Levels and Trends of Childhood Mortality in Mongolia:
## An Association with Women's Education

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Childhood Mortality: Levels and Trends

Though, there is no consistency on some of the estimations, it has been observing a clear declining trends in childhood mortality in Mongolia. The infant and child mortality rate decline over the 1990s is better than the trend observed during the preceding 20 years. According to official estimates, infant mortality rate (IMR) was 64.4 per 1,000 live births in 1990, and under-five mortality rate (U5MR) was 96.1 per 1,000 live births. The infant mortality rate have declined by slightly less than one-third during the 1990s to 32.8 infant deaths per 1000 live births in 2000 (NSO, 2000). Fugure 1 clearly presents the declining trends in infant and under-five mortality rates in the country for the period 1990 to 2000.

Fugure 1. Infant mortality rate, Mongolia, 1990-2000
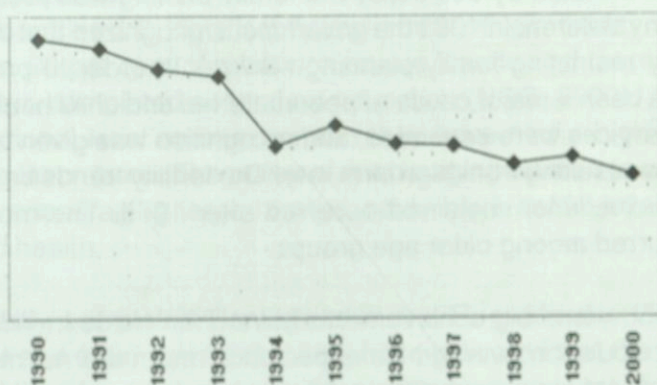
Source: National Statistical Office, Mongolia, 2000.

Such a strong decline, however, is puzzling in the light of other health indicators and partly due to falling recording of deaths- rather than deaths themselves. Coverage problems may have arisen from a decrease in contact between mothers and health services (attributable to the upheavals of transition), and are likely to effect newborns especially, whose birth and death may go unregistered. Research conducted under the 1994 and 1996 Demographic Surveys (PTRC, 1994 and 1996) and 1998 Reproductive Health Survey (NSO, 1999) using birth histo-

ries of individual women, found the average infant mortality rate for the period to be as much as 50 per cent greater than the official figures.

The Reproductive Health Survey's infant mortality rate of 65 for the period 1994-1998 is much higher than infant mortality rates estimated by registration statistics of 35.4 for 1998. However, infant mortality decreased from 83.5 deaths per 1,000 births during 1984-1988 to 65.0 per 1,000 births during 1994-1998. Under-five mortality by about 44 point in 1994-1998 compared to 1984-1988, from 125 to 81 per 1,000 births. Thus, over the past ten years, the decline in infant and child mortality has been substantial. Table 1 summarizes the trends in infant, child and under-five mortality rates for the last two decades, based on the findings from 1998 Reproductive Health Survey.

Table.1 Childhood Mortality Rates by years (per 1,000 live birth)

	1984-1988	1989-1993	1994-1998
Infant mortality (0q1)	83.5	72.8	65.0
Child mortality (1q4)	72.8	30.9	17.2
Under-five mortality (0q5)	125.3	101.5	81.0

Source: National Statistical Office, Mongolia. Reproductive Health Survey, 1998.

Until 1990 Mongolia was sticking to a policy aimed at increasing the number of population. Dictated by this policy the family planing was focused on only producing many children. In 1989 the government recognized that the previous policy of severely restricting family planning services in order to promote population growth has been a major cause of poor maternal and child health. In 1988 family planning services were expanded, and recognition was given to high infant mortality and as resulting from high birth rate. The fertility trends between 1963-1991 showed fluctuations; sustained occurred after 1975. The most significant declines occurred among older age groups.

In the last 30 years big achievements have been made in indicators like infant mortality, population average life expectancy and maternal mortality. However the Government pays a special emphasis on the maternal and child health care. In Mongolia most of the birth occur in hospitals. For example, in 2000, 97 per cent of all births occurred in hospitals, and it increased by 10 points since 1990 (NSO, 2000).

The Population Policy of Mongolia aimed to reduce infant and child mortality rates by one-third from the level of 1990 in the period up to 2010-2015. *For instance, "...creating conditions favorable to birth spacing in the interest of maternal and child health and consistently reducing infant and maternal mortality are the key factors to maintain population growth... Provide the population with knowledge on reproductive health and healthy life-style, conduct advocacy and provide services directed towards avoiding early or too close chil... 'th's. tailoring the fea-*

tures of the country".

