

ORIGINAL ARTICLE

Seven Diseases as Main Causes of Death in Department of Child Health, Dr. Pirngadi General Hospital

by

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Abstract

The retrospective study of main causes of death was conducted in Department of Child Health, Dr. Pirngadi General Hospital, from January to December 1986. Seven diseases as main causes of death were: bronchopneumonia, encephalitis, purulent meningitis, serous meningitis, sepsis, tetanus and severe malnutrition with case fatality rates of 29%; 44%; 41%; 31%; 47%; 12% and 18%, respectively.

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Introduction

Mortality rate especially that of infants and underfives is one of the important indicators of the health status and can give a picture of the health degree achieved in the field of health development (Epi-D, 1984; Joesoef, 1986).

As in most developing countries, the underfive mortality rate in Indonesia in 1980 is almost half of the total mortality rate. The concentration of the mortality

rate on this young group, is not because this group constitutes the majority of the population, but simply because the fact that this group has a higher risk of mortality (Trintrin et al., 1985).

The purpose of this study is to find out seven diseases as the main causes of death in children hospitalized in the Department of Child Health, Dr. Pirngadi General Hospital, Medan, in 1986.

Materials and Methods

The study was done retrospectively including hospitalized children from January to December 1986. All patients who died during this period, were grouped according to the cause of death.

Diseases constituting the seven highest figures were considered as main cause of death and thus further analysed. Newborn babies who died in the neonatal wards were excluded from this study.

Results

These following tables reveal the seven diseases as main causes of death, ranking according to the largest number.

Table 1 : Bronchopneumonia

| Age (Yrs) | Cases | | | Cured | | D.U.C. | | Died | |
|-----------|-------|-----|-------|-------|----|--------|----|------|----|
| | + | + | Total | + | + | + | + | + | + |
| < 1 | 92 | 62 | 154 | 38 | 20 | 22 | 22 | 32 | 20 |
| 1 - 5 | 66 | 67 | 133 | 25 | 26 | 19 | 29 | 22 | 12 |
| > 5 | 6 | 7 | 13 | 6 | 2 | — | 3 | — | 2 |
| Total | 164 | 136 | 300 | 69 | 48 | 41 | 54 | 54 | 34 |

D.U.C. : Discharge under coercion

Case fatality rate : 29%

Table 2 : *Encephalitis*

| Age (Yrs) | Cases | | | Cured | | D.U.C. | | Died | |
|-----------|-------|----|-------|-------|----|--------|----|------|----|
| | ♂ | ♀ | Total | ♂ | ♀ | ♂ | ♀ | ♂ | ♀ |
| < 1 | 25 | 18 | 43 | 8 | 7 | 2 | 2 | 15 | 9 |
| 1 - 5 | 27 | 27 | 54 | 11 | 10 | 4 | 10 | 12 | 7 |
| > 5 | 9 | 7 | 16 | 4 | 2 | 2 | 1 | 3 | 4 |
| Total | 61 | 52 | 113 | 23 | 19 | 8 | 13 | 30 | 20 |

Case fatality rate : 44%

Table 3 : *Purulent meningitis*

| Age (Yrs) | Cases | | | Cured | | D.U.C. | | Died | |
|-----------|-------|----|-------|-------|---|--------|---|------|----|
| | ♂ | ♀ | Total | ♂ | ♀ | ♂ | ♀ | ♂ | ♀ |
| < 1 | 20 | 18 | 38 | 5 | 6 | 7 | 6 | 8 | 6 |
| 1 - 5 | 4 | 8 | 12 | 1 | 3 | 2 | — | 1 | 5 |
| > 5 | 4 | 1 | 5 | — | — | 2 | — | 2 | 1 |
| Total | 28 | 27 | 55 | 6 | 9 | 11 | 6 | 11 | 12 |

Case fatality rate : 44%

Table 4 : *Serous meningitis*

| Age (Yrs) | Cases | | | Cured | | D.U.C. | | Died | |
|-----------|-------|----|-------|-------|----|--------|---|------|---|
| | ♂ | ♀ | Total | ♂ | ♀ | ♂ | ♀ | ♂ | ♀ |
| < 1 | 3 | 6 | 9 | — | 4 | 1 | 1 | 2 | 1 |
| 1 - 5 | 17 | 13 | 30 | 4 | 5 | 7 | 4 | 6 | 4 |
| > 5 | 12 | 13 | 25 | 4 | 7 | 4 | 3 | 4 | 3 |
| Total | 32 | 32 | 64 | 8 | 16 | 12 | 8 | 12 | 8 |

