

The status of women and of maternal and perinatal health in Turkey

Nilgün Kültürsay

Division of Neonatology, Department of Pediatrics, Ege University Faculty of Medicine, İzmir, Turkey

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Turkey has improved the status of women and the maternal and perinatal health statistics in the last decades. However, discrepancies between urban-rural and east-other regions continue, with some improvements. The education of girls is promoted and maternal age at marriage and at first delivery has increased. Birth control measures are increasingly used. Fertility rates decreased to 2.16 children per fertile woman. Antenatal care standards have improved, and achievement of deliveries by health care personnel and postnatal mother/newborn care has increased to 90%. The maternal death rate decreased to 19.5 in 100,000 pregnant women. However, uneducated women marry earlier and have a higher risk of dying from pregnancy-related causes. Perinatal mortality decreased to 19 in 1,000 deliveries. Neonatal mortality rate decreased to 13 in 1,000 live deliveries. Uneducated mothers living in rural areas and having more children receive less antenatal and postnatal care and are more likely to lose their newborn. The major causes of neonatal deaths are prematurity and congenital abnormalities.

Key words: women's status, maternal mortality, perinatal mortality, neonatal mortality, infant mortality.

Millennium Development Goals in the world and in Turkey in 2010

World leaders gathered at the United Nations in September 2010 reviewed progress on the 15-year plan agreed upon in 2000 known as the Millennium Development Goals. These eight goals aim to end extreme poverty, hunger and disease. But with only five years remaining, several of the goals are lagging behind schedule. Two of the goals in greatest jeopardy of not being met by 2015 are Goals 4 and 5-reducing child mortality and improving maternal health. United Nations Secretary-General Ban Ki-moon launched a \$40 billion global health initiative that he says could save the lives of tens of millions of women and children worldwide. The initiative has received \$40 billion in new commitments for the next five years from governments, the private sector, international organizations, and civil society¹. This is great news for all developing countries with high maternal-perinatal and child mortality.

Child survival has shown some improvement globally, but progress has been slow in maternal, perinatal and neonatal health. Of the 4 million neonatal deaths that occur worldwide each year, 99% of these occur in developing countries². A similar number are stillborn, and 500,000 mothers die from pregnancy-related causes³. A total of 99% of all maternal deaths occur in developing countries, where 85% of the population lives⁴.

Decreasing maternal and perinatal mortality is a global priority, which can be achieved with good quality antenatal care visits, safe delivery by experienced health care personnel, reachable urgent obstetrical and neonatal care, and health monitoring of the mother and newborn once in the first 24 hours and once or twice in the first week. Such a program, which can reach 90% of the society, can decrease perinatal-neonatal mortality by 70%. Simply preventing asphyxia, sepsis and hypothermia, providing better care of

low birth weight infants, and facilitating early initiation and promotion of breastfeeding are much easier and cheaper than high technology intensive care investments to reduce neonatal deaths at the first step⁵.

Turkey has recently achieved a good trend toward decreasing maternal and infant mortality, with better primary care facilities and intensive educational programs for both mothers and health care professionals. Further improvement will come with new perinatal organization and an increase in the number of beds and the quality of care in Level II and Level III neonatal care units throughout the country.

Some demographic data of Turkey

Population and economy

The population of Turkey is now 72.5 million⁶. Urbanization has accelerated in the last 40 years, and currently 75% of the population lives in urban areas due in part to migration from the east⁷. The annual growth in the population rate has gradually reduced, from 2.2% from 1970–1990 to 1.3% from 2000–2008⁸. The GNPPC (gross national product per capita) is given as US\$8730 according to the World Bank, ranking Turkey 80th among 213 countries in 2009⁹. Gross Domestic Product (GDP) per capita average annual growth rate was 2.4(%) from 1990–2008¹⁰. The proportion of Total Health Expenditure (THE) to the GDP increased from 4.8% in 1999 to 6% in 2007. Health expenditure per capita has increased from US\$186 in 1999 to US\$553 in 2007⁶. The budget for primary health care increased 58% within 6 years, reaching 3 billion 979 million¹¹.

