NEWBORN DEATHS IN THE PHILIPPINES

by

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Introduction

Large numbers of children die soon after birth: many of them in the first four weeks of life (neonatal deaths), and most of those are the newborn babies who died during the first week (early neonatal deaths). Neonatal deaths stem from poor maternal health, inadequate care during pregnancy, inappropriate management of complications during pregnancy and delivery, poor hygiene during delivery and the first critical hours after birth, and lack of newborn care. Several factors such as women’s status in society, their nutritional status at the time of conception, early childbearing, too many closely spaced pregnancies and harmful practices, such as inadequate cord care, letting the baby stay wet and cold, discarding colostrum and feeding other food, can be a contributory factor also.

The second half of the 20th century witnessed impressive reductions in the risk of under-five child mortality, which was halved between 1960 and 1990. The greatest reduction was for children after the first month of life, with relatively little decrease in the neonatal period (the first 28 days of life). Neonatal deaths, estimated at approximately 4 million annually, now account for 38 percent of the world's deaths of children under five. The fourth Millennium Development Goal (MDG) aspires to a global target, by 2015, of reducing the under-five mortality rate by two-thirds, which implies approximately 30 deaths per 1,000 live births for children under five. Currently, there are an estimated 30 deaths per 1,000 live births in the neonatal period alone. Thus, the fourth MDG cannot be achieved without substantial reduction in neonatal deaths (Lawn, Cousens, and Zupan 2005).

The World Health Organization (WHO) estimates that each year nearly 3.3 million babies are stillborn, and over 4 million more die within 28 days of coming into the world. Deaths of babies during this neonatal period are as numerous as those in the following 11 months or those among children aged 1–4 years. Skilled professional care during pregnancy, at birth and during the postnatal period is as critical for the newborn baby as it is for its mother. The challenge is to find a better way of establishing continuity between care during pregnancy, at birth, and when the mother is at home with her baby. While the weakest link in the care chain is skilled attendance at birth, care during the early weeks of life is also problematic because professional and programmatic responsibilities are often not clearly delineated.

According to WHO, the major direct cause of newborn deaths globally is neonatal infection or sepsis, which is responsible for about 33% of newborn deaths. Sepsis includes conditions such as septicemia, meningitis, pneumonia, tetanus, and congenital syphilis. Birth asphyxia and trauma account for another 28% of neonatal deaths, and congenital malformations for another 10%.

In the Philippines, based from the vital registration data, infant mortality rate has declined since 1990’s, from 24.3 infant deaths per 1,000 live births in 1990 to 12.8 infant deaths per 1,000 live births in 2005. However, the proportion of neonatal deaths as

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percentage of infant deaths has increased from 48.0 percent in 1990 to 57.6 percent in 2005. Early neonatal mortality especially the mortality during the first three days of life also increased from 29.6 percent in 1990 to 37.7 percent in 2005 of the total infant deaths, and it appears to be the major contributor to infant mortality. Early neonatal deaths in 2000 was 13,042 and it decreased to 10,201 in 2005, but the proportion to total infant deaths remained the same at 47.1 percent. Based from the 2008 National Demographic and Health Survey neonatal mortality is 16 deaths per 1,000 livebirths, postneonatal mortality is 9 deaths per 1,000 live births and infant mortality is 25 deaths per 1,000 live births. Addressing neonatal mortality requires links within the continuum of care from maternal health through pregnancy, childbirth, and early neonatal care, and into child health programs. Such services can be delivered through a combination of care at the family-community level, outreach, and clinical care. Investing in maternal, neonatal, and child health (MNCH) services will improve the survival of newborns and reduce stillbirths and maternal and child deaths. The first weeks of life are also a time of behavioral transition, representing an opportunity to promote healthy behaviors that have benefit beyond the neonatal period. Area specific community based periodic evaluations can guide the policy makers and implementers to continue/modify or strengthen the existing strategies for neonatal care.

**Objectives**

This paper aimed to provide profile of newborn deaths or the early neonatal deaths in the Philippines and its regions based from the registered deaths in 2006 and 2007. It also answers the following questions: 1) where are the most number of early neonatal deaths registered? (2) what are the top ten causes of death among newborn babies? (3) does the cause of deaths vary among regions in the country? (4) at what age the mothers mostly deliver the newborn babies? and (5) does the death of these babies attended by physicians?

**Data Source**

Data presented here are derived from the vital registration data for 2006 and 2007 period. No adjustment was made for under-registration.

**Limitations of the Data**

The analysis on the early neonatal deaths in this paper are limited only to the information that comes from the death certificates such as sex, days at death, mother’s age at death of the child, usual residence, type of birth whether single, twin or triplet, whether attended by a physician at death and the cause of death.

**Results**

**Number of Early Neonatal Deaths**

As shown in Table 1, of the 1,662,917 total live births in 2006, 10,183 died in the early neonatal period, while in 2007, of the 1,749,310 total live births, 10,271 died also in the early neonatal period, an increase of 0.86 percent. The early neonatal deaths constituted around 46.8 percent of all infant deaths in 2006, and increased to 47.3 percent in 2007 based on the registered deaths.
Table 1. Early Neonatal Deaths, Infant Deaths, Live Births and Rates, Philippines: 2006-2007

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Neonatal Deaths</td>
<td>10,183</td>
<td>10,271</td>
</tr>
<tr>
<td>Infant Deaths</td>
<td>21,764</td>
<td>21,720</td>
</tr>
<tr>
<td>Live Births</td>
<td>1,662,917</td>
<td>1,749,310</td>
</tr>
<tr>
<td>Early Neonatal Mortality Rate</td>
<td>6.1</td>
<td>5.9</td>
</tr>
<tr>
<td>Infant Mortality Rate</td>
<td>13.1</td>
<td>12.4</td>
</tr>
<tr>
<td>Percent of Early Neonatal to Infant</td>
<td>46.8</td>
<td>47.3</td>
</tr>
</tbody>
</table>

Of the total early neonatal deaths, 39.8 percent and 39.6 percent of the deaths occurred before the first day of life in 2006 and 2007, respectively, and around 81.3 percent, and 81.6 percent during the first three days of life for the period 2006 and 2007, respectively.