In addition, the Government wishes to change and replace people's old attitude and reliance on centralized hospital based maternal and child care by establishing a new community based mechanism, making primary health care available especially to rural population and paying particular attention on developing safe motherhood care. Reducing infant and maternal morbidity and mortality and reviving maternal rest homes in soums (rural area) are indicated in the Government's Mandate. These all improvements and the liberalization of government pronatalyst policy are presage of further reduction in fertility as well as childhood mortality in Mongolia in the coming decades. However, accessing reproductive health services are not only a mean and sufficient effort to improve child survival. The more important things are the people attitudes, behaviors and utilization of such services properly.

Maternal Education and Childhood Mortality

Education may well play a major role in the demographic transition and this role may help to explain the close timing of mortality and fertility transitions. The education of the mother is probable one of the most often used socioeconomic factors in studying child survival. (Caldwell, 1979). The education in Mongolia is high compared to many other developing countries; the level is similar to the level in countries with significantly lower under-five mortality. According to official statistics, 90 per cent of adult women are literate and more than one-third of women have completed secondary education (NSO, 2000). As a result of the high educational level among women, they have had a high degree of participation in the labor force. The policy of encouraging women to work which at the same time encouraging large families could have detrimental effect on maternal and child health.

Results of a recently completed Demographic and Reproductive Health Surveys (PTRC, 1994 and 1996 and NSO, 1999) have indicated that the education of the mother had the strongest and significant effect on the level of infant and child mortality in Mongolia. A surprising fact was that the level of infant and child mortality was generally high among all educational groups; not surprisingly it was highest among mothers with primary or lower educational level. Moreover, the difference in the level of mortality between the lowest and highest educational groups is quite large, which suggests that with an increase in the level of mother's education, the infant and child mortality could be reduced. Similarly, analyzing the data from Reproductive Health Survey of Mongolia (NSO, 1999) demonstrated very high variations in childhood mortality among the women with different levels of educational attainments. According to the mother's educational level, neonatal mortality of children whose mothers completed secondary school is one-third lower than children whose mothers have a primary or less education.

Figure 2. Mortality rate by mother's education
(for the ten year period)
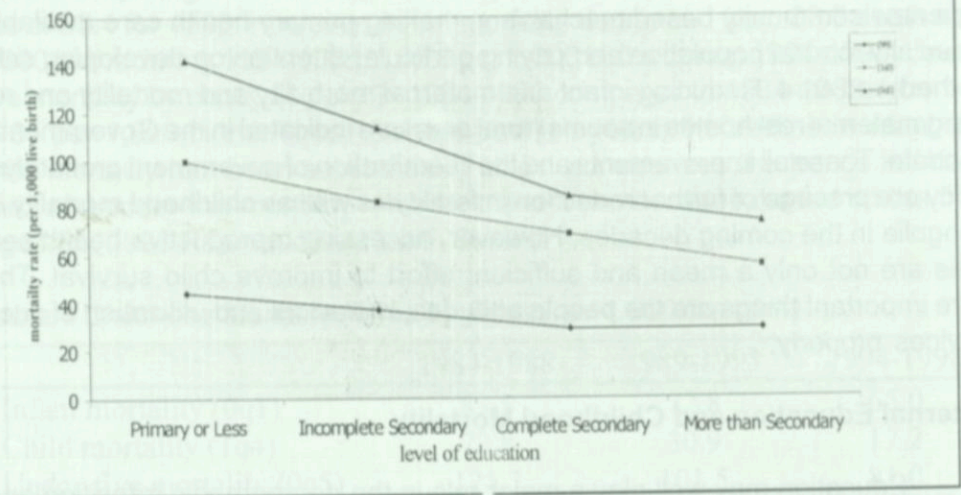
Source: *National Statistical Office, Mongolia. Reproductive Health Survey, 1998.*

Under-five mortality for children of mothers who have primary or less education is 1.9 times higher than for children whose mothers have more than secondary education. As education increases, neonatal, infant and under-five mortality decline. These and the other evidences show a very close association between maternal education and childhood mortality.

Some demographers and public health administrators urge that the level of early-age mortality in Mongolia is not consistent with the country's degree of social development and the level of women's education. The unexpectedly high level of infant and child mortality in Mongolia is probably attributable to deficiencies in health service practices in Mongolia. The socioeconomic status of population is also generally higher in urban than rural areas because of higher income and better opportunities. General level of infant and child mortality in Mongolia is high by contemporary standards and there are certain socioeconomic, demographic and environmental factors that affect the level of infant and child mortality in Mongolia. Whatever be the arguments, it is injustice and unfair to under-estimate the importance of maternal education for bringing down the childhood mortality in any population. But, one can raise a question how can maternal education help to reduce childhood mortality? In fact, maternal education can have effect on childhood mortality through other proximate factors. Some ways and possible mechanisms through which education of mothers affect on child survival are mentioned as follows:

i.   *Minimizing high-risk births:*   Early childbearing and childbirth are
     biologically risky, which may have adverse effect for both the mother and
     newborn. It is a general trend observed for a long time that age at mar-
     riage is higher among educated women and thereby adolescent child-
     bearing is rare compared to their counterparts i.e. the uneducated. Hence,
     education can help to reduce the risk of child mortality preventing women
     from getting pregnant during very young ages.

