

Regional Variation of Mortality in the World

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INTRODUCTION

The term mortality is used to describe the occurrence of deaths among as defined population. From biological point of view mortality implies the end of that body which had a live birth. However, from the demographic view point mortality denotes the fall in the size of population on account of death (Sinha and Zacharia 1984). Mortality is one of the major variable of population change. Population of any society increases due to fall in death rate and increase in birth rate in any area or country. Fertility increases population whereas mortality decreases it. It is the decline in mortality which encouraged rapid population growth in most of the developing countries.

MORTALITY MEASURE

There are various measures of mortality baed on death statistics, but broadly speaking there are only two measures: observed rates and adjusted rates. The observed rates are typically the simpler rates an are computed directly from actual data in a single brief calculation, on the other hand the adjusted rates are more complex both with respect to method of calculation and to interpretation. In this study only some observed rates are analysed. They are crude death rate (CDR), age-specific death rate (ASDR), child mortality rate (CMR) and infant mortality rate (IMR). The crude death rate (CDR) is the simplest and widely used indicator of

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mortality. It is expressed per 1000 population of an area or nation. The pattern of death rate is not similar in each age group. So, the demographers calculate death rates for different age groups which is termed as age-specific death rate. Similarly, the child mortality and infant mortality rates are calculated for analysing the pattern of socio-economic environmental and health conditions. These two indicators are expressed per 1000 live births in a population. Maternal mortality is expressed per 100000 live births. It is used as the indicator of health conditions and women's status in a society. According to the need and convenient of study, population experts select these indicators and explain the situation of a region or nation. In this article the crude death rate, infant mortality rate and child mortality rate have been used as indicators of mortality.

MORTALITY PATTERN IN THE WORLD

Crude Death Rate

The crude death rate expressed per 1000 population is similar in industrialized and developing countries. It is 9 per 1000 population in each of the regions. The CDR for the best developed countries is 16 which is high compared to that of the industrialised countries. The CDRs of different regions of the world are presented in Table 1.

Table 1

Crude Death Rates in Different Regions

Region	Indus- triali- sed coun- tries	Devel- oping coun- tries	Least deve- loped coun- tries	Sub- Sahar- an Africa	Middle East & North Africa	South Asia	East Asia and Pacific	Latin Amer- ican and Carib- bean	Former USSR
CDR	9	9	16	15	8	11	7	7	11

Source: The State of the World's Children 1994, UNICEF.

The table shows that the crude death rate ranges from 7 in East Asia and Latin American and Caribbean to 15 in Sub-Saharan Africa. The highest CDR is found in the least developed countries.

To analyse the variation of mortality between developed and developing countries some selected countries and their death rates have been presented in Table 2.

Table 2
Crude Death Rates in Developed and Developing Countries

Coun-try	Afgha-nistan	Nepal	Sri-Lanka	Kenya	Cost-arica	Nor-way	Swe-den	USA	Japan
CDR	22	13	6	10	4	11	11	9	7

Source: As of the Table 1.

By observing the pattern of CDR in selected 9 countries it is obvious that Costa Rica has the lowest CDR which is only 4 per 1000. The highest CDR is found in Afghanistan. It indicates that Afghanistan is still in worst demographic condition. The death rates of some developing countries are lower compared to those of the developed ones. The CDR is affected by age structure of population. The proportion of population aged 65 and above is higher in developed countries, as a result, their death rates are high.

Child Mortality

Child mortality is a good indicator of socio-economic and health condition of any region. The UNICEF has accepted it as the single most important indicator of development in a region. Child mortality refers to the total number of deaths of children at 0-4 age group. It is expressed per 1000 live births of a population within a specified year. It is also known as under 5 mortality, the data associated with child mortality in the world and its different regions are presented in Table 3.

Table 3
Child Mortality in Different Regions

Region	Industrialised countries	Developing countries	Least developed countries	Sub-Saharan Africa	Middle East & North Africa	South Asia	East Asia and Pacific	Latin American and Caribbean	Former USSR
Child mortality	11	104	179	181	78	129	56	50	44

Source: As of the Table 1.

The data show that child mortality is very low in industrialised countries which is only 11 per 1000 live births. The figures for developing and least developed countries are 104 and 179 respectively. On the regional basis child mortality ranges from 44 in former USSR to 181 in Sub-Saharan Africa. The main striking feature is that the highest child mortality is found in the least developed regions and countries. Similarly there are great regional variations in child mortality. The child mortality pattern of some selected developed and developing countries is presented in Table 4.