Girls' education and status of women

The Turkey Demographic and Health Survey (TDHS) is a survey of a sample to represent Turkey, which is performed every five years by Hacettepe University's Institute of Population Studies and the Ministry of Health. The report on the results of the 2003-2008 study has recently been released¹². This survey was performed on 10,525 family members and 7,405 married women aged 15-49 years. The TDHS 2008 survey shows that 90% of married Turkish women are literate, of whom, 52% are primary school graduates, 8% are secondary

school graduates and 21% have an education of high school or higher¹².

The education of girls is the most important factor for a healthy society. As regards literacy rates, there has been a significant increase in overall literacy in Turkey. In 2000, 19.4% of women were illiterates compared to 6.1% of men¹³. An adult (15+) literacy rate of 96% for males and 80.4% for females was given in 2006 by the Turkish Statistical Institute⁶.

In 1997, compulsory education in Turkey was extended to 8 years from 5. In addition, in the last few years, important developments have been achieved in primary education, and the net enrolment ratio has nearly reached 100%. The literacy rate among the 15-24 year age group is improving and the gap between women and men is closing. The youth (15–24 years) literacy rate in 2008 was 99.2% for males and 98.4% for females¹⁴.

Although Turkey has almost reached its goal of eliminating gender disparity in primary school education, the share of girls not taking part in secondary education is striking for the country. Schooling ratios in 2003–2008 were as follows: net primary school enrolment ratio M/F: 93/89, net primary school attendance ratio M/F: 91/87, net secondary school enrolment ratio M/F: 74/64, and net secondary school attendance ratio M/F: 52/43¹⁵.

Two-thirds of all primary school aged children who do not attend school are girls. Girls living in the eastern regions and in rural areas are the most disadvantaged group. The “back to school” campaigns, the Conditional Cash Transfer scheme and the use of school transport for children in remote locations are promoting the schooling of girls. Beginning from 2003, 290,224 girls (totally 350,000 children) went back to school as a result of these campaigns. Although significant progress has been achieved in net enrolment ratios in Turkey in general, factors such as gender, family income and education levels, family size, and place of residence remain critical in determining access to education. An examination of the net enrolment ratio distribution by province shows that regional differences persist, and that the ratio of children left out of primary education is higher in the central Anatolian and eastern regions¹⁵.

Unfortunately, 69% of women in Turkey still have no social security of their own and 16% have no health insurance. Participation in the labor force by women was still as low as 21.3% in 2008. This rate increases in conjunction with their level of education. Among women who are graduates of secondary-level vocational or technical schools, labor force participation is 38.3%, and among those who are graduates of standard secondary schools, this rate is 29.1%. However, among university graduates, the rate of participation rises to 70%¹⁵.

Turkey is still far from claiming gender equality in politics, where there is a major problem of gender representation. Women still have only 50 seats in the 550-member parliament. Women's representation in politics in Turkey remains below the average of European, American, Pacific, and African countries, both at the parliamentary level (9.1%) and at that of local government (less than 2%)¹⁵.

Fertility rates, birth intervals, family planning

According to the TDHS 2008, the mean number of household individuals decreased from 4.5 to 3.9 within the last 15 years. It is higher in the countryside (4.2) than in urban sites (3.8). The proportion of the younger population (>15 years) decreased to 27%. The median first age at marriage increased 3 years (from 19.5 to 22.5) in the last 20 years. Uneducated women still marry 5 years earlier than educated women and 5% of 25-49 years of age women get married before their 15th birthday. The highest fertility age also changed from 20-24 to 25-29, which means that first childbearing is also deferring to later ages¹².

Fertility rates are decreasing in Turkey. The estimated number of births is 1,262,698, and the fertility rates show that the mean number of children will be 2.16 for fertile women of this period. Illiterate women have an additional child when compared to women with high school and university educational levels¹².

