

Turkish Demographic and Health Survey Results of Antenatal Care, Perinatal Fetal and Neonatal Evaluation With Respect to Prognosis

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Abstract

Objective: Turkey Demographic Health Surveys data, which was completed in 2008 was analyzed. Examination of the fetus and newborn outcome of pregnancies, use of antenatal care services and to evaluate the effect on the results of antenatal care services.

Methods: Turkey Demographic Health Surveys data, which was completed in 2008 by the Ministry of Health, Hacettepe University Institute of Population Studies and Macro International was analyzed.

Results: The results of the survey data and questioning the general population has been reached adjusting the following comments: 1) Only 78.4% of pregnancies ends with a live birth in Turkey 2) Pregnancies can not end live births consist of spontaneous abortions rate is 49%, induced abortions rate is 46% and stillbirths rate is 5%. 3) Receiving prenatal care in health care workers and health facility to perform the birth rate reached over 90% 4) Remarkable increase in cesarean section rates. 5) Although antenatal care services increased neonatal mortality reduction should be to question the quality of service became clear that this is not satisfactory.

Conclusion: Our country is trying to reach with the relevant health data, two points come to our attention. The first is the absence of a registry system in our country healthy for the fetus and newborn, and the second each year about 300 thousand babies died before birth or the neonatal period with the main responsibility for the quality of antenatal care services across the country, is that still inadequate. Solution to these problems, emphasis will be given again, recording systems and improving the quality of antenatal care services passes.

Keywords: Turkey, antenatal care, caesarean section rate.

Türkiye nüfus ve sağlık araştırması sonuçlarının antenatal bakım, fetal perinatal ve neonatal prognoz yönünden irdelenmesi

Amaç: İkinsekiz yılında tamamlanmış olan Türkiye Nüfus Sağlık Araştırmaları'na ait veriler ile gebeliklerin fetus ve yenidoğan akıbeti yönünden incelenmesi, antenatal bakım hizmetlerinden yararlanma ve antenatal bakım hizmetinin elde edilen sonuçlar üzerindeki etkisinin değerlendirilmesi.

Yöntem: Sağlık Bakanlığı, Hacettepe Üniversitesi Nüfus Etütleri Enstitüsü ve Macro International tarafından 2008 yılında tamamlanmış olan Türkiye Nüfus Sağlık Araştırmaları'na ait veriler incelendi.

Bulgular: Anket ve sorgulama verilerinin sonuçları toplum geneline uyarlandığında aşağıdaki yorumlara ulaşıldı: 1. Türkiye'de gebeliklerin sadece %78.4'ü canlı doğum ile sonlanmaktadır, 2. Canlı doğumla sonlanmayan gebeliklerin %49'u istemsiz düşüklükler, %46'sı istemli düşüklükler, %5'i ise ölü doğumlardan oluşmaktadır, 3. Sağlık personelinde doğum öncesi bakım alma ve doğumu sağlık kuruluşunda gerçekleştirme oranı %90'ların üzerine çıkmıştır, 4. Sezaryen oranlarındaki artış dikkat çekicidir. 5. Antenatal bakım hizmeti arttırdığı halde neonatal mortalitedeki azalmanın tatminkar olmaması bu hizmetin kalitesini sorgulamamız gerektiğini ortaya çıkartmıştır.

Sonuç: Ülkemiz ile ilgili sağlık verilerine ulaşmaya çalışırken iki nokta dikkatimizi çekmiştir. Bunlardan birincisi ülkemizde fetus ve yenidoğan ile ilgili sağlıklı kayıt sisteminin bulunmadığı, ikincisi ise her yıl doğumdan önce veya yenidoğan döneminde kaybedilen yaklaşık 300 bin bebeğin asıl sorumluluğunu taşıyan antenatal bakım hizmetlerinin ülke genelindeki kalitesinin hala yetersiz olduğudur. Bu sorunların çözümü, yine kayıt sistemlerine verilecek önem ve antenatal bakım hizmetlerinin kalitesinin yükseltilmesinden geçmektedir.

Anahtar Sözcükler: Türkiye, antenatal bakım, sezaryen oranı.

Introduction

The level of baby and child deaths generally reflects the level of health service and general living conditions in a society. Although these services and conditions are separated into two groups as prenatal and postnatal, they are the components forming a whole. It is an expected from a service given prenatally to affect also the postnatal period.¹

According to 2008 data of Turkish Demographic and Health Survey (TNSA), still-birth rate is 7/1000, early neonatal death rate is 11/1000, perinatal death rate is 19/10000 and death rate within first month after delivery is 13/1000. Among these deaths, 17% is stillbirth, 32% is neonatal death, 10% is postneonatal death and 41% is baby death. Also, the progress of baby mortality in the last decade is in the range of 29-17/1000. To express these rates in numerical way, we can say that we lose approximately 14000 babies in the first month after delivery every year and we lose 20000 - 25000 babies in the first year after delivery.