Case fatality rate : 31%

Table 5 : *Sepsis*

| Age (Yrs) | Cases | | | Cured | | D.U.C. | | Died | |
|-----------|-------|----|-------|-------|---|--------|---|------|---|
| | ♂ | ♀ | Total | ♂ | ♀ | ♂ | ♀ | ♂ | ♀ |
| < 1 | 20 | 16 | 36 | 4 | 6 | 6 | 3 | 10 | 7 |
| 1 - 5 | — | — | — | — | — | — | — | — | — |
| > 5 | — | — | — | — | — | — | — | — | — |
| Total | 20 | 16 | 36 | 4 | 6 | 6 | 3 | 10 | 7 |

Case fatality rate : 47%

Table 6 : *Tetanus*

| Age (Yrs) | Cases | | | Cured | | D.U.C. | | Died | |
|-----------|-------|----|-------|-------|----|--------|---|------|---|
| | ♂ | ♀ | Total | ♂ | ♀ | ♂ | ♀ | ♂ | ♀ |
| < 1 | 17 | 14 | 31 | 3 | 5 | 8 | 5 | 6 | 4 |
| 1 - 5 | 27 | 13 | 40 | 18 | 10 | 8 | 2 | 1 | 1 |
| > 5 | 41 | 13 | 54 | 28 | 12 | 9 | 1 | 4 | — |
| Total | 85 | 40 | 125 | 49 | 27 | 25 | 8 | 11 | 5 |

Case fatality rate : 12%

Table 7 : *Severe malnutrition*

| Age (Yrs) | Cases | | | Cured | | D.U.C. | | Died | |
|-----------|-------|----|-------|-------|---|--------|----|------|---|
| | ♂ | ♀ | Total | ♂ | ♀ | ♂ | ♀ | ♂ | ♀ |
| < 1 | 6 | 4 | 10 | 2 | — | 3 | 4 | 1 | — |
| 1 - 5 | 14 | 10 | 24 | 4 | — | 8 | 7 | 2 | 3 |
| > 5 | 2 | 2 | 4 | 2 | — | — | 1 | — | 1 |
| Total | 22 | 16 | 38 | 8 | — | 11 | 12 | 3 | 4 |

Case fatality rate : 18%

Discussion

In this study it seems that the mortality of the male group (131 children) were higher than female (90 children). The reason why was not further studied, though, Madigan's study proved that the mortality of the male group is higher than the female, because of biological differences between the two (Budiutomo and Iskandar, 1984).

Beside differences in the sex group, in this study we also found differences in age groups. Out of the total of 221 children who died because of these seven diseases, 121 were below one year of age and 197 (89%) children were underfives.

During 1986, 464 children died, and 48% were caused by seven diseases considered as the main causes of death such as: *bronchopneumonia, encephalitis, purulent meningitis, serous meningitis, sepsis, tetanus, and severe malnutrition*, and these

diseases were always accompanied by other diseases for example: Bronchopneumonia with dehydration; encephalitis with gastroenteritis, etc. All these causes of death belong to the infections group of diseases, especially the respiratory tract infection. The same situation had been reported in other developing countries.

The highest case fatality rate were found in sepsis, encephalitis and purulent meningitis, respectively 47%, 44% and 41%.

As was reported at the beginning of this paper the underfive mortality in Indonesia in 1980 constituted almost half of the total mortality rate. The reason of this situation might be that the underfive group are still growing and developing relatively faster than the other age groups and if their basic needs are not well fulfilled, they will be more sensitive towards any kind of diseases especially the *infectious one* (Budiutomo and Iskandar, 1984).

Conclusion

(1) The main cause of death was infection especially respiratory tract infection. (2) The mortality rate under one year of age was higher than those of other age groups. (3) The highest case fatality rate was found in sepsis, encephalitis and purulent meningitis. (4) The mortality of males was higher than that of the females.

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