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Women's Status and Childhood Mortality in two Contrasting Areas in South-Western Nigeria

A Preliminary Analysis*

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ABSTRACT: The purpose of this paper is to examine the relationship between some women's status factors and differentials in probability of child survival in the south-western part of Nigeria. The present analysis is based on the results of the study of children of some 4677 women in two towns contrasting geographical zones.

The results of the studiy indicate the significant role of age of mother at first marriage and BCG vaccination while the influence of maternal education was inconsistent at both household and regional levels. Likewise, the possession of certain household items such as dustbin, dining table seem to enhance the survival of children in the urban centres.

The results of the study therefore call for strong measures to discourage the marriage of teenage girls. Also, the campaign for use of family planning devices for at least child spacing should be intensified among both mothers and men. Mothers should also be discouraged from patronizing food vendors to ensure minimum balanced diet for their children. Finally, there is need to encourage integrated research efforts on mortality studies so that the fine points of each discipline can be utilized in the multiple research methodology required in order to make headway in the campaigns for child survival and safe motherhood in developing societies.

Introduction

Each year in many countries in Sub-Saharan Africa, death of children under the age of five years represents nearly 50% of total deaths (World Bank 1989). In addition, their levels concide with life expectancy and manifestation of general health status in the region. No wonder therefore, research interests in both the medical science and demography have devoted substantial attention to childhood mortality. However, the contributions of geographers have been sparse with respect to studies on mortality in Africa (Iyun 1990).

In general, the medical sciences emphasise morbidity and risk of deaths from diseases of children, while the demographers have been primarily concerned with the socio-economic and demographic correlates of differentials in infant and child mortality (ICM). These studies tend to gloss over some important issues relating to community health status as well as relationship between some specific maternal and environmental factors that can significantly affect child survival at the household and interregional levels. The major focus of this paper is to examine the relationship of some specific intermediate maternal factors that correlate with child survival at the household and inter-regional levels. Its findings are essentially preliminary and further statistical analysis is being conducted which may highlight the role of variables other than those discussed below.

The present presentation is part of a larger survey on environmental factors and socioeconomic status of women on infant and child mortality in SW Nigeria. The study relies largely on the methodological approach for measuring community health status and the analytical framework developed by Mosley and Chen (1983). For instance, medical research on ICM searches for biological processes in the identification of the greatest killer diseases of children. On the other hand, studies done by demographers are concerned with identification of the important socioeconomic and demographic attributes of

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Tab 1 Level of literacy of study mothers

Level of education	Ota		Iseyin	
	No.	%	No.	%
No formal education	493	20.1	1152	53.2
Primary school	853	34.8	458	21.1
Secondary	803	32.7	365	16.9
Post secondary	303	12.4	191	8.8
Total	2452		2166	

mothers (sometimes fathers' as well) that promote differentials in ICM.

None ot these approaches had really concerned itself with the exposure of infants and children to domestic risk-factors and susceptibility to infection in various geographical locations. The present analysis has adopted a conceptual framework that tends to integrate approaches by medical and social sciences.

The Study Area

This study was undertaken in two geographically contrasting urban centres, namely Ota and Iseyin located in two separate states in the SW part of Nigeria. Ota is located in SW part of Ogun State, some 20 km from Lagos Metropolis and 53 km from Abeokuta, the state capital. It is situated in the rain forest part of the country. In contrast, Iseyin, is situated in the NW part of Oyo State, some 240 km from Lagos and 90 km form Ibadan, the Oyo state capital. In contrast to the climate type of Ota, the vegetation of Iseyin comprises guinea savanna.

The choice of Ota and Iseyin was guided by the fact that emphasis was placed on environmental considerations in the study and secondly the two centres are part of the modol local government areas (LGAs) for the implementation of Primary Health Care (PHC) that took off in Nigeria in 1986.