On the other hand, according to TNSA 2008 results, it was shown that 22 of each 100 pregnancies in Turkey did not result with viable birth in the last five years. In Turkey, according to the information that there were 1.262.333 deliveries in 20082, approximately 356.000 pregnancies were resulted with spontaneous abortion or stillbirth every year. By excluding 49% of abortions which are "induced abortions", we can estimate that approximately 180.000 of pregnancies are resulted with loss.

Our aim in this study is to analyze pregnancies in our country in terms of fetus, newborn and baby outcomes in parallel with Turkish Demographic and Health Survey and to emphasize positive and negative points.

Methods

The data of Turkish Demographic and Health Surveys (TNSA) completed in 2008 by Turkish Ministry of Health, Population Etudes

Institute of Hacettepe University and Macro International were analyzed.

1998, 2003 and 2008 Guides of Turkish Demographic and Health Surveys were used in order to reach the data related with pregnancies and their outcomes in Turkey. Approximately 10000 households and 7500 married women were interviewed by all three surveys and data were obtained with 5% error margin enabling us to generalize the society and these results were confirmed by next researches.

Results

Abortions

According to the 2008 data of Turkish Statistics Institute, there were 1.262.333 deliveries in 2008 in Turkey. This number constitutes approximately three fourths of all pregnancies. Short-term outcomes of pregnancies are given in Table 1.

Table 1. Gestational prognosis.*

TNSA	1993-1998	1998-2003	2003-2008
Induced abortion	14.5	11.3	10.0
Spontaneous abortion	8.7	10.0	10.5
Stillbirth	1.5	1.3	1.1
Live birth	75.3	77.4	78.4

* Rates are given as percentage.

As noticed, spontaneous abortion rate in 2008 is 10.5%. When the data of TNSA 2003 and TNSA 2008 are compared, it is seen that the rate of induced abortion decreases 11% and the rate of spontaneous abortion increases 5%. When all married women (age 15-49) are considered according to the data of last 5 years, the rate of women who had induced abortion is 22%, the rate of women who had spontaneous abortion is 20% and the rate of those with stillbirth is 4%. 6% of all married women had induced abortion, 8% of them had abortion more than once and less than 1% of them had pregnancy more than once which resulted with stillbirth.

The point standing out here is that the outcomes obtained from family planning methods for years are actually disputable. While 34% of women did not use any method before induced abortion, 22% of them used a modern contraceptive method (11% condom, 5% pills, 5% RIA) and 44% of them used traditional methods such as using calendar and withdrawal method. None-use of any method by 32% of women and use of withdrawal method by 22% of women during the first month after induced abortion emphasize the requirement of giving consultancy for family planning after induced abortion.

15% of pregnancies according to 1998 data, 11% of pregnancies according to 2003 data and 10% of pregnancies according to 2008 data are ended with induced abortion. As it is understood here, over 180.000 pregnancies are ended with induced abortion every year and it is a high rate when compared with general delivery number. The distribution of these induced abortion over gestational months are given in Table 2.

Table 2. Gestational months in induced abortions.*

TNSA	1998	2003	2008
1st month	68	73	67
2nd month	23	22	22
3+ month	9	5	11

*Rates are given as percentages.

Prenatal Care and Neonatal Postneonatal Mortality

When antenatal care and getting support for delivery are compared with mortality rates in TNSA 1998 data, a difference drawn attention in terms of neonatal mortality (neonatal mortality rate of those who got antenatal care was 23/1000 and it was 37/1000 for those who did not get antenatal care); and this was detected more clearly in postneonatal mortality (postneonatal mortality rate was 5/1000 for those

who got antenatal care and it was 58/1000 for those who did not get antenatal care). When the rates and outcomes of getting care compared to previous years are interpreted, a clear decrease is observed in mortality for those who get full care.¹ Existence of relationship between neonatal mortality and antenatal care services required to question antenatal care service and it is seen that TNSA 2003 and 2008 gave more detailed data for antenatal care services.

According to TNSA 2008 data, 90% of women took prenatal care from at least one physician (totally 92% of them from health personnel) during their last deliveries within last five years before the survey date. When TNSA-1998 and TNSA-2008 results are compared, the rate of getting prenatal care was increased from 68% to 92% (Table 5). This indicates approximately 75% decrease in the rate of women who did not get any prenatal care.

The rate of getting antenatal care is high in young women (93%), in those pregnant for their first children (98%), and those living in urban areas. Prenatal care is at the lowest rates in Northeast, Middle-east and Southeast Anatolia (73%, 76% and 82%, respectively).

