10 INFANT AND CHILD MORTALITY

For some time, Indonesia's health programs have focused on reducing the high levels of infant and childhood mortality. Infant and child mortality rates are relevant not only in evaluating the progress of health programs, but also in monitoring the current demographic situation and providing input for population projections. In addition, they can be used to identify subgroups of the population that have high mortality risks.

This chapter reports on levels, trends, and differentials in infant and child mortality based on the 2002-2003 Indonesia Demographic and Health Survey (IDHS) and selected earlier surveys. The following rates are used to measure early childhood mortality:

Neonatal mortality:	the probability of dying within the first month of life
Postneonatal mortality:	the probability of dying after the first month of life but before exact age one year
Infant mortality:	the probability of dying between birth and exact age one year
Child mortality:	the probability of dying between exact age one and exact age five
Under-five mortality:	the probability of dying between birth and exact age five
Perinatal mortality:	the sum of stillbirths and early neonatal deaths (deaths in the first seven days of life) divided by the number of pregnancies of seven or more months.

Data on infant and child mortality in the 2002-2003 IDHS are derived from the birth history section of the individual questionnaire. The section begins with questions about the respondent's childbearing experience, i.e., the number of sons and daughters who live in the household, who live elsewhere, and who have died. For each live birth, information on name, date of birth, sex, whether the birth was single or multiple, and survivorship status was recorded. For living children, information about his or her age at last birthday and whether the child resided with his or her mother was obtained. For children who had died, the respondent was asked to provide the age at death.

10.1 ASSESSMENT OF DATA QUALITY

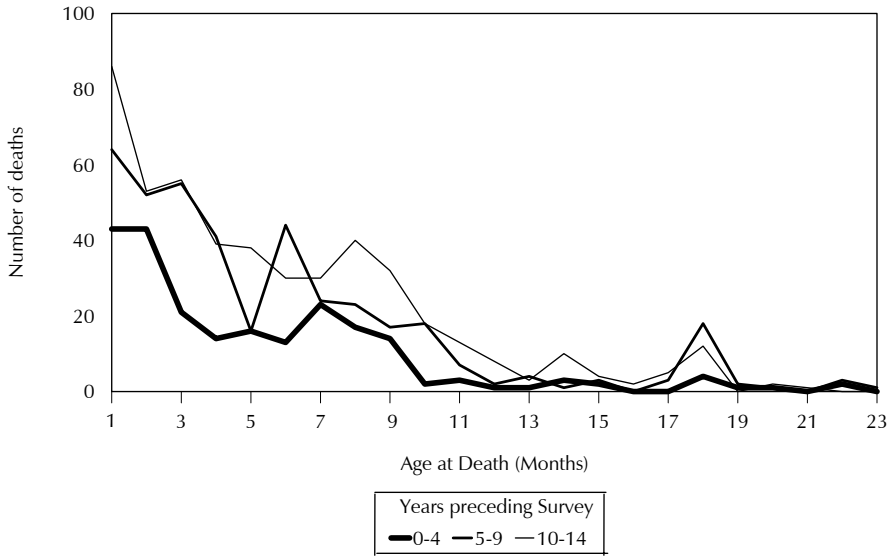
A retrospective birth history, such as that included in the 2002-2003 IDHS, is susceptible to several possible data collection errors. First, only surviving women age 15-49 were interviewed; therefore, no data were available for children of women who had died. The resulting mortality estimates will be biased if the fertility of surviving and nonsurviving women differs substantially. In Indonesia, this bias is likely to be negligible. Another possible error is underreporting of events; respondents are likely to forget events that occurred in the past. Also, the misreporting of date of birth and/or age at death can bias rates. In general, these problems are less serious for time periods in the recent past than for those in the more distant past.

The 2002-2003 IDHS data can be examined for evidence of the existence and extent of some of these biases. With respect to the misreporting of children's birth dates, as shown in Appendix Table D.4, there is a deficit of births in calendar year 1997 and an excess in calendar year 1996. This pattern, which has been found in previous IDHS surveys, is thought to result from interviewers' transference of births out of the period for which the calendar and child health data were collected (i.e., January 1997 through the date of the survey) to reduce their workload.

With regard to the reporting of children's age at death, the most common source of error is the tendency of mothers to report the age in multiples of six months. To reduce this type of error, detailed instructions were given to the IDHS interviewers to record age at death under one month in days and the age at death under two years in months. Interviewers were also instructed to probe for exact age at death in months whenever it was reported as "one year" or "12 months."

The distribution of child deaths by the age of the child at death is shown in Appendix Table D.5. There is some evidence of overreporting of deaths at age 7 days or one week, which affects the counting of perinatal deaths. There is no evidence of heaping of deaths at age 12 months, a common error that can affect infant mortality estimates. Deaths at age 6 months and 18 months are overreported; there are also deaths reported as occurring at age "one year," despite instructions to record in months. The heaping of age of death at 6 months and 18 months is not as serious as that recorded in the 1997 IDHS. As expected, heaping in age at death is more serious for deaths that occurred further in the past than for those that occurred more recently. As can be seen from Figure 10.1, the distribution of deaths reported for the period 0-4 years preceding the survey is smoother than the distributions for the periods 5-9 and 10-14 years before the survey.

Figure 10.1 Reporting of Age at Death in Months



IDHS 2002-2003

Another problem concerns the fact that the IDHS mortality estimates refer to the survival status of births that occurred in a given period of time (e.g., 0-4 years before the survey). However, because only women who were in the reproductive ages at the time of the survey were interviewed, women over age 49 were not interviewed and, thus, could not report the survival of any births they may have had in the period being considered. As the periods covered extend further into the past, the resulting censoring of information becomes progressively more severe. To minimize the effect of censoring, analysis of infant and child mortality trends from the 2002-2003 IDHS is limited to a period no more than 15 years prior to the survey.

In discussing issues affecting IDHS mortality data, it also should be noted that, because fertility levels are low in Indonesia, the IDHS infant and child mortality estimates are based on relatively small numbers of cases. This situation can lead to unstable estimates. To reduce this problem, mortality measures based on the 2002-2003 IDHS are calculated for five- or ten-year periods.

Finally, the mortality estimates from the IDHS surveys are computed directly from information on the deaths of children collected in the birth history table. Lacking the necessary information for producing estimates using direct methods, population censuses in Indonesia typically report indirect estimates based on the number of children ever born and children surviving. While there is no conclusive agreement whether one estimate is better than the other, the underlying assumptions used in the indirect estimates can introduce a potential bias. Studies have found that even when an appropriate mortality model is applied, the results of the indirect estimation techniques are consistently higher than that of the direct methods (Sullivan et al., 1994). Thus, in this report, only direct estimates from the IDHS are presented.

10.2 LEVELS AND TRENDS IN INFANT AND CHILD MORTALITY

Table 10.1 presents estimates of childhood mortality for three five-year periods preceding the survey. The data indicate that under-five mortality has declined 42 percent during the fifteen-year period, from 79 deaths per 1,000 live births in the period 1988-1992 to 46 per 1,000 in the period 1998-2002. Infant deaths comprise the majority of under-five deaths. Also, during the fifteen-year period, post-neonatal mortality declined at a faster rate (50 percent) than the neonatal mortality rate (31 percent). As a result, the majority of infant deaths now take place during the first month of life.

Table 10.1 Early childhood mortality rates

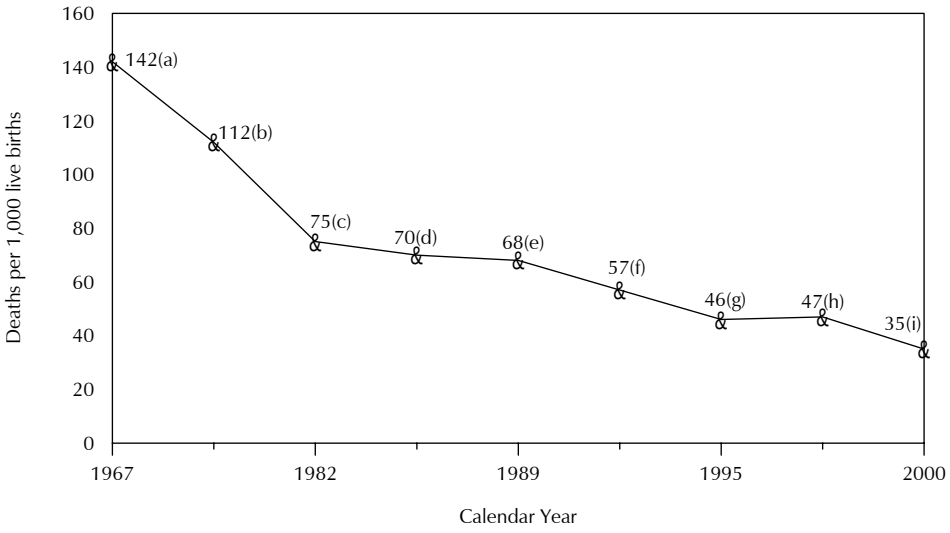
Neonatal, postneonatal, infant, child, and under-five mortality rates for five-year periods preceding the survey, Indonesia 2002-2003