The mean birth interval is 44 months, showing a 22% increase within the last 5 years. Only in 1/5 of deliveries is it as short as less than 24 months. Adolescent age deliveries decreased to 5.9% in 2008 from the rate of 27% in 2003¹².

Total family planning demand is 79%, and 92% of this demand is met. Birth control measures, especially the modern preventive birth control methods, are increasingly used. However, pregnancy termination demand is 3 times that of demand for birth control measures (55% vs 18%). Whereas 21% of pregnancies end with abortion, half of them (10% of all pregnancies) are intentional as a birth control measure¹².

Perinatal health and maternal, perinatal and neonatal mortality

Maternal deaths decreased steadily to 28.5 per 100,000 pregnant in 2005¹⁶ and to 19.5 per 100,000 pregnant in 2007¹⁷. However, 52% of maternal deaths are due to reasons that are avoidable with the available facilities. Toxemia, bleeding, infections, and other direct pregnancy complications are the major reasons for maternal deaths. Maternal deaths occur mostly in the last trimester and within the first 48 hours of delivery. Of all maternal deaths, 21% occur at home and 10.4% during transportation to the health care center. Deliveries and abortions in inappropriate conditions are the major causes of maternal deaths, and 38.6% of the mothers are illiterate or primary school dropouts¹⁶.

The TDHS 2008 data also showed that in Turkey, 58% of mothers aged 15-49 years are overweight and 24% are obese. In addition, 22% of fertile women smoke, and unfortunately, smoking during pregnancy is as high as 17%. Several urgent measures are now being taken to overcome these problems, which may be related to increased perinatal mortality.

In deliveries occurring between 2003-2008, 92% of mothers had antenatal care and 90% of this care was given by doctors. Eighty-seven percent of pregnant had more than 4 antenatal visits during their pregnancy. The young mothers with fewer children, living in urban areas, and having at least primary school education had more antenatal care visits¹².

As a policy, all deliveries are promoted to be in hospitals, and 90% of all deliveries now are in hospitals. Unattended home deliveries have declined. State hospitals are used in 70% of deliveries¹².

Doctors and certified health care professionals attended 91% of all deliveries. These numbers

were also lower in the east mountainous part of the country and in the rural areas. The numbers of hospital deliveries and of deliveries with health care professionals also increased over the years. However, in rural areas, nearly 20% of mothers still deliver at home without professional help. Uneducated mothers are most likely to deliver at home¹².

On the other hand, cesarean section (c/s) rates continue to increase, now accounting for 36.7% of all deliveries, and this is another problem. Forty-two percent of hospital deliveries are done via c/s. This rate is higher (41.7%) in urban areas than in rural areas (24.3%). The mothers with high school and higher education and in the highest income group have higher c/s rates¹². Since we know that maternal and neonatal mortality can only be decreased with medically indicated c/s, this high rate needs to be decreased. In this regard, several preventive measures are now being taken by the Ministry of Health to decrease c/s rates.

Postnatal care was given to 83% of women and 90% of newborns within the first 24 hours, mostly by doctors. Uneducated young women with high fertility rates (more than 4 deliveries) who live in rural and eastern parts of Turkey showed the lowest rates of postnatal care¹².

In our regional reference center (Ege University, Izmir), we previously analyzed and reported the most frequent causes of perinatal mortality over 23 years (1967-1989). Comparing data of two periods (1978-1986 and 1987-1989), we reported that perinatal mortality rates reduced from 58.07 to 38.34 in 1,000 deliveries. Autopsy-based causes of fetal deaths were antenatal and intrapartum asphyxia, congenital anomalies, intrauterine infections, and fetal maceration, whereas autopsy-based causes of neonatal deaths were antenatal and neonatal infections, prematurity-respiratory distress syndrome (RDS) and congenital anomalies. In this study, using Hobel's risk scoring system, we found that risk factors for fetal death were low socioeconomic status, illiteracy, toxemia, maternal urinary tract infections, smoking, previous obstetrical problems, previous neonatal or fetal death, primiparity, grand multiparity, congenital anomalies, and cervical insufficiency. Risk factors for neonatal death were low socioeconomic status, illiteracy, multiparity, chorioamnionitis, low birth weight,

prematurity, RDS, low Apgar scores, congenital anomalies, and sepsis¹⁸.