Initiating prenatal care at the early periods of pregnancy is useful and effective on preventing pregnancy to result negatively. When 1998 and 2008 data in the Table are compared, it is seen that women are more aware of the importance of getting prenatal care. First visit median value which was 3.1 months in 1998 reduced to 2.8 months in 2003 and reduced to 2.2 months in 2008.

Table 3. Stillbirth rates during reproductive periods of married women.

TNSA	1993	1998	2003	2008
Total	5.7	5.0	4.0	4.0
1 stillbirth		4.3	3.5	3.5
2 stillbirths		0.5	0.3	0.4
3 and more stillbirths		0.2	0.2	0.1

Table 4. Stillbirth number per 100 pregnancies.

TNSA	1993	1998	2003	2008
	1.9	1.5	1.3	1.1

Gestational complications are the most important reasons for maternal deaths, early neonatal deaths and morbidity. Therefore, effective prenatal care for providing safe maternity depends on tests and measurements performed in order to determine possible complications during these controls. It is seen that 92% of women's blood pressure was measured who got prenatal care, 82% of them had urine test, 86% of them had blood analysis, 96% of them had ultrasonographic analysis at least one of their prenatal visits and 83% of them had weight measurement. It was also found that fundus pubis examination performed during prenatal care had a low rate (74%). 80% of pregnant women stated that they used iron supplements. As seen in Table 6, fundus pubis examination rate given in TNSA-2008 data increased significantly though it is still at the lowest rate compared to other examinations and measurements.

While the rate of delivery performed in a health organization was 78% according to the date of TNSA-2003, it was found as 90% throughout the country according to TNSA-2008. Women who got prenatal delivery four or

more times had 97% of their deliveries in a health organization. In case that prenatal care was not taken, the rate of performing delivery at home is 34%. While delivery rate in a health organization is 80% in rural areas, it is 94% in urban areas. The rate of deliveries performed in a health organization is above the country average in all regions except Eastern region (72%). Middle Anatolia region has the highest rate (98%) in terms of deliveries performed in a health organization followed by Western and Northern regions (96%).

Getting help from trained health personnel during delivery has a major importance in terms of preventing maternal deaths and neonatal deaths. While the rate of all deliveries within last five years performed by getting trained health personnel was 83% in TNSA-2003, it was 91% in TNSA 2008.

Delivery by Cesarean

Delivery by cesarean is quite common in Turkey. According to TNSA 2008 data, 37% of all deliveries done in the last five years were done by cesarean. The rate of delivery by cesarean increased largely (21%) according to TNSA-2003. Another point found significant in the data is that the rate of cesarean at first delivery increased more than 100% as to 1998. 45% of first deliveries were done by cesarean (Table 7). Cesarean is more common among women living in urban areas (42%) compared to

Table 5. The rates of getting antenatal care.*

	1998	2003	2008
**Getting antenatal care	68	81	92
*Getting antenatal care from physician	60	71	90
*Care before 6th month of pregnancy	60	71	87
*Median pregnancy duration at first visit	3.1 months	2.8 months	2.2 months
*Getting antenatal care more than four times	42	54	74
*In urban areas	?	64	80
*In rural areas	?	33	55

* Rates are given as percentage.

women living in rural areas (24%). Deliveries by cesarean are over 40% in all regions except Eastern Anatolia (16%). Cesarean rates increase as education and welfare levels increase.

Table 6. Rates of tests and measurements performed during prenatal care.*

	2003	2008
Blood pressure measurement	89	92
Fundus pubis examination	46	73
Ultrasonographic examination	90	96
Urine test	73	82
Blood test	77	86

* Rates are given as percentage.

Table 7. Rates of deliveries by cesarean.*

TNSA	1993	1998	2003	2008
The rate of delivery by cesarean	7	14	21	37
The rate of cesarean at first delivery		20	30	45

* Rates are given as percentage.

It is clear that getting antenatal care, performing delivery at a health organization and getting help from trained health personnel during delivery has a significant contribution on the decrease of the rates of perinatal, neonatal and postneonatal death though there is no direct explicative data in TNSA-2008. There is need for studies explaining relationship between these parameters and neonatal and postneonatal death rates in next TNSA.

Neonatal mortality decreased from 40/1000 to 13/1000 and postneonatal mortality decreased from 5/1000 to 4/1000 in last 30 years. Stillbirth and early neonatal death numbers and perinatal death rates are given in Table 8 for the five years before TNSA-2008 according to some basic demographic and socio-economical variables. When the rate 24/1000 given in TNSA-2003 is considered, it is seen that there is a decrease in perinatal death rate in last five years.

Table 8. Intervals of postnatal death rates according to years.*

	Neonatal mortality	Postneonatal mortality	Baby mortality
1978-1982	37-42	54-58	92-100
1983-1988	35-45	37-47	70-81
1988-1993	29-30	23-24	53-54
1993-1998	26	17	43
1998-2003	17	12	29
2003-2008	13	4	1

* Rates are given as percentage.