Table 4
Child Mortality in some Selected Developed and Developing Countries

Country	Afghanistan	Nepal	Sri-Lanka	Kenya	Costa Rica	Norway	Sweden	USA	Japan
Child mortality	257	128	19	74	16	8	7	10	6

Source: As of the Table 1.

The table 4 shows that child mortality is the lowest in Japan, Sweden and Norway. The figures for these developed countries are 6, 7 and 8 respectively followed by 10 in USA. The developing countries are in the worst condition. The highest child mortality occurs in Afghanistan which is 257 per 1000 live births. It is 128 in Nepal and 74 in Kenya. The Population Census 1991, shows that Nepal's child mortality is 165 per 1000 live births. The condition in Sri Lanka and Costa Rica is more or less similar. The figures indicate that there are great variations within developing countries.

Another striking feature is that child mortality is lower than crude death rate in some developed countries. Norway, Sweden and Japan are its examples.

Infant Mortality

The infant mortality is also a good indicator of mortality, it represents socio-economic, health and environmental conditions of any region or country. The IMR is expressed per 1000 live births in a population within a specified year. The existing pattern of the IMR in different regions of the world is presented in Table 5.

Table 5
Infant Mortality in Different Regions

Region	Industrialised countries	Developing countries	Least Developed countries	Sub-Saharan Africa	Middle East & Africa	South Asia	East Asia & Pacific	Latin America and the Caribbean	Former USSR
IMR	9	70	114	111	157	88	42	39	36

Source: As of the Table 1.

According to the data presented in Table 5 it is obvious that the IMR ranges from 9 in industrialised countries to 114 in the least developed countries. On the regional basis it ranges from 36 in former USSR to 111 Sub-Saharan Africa. The figures for Latin America and the Caribbean, East Asia and the Pacific and Middle East and North Africa are not so high. The IMRs in some developed and developing countries are presented in Table 6.

Table 6

Infant Mortality in some Selected Developed and Developing Countries

Country	Afghanistan	Nepal	Sri-Lanka	Kenya	Costarica	Norway	Sweden	USA	Japan
IMR	165	30	15	51	14	6	6	9	11

Source: As of the Table 1.

The figures presented in Table 6 show that the IMR ranges from 11 in Japan to 165 in Afghanistan. The IMRs in developed countries are below 10 whereas these rates are above 150 in developing countries. Even in developing countries the variations are surprising. Sri Lanka and Costarica present suitable examples where these rates are 15 and 14 respectively.

Mortality Decline in Different Regions

Compared to fertility, mortality is declining fast in different regions of the world. The declining pattern has been presented in Table 7.

Table 7

Mortality Decline in Different Regions

Region	CDR			Child Mortality			Infant Mortality		
	1960	1992	Percentage decline	1960	1992	Percentage decline	1960	1992	Percentage decline
Industrialised Countries	10	9	10	43	11	74.4	36	9	75
Developing Countries	20	9	55	216	104	52.0	137	70	49
Least Developed Countries	25	16	36	282	189	33.0	171	114	33
Sub-Saharan Africa	24	15	38	255	181	29	152	111	27
Middle East & North Africa	21	8	62	240	78	68	155	57	63
South Asia	21	11	48	237	129	46	145	88	39
East Asia & Pacific	19	7	63	200	56	72	132	42	68
Latin America & the Caribbean	13	7	46	157	50	68	105	39	63

Source: As of the Table 1.

The data presented in Table 7 indicate that the CDR has dramatically declined in most parts of the world. The CDR in industrialised countries was 10 in 1960 which is declined to 9 in 1992. This is a very slow decline which is only 10 percent. In developing countries the rate was 20 in 1960 and was brought to 9 in 1992. Thus during a period of 32 years the developing countries were able to reduce death rate by 55 percent. This decline is quite significant. If we observe the situation of the least developed countries the decline is not so fast. In these countries mortality has declined by 36 percent within the same period.

Compared to crude death rates, child and infant mortality have not declined fast in developing world. These rates declined from 43 and 36 in 1960 to 11 and 9 in 1992 in developing countries. During the period of 1960-1992 child mortality declined by 74.4 percent where as infant mortality declined by 75 percent in industrialised countries. These declines are the highest ones. In developing countries child and infant mortality declined by 52 percent and 49 percent respectively. The declines in the least developed counties are very small. They are 33 percent in each case.