Ota serves as a satellite town to Lagos metropolis even though politically, it is situated in Ogun state. While Ota is connected to Lagos by a dual carriageway and by a well surfaced road to Abeokuta, Iseyin is connected to Oyo, some 56 km to Ibadan, by one of the worst roads in Oyo state.

Ota has been primarily influenced by both commercial and social activities in Lagos besides being close to Idiroko, one of Nigeria's important land-border towns. Iseyin, on the other hand, is still very conservative as shown in the preservation of traditional life styles. Since the 1980s in particular, Ota has acquired some significant industrial and commercial functions as a satellite town to Lagos. Even though Ota still retains its traditional structure in many respects, heterogeneous activities tend to hem in the traditional structure. A large number of people also commute between Lagos and Ota and vice versa.

In contrast to the commercial and industrial attributes of Ota, Iseyin relies principally on traditional occupations, in particular the weaving of Yoruba traditional costumes "aso-oke", which is most famous with the non-farming indigenous population. Indeed, the majority of the people are arable farmers while animal husbandry is also practised by them. In 1988, the population of Ota was estimated to be about 35,523 (CURP 1988), while that of Iseyin was put at 186,00 (Abumere 1988). In 1963, the totals were 14,348 and 95,000 respectively.

Data

This aspect of the study relies largely on an interview survey of mothers who had experienced childbirth during

Tab 2 Occupational categories of study mothers

Occupation	Ota		Iseyin	
	No.	%	No.	%
Farming	47	2.0	231	10.8
Trading	1230	51.1	995	46.5
Food processing, craft	259	10.8	315	14.7
Formal employment	386	16.0	203	9.5
Sewing	248	10.3	222	10.4
Housewifery	175	7.3	71	3.3
Others	63	2.6	103	4.8
Total	2408		2140	

Tab 3 Age group of sampled mothers

Age group	Ota		Iseyin	
	No.	%	No.	%
15-19	142	5.8	119	5.6
20-24	735	30.0	497	23.4
25-29	946	38.5	640	30.0
30-34	368	15.0	443	20.8
35-39	164	6.7	218	10.2
40-44	82	3.3	158	7.4
45-49	19	0.8	53	2.5
Total	2456	100.0	2128	100.0

the preceding five years. Those who had delivered babies between September 1983 and August 1988 preceding the interview survey were interviewed. The implication is that data on births and deaths were collected from relatively young mothers.

On the whole, a total of 4677 mothers' interviews were analysed, 2474 from Ota and 2203 in Iseyin. The survey commenced in the middle of August 1988. Data were collected from the women at household level.

The Relative Situation of Mothers in the Two Urban Centres

By and large, the respondents (mothers) in Iseyin showed more homogeneity than those of Ota. While 69% of the mothers in Iseyin claimed they were born in the town, only 28.8% of them were actually born in Ota. In general, the level of literacy is much higher in Ota than at Iseyin as illustrated on Tab 1. It is obvious from the table that the proportion of mothers who did not go to school at Iseyin was more than twice that of Ota, while the number who had completed secondary educaton there was twice that in Iseyin. Altogether, 32% of the women had secondary or more educational qualifications compared with 16.9% in Iseyin. Indeed, the disparities in the levels of education of their husbands showed similar distribution. For example, in Ota, only 10.7% of husbands were illiterate compared with 43.1% at Iseyin. Those who obtained secondary and above educational qualificaton was 54.7% in Ota and 29.8% in Iseyin.

The distribution of the women by occupational categories indicates similarities with the exception of farming, office work and housewifery. In Iseyin, as already indicated, a greater proportion of the mothers were farmers while more women claimed to be housewives in Ota than Iseyin. In addition, more women were engaged in office work at Ota compared with those living in Iseyin (Tab 2).

Whilst it is true that information on income in the Nigerian society is very deceptive, nonetheless, the women in Ota, who are more urbanized, appeared to be earning higher income than those in Iseyin. For instance 58.3% of Ota resondents claimed to earn less than ₦ 100.00 per month as against 74.9% in Iseyin. In addition, 40.6% of women in Ota stated they earned between ₦ 101.00 and ₦ 500.00 compared with only 24.6% in Iseyin.

Considering the marital status of the women, fewer than 1% of mothers in Iseyin claimed to be single compared with 2.6% of those in Ota. However, more importantly, 71.9% of those in Ota were enjoying monogamy while only 58.2% of them had similar marital experience in Iseyin. Also is the fact that similar proportions of the women in Iseyin (9.7%) and Ota (10.4%) actually had children by more than one husband.

In this study, the age at marriage of the study mothers was of major interest. Among the sampled women, 23.9% in Iseyin were married before they were eighteen years old compared with 17.9% in Ota. In the study centres, most of the women interviewed were between 20 and 34 years old (Tab 3).

As illustrated by Tab 3, the majority of mothers interviewed are relatively young. The interview data did not include information on very old women who have probably completed their reproductive cycle. Because of the selection procedure adopted in this study, their fertility and parity levels may not reflect the 'actual' levels for the two urban centres. Nonetheless, the levels for the two centres appear fairly similar. In Ota, for instance, 67.3% of mothers had 1 to 3 children while 54.4% in Iseyin had such numbers. In general, mothers in Iseyin appear to have experienced a higher fertility level.

It appears that the level of urbanization of each town has played an important role in the relative situation of the women. This factor must have greatly influenced the other attributes of mothers which were considered to be significant to the differentials in ICM rate between them.

The situation of women can also be determined by the availability and accessibility of social amenities which are relevant to the care of young children. These include ownership of certain household items - diapers, baby's cot, refrigerator, private kitchen, and dining table. In addition, the acceptance of certain promotive and preventive health care services such as maternal immunization, place of delivery, use of family planning (FP) appears to depend largely on the status of women in the society. The next stage of this analysis involves an examination of the situation of the respondent mothers and child mortality levels.

	Ota			Iseyin		
	No. of children born	No. dead	Mortality rate per '000	No. of children	No. dead	Mortality rate per '000
Town factor	3538	278	78.59	3032	238	78.55
Mother's status factors:						
Education						
No school	760	56	73.68	1581	134	84.54
Primary	1245	131	105.22	650	45	69.23
Secondary	1093	73	66.79	508	34	66.93
Post secondary	434	18	41.47	264	22	83.33
Occupation						
Farming	75	7	93.33	309	34	110.03
Trading	1819	169	92.91	1394	111	79.63
Food processing, craft	605	37	61.16	536	41	76.49
Formal employment	492	23	46.75	249	18	72.29
Sewing	339	30	88.50	311	20	64.31
Monthly income						
Less ₦ 100.00	1172	110	93.86	1174	91	77.51
₦ 100–500.00	1199	83	69.22	1069	82	76.71
Over ₦ 500.00	868	59	67.97	524	42	80.15
Place of delivery						
Own home/TBA	396	40	101.01	432	34	78.70
Modern facility	3114	235	75.47	2566	202	78.72
Antenatal attendance						
Yes	3440	270	78.49	2918	225	77.11
No	83	7	84.34	106	13	122.64
Postnatal attendance						
Yes	3115	244	78.33	2707	207	76.47
No	289	22	76.12	226	26	115.04
Relationship with head of household						
First wife	2389	187	78.28	2014	151	74.98
Other wives	978	83	84.87	982	83	84.52
Relative	145	7	48.28	30	4	133.33
Place of birth						
Indigine	1018	78	76.62	2036	170	83.50
Migrant	2509	199	79.31	992	68	68.55
Age of mother at childbirth						
15–19	80	20	250.00	78	13	166.67
20–24	320	36	112.50	249	23	92.37
25–29	1259	111	88.17	841	73	86.80
30–34	1165	76	65.24	913	69	75.58
35–39	423	20	47.28	518	34	65.64
40–44	193	11	56.99	239	16	54.61
45–49	44	3	68.18	109	7	64.22
Age at first marriage						
Less 20 years	2661	251	94.33	2307	207	89.73
20–24 years	226	5	22.22	164	7	42.68
25 and above	651	22	33.79	559	24	42.93
Immunization during last pregnancy						
Yes	880	91	103.41	710	72	101.41
No	336	25	68.31	180	15	83.33
Child feeding responsibility						
Mother alone	176	15	85.23	184	17	92.39
Mother and father	3324	248	74.61	2798	213	76.13
Child feeding practice						
By petting	2635	211	80.08	2173	162	74.55
Force feeding	160	13	81.76	289	28	96.89
Feeding on request	270	15	55.56	35	3	85.71
Purchase of cooked food						
Yes	849	97	114.25	872	72	82.57
No	2628	158	60.12	2102	158	75.17
Bottle-fed last by						
Yes	3186	247	77.53	1416	97	68.50
No	340	28	82.35	1589	141	88.74
Were child is kept						
At home with maid/relation	749	29	38.72	522	37	70.88
At daycare centre	211	14	66.35	42	3	71.43
At workplace (marketplace)	2094	190	90.74	2228	174	78.10
Using up to six diapers						
Yes	2759	189	68.50	1885	134	71.09
No	763	89	116.64	1136	103	90.67