Figure 1. Percent Distribution of Early Neonatal Deaths by Age, Philippines: 2006-2007

Early Neonatal Mortality Rate (ENMR)

The early neonatal mortality rate decreased from 6.1 early neonatal deaths per 1,000 live births in 2006 to 5.9 deaths per 1,000 live births in 2007. Among regions, NCR top the list with high ENMR, followed by Regions I and IVA, the lowest occurred in ARMM.
Male deaths outnumbered female deaths, i.e., six in ten deaths are males, and with a sex ratio of 148 males per 100 females for the 2006 period, and it holds true in 2007 with a sex ratio of 151 males per 100 females.

**Early Neonatal Deaths at the Regional Level**

Among regions, early neonatal deaths was highest in NCR in both periods (2006-23.3%, 2007-23.7%) followed by Region IVA (2006-17.7%, 2007-16.7%), while the lowest was found in ARMM (2006-0.3%, 2007-0.4%) of the total neonatal deaths registered. Comparing on what is the proportion of early neonatal deaths to total infant deaths by region, it shows that ARMM was the highest with 93.2 percent in 2007, followed by CAR and Region IVA with 58.1 percent and 56.6 percent, respectively, while the lowest was found in Region V (35.9%).
**Age of Mother**

The pattern of early neonatal deaths among mothers is almost the same with the childbearing age of women, where its peak is at age groups 20-24 years, with an increase of about 0.06 percentage points from 2006 to 2007. Among regions, the peak age varies, and only Regions I, II, III, IVB, VI, VII and X have consistent peak at ages 20-24 in both periods.
Causes of Death

As to the cause of death, for the period 2006 and 2007 the top nine causes of deaths for early neonatal deaths were in the same ranks. The top three causes of deaths for early neonatal deaths are respiratory distress of newborn (2006-21.5%, 2007-21.4%), bacterial sepsis of newborn (2006-19.0%, 2007-20.1%), and disorders related to short gestation and low birth weight, not elsewhere classified (2006-13.8%-15.3%). These three causes of deaths showed a positive increase from 2006 to 2007. Disorders related to short gestation and low birth weight, not elsewhere classified showed the highest increase from 1,407 in 2006 to 1,571 in 2007 or 11.7 percent increase. The 4th to 8th ranks of the leading cause of deaths in the country showed a decrease. The 2nd and 4th ranks cause of deaths in the country, namely bacterial sepsis of newborn and intrauterine hypoxia and birth asphyxia were the major direct cause of death of neonatal newborn globally according to WHO.
The top ten causes of deaths vary among regions. The respiratory distress of newborn was the leading cause of early neonatal deaths in Regions I, IVA, V, X and ARMM for both periods 2006 and 2007, while bacterial sepsis of newborn was the leading cause of deaths in NCR and Region VI for both periods also.

**Attendance at Death**

In 2006, more than half (59.9%) of early neonatal deaths were attended at death by hospital authority, but it decrease slightly in 2007 (59.7%). Around three in ten (30.2%) early neonatal deaths were not attended by any in 2006 and it decrease slightly in 2007 (29.6%).
Those attended by physicians, the data shows an increase from 7.4 percent in 2006 to 8.1 percent in 2007. Among regions, those attended by hospital authority, the highest was found in NCR (2006-83.1%, 2007-81.7%) and CAR (2006-73.7%, 2007-80.6%), while those attended by physicians the highest was found in Region IX (2006-25.3%, 2007-18.1%) and Region XII (2006-22.0%, 2007-25.1%).

Findings and Recommendations

Due to lack of information from the death certificates to analyze the early neonatal deaths, the results of this paper may not give enough inputs in planning purposes. But once the new civil registry forms on death, birth and other registrable events be implemented by the local civil registrars, hospitals and other health facilities, additional information will be available. In this case, linking of birth and death will be possible, hence, more studies can be conducted on these linked data. Thus, with the additional information that will be generated, this will help the researchers and the academes to conduct researches using the vital statistics data. In addition, program planners can make use of the information in preparing programs for the reduction of under-five deaths in the country specifically those newborn infants. The results also showed that there are more early neonatal deaths that occurred within three days of life, and these can be prevented if proper care after birth be done by mothers. Post natal check-ups is important also for the mothers as well as for the babies.

Moreover, the results of NDHS on neonatal, post-neonatal and infant mortality rates showed higher estimates compared to the registered deaths from the Vital Registration. Thus, we can say that our data from the Vital Registration is probably under-registered. It is recommended therefore in research, that study on the level of completeness should be done in all vital events. It is not only the under-registration problem, we have also problem on
coding specific cause of deaths especially for newborn infants. Thus, there should be an established system of recording of infant or neonatal related cause of death to include, monitoring, treatments and outcomes, and greater attention should be paid to the maternal condition that contributed to the infant cause of death, which may reflect different socio-economic inequalities. In health policy, there should be promotion, dissemination and implementation of key interventions that are known to be evidence-based and cost-effective to reduce newborn mortality. In order to reduce infant mortality efforts we should also target those at highest risk and focus on neonatal death (deaths 0-7 days) by providing health care services to marginalized groups in the society that needs equal and greater importance. A follow-up mechanisms for those regions with high percentage of unattended infant deaths by providing and establishing an easy access to health services to mothers.

REFERENCES: