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‘FADING BEFORE THEY BLOOM’: CHILD MORTALITY IN SRI LANKA IN HOUSEHOLDERS

Liyanage, R.*, Adikari, H., Wanigarathna, N., Udalagama, R., Jayathilaka, R.

Faculty of Business, Sri Lanka Institute of Information Technology, Sri Lanka

**Corresponding author: rangi.liyanage16@gmail.com*

Introduction

The future human capital of any country is “children”. Hence, every child in this world has a right to have a good quality life. Children are a valuable investment in a country. In 1990, 12.6 million child deaths have taken place but in 2016, it drops to 5.6 million. Basically, universal child mortality rate has declined by over half between 1990 and 2016 (Rodriguez 2016). This progress in child survival indicates the development of global health. However, at present, globally approximately 15,000 under five-year old deaths occur per day and 5.3 million annually. Majority occur in Sub-Saharan Africa and South Asia. Moreover, the Department of Census and Statistics (2016) highlighted that infant mortality or early childhood mortality is a measure of socioeconomic development of a country; also, it’s a good measure of the quality of life. Many rigorous studies on child mortality regarding household income and expenditure, household wealth and also socioeconomic determinants of child mortality have been conducted especially in the developing countries in Asian and African regions (Nyamuranga and Shin 2019), but limited scale in Sri Lanka.

Research Problem

Hence, research studies on infant and child mortality are limited in a Sri Lankan context. Thus, a research gap exists regarding this subject. During the recent past, there are hardly found research papers in Sri Lankan context which has focused on socioeconomic and demographic characteristics on child mortality (Trussell and Hammerslough 1983). Thus, this study focuses to identify socioeconomic and demographic characteristics of the households on child death. Research question of the study is “what are the socioeconomic and demographic characteristics of the households affecting child death?”.

This research conducted in local context is of immense value to policy makers of Sri Lanka, as a low-middle income country especially due its developing economy. This is a opportunity to address how location of residence is related to child mortality in Sri Lanka. The following advantages can be gained from this research.

1. Government and Health sector of Sri Lanka can identify the general physical health status of the country and potential areas to further develop health

policies based on new findings.

2. Government, public and private organizations can collaborate and mutually develop health facilities in remote areas, through governmental subsidy programs and welfare benefits.

Objective

To investigate the socioeconomic and demographic characteristic of householders affecting child mortality.

Methodology

In this study, the quantitative approach is adopted based on data of the ‘Household Income and Expenditure Survey’ (HIES) conducted in 2016, by the DCS in Sri Lanka. This study is about how many households have experienced on child mortality in each province and their socioeconomic and demographic characteristics. The ‘STATA’ statistical software has been used to measure outcomes and generate results on gathered data. With the use of Pearson’s Chi-Square test, this study can identify any significant association among the socioeconomic and demographic variables.

Pearson’s Chi-Square formula:

$$\chi_c^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

O = The observed (actual) value

E = The expected value

Results and Discussion

According to the HIES survey, out of the 21,756 households, 147 child deaths (0.68% of the total sample population) were reported in 2016 in Sri Lanka. According to Pearson’s Chi-Square test, P-value has been considered on each variable and identified that the provinces where P-value is less than the significant level. Hence, it is closely related with child mortality. Further, it illustrates that out of the total population of households that have experienced child deaths, most of them were from the ‘Eastern Province’ which is 1.23 and the least number of child deaths have been taken place in the ‘Western Province’ with 0.36. Apart from this, ‘North Central and Uva’ are also leading provinces which have faced many child deaths cases. This finding is completely against with the findings of Rajindrajith et al. (2009) which has found western province is the leading province for child mortality in Sri Lanka. However, sufficient evidence is unavailable to conclude that ‘sectors of the country’ is associated with child mortality;

hence, the P-value is greater than the significant level.

Table 1: Variation of child mortality on sectors and provinces of Sri Lanka

Sector and Province-wise	Child Death Status		Total %
	Child Death – Yes %	Child Death – No %	
Sector-wise comparison			
Urban	0.58	99.42	100
Rural	0.68	99.32	100
Estate	0.86	99.14	100
*Province-wise comparison			
Western	0.36	99.64	100
Central	0.72	99.28	100
Southern	0.60	99.40	100
Northern	0.60	99.40	100
Eastern	1.23	98.77	100
North Western	0.48	99.52	100
North Central	1.17	98.94	100
Uva	1.06	98.94	100
Sabaragamuwa	0.67	99.33	100

Note: * Differences are statistically significant at $\alpha=0.05$ levels Pearson's Chi-Square.

Source: Authors' illustration based on the HIES 2019

Table 02 demonstrates the affected and non-affected households from child deaths based on different socioeconomic and demographic characteristics. According to the Chi-Square test, P-value has been considered on each variable and identified that the religion, ethnicity and age of the head P-values are less than the significant level; hence, these factors are closely related with child mortality. P-value of household head's sex, household head's education and household head's employment are greater than the significant level, and sufficient evidence is unavailable to conclude that these variables are associated with child mortality. There is a high possibility to have experienced child mortality among the households where the head's age is below 30 years. Sri Lankan Moors and Islam population have the highest possibility of child deaths. This would be due to maintaining higher level of fertility rate than the case of other ethnic group.

Table 2: Demographic characteristics related to child mortality

Demographic-wise	Child Death Status		Total %
	Child Death – Yes %	Child Death – No %	
Household head's sex			
Male	0.63	99.37	100
Female	0.82	99.18	100
Household head's employment level			
Gov. and semi gov.	0.30	99.70	100
Private	0.74	99.26	100
Own account worker	0.73	99.27	100
Household head's education			
No schooling	0.00	100.00	100
Grade 1-11	0.73	99.27	100
O/L and A/L	0.39	99.61	100
Above degree	0.74	99.26	100
*Ethnicity			
Sinhalese	0.56	99.44	100
Sri Lankan/Indian Tamil	0.79	99.21	100
Sri Lankan Moors	1.43	98.57	100
Malay/Burgher/Other	0.0	100	100
*Religion			
Buddhist	0.58	99.42	100
Hindu	0.81	99.19	100
Islam	1.39	98.61	100
Roman Catholic/Other	0.49	99.51	100
*Household head's age			
Category 01 (<30)	1.16	99.84	100
Category 02 (31-60)	0.66	99.34	100
Category 03 (61-99)	0.64	99.36	100
Total	0.68	99.32	100

Note: * Differences are statistically significant at $\alpha=0.05$ levels Pearson's Chi-Square.

Source: Authors' illustration based on the HIES 2019

Conclusions

This study investigates the socioeconomic and demographic characteristics of households affected by child mortality. Findings of this study demonstrate that a person living in the Eastern Province has a high probability of experiencing child mortality. Significant relationships exist among the variables - religion, ethnicity and age of the head with child mortality. Nevertheless, province wise significant relationships were noted with regard to child mortality, mostly in the 'Eastern Province' which is 1.23 and the least number of child deaths have been taken place in the 'Western Province', which is 0.36. Sectors of the country, household head's sex, household head's education and household head's employment do not have a significant effect on child mortality. Therefore, this research study provides insights to both the government and policy makers to investigate on public health and well-being for all people in Sri Lanka. Additionally, it is recommended to improve the health facilities specially among the estate population and identified provinces that can pose a high-risk on child mortality.

Keywords: *Child mortality; Child survival; HIES, Householders; Under-five mortality*

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