Years preceding the survey	Approximate calendar years	Neonatal mortality (NN)	Postneonatal mortality (PNN)[1]	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-five mortality ($_5q_0$)
0-4	1998-2002	20	15	35	11	46
5-9	1993-1997	26	25	51	13	63
10-14	1988-1992	29	30	59	21	79

[1] Computed as the difference between the infant and neonatal mortality rates

Using estimates from prior surveys and censuses, Figure 10.2 shows that the infant mortality rate has declined from 142 deaths per 1,000 live births in 1967 to 35 deaths per 1,000 live births in 2000. Slight fluctuations in the estimates are expected as they were calculated using different estimation techniques. There are also differences in the geographic areas covered in the various surveys and censuses.

Figure 10.2 Infant Mortality Rates, Selected Sources, Indonesia, 1971-2002



Source: (a) 1971 Census, (b) 1980 Census, (c) 1987 NICPS, (d) 1990 Census, (e) 1991 IDHS, (f) 1994 IDHS, (g) 1997 IDHS, (h) 2000 Census, (i) 2002-2003 IDHS

10.3 MORTALITY DIFFERENTIALS

A number of socioeconomic, environmental, and biological factors influence infant and child mortality. In a framework developed for the study of child mortality in developing countries, Mosley and Chen's (1984) outline various proximate and socioeconomic determinants of infant mortality. The proximate determinants which are factors that affect mortality directly include: maternal characteristics such as age, parity, and birth interval; environmental contamination; nutrition; injury; and personal illness. Socioeconomic factors operate through the proximate determinants.

In the following section, socioeconomic and biodemographic differentials for which data were collected in the 2002-2003 IDHS are discussed. The socioeconomic determinants include place of residence, mother's educational attainment, and wealth index quintile. The biodemographic determinants include age of the mother, parity, and birth interval. Several other variables that have been shown to be related to child health and mortality, such as birth weight, antenatal care and delivery assistance, and complications during delivery are also discussed.

Table 10.2 presents early childhood mortality rates for the ten-year period preceding the survey (approximately 1993 to 2002) by socioeconomic characteristics of the mother. In general, children born to mothers living in urban areas have lower mortality rates than those born to women in rural areas. For example, the postneonatal mortality rate in urban areas is half that in rural areas (13 per 1,000 live births compared with 26 per 1,000 live births). The same pattern was found in the past IDHS surveys for all ages at death and in all areas of the country. The lower mortality rates in urban areas may be related to the greater availability of health facilities and better health-seeking practices of urban dwellers.

Table 10.2 Early childhood mortality rates by socioeconomic characteristics

Neonatal, postneonatal, infant, child, and under-five mortality rates for the 10-year period preceding the survey, by background characteristic, Indonesia 2002-2003

Background characteristic	Neonatal mortality (NN)	Postneonatal mortality (PNN)[1]	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-five mortality ($_5q_0$)
Residence					
Urban	19	13	32	11	42
Rural	26	26	52	13	65
Mother's education					
No education	34	33	67	25	90
Some primary	30	35	65	16	80
Completed primary	22	21	43	11	54
Some secondary	22	14	36	11	47
Secondary +	16	8	23	5	28
Wealth index quintile					
Lowest	28	33	61	17	77
Second	30	20	50	15	64
Middle	21	23	44	12	56
Fourth	20	16	36	9	45
Highest	13	4	17	5	22

[1] Computed as the difference between the infant and neonatal mortality rates

The 2002-2003 IDHS data show that mother's educational attainment is inversely associated with childhood mortality levels; children of less-educated mothers generally have higher mortality rates than those born to better-educated mothers. For instance, the infant mortality rate for children whose mother had no education is 67 deaths per 1,000 live births, compared with 23 deaths per 1,000 live births for children whose mothers have secondary or higher education.

Household wealth in the 2002-2003 IDHS questionnaire is derived from information on housing amenities and ownership of household durable goods such as radio, television, refrigerator, bicycle, motorcycle, or car. All these items were considered household assets and were used to construct a composite index. Household members were then classified into five categories (quintiles) according to the scores of their household: lowest, second, middle, fourth, and highest. There is an inverse relationship between wealth and mortality rates; children living in richer households have lower mortality. For example, the infant mortality rate for children in the lowest quintile is 61 deaths per 1,000 live births, while the corresponding rate for children in the highest quintile is only 17 deaths per 1,000 live births.

Appendix Table A.10.1 shows the mortality rates for the 10-year period preceding the survey by province. Gorontalo and West Nusa Tenggara have the highest infant mortality rates (77 and 74 deaths per 1,000 live births, respectively), while Bali has the lowest infant mortality rate (14 deaths per 1,000 live births). This pattern is different from that found in past IDHS surveys, where DI Yogyakarta had consistently shown the lowest level in infant mortality rate. Looking at child mortality, Bangka Belitung, DI Yogyakarta, and Bali have the lowest rates, and West Nusa Tenggara has the highest level. Bangka Belitung and Gorontalo, have higher infant mortality than the provinces from which they were split off (South Sumatera and North Sulawesi, respectively). Infant mortality in Banten is lower than that in West Java, of which it used to be part.

Table 10.3 presents the trends in infant mortality by province, from 1994 to 2003. Infant mortality has declined in almost all provinces. West Nusa Tenggara had the highest infant mortality rates throughout the period.

Table 10.3 Trends in infant mortality by province

Infant mortaliy rates (per 1,000) for the 10-year period preceding the survey, by province, 1994-2003

Province	1994 IDHS	1997 IDHS	2002-2003 IDHS
Sumatera			
North Sumatera	61	45	42
West Sumatera	68	66	48
Riau	72	60	43
Jambi	60	68	41
South Sumatera	60	53	30
Bengkulu	74	72	53
Lampung	38	48	55
Bangka Belitung[1]	na	na	43
Java			
DKI Jakarta	30	26	35
West Java	89	61	44
Central Java	51	45	36
DI Yogyakarta	30	23	20
East Java	62	36	43
Banten[1]	na	na	38
Bali and Nusa Tenggara			
Bali	58	40	14
West Nusa Tenggara	110	111	74
East Nusa Tenggara	71	60	59
Kalimantan			
West Kalimantan	97	70	47
Central Kalimantan	16	55	40
South Kalimantan	83	71	45
East Kalimantan	61	51	42
Sulawesi			
North Sulawesi	66	48	25
Central Sulawesi	87	95	52
South Sulawesi	64	63	47
Southeast Sulawesi	79	78	67
Gorontalo[1]	na	na	77

Note: The 2002-2003 IDHS did not include Nanggroe Aceh Darussalam, Maluku, North Maluku, and Papua province. Previous surveys included East Timor.
na = not applicable
[1] Provinces that were split off from South Sumatera, West Java, and North Sulawesi provinces, respectively

10.4 DEMOGRAPHIC CHARACTERISTICS

Table 10.4 presents early childhood mortality rates by demographic characteristics. Rates for males are consistently higher than for females. For example, the infant mortality rate for males is 15 percent higher than the rate for females, and the child mortality rate for males is 18 percent higher than for females.

Mother's age at birth can affect a child's chances of survival. The table shows that neonatal mortality rates and infant mortality rates exhibit the expected U-shaped relationship with the mother's age, high at young ages, low at middle ages, and high at old ages. For example, the infant mortality for women who gave birth at age below 20 years is 53 deaths per 1,000 live births. The rate decreases among women who gave birth at age 20-29 years and 30-39 (39 and 46 deaths per 1,000 live births, respectively) and then rises to 50 deaths per 1,000 live births for women who gave birth at age 40-49 years. The higher rates for younger and older women may be related to biological factors that lead to complications during pregnancy and delivery.

