

Neonatal Health Service Improvement in the Last Decade in Turkey

Türkiye’de Son Dekadda Yenidoğan Sağlık Hizmetlerindeki Düzelmeler

Uğur Dilmen

Department of Neonatology, Zekai Tahir Burak Maternity Teaching Hospital, Ankara, Turkey

In the assessment of the development levels of countries, one of the important indicators is the infant and the neonatal mortality. Every year, of the 130 million babies born in the world, four million of them are lost in the neonatal period. It has been reported that 41% of deaths under five years were in the neonatal period in 2008 (1,2). In Turkey until recently, mortality rate not parallel to economic level of our country has been sadness for the physicians and the (other staff dealing with children's health). Except a few of neighboring countries we had more negative figures than all. However, the recent studies show that in Turkey there is a significant decrease in; under five years, infant and neonatal mortality rates (Figure 1-3, Source: 2011 Istanbul University, Marmara University, Yıldırım Beyazıt University “Infant and Under-Five Mortality Survey 2012”, Other Years Turkey Public Health Institution).

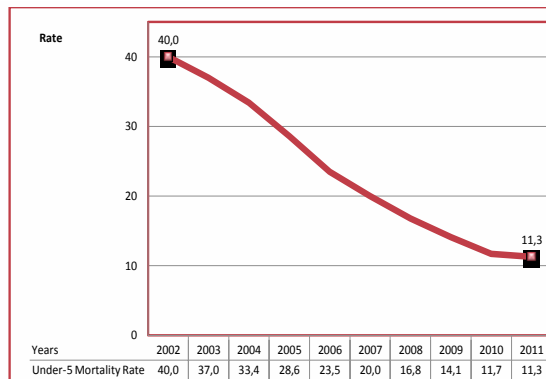


Figure 1. Under Five Mortality Rate by Years (1.000 in live birth), Turkey

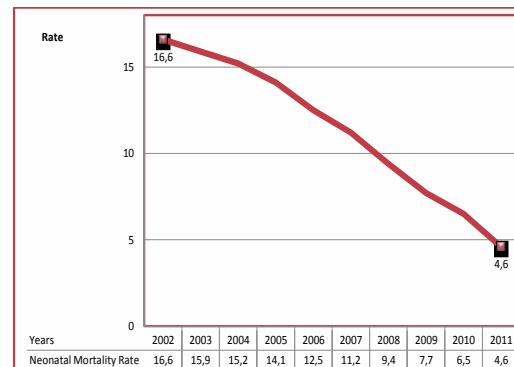


Figure 3. Neonatal Mortality Rate by Years, (1.000 in live birth), Turkey

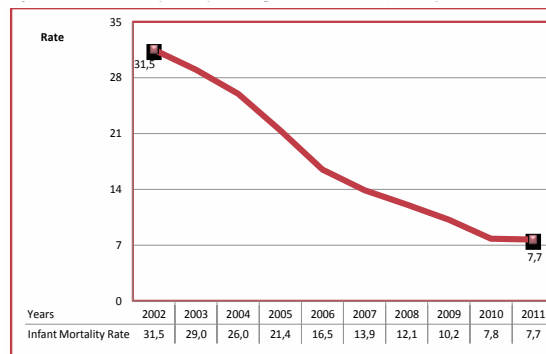


Figure 2. Infant Mortality Rate by Years, (1.000 in live birth), Turkey

An important work conducted by the developed countries at this stage is to establish a regional perinatal organization and organizing both neonatal services and perinatology services and to carry out on a regular basis both investment and personnel planning and making a plan according to the needs of the region (3,4). In our country by following this path, arrangements made for 29 health regions, at these regions tertiary, secondary and primary care neonatal services organized and accordingly personnel, infrastructure, equipment and transport needs have been determined and began working.

