mortality in Kenya.

Data and Methods: Data from 2014 Kenya Demographic and Health Survey (KDHS) was used. Bivariate and multivariate regression Logistic. Logistic regression was used to determine variables significantly associated with the infant mortality at both bivariate and at multivariate levels. These analysis were carried out for urban and rural data separately. Variables that were significantly associated with infant mortality at multivariate analysis were included in the multivariate decomposition for nonlinear response models - extension of Blinder-Oaxaca decomposition model - to compute their contribution to the urban-rural gap in infant mortality.

Results: Mother's age at birth; sex of the child; size of the child at birth, use of contraceptives; breastfeeding; and ethnicity had a significant positive association with infant mortality. Preceding birth interval and source of drinking water were significant in rural areas but not significant in urban areas. The results shows that 92% of the rural-urban gap in infant mortality was explained by differences in distribution of covariates while 8% was due to differences in coefficients of these covariates. Distribution of source of drinking water; duration of breastfeeding and ethnicity were highest contributor in widening the rural-urban gap in infant mortality by 54%, 23% and 18% respectively. On the other hand, distribution of mother's age at birth and ever use of contraceptives contributed to the reduction of the rural-urban gap in infant mortality by 7% and 2% respectively.

Table 1: Detailed Decomposition of the Rural-Urban Gap in Infant Mortality

High outcome group: Rural **Low outcome group: Urban**

	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]	Pct.
E	-.29502	.33542	-0.88	0.379	-.95244	.36239	91.983
C	-.025713	.53159	-0.05	0.961	-1.0676	1.0162	8.017
R	-.32074	.39508	-0.81	0.417	-1.0951	.45362	

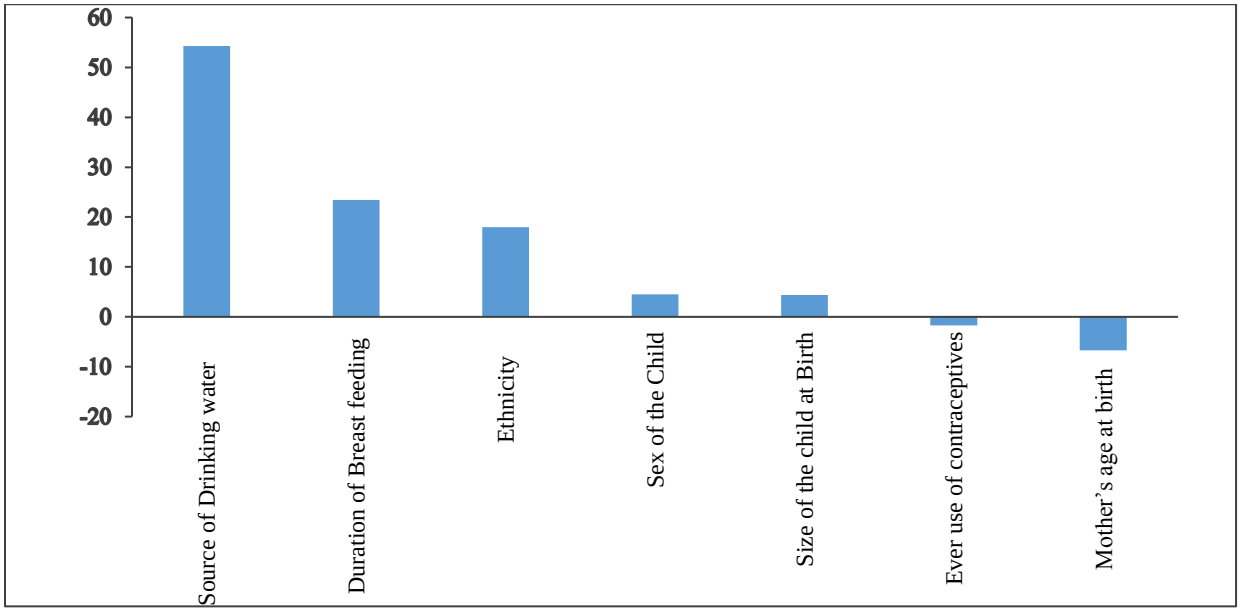
Due to Differences in Characteristics (E)

	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]	Pct.
Source of Drinking water	-.17411	.28339	-0.61	0.539	-.72955	.38133	54.285
Mother's age at birth	.021517	.024633	0.87	0.382	-.026764	.069797	-6.7085
Ethnicity	-.057869	.041211	-1.40	0.160	-.13864	.022905	18.042
Sex of the Child	-.014341	.0077267	-1.86	0.063	-.029485	.00080309	4.4713
Size of the child at Birth	-.014129	.0076508	-1.85	0.065	-.029125	.00086622	4.4053
Duration of Breast feeding	-.074944	.029205	-2.57	0.010	-.13219	-.017702	23.366
Ever use of contraceptives	.0054658	.065199	0.08	0.933	-.12232	.13326	-1.7041

Due to Differences in Coefficients (C)

	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]	Pct.
Source of Drinking water	-.52339	14.882	-0.04	0.972	-29.693	28.646	163.19
Mother's age at birth	.47745	13.668	0.03	0.972	-26.311	27.266	-148.86
Ethnicity	-.15808	4.52	-0.03	0.972	-9.0173	8.7011	49.287
Sex of the Child	.491	14.021	0.04	0.972	-26.991	27.973	-153.08
Size of the child at Birth	.089252	2.617	0.03	0.973	-5.04	5.2186	-27.827
Duration of Breast feeding	60873	17.476	0.03	0.972	-33.645	34.862	-189.79
Ever use of contraceptives	-.44937	12.814	-0.04	0.972	-25.564	24.665	140.11
Constant	-.56129	16.074	-0.03	0.972	-32.067	30.944	175.00

Figure 1: Percentage contribution of covariates in rural-urban gap in infant mortality



Conclusion: Focused policy and programme aimed at enhancing provision of health services and improving socioeconomic factors in urban areas will enhance probability of child survival and reduce observed inequalities.