Tab 4 Contd.

	Ota			Iseyin		
	No. of children born	No. dead	Mortality rate per '000	No. of children	No. dead	Mortality rate per '000
Using baby's cot						
Yes	765	38	49.67	870	65	74.71
No	2762	239	86.50	2158	172	79.70
Ownership of refrigeration						
Yes	1449	91	62.80	663	50	75.41
No	2075	186	89.64	2357	186	78.91
Ownership of gas cooker						
Yes	195	12	61.54	160	10	62.50
No	3305	263	79.58	2845	226	79.44
Ownership of deep freezer						
Yes	117	9	76.92	94	13	138.30
No	3412	268	78.55	2932	224	76.40
Ownership of dustbin						
Yes	2724	175	64.24	2531	200	79.02
No	807	103	127.63	494	36	72.87
Currently using FP						
Yes	863	57	66.05	2586	200	77.34
No	2636	217	82.32	43	4	93.02
FP Method in use						
Modern	488	28	57.38	236	23	97.46
Traditional	351	38	108.26	768	71	92.45
Healing source decision						
Self and joint	2198	177	80.53	1385	103	74.37
Husband alone and others	1292	95	73.53	1613	129	79.98
Child weaning decision						
Self and joint	2826	227	80.33	2369	175	73.87
Husband alone and others	648	43	66.36	590	57	96.61
Clinic attendance decision						
Self and joint	2646	207	78.23	2251	169	75.08
Husband alone and others	860	66	76.74	747	65	89.01
Child spacing decision						
Self and joint	2409	175	72.64	1445	104	71.99
Husband alone and others	1039	92	88.55	1484	128	86.25
FP decision						
Self and joint	2488	185	73.55	1429	111	77.68
Husband alone and others	767	53	69.10	877	72	82.10
Maternal immunization						
Yes	880	91	103.41	710	72	101.41
No	366	25	68.31	180	15	83.33

Tab 4 Childhood mortality rates and some mother's status factors for the survey period

The Correlation between Mothers' Status and Child Mortality Levels

There is the general consensus in the literature that the health of the child is intimately associated with the relative situation or position of the mother (see, for example, Caldwell 1979; Caldwell 1988; Pinnelli 1988; among others). Indeed, maternal education in particular and to some extent the income and occupation of mothers have been found to be statistically the most significant explanatory correlates of ICM differentials in spite of the effects of other factors. The relationship between maternal education and child survival has been asserted to be so strong that all other factors, specifically the home environment at both the regional and household levels, could be regarded as irrelevant in the Nigerian scene (Caldwell 1979). However, researchers in more recent times are becoming more wary of the effects of maternal education in ICM differentials based on results of studies and the adoption of the conceptual framework developed by Chen and Mosley which, indeed, is analagous to the holistic approach often adopted by medical geographers (Shannon and Spurluck 1975; Freund 1984).