Table 1. Data on antenatal follow up and baby friendly hospitals

	1994	2002	2011
Prenatal care %	63	70	94
Rate of delivery at hospital %	64	69	94
Follow-up rate for infants %	60	62	99
Baby-friendly hospital	18	141	817
Those receiving Reproductive Health Service (thousand)	2.226	3.260	8.165

On the other hand, causes of the infant deaths has been followed up at the village, district and provincial levels and as can be seen in the Figure 4 monitored by the Ministry of Health and necessary warnings given on the preventable causes. In the Table 1 it is seen that, rates of antenatal follow-up showed a significant increase compared to 2003, delivery rates accompanied by health personnel increased but the rate of cesarean section is also increased. Here it must be noted that the malpractice concern is also effective (5,6).

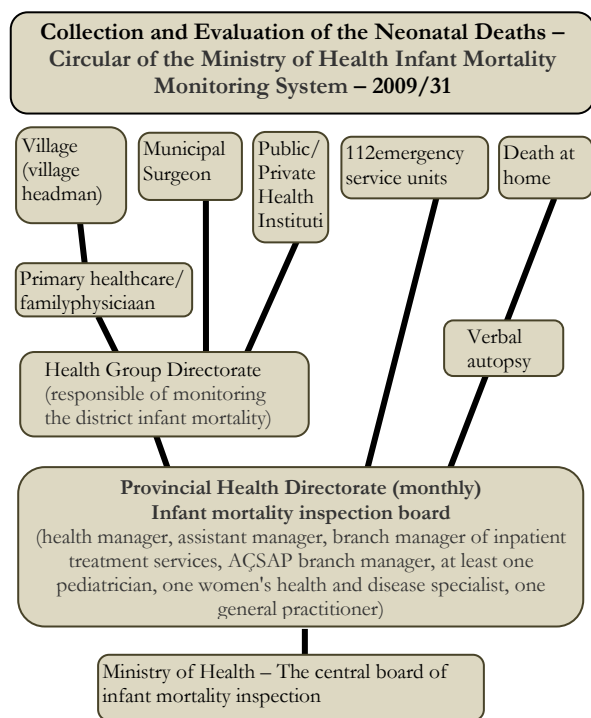


Figure 4. Action plan according to the circular issued to examine the infant mortality

There is only one study conducted previously about the causes of perinatal mortality in Turkey (7). When we examine the reasons of the neonatal mortality for the year 2009, for the early and late

mortality, it is understood that the prematurity and the reasons of prematurity are the main reasons (Table 2). After this stage, it is necessary to increase the level of antenatal follow-up. For this reason, perinatology which is considered to be the minor branch of the department of obstetrics and gynecology a short while ago in our country. The colleagues serving here and the other health personnel have much to do. Ministry of Health made the necessary arrangements for this purpose and organized perinatal centers that perinatology and neonatology centers will work together and also infrastructure, and instrumentation have been completed.

Table 2. Year 2009, causes of early and late neonatal mortality

Cause of Death	Early Neonatal Mortality (%)	Late Neoanatal Mortality (%)
Prematurity and its complications	47.2	36.1
Congenital anomalies (other than heart)	17.5	13.1
Infections	6.5	19.9
Congenital heart disease	4	7.7
Perinatal asphyxia	6.1	3.8
Hypoxic respiratory failure	1.8	2.2
Meconium aspiration syndrome	1.1	0.4
Hereditary metabolic disorders	1.9	2.2
Birth trauma	1.1	0.4
Surgical diseases	0.7	0.5
Hydrocephalus	0.5	1
Anemia and nutritional disorders	0.1	0.4
Neuromuscular disorders	0	0.1
Neglect/Abuse	0	0.1

One of the most important factors in reducing the neonatal mortality is the increase of the staff who received neonatal resuscitation program (NRP) training. In addition, the General Directorate of Health Services, organizes courses and certificate programs for the training of neonatal nurses. Turkish Public Health Institution organizes neonatal intensive care courses for the pediatricians who will serve at the secondary care neonatal units.