It is seen that perinatal death rate is quite high among women in 40-49 age group and women younger than 20 years old. There is a strong relationship between pregnancies occurring with short intervals and perinatal death rate. Perinatal death rates in pregnancies occurring in intervals shorter than fifteen months are two times higher than pregnancies occurring in intervals of 15-26 and 27-38 months. Perinatal deaths in urban areas are higher than rural areas. It is seen that the Western region has the highest perinatal death rate among all regions. This conflicting highness in perinatal death rate in Western region may caused by ending abnormal fetuses by establishing intrauterine diagnosis. Women with high education level have less perinatal death experience than educated women. Perinatal death rate in houses with low welfare level is higher than others. When considered according to regions, neonatal and postneonatal death rates are low in western regions while it is at the highest rates in Eastern and Southern regions.

Discussion

It is reported that approximate delivery in our country is 1.262.333 in a year.³ While the delivery number in İstanbul according to 1999 was 153.000, it increased to 212.000 in 2008 and baby death rate decreased from 25/1000 to 10.7/1000. Induced abortion rate was found as 29/1000 in Turkey while it was 42/1000 in İstanbul.

bul.⁵ Getting help from health personnel before and during delivery developed in recent years and 92% of women in Turkey got antenatal care service from health personnel while this rate increased to 97% for women living in Western regions. The rate of getting antenatal care was 68% in TNSA-2003 data and it increased to 92% according to 2008 data. The rate of delivery performed in a health organization was 78% according to TNSA-2003 data while it increased to 90% throughout the country according to TNSA-2008 data. Despite the increase in the rate of antenatal care, rate difference between urban and rural, east and west still continues. Getting help before and/or during delivery is still behind the desired level though it has a developing progress which has a positive effect on data related with baby death rates. It is emphasized that 65% of antenatal deaths and 78% of early neonatal deaths can be prevented under hospital conditions.⁶ In fact, the decrease obtained for postneonatal mortality in Turkey has a visible rate. However, it is hard to say same for neonatal mortality. When TNSA-2008 data are compared with 2003 data, it is seen that there is 67% decrease in postneonatal mortality while the decrease in neonatal mortality stayed at 24%. There may be two explanations that neonatal mortality rate does not change much by antenatal care and getting delivery help: either mortality has reached a level which can not be reduced anymore or the service given is insufficient. The quality of antenatal care service which reached the rate of 92% in Turkey should be questioned.

According to TNSA 2008 results, pregnancies below age 20 and above age 40, short delivery interval, low welfare level and low education level, high parity and low weighted baby birth affect mortality rate negatively. It is interesting that perinatal mortality rate is 20/1000 in urban areas while it is 17/1000 in rural areas. Among all regions, Western region has the highest perinatal death as 25/1000. While the rate of

getting antenatal care is 96% in western regions and it is 79% in eastern regions, these data seem inconsistent. It can be considered that this difference might be created by risks which may be brought by urban life (accident, bad habits, heavy work life etc.) and early diagnosis factor (early diagnosis of anomalies and abortion etc.) in care services.

Approximately one third of reasons of newborn mortalities develop depending on congenital malformation.⁷ As there is no comprehensive data about this issue in our country, the role of congenital malformation on fetal and neonatal mortalities can not completely be established. However, in order to prevent some of neonatal mortality, it is required to diagnose major malformations early and to end these pregnancies within legal and ethic limits. In other words, when antenatal care service is given completely, morbidity can be decreased and the situations which can not avoid mortality will be detected at early periods. It is important to detect in time those who especially live in rural areas and within risk group in terms of delivery and newborn and direct them to health organizations.

Considering the distribution of prenatal care services, more than 90% of pregnant population had prenatal care service at least once while more than 70% of pregnant had prenatal care four or more times. This service is at remarkable rates in cities and western regions. First application month in antenatal care decreased from 3.2 months to 2.2 months in the last 10 years.

It is observed that health organizations are preferred much more in first deliveries, in urban regions, and by those with high education and welfare level living in Middle Anatolia region. There are also some differences in terms of people helping delivery: the rate of deliveries helped by physicians are less than the rate of deliveries helped by nurses or midwives in east and southeast regions.

The rate of deliveries by cesarean increased to 37% among all deliveries. Cesarean rates increase together with maternal age, and in those living in urban areas and having high education and welfare levels.

Conclusion

Consequently, two points come to our attention trying to reach health data of our country. Firstly, there is no comprehensive registration system for fetuses and newborns, and secondly, the quality of antenatal care services is still low throughout the country while it is primarily responsible for 300.000 babies lost every year before delivery or at newborn period. The solution for these problems can be provided by creating comprehensive registration systems and increasing the quality of antenatal care services. In order to diagnose diseases and risky pregnancies early, proper diagnosis and correct registration system should be added into that solution list.

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