While analysing the situation in broad regions of the world it is obvious that the highest decline in CDR is recorded in the Middle East and North Africa and East Asia and Pacific. In these two regions CDR declined by 63 percent and 62 percent respectively. The lowest decline is recorded in Sub-Saharan Africa which is only 38 percent. The decline is moderate in South Asia, Latin America and the Caribbean.

During the period of 1960-1992 the child mortality declined by 72 percent in East Asia and the Pacific. It is the highest decline. In this period the child mortality came from 200 to 56. The second largest decline is recorded in Middle East and North Africa and Latin America and the Caribbean which is 60 percent in each case. On the other hand the lowest decline is recorded in Sub-Saharan Africa which is only 29 percent.

The infant mortality has declined from 132 to 42 in East Asia and the Pacific. It is the highest decline during the period of 1960-

1992. Middle East and North Africa and Latin America and the Caribbean have the same decline during this period. The decline is 63 percent in each region. The lower decline is found in Sub-Saharan Africa and South Asia. The pattern of decline for each indicator of mortality is more or less same in these two regions.

From the above analysis it is obvious that the conditions of Sub-Saharan Africa and South Asia are worse whereas these are being improved in other region of the world.

For a comparative analysis of mortality decline in some selected developed and developing countries separately, the essential figures are presented in Table 8.

Table 8

Mortality Decline in some Selected Developed and Developing Countries

Country	CDR			Under 5 MR			IMR		
	1960	1992	Percentage decline	1960	1992	Percentage decline	1960	1992	Percentage decline
Afghanistan	30	22	27	360	257	29	215	165	23.3
Nepal	26	13	50	279	128	54	186	90	51.6
Sri Lanka	9	6	33	130	19	85	90	15	83.3
Kenya	22	10	55	202	74	63	120	51	57.7
Costa Rica	10	4	60	112	16	86	80	14	82.5
Norway	9	11	+22	23	8	65	19	6	68.4
Japan	8	7	13	40	6	85	31	4	87.1

Source: As of the Table 1.

The data presented in Table 8 indicate that the highest decline in CDR is recorded in Costa Rica, a developing country from Latin America. During 1960-1992, mortality in Costa Rica declined

by 60 percent. The second largest decline is recorded in Kenya and Nepal respectively and the lowest decline is recorded in Japan, Afghanistan and Sri Lanka. It is quite surprising that the CDR in Norway is increasing. The age structure of population is responsible for this kind of situation. The higher the proportion of population aged 65 and over, the higher will be the CDR.

When we observe the situation of child mortality, the pattern is more or less similar. The highest decline of CDR was recorded in developing countries. In the same way the highest decline in child mortality is found in developing countries. Sri Lanka and Costa Rica are its suitable examples. The decline in child mortality is higher than 80 percent in Sri Lanka, Costa Rica and Japan. It is more than 60 percent in Kenya and Norway, less than 60 percent in Nepal and less than 30 percent in Afghanistan. Thus, the lowest decline is recorded in Afghanistan.

The pattern of decline in IMR in developed and developing countries compared to the decline in child mortality is more or less similar. Of the seven developed and developing countries selected, the highest decline is recorded in Japan, Sri Lanka, and Costa Rica which is 87.1 percent, 83.3 percent and 82.5 percent respectively. The decline in Norway is 68.4 percent whereas it is 57.5 percent in Kenya and 51.6 percent in Nepal. The lowest decline in infant mortality is recorded in Afghanistan, a developing country of South Asia.

CONCLUSION

From the overall analysis of regional variation of mortality we can conclude that the decline in CDR is the highest in developing countries and the lowest in developed countries because the latter ones have already reduced their death rates. The situation is different in case of child and infant mortality. The highest decline in these rates have been recorded in developed countries. In some cases Sri Lanka and Costa Rica present an exception. Costa Rica and Sri Lanka are from less developed world but they have made a good deal of progress in the areas of socio-economic and environmental conditions. Costa Rica was able to reduce its mortality by 50 percent

within a short period of 20 years whereas it took 150 years for Great Britain to reach that level. From the above analysis it is obvious that there is a widening gap between developing countries. The gap is still higher within developing countries, Afghanistan presents its suitable example from South Asia.

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