In Table 3, increase in the number of neonatal units, the device status and the number of neonatology specialists and the number of nurses is quite remarkable (8). In our country there is a small number of neonatal specialists, they started to get trained besides medical faculties, as well as in the Ministry of Health Training and Research Hospital's neonatal clinics.

Table 3. Improvements in the neonatal units' equipment, bed numbers and number of specialists and nurses OECD countries can only decrease the %0 30 mortality rate in 1960s, to %0 10 in a period of 30 years. Our country reached the same ratio between the years 2003-2010. For this reason UNICEF awarded Turkish Ministry of Health.

	2002	2008
Number of neonatal centers	39	116
Neonatal intensive care unit number of beds	665	4094
Number of portable incubators	158	434
Number of ventilators	252	570
Number of specialists working at the neonatal unit	5	43
Number of nurses working at the neonatal unit	654	3000

There is a significant increase in the number of baby-friendly hospitals. This results the use of breast milk and by this way there is a good development of babies and prevention of a lot of infectious diseases. (8,9)

Of course these developments are not sufficient for neonatal health. These rates need to decrease even further in the coming years. Our priority objectives should be; to reduce neonatal mortality related to prematurity and complications, early detection of congenital anomalies and to prevent the infections. In the meantime we believe that for

the training of the public, foremost the families it is important to put the necessary effort (10,11).

REFERENCES

1. Moss W, Darmstadt GL, Marsh DR, Black RE, Santosham M. Research priorities for the reduction of perinatal and neonatal morbidity and mortality in developing country communities. *J Perinatol.* 2002;22:484-95.
2. Black RE, Cousens S, Johnson HL, Lawn JE, Rudan I, Bassani DG, et al. Global, regional, and national causes of child mortality in 2008: a systematic analysis. *Lancet.* 2010;375:1969-87.
3. Lawn JE, Cousens S, Zupan J. 4 million neonatal deaths: when? Where? Why? *Lancet.* 2005;365:891-900.
4. Darmstadt GL, Walker N, Lawn JE, Bhutta ZA, Haws RA, Cousens S. Saving newborn lives in Asia and Africa: cost and impact of phased scale-up of interventions within the continuum of care. *Health Policy Plan.* 2008;23:101-17.
5. Wallin L. Evidence-based practice in a global context: the case of neonatal mortality. *Worldviews Evid Based Nurs.* 2008;5:167-9.
6. Smith LK, Manktelow BN, Draper ES, Springett A, Field DJ. Nature of socioeconomic inequalities in neonatal mortality: population based study. *BMJ* 2010;341:c6654.
7. Erdem G. Perinatal mortality in Turkey. *Paediatr Perinat Epidemiol.* 2003;17:17-21.
8. Health Transformation Program in Turkey. Progress report. January 2009. Ministry of health. [database on the Internet]. 2009. Available from: www.tusak.saglik.gov.tr/pdf/kitaplar/TurkeySPDEng.pdf.
9. Edmond KM, Zandoh C, Quigley MA, Amenga-Etego S, Owusu-Agyei S, Kirkwood BR. Delayed breastfeeding initiation increases risk of neonatal mortality. *Pediatrics* 2006;117:e380-6.
10. Demirel G, Tezel B, Ozbaz S, Oguz SS, Erdev O, Uras N, Dilmen U. Rapid decrease of neonatal mortality in Turkey. *Matern Child Health J* 2012 doi: 10.1007/s10995-012-1115-7.
11. Demirel G, Dilmen U: Success of decreasing neonatal mortality in Turkey, *Medical Journal of Islamic World Academy of Sciences* 2011;19:161-16.

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Correspondence/İletişim

Uğur DİLMEN
Department of Neonatology, Zekai Tahir Burak
Maternity Educational and Academic Hospital
ANKARA/TURKEY
E-mail: ugurdilmen@gmail.com

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