Considering the home conditions at the micro level of the household in many developing societies, where basic sanitary and social amenities are inadequate or even lacking, and where basic prospective health care services are hardly utilized, may give the impression that the child's survival may be jeopardised more by the "domestic" environmental conditions, such as use of refrigeration, cot, diapers, feeding habits, place of delivery, and use of FP, than by other factors. For instance, dramatic reduction in general mortality and specifically ICM occurred during and after the Industrial Revolution more because of the

improvement in sanitary conditions at the household level (Fox et al. 1970).

Tab 4 essentially depicts the simple mortality rates based on the total number of children born to the selected mothers during the five year survey period and the total number of these children that have died at the survey time. During this period, 3538 children were born to 2474 women while 278 had died at the survey times at Ota. This produced and childhood mortality of 78.59 or approximately 79 per 1000 live birth at Ota. On the other hand, the 2206 women covered by the survey in Iseyin delivered 3032 children and had lost 238 of these children (78.55), a death rate of approcimately 79 per 1000, as recorded for Ota.

For the purpose of this presentation, differentials in child mortality between the two towns have been correlated with specific maternal factors that are more related to their status (position) (such as education, occupation, income, relationship with head of household) and social - domestic (home) environmental conditions (including place of delivery youngest child, use of up to six diapers, current use of FP, FP method in use and age at first marriage among others). The relevant mothers' status factors considered in this analysis are depicted in Tab 4.

It is apparent from Tab 4 that the correlations between maternal education and childhood mortality rates are not consistent in the two urban centres. In the more urbanized centre (Ota), mothers with primary education experienced highest mortality rates while those with secondary and above qualification enjoyed lowest rates as expected. On the other hand, in the more conservative centre (Iseyin), the rates appear to be more in line with what was expected as mothers with no formal education experienced highest rates. Paradoxically, a similar high rate was recorded by mothers with post-secondary education.

These results bring into focus the real importance of limited education in a growing industrial centre in the less developed economy and, conversely, that of highest educational qualification in a fairly conservative and stagnant town such as Iseyin. It is possible that inadequate education, as experienced in recent times by children leaving primary school, creates a situation in which some can hardly read or comprehend simple written instructions. Whereas, more forward looking illiterate women would probably cope better with the deplorable economic conditions in the growing urban environment in Nigeria such as Ota. The similarity between the mortality of children of illiterate and most highly educated mothers in Iseyin suggests a "more pronounced" possible effect of use of "surrogate" mothers by the latter.

The form and place of occupation of mothers can also be critical to the survival of their children. In the two locations, children born to mothers of lowest economic status - farming, trading - revealed highest rates of ICM. In the Nigerian economy and landscape, children of farming populations tend to carry the greatest risk of susceptibility of infection as they are heavily exposed to disease pathogens, while their nutritional status often diminishes during the "lean and hungry" period. Likewise, the deplorable sanitary conditions of Nigerian market places constitute great health hazards to babies and toddlers that often crawl about in the dirty environment, often putting any substance into the mouth while mothers are busy making sure of the economic survival of their families. Many children develop diarrhoea and frequently pass stools around the stalls while mothers must cope with the lack of social amenities such as toilets in the environment where they often spend 10-12 hours of the day (Iyun et al. 1988).

The high mortality rates for mothers who engage in sewing at least in Ota can be also explained by similar risk of exposure to disease agents or pathogens in workshops which are often located in market places or congested rooms. In Ota, mother's income correlates better with the survival of their children compared to the levels in mortality in Iseyin where the highest paid mothers experienced highest childhood mortality.

Appropriate management of pregnancy and delivery enhances child survival in any society. To this extent, children that are born outside modern health care facilities are at the greatest risk of dying before they reach the age of five. In Ota, for example, children born at home or delivered by TBAs recorded lower survival rates compared to those using orthodox modern health facilities. Similarly, ante-and-post-natal clinic attendance appears to be associated with a protective mechanism for child survival, in particular at Iseyin.