Perinatal mortality, stillbirth and early neonatal mortality rates were prospectively assessed by the Turkish Neonatal Society in 29 centers throughout the country in 1999, and the numbers were 34.9/1000, 18/1000 and 17.2/1000, respectively. Stillbirths (42.7%), prematurity (26%) and lethal congenital malformations (13.2%) were identified as the most frequent causes according to Wigglesworth classification. Perinatal mortality rates were highest, with 71.9 and 62.9 per 1000, in the regions with low socioeconomic status and predominantly rural and semi-urban. The rate was lowest (27.3 per 1000) in the economically more developed region¹⁹.

This high perinatal mortality has decreased since then, and the TDHS 2008 showed a perinatal mortality of 19 per 1000 deliveries for the previous 5 years, which is also a lower rate than the rate of TDHS 2003 calculated as 24 per 1000 deliveries. Under-5 mortality rate was 24/1000 live births, infant mortality rate was 17/1000, neonatal mortality rate was 13/1000, and postneonatal mortality was 4/1000 in the 2008 report (Figs. 1, 2, 3). All these numbers show a steady decrease when compared to the numbers of the last 15 years. However, regional differences are again prominent. Neonatal deaths constitute 56% of all child mortality, and 87% of all neonatal deaths occur in the first week¹².

The TDHS 2008 also showed that early and advanced maternal age are both related to increased neonatal mortality. The number of previous children >3 and deliveries at intervals of less than 24 months were determined to be closely related to higher mortality risks. Babies born in rural areas have a 50% increased probability of dying in the first month. South and east Anatolia have the highest neonatal and infant mortality rates. Newborns of illiterate mothers have a 3-times higher risk of dying than newborns of educated mothers. Major causes of neonatal deaths are prematurity and congenital abnormalities due to the high rates of consanguineous marriages in Turkey¹².

Ongoing studies to further decrease maternal and perinatal-neonatal mortality

The perinatal and neonatal periods have

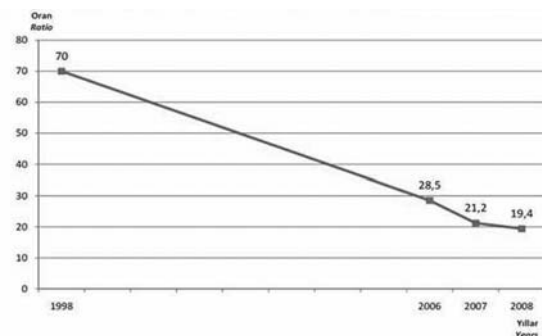


Fig. 1. Maternal mortality ratio by years (per 100,000 pregnant) in Turkey. www.saglik.gov.tr/EN/dosya/2-1209/h/healthstatisticsyearbook2008.pdf

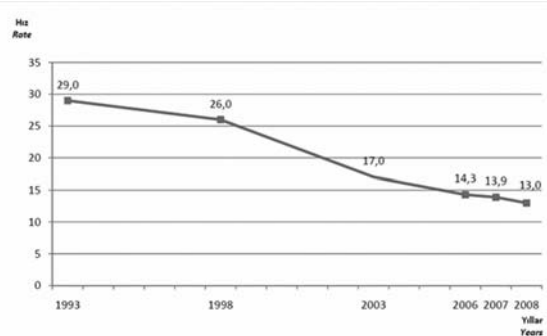


Fig. 3. Neonatal mortality rate by years (per 1000 live births) in Turkey. www.saglik.gov.tr/EN/dosya/2-1209/h/healthstatisticsyearbook2008.pdf