The 2002-2003 IDHS results show that there is a clear positive association between birth order and the probability of dying; higher order births have higher mortality risks. For example, while the infant mortality rate for first-order births is 36 deaths per 1,000 live births, the corresponding rate for seven or higher order births is 89 deaths per 1,000 live births.

Table 10.4 Early childhood mortality rates by demographic characteristics

Neonatal, postneonatal, infant, child, and under-five mortality rates for the 10-year period preceding the survey, by demographic characteristics, Indonesia 2002-2003

Demographic characteristic	Neonatal mortality (NN)	Postneonatal mortality (PNN)[1]	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-five mortality ($_5q_0$)
Child's sex					
Male	24	21	46	13	58
Female	21	19	40	11	51
Mother's age at birth					
<20	32	21	53	10	62
20-29	19	19	39	14	52
30-39	24	22	46	10	56
40-49	36	14	50	8	58
Birth order					
1	22	15	36	8	44
2-3	20	18	37	12	48
4-6	26	29	55	15	69
7+	44	45	89	26	112
Previous birth interval[2]					
<2	48	54	102	27	126
2 years	22	25	47	19	65
3 years	18	12	30	9	39
4+ years	16	14	31	8	38
Birth size					
Small/very small	39	23	62	a	a
Average or larger	12	12	23	a	a
Antenatal care/delivery assistance					
Both ANC and DA	10	6	16	a	a
ANC only	14	15	29	a	a
DA only	15	4	19	a	a
Neither ANC nor delivery	29	28	57	a	a

ANC = Antenatal care
DA = Delivery assistance
na = Not applicable
[1] Computed as the difference between the infant and neonatal mortality rates
[2] Excludes first-order births

As expected, childhood mortality rates decline as the birth interval increases. For example, the infant mortality rate for children born less than two years after a previous birth is more than three times higher than the rate for children born after an interval of four or more years (102 compared with 31 deaths per 1,000 live births).

A child's size at birth has been shown to be strongly associated with the risk of dying during infancy, particularly during the first months of life. For all children born during the five-year period before the 2002-2003 IDHS, mothers were asked whether the child was very small, small, average size, large, or very large at birth. Although subjective, the mother's judgment has been shown to correlate closely with the actual birth weight. The 2002-2003 IDHS results confirm that mortality levels are higher among children perceived by the mother to have been small or very small at birth than among other children. Neonatal mortality rates for infants who were judged to be small or very small at birth by their mothers are, for example, more than three times higher than for infants who were reported to be average or larger at birth (39 compared with 12 deaths per 1,000 live births).

Table 10.4 also shows the relationship of infant and child mortality to antenatal care and delivery assistance. As expected, childhood mortality is generally lowest for children of mothers who received antenatal care and were assisted by a medical professional at delivery and highest among women who had neither antenatal care nor assistance at delivery from a trained provider.

10.5 MORTALITY BY WOMEN'S STATUS

Although there is no direct association, women's status has been found to influence infant and child mortality levels through women's ability to control resources and make decisions. In the 2002-2003 IDHS, women were asked about their attitudes toward certain aspects of their autonomy including the number of household decisions in which the woman participates in the final say, the number of reasons for which a woman feels a wife is justified in refusing sexual relations with her husband, and the number of reasons that justify wife beating. A woman is considered more independent if she participates in a larger number of household decisions and agrees with a greater number of reasons for a woman to refuse sex. On the other hand, the more reasons she accepts for justifying wife beating, the less independent she is.

Table 10.5 presents childhood mortality rates by women's status indicators. Based on the three indicators, there appears to be a slight relationship between women's status and childhood mortality. The relationship between mother's participation in decisionmaking and child mortality is generally negative; children whose mothers have more say in household decisionmaking have lower mortality.

The number of reasons that justify a woman's refusal to have sexual relations with her husband operates in the same way as decisionmaking. The more reasons a woman agrees with the more likely she is to have greater independence. Thus, children of mothers who agree with no reasons would be expected to have the highest mortality rates, and Table 10.5 shows that this is the case.

Attitudes toward wife beating are another reflection of women's status. Women who do not approve of any reasons to justify wife beating are assumed to enjoy higher status, which in turn, translates into a more favorable mortality profile for their children. Table 10.5 generally shows the expected effect. Conversely, children of mothers who agree with 3-5 reasons to justify wife beating have the least favorable mortality profile.