It is revealing in Tab 4, that age of mothers at first marriage is of great importance to the survival of the under-fives. In the two centres, women who married before the age of eighteen experienced the highest childhood mortality rates, twice those of mothers who marry between ages 20 and 24. In the urban environment where the "social security" provided by the members of the extended family is almost nonexistent, early marriage is apparently precarious to child survival. Gone are the days when young mothers moved back to their families or mothers-in-law before or at the arrival of a new-born child. Hence, as shown in Tab 4, mothers who are the sole breadwinners for the family experienced higher mortality rates.

Feeding practices affect the nutritional status of children and therefore their resistance of infections. Force-feeding babies is also said to endanger the lives of babies and young children as they can easliy choke. Tab 4 confirms that force-feeding and the habit of patronizing food vendors correlate with high mortality rates.

The correlations between ICM and where children are kept when mothers are away to work for long hours are also of great interest. As can be observed on Tab 4, children who accompany their mothers to work in the market place carry the greatest risk of dying young as against those who stayed at home in the two centres. In addition, mothers who provide separate sleeping places (baby's cot) for their young ones experienced lowest childhood mortality level.

Step	Ota Factor variable	Prob. F	Iseyin Factor variable	Prob. F	Regional Level Factor variable	Prob. F
1	Season of death	0.0001*	Season of death	0.0001*	Season of death	0.0
2	Age of mother	0.0001	BCG vaccination	0.0001	BCG vaccination	0.0001
3	BCG vaccination	0.0001	Age at first marriage	0.0001	Age of mother	0.0001
4	Ownership of dustbin	0.0001	Relationship with head of household	0.0162	Age at first marriage	0.0001
5	Child feeding responsibility	0.0001	Mother's immunization	0.1015	Season of birth	0.0014*
7	Season of birth	0.0095	Place of birth	0.1131	Ownership of ining table	0.0025
8	Purchase of ooked food	0.0142	FP method	0.1390	Mother's immunization	0.0141
9	Father's education	0.0279*	Birth order	0.1215	Ventilation of house	0.0163*
10	Child spacing decision	0.0246			Where child is kept	0.0278*
11	FP method decision	0.0538			Purchase of cooked food	0.0729
12	Ventilation of house	0.0550*			Father's education	0.0585*
13	Number of people in household	0.0557			Mother's education	0.0100
14	Mother's education	0.0735			Child spacing decision	0.0889
15	Where child is kept	0.0500*			FP method decision	0.1428
16	Parity	0.0603				
17	Mother's immunization	0.0794				
18	Floor material of house	0.1105*				
19	Healing source decision	0.1495				

* Factors not considered in the present analysis

Tab 5 Summary of stepwise discriminant analysis selection

To avoid repetition, it appears that ownership of household and baby care items such as refrigeration, gas cooker, diapers, with the exception of deep freezer, seem to protect babies and toddlers as their uses reduce contamination from unhygienic conditions that can result when these items are absent from the household. Use of family planning, especially effective modern devices and methods, seem to be beneficial to children in Ota in particular. On the other hand, decision-making processes about healing sources, child weaning, clinic attendance, use of FP with exception of child spacing, appear to be inconsistent when related to ICM. Indeed, maternal immunization shows no protective mechanism for increasing child suvival.

Relative Significance of Mothers' Status Factors

So far, it has only been realistic to provide varying correlations between selected maternal status factors and differentials in child mortality levels. Thus, the ordinary probabilities of children dying or surviving have been estimated and extensively discussed. It has not been possible to apportion recognition of their relative importance to ICM.

Hence, a step-wise statistical technique that estimates the relative significance of some factors, and indicates their direction of relationship has been utilized. First, stepwise discriminant analysis was used to select the factor variables that are deemed to make a significant contribution to child survival out of a total of 56 variables identified in the study. Tab 5 depicts all the selected factors in order of their relative explanatory contribution to differentials in ICM.