gained more importance in society and are allotted a higher proportion of the health care budget today. Pregnancy and newborn registry systems are being developed. The reasons for every maternal and neonatal death are now investigated by regional health committees. Regional perinatal organization, increasing the numbers of and strengthening the Level I and II perinatal-neonatal care units, and better transportation and registry systems of pregnant and newborns are planned and being performed with an increasing determination. Since 1991, the Turkish Neonatal Society and Ministry of Health have been training all health care professionals who attend deliveries on neonatal resuscitation using the American Academy of Pediatrics (AAP) protocols. The number of health care personnel who were certified through the neonatal resuscitation courses was 22,606 in 2009¹¹ (This number reached 30,875 in November 2010, unpublished data, obtained from health authorities).

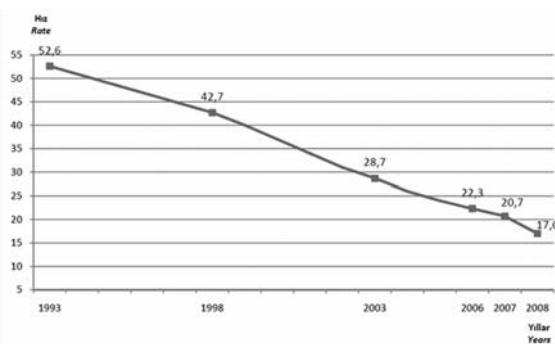


Fig. 2. Infant mortality rate by years (per 1000 live births) in Turkey. www.saglik.gov.tr/EN/dosya/2-1209/h/healthstatisticsyearbook2008.pdf

The number and care quality of baby-friendly hospitals and health care services to promote breastfeeding are increasing. Early initiation of supplementary foods is decreasing. In Turkey, 97% of infants are nursed for some time. Although only 69% of infants in the first two months are solely breastfed, this number was much lower (44%) according to the 2003 statistics¹².

The number of Level III neonatal intensive care beds increased from 665 in 2002 to 2918 in 2009 in state hospitals. Increasing the number of Level II-III neonatal beds together with improving the quality of care are targeted¹¹. The need for neonatal health care professionals is calculated and the education is being standardized. For this purpose, an additional 6000 trained nurses and 400 neonatologists are required. Neonatal nurse training courses and certification programs and intensive courses for pediatricians who work in Level II neonatal care are the new ongoing projects.

The increasing number of multiples with high risk of prematurity due to assisted reproductive medicine is a problem. A recent multicenter study of the Turkish Neonatal Society showed that multiple pregnancy - mostly caused by infertility treatments and assisted reproductive techniques (ART) - may lead to increased maternal complications and increased perinatal and neonatal problems together with an increased need for Level III neonatal intensive care²⁰.

Therefore, recent law changes in 2010 have been designed to decrease the risk of multiples by limiting the number of embryos transferred in ART centers in Turkey to promote single

embryo transfer in the first two procedures in women below 35 years, and double embryo transfer in the third and consecutive applications and in women older than 35 years of age²¹.

In conclusion, promotion of the education of girls helped to increase maternal age at marriage and at first birth and to decrease adolescent motherhood and fertility rates. Achievement of hospital deliveries and deliveries by health care personnel and postnatal mother/newborn care increased. As a result, maternal, perinatal, neonatal, and infant mortality rates decreased. However, discrepancies between urban-rural and east-other regions continue, with some improvements. Targeted work for these problems will help to further improve maternal and perinatal health. The aim is to achieve healthy mothers and healthy infants with better education programs, standardized follow-up and treatment protocols and a better regional perinatal organization. Ongoing projects to further improve perinatal health statistics are being planned and conducted by the health authorities and civil organizations such as the Turkish Neonatal Society. However, the most important and effective factor is better education of girls and strengthening the status of women in society.

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