ii. *Raising socio-economic status:* Education itself is an indicator of high
     socio-economic status among women. Educated women have higher
     probability to have better job, better income, better autonomy and better
     decision making power. Better economic status leads to better health
     through better nutritional status. This all possibilities with educated women
     make them strong to decide their fertility preferences. Certainly, women
     with higher level of socio-economic status may have preference for small
     family size, less discrimination between son and daughter, better child
     care practices, better child feeding and supplementation, better hygienic
     practices. These all factors are in favour of higher probability of child
     survival.

iii. *Increased knowledge and practice of family planning:* Educated
     women are likely to have better knowledge about contraception including
     contraceptive methods, sources and their proper use. Being modern and
     knowledgeable, they may have positive attitudes towards the services
     as well as better choices of the methods. Increased practice of family
     planning among educated women allows them to have fewer numbers of
     children with longer birth intervals compared to women with no or lower
     levels of education. Longer birth interval allows the mothers to recover
     completely before having next child, which reduces the probability of dy-
     ing among newborn as well as the mothers.

iv. *Increased knowledge and practice of reproductive health services:*
     reproductive health services, especially the maternal and child health care
     are very important factors determining the level of maternal and child-
     hood morbidity and mortality. As like family planning knowledge and prac-
     tice, the reproductive health knowledge and practice is higher among
     educated women. Proper utilization of reproductive health services can
     help the women to ensure the better health of themselves and their off-
     spring. Beside these, educated women are capable to overcome the ill-
     practices and taboos traditionally being followed by the societies espe-
     cially in developing countries, which have adverse effect for pregnant
     women and newborn. For example, in some South Asian communities,
     the women are kept in floor and treated as untouchable for about two
     weeks after childbirth. The uneducated or little educated women can not

and/or don't want to break these types of taboos, which leads to have higher childhood and maternal mortality among them. Furthermore, there is a well-known phenomenon that higher level of fertility generally leads to higher level of childhood mortality and visa versa. The uneducated or less educated women have higher fertility, so they have higher child mortality too. Hence, it can be concluded that along with other socio-economic, demographic, biological and cultural factors, women's education has a very crucial effect in determining the childhood mortality.

Future Prospects

It is obvious that as like in other developing populations, Mongolian population has also been experiencing a demographic transition characterized by a declining fertility and mortality especially the childhood mortality, very clearly, since the last few decades. Further reduction in early aged mortality is needs more efforts than the efforts needed before for bringing down the mortality from very high level to today's level. However, some prerequisites for further reduction in childhood mortality such as universal reproductive health services, education of women, socio-economic development, family planning services and so on, are on the way to meet the basic essential levels as envisaged by ICPD 1994. Furthermore, the government population policy has been changed from dictatorial pronatalyst to liberal, which now started giving priority to individual choices. Education and labor force participation among the women is increasing, and community based family planning services have been strengthening. Due to the increasing reproductive health and family planning knowledge among people even in rural areas are leading to change people's attitudes from quantity of children to fewer but quality children. These all improvements and changing environment among Mongolian population are the presage for reduction childhood mortality in the coming decades.

Conclusion

Though not being with the accelerating speed, the level of infant mortality has been decreasing in Mongolia. The reduction was observed better during the recent last two decades than ver before. However, the present IMR of 65 and U5MR of 81 per 1000 live births (based on the estimates for 1994-1998) is a pointer of urgent need of programs to be focused on maternal and child health and women's education. The strongest effects of maternal education on the variation of level of childhood mortality, as found in the recent Demographic and Reproductive Health Surveys, providing better education including family planning and reproductive health education is one of the means to achieve country's goal to reduce childhood mortality by one-third during the next two decades. In addition, promotion of socio-economic development, providing reproductive health and family planning services universally, improving public hygiene, improving standard of living of the people, liberalizing the government pronatalyst policy and increasing women rights and autonomy are some suggested ways and measures to improve child survival through reducing fertility and childhood mortality

in Mongolia. If the policy makers, programmers and administrators including governmental as well as non-governmental authorities considered these facts and developed and implemented their programs accordingly, it is not too difficult to reduce the childhood mortality in Mongolia.

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