For the present aspects of the analysis, 13 factors that seemed to determine level of mother's status at Ota were selected by the stepwise discriminant analysis, with 8 being identified for Iseyin. However, at the regional level (combination of the two urban centres), 10 factors were selected by the technique. Furthermote, the use of logit probability estimation for the broad mother's status factors will be discussed in this paper. This multivariate technique estimates the coefficients of the selected factors, indicates their direction of relationship and probabilities of significance. The dependent variable (child mortality) is a function of some subgroups of mother's factor as independent variables. The variable is the child survival variable which is a zero-one variable.

Tab 6, 7, 8 indicate the independent variable that were selected for Ota, the more urbanized centre. These comprise age of mother, BCG vaccination, ownership of dustbin, age at first marriage, child feeding responsibility, purchase of cooked food, child spacing decision, FP

Mother's Status Factor	Prob. Estimate	Std. Error	Chi Square	Prob.>Chi
Age of mother	0.90287768	0.199284	20.52648	0.0001
BCG vaccination	-1.3747561	0.266567	26.5974	0.0001*
Ownership of dustbin	-0.8174082	0.302547	7.299468	0.0069*
Age at first marriage	0.54862165	0.150904	13.21739	0.0003*
Child feeding responsibility	-0.8969358	0.685518	1.711928	0.1907
Purchase of cooked food	0.39943263	0.273602	2.13132	0.1443*
Father's education	0.16557827	0.185648	0.79547	0.3725
Child spacing decision	-0.595113	0.368493	2.6008203	0.1063*
FP method decision	0.56681569	0.424673	1.78145	0.1820
Number of persons in household	0.2075767	0.08445	6.041659	0.0140*
Mother's education	-0.2959834	0.209123	2.003234	0.1570*
Parity	-0.3956428	0.237687	2.770744	0.0960*
Mother's immunization	0.19922089	0.155353	1.644482	0.1997
Healing source decision	0.19074574	0.341428	0.312113	0.5764

* Significant at 5%

Tab 6 Summary of logit regression estimates relating child mortality and mother's status - Ota

method decision, number of persons in household, mother's education, parity, mother's immunization and healing source decision. In the case of Iseyin (Tab 7), the number of variables selected was much reduced. They include birth order of children, BCG vaccination, place of birth of mother (migration factor), relationship with head of household, ownership of dustbin, FP method in use, mother's immunization and age at first marriage. The ten selected factors at the regional level (Tab 8) include BCG vaccination, age of mother, age at first marriage, child feeding responsibility, ownership of dining table, mother's immunization, purchase of cooked food, mother's education, child spacing decision and FP method decision.

The Influence of Mother's Status Factors on Child Mortality

At the three model levels of analysis, BCG vaccination and age of mother at first marriage were significant. The relationship between age of mother and mortality was direct while that of BCG was negative. The two variables exhibited highest levels of significance of 5%. By implication, the inverse relationship for BCG implies the enhancement of the survival of children who take adventage of this immunization. On the other hand, the direct relationship implies untoward effects on survival of children, as indicated by age of mother at first marriage and age of mother at childbirth. Earlier, it was demonstrated that younger mothers are at the greatest risk of losing their young children. The relationships displayed in the result of the logit model are at variance with this view. This result is likely to be clearer when each category of the mother's status factors is included in the analysis.

Based on biological, socio-economic and epidemiological considerations, early pregnancies among young girls should be discouraged. Many young women lack the basic knowledge of the demands of motherhood. In addition, the economic situation and level of urbanization

Tab 7 Summary of logit regression estimates relating child mortality and mother's status - Iseyin