Table 10.5 Early childhood mortality rates by women's status

Neonatal, postneonatal, infant, child, and under-five mortality rates for the 10-year period preceding the survey, by women's status indicators, Indonesia 2002-2003

Women's status indicators	Neonatal mortality (NN)	Postneonatal mortality (PNN)[1]	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-five mortality ($_5q_0$)
Number of decisions in which woman has final say[2]					
0	28	23	51	25	75
1-2	36	39	74	11	84
3-4	24	18	42	12	54
5	21	20	41	12	53
Number of reasons to refuse sex with husband					
0	26	27	53	21	73
1-2	18	21	40	10	49
3-4	23	19	43	11	54
Number of reasons wife beating is justified					
0	21	19	40	12	52
1-2	24	19	42	11	53
3-4	35	38	73	13	85
5	29	30	59	23	81

[1] Computed as the difference between the infant and neonatal mortality rates
[2] Alone or jointly with others

10.6 PERINATAL MORTALITY

In the 2002-2003 IDHS, women were asked to report all pregnancy losses in the five years before the survey. For each such pregnancy, the duration was recorded. In this report, perinatal deaths include pregnancy losses occurring after seven completed months of gestation (stillbirths) and deaths to live births within the first seven days of life (early neonatal deaths). The perinatal mortality rate is the sum of the number of stillbirths and early neonatal deaths divided by the number of pregnancies of seven or more months' duration. The distinction between a stillbirth and an early neonatal death may be a fine one, depending often on the observed presence or absence of some faint signs of life after delivery. The causes of stillbirths and early neonatal deaths overlap, and examining just one or the other can understate the true level of mortality around delivery. For this reason, in this report, both event types are combined and examined together.

The perinatal mortality rate is a useful indicator of the state of delivery services, in terms of both the use of these services and their ability to ensure the delivery of a healthy baby. Data in Table 10.6 show that overall, 147 stillbirths and 224 early neonatal deaths were recorded in the survey, resulting in a perinatal mortality rate in Indonesia of 24 per 1,000 pregnancies.

Perinatal mortality is highest among mothers who gave birth after age 40. The perinatal rate is lowest among mothers age 20-29. Table 10.6 further demonstrates that the duration of the previous pregnancy interval has a strong influence on the outcome of the index pregnancy. Pregnancies occurring within 15 months of a previous birth have the highest risk to pregnancy loss or early death (50 pregnancy losses or early deaths per 1,000 pregnancies), while the safest interval is between 15 and 26 months (14 pregnancy losses or early deaths per 1,000).

Table 10.6 Perinatal mortality

Number of stillbirths and early neonatal deaths, and the perinatal mortality rate for the five-year period preceding the survey, by background characteristics, Indonesia 2002-2003

Background characteristic	Number of stillbirths[1]	Number of early neonatal deaths[2]	Perinatal mortality rate[3]	Number of pregnancies of 7+ months duration
Mother's age at birth				
<20	14	42	30	1,869
20-29	58	123	21	8,536
30-39	57	50	25	4,355
40-49	18	8	54	475
Previous pregnancy interval in months				
First pregnancy	34	94	25	5,048
<15	12	18	50	607
15-26	10	15	14	1,691
27-38	16	23	25	1,580
39+	75	74	24	6,310
Residence				
Urban	55	97	22	7,085
Rural	91	126	27	8,151
Mother's education				
No education	8	10	25	718
Some primary	41	36	34	2,279
Completed primary	36	60	19	5,075
Some secondary	29	58	28	3,103
Secondary +	31	60	23	4,061
Total	147	224	24	15,236

[1] Stillbirths are fetal deaths in pregnancies lasting seven or more months.
[2] Early neonatal deaths are deaths at age 0-6 days among live-born children.
[3] The sum of the number of stillbirths and early neonatal deaths divided by the number of pregnancies of seven or more months duration per 1,000.

As with other childhood mortality measures, perinatal mortality rates are lower for children of women in urban areas than children of women in rural areas. While better-educated women would be expected to have lower levels of perinatal mortality, the rate for children of the most highly educated women is close to that of women with no education. The lowest perinatal mortality rate is for the children whose mothers have completed primary education.

10.7 HIGH-RISK FERTILITY BEHAVIOR

There is a strong relationship between maternal fertility patterns and children's survival risks. Generally, infants and children have been shown to have a greater probability of dying if they are born to mothers who are too young or too old, if they are born after a short birth interval, or if they are of high birth order. These factors are of particular interest since they are easily avoidable at low cost.

For purposes of the analysis of high risk fertility presented in Table 10.7, a mother is classified as too young if she is less than 18 years of age and too old if she is over 34 years of age at the time of delivery. A short birth interval is defined as a birth occurring less than 24 months after the previous birth, and a child is of high birth order if the mother had previously given birth to three or more children (i.e., if the child is of birth order four or higher). Although first births are commonly associated with high

mortality risk, even if they occurred when the mother was between 18 and 34 years old, they are not included in the high-risk category unless they occurred too early or late; instead, they are considered unavoidable.

The first column in Table 10.7 shows the percentage of births occurring in the five years before the survey that fall into these various risk categories. One in three births in Indonesia has an elevated mortality risk that is avoidable, 30 percent are first births for which any risk is considered unavoidable, and 36 percent of births were not in any high-risk category. Among those who are at risk, 22 percent of births are in only one of the high-risk categories, while 12 percent are in multiple high-risk categories (due to a combination of mother's age, birth order, and birth interval).

Table 10.7 High-risk fertility behavior

Percent distribution of children born in the five years preceding the survey by category of elevated risk of mortality and the risk ratio, and percent distribution of currently married women by category of risk if they were to conceive a child at the time of the survey, Indonesia 2002-2003

	Births in the 5 years preceding the survey		Percentage of currently married women[1]
Risk category	Percentage of births	Risk ratio	
Not in any high risk category	35.6	1.00	31.6[a]
Unavoidable risk category			
First order births between ages 18 and 34 years	30.4	0.98	5.7
Single high-risk category			
Mother's age <18	4.1	1.83	0.2
Mother's age >34	3.8	0.40	13.5
Birth interval <24 months	5.2	2.02	8.0
Birth order >3	9.4	1.31	6.7
Subtotal	22.4	1.42	28.4
Multiple high-risk category			
Mother's age <18 & birth interval <24 months [2]	0.2	1.38	0.1
Mother's age >34 & birth interval <24 months	0.1	0.99	0.4
Mother's age >34 & birth order >3	8.5	1.29	29.0
Mother's age >34 & birth interval <24 months & birth order >3	1.1	3.48	2.2
Birth interval <24 months & birth order >3	1.8	3.89	2.7
Subtotal	11.6	1.88	34.3
In any avoidable high-risk category	34.0	1.58	62.7
Total	100.0	na	100.0
Number of births	15,089	na	27,857

Note: Risk ratio is the ratio of the proportion dead among births in a specific high-risk category to the proportion dead among births not in any high-risk category.
na = Not applicable
[1] Women are assigned to risk categories according to the status they would have at the birth of a child if they were to conceive at the time of the survey: current age less than 17 years and 3 months or older than 34 years and 2 months, latest birth less than 15 months ago, or latest birth being of order 3 or higher.
[2] Includes the category mother's age <18 and birth order >3
[a] Includes sterilized women

The single high-risk category with the highest percentage of births is birth order three or higher; this category includes 9 percent of births. Compared with births with no elevated mortality risk, the mortality increase associated with this category is significant (31 percent). Mortality risks are most elevated for the single-risk categories of too young mothers and too short birth intervals; 4 and 5 percent of births fell in these categories, respectively.

The multiple high-risk category with the largest proportion of births is high order births to older mothers; 9 percent of children fall in this category. Compared with births with no elevated risk, these births have a 29 percent greater risk of dying in early childhood. The multiple high-risk category with the highest risk ratio is the combination birth interval less than 24 months and birth order three or higher; the 2 percent of children in this category are almost four times as likely to die as children with no elevated mortality risk.

The last column of Table 10.7 presents the distribution of currently married women according to category of increased risk if they were to conceive at the time of the survey. Although many women are protected from conception due to use of family planning, postpartum insusceptibility, and prolonged abstinence, for simplicity, only those who have been sterilized are included in the category for not in any high-risk. Two in three currently married women are at risk of conceiving a child with an elevated risk of dying; 28 percent of women are at risk because of a single high-risk factor, while 34 percent of women have multiple high-risk factors. The most common risk is high birth order combined with late childbearing (29 percent of currently married women).