Mother's Status Factor	Prob. Estimate	Std. Error	Chi Square	Prob.>Chi
Birth order	-0.0748421	0.170612	0.19243	0.6609
BCG vaccination	-1.9972437	0.236682	71.20835	0.0001*
Place of birth	0.5518694	0.26981	4.183664	0.0408*
Relationship wih head of household	-0.1848093	0.203422	0.825374	0.3636
Ownership of dustbin	0.27821166	0.311742	0.796454	0.3722
FP method in use	-0.1577941	0.127151	01.540087	0.2146
Mother's immunization	0.3667553	0.125601	8.526377	0.0035*
Age at first marriage	0.4423191	0.114686	14.87486	0.0001*

* Significant at 5%

Mother's Status Factor	Prob. Estimate	Std. Error	Chi Square	Prob.>Chi
BCG vaccination	-1.7808988	0.150345	140.3137	0.0001*
Age of mother	0.52919601	0.117908	20.14411	0.0001*
Age at first marriage	0.56572991	0.079549	50.5765	0.0001*
Child feeding responsibility	-0.3935586	0.329892	1.423229	0.2329
Ownership of dining table	-0.54153931	0.1914	8.005235	0.0047*
Mother's immunization	0.29762173	0.083619	12.66819	0.0004*
Purchase of cooked food	0.24445554	0.150979	2.621616	0.1054*
Mother's education	-0.1938438	0.106482	3.313995	0.0687*
Child spacing decision	-0.3652715	0.175605	4.326708	0.0375*
FP method decision	0.33339869	0.192259	3.007151	0.0829*

* Significant at 5%

Tab 8 Summary of logit regression estimates relating child mortality and mother's status - Regional Level

(modernization) in our society can make it dangerous for such females to be burdened with childcare.

In general, the situation in the more urbanized and commercial centre (Ota) is that ownership of dustbins, child spacing decision and, to a small extent, mother's education, enhance the survival of children. On the other hand, room occupancy and purchase of cooked food appeared to worsen the chances of the survival of children during the study period. By implication, mothers who possess a dustbin (probably indicating better household sanitary practices), who appear to take more independent decisions on child spacing and, to a small extent, those who have better educational qualifications have better chances for the survival of their children. The direct relationship displayed with BCG immunization, imply that, should immunization status improve, survival of children will increase. Also as the purchase of cooked food decreases, mortality of children will also decrease (for Ota and regional level). These conclusions are in line with earlier discussion in connection with Tab 4.

In the case of Iseyin, only a few factors are statistically sigificant. Considering the positive relationship displayed by mother's immunization (Tab 4), the implication is that mothers who take advantage of this provide better chances for the survival of their children. The relationship displayed by the migration factor implies higher mortality rates for for non-indigenes.

The relationship displayed at regional level are similar to those already discussed for Ota. In addition, maternal immunization and ability to make independent or at least joint decision on child spacing displayed a positive relationship. In other words, taking advantage of maternal immunization and ability to display wife-led decisions create better changes for child survival.

Conclusion

These preliminary results from the logit model suggest the overall significance of BCG immunization and age of mother at first marriage as being statistically significant at both household and regional levels. At the more commercial centre and regional levels, a greater number subgroup mother's status factors are significant, while in the more stagnant and conservative centres, only very few factors make a difference to the survival of children. In the former, factors that relate more to level of urbanization in particular have displayed high significance.

In spite of the present statistical constraints, respective of the level of statistical analysis, it has been proved that the age of mother at first marriage is an important factor to recognize in the analysis of differentials of child mortality. Other factors that are of significance relate more to accessibility to immunization, since it has been discovered mothers are generally enthusiastic about child immunization when the services are easily available.

Finally, the significance of education is inconsistent in this analysis. On the other hand, safe motherhood is greatly pre-determined by age of mother. It is therefore suggested that decision-makers in Nigeria should not shy away from strong discouraging the marriage of teenage girls, possibly even by legislation. The campaign for use of family planning devices should also be further intensified in order to reduce obstacles posed by husbands to acceptance of FP. Finally, mothers should be aware of the imminent danger of patronising food vendors while home cooking is neglected. There is also a need to encourage integrated research efforts by both national and international organizations to make headway in the recent campaigns for child survival in developing societies.

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