

# South East Europe and Maternal Mortality<sup>✉</sup>

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Turkey, Albania, Bulgaria, Montenegro, Romania, Former Yugoslavian Republic of Macedonia (FYROM) and Slovenia.

**OBJECTIVE:** Maternal mortality has always been thought as one of the primary indicator of developmental status of a country. There may be some problems in achieving this level. Almost all of the south east European countries are developing countries and share some similarities regarding the social, cultural and economical background. Thus, incidence and etiologies of maternal mortality and therefore precautions are thought to be similar. To determine the current status we decided to make a survey with the related countries within the context of 2<sup>nd</sup> Congress of SEESPM. This report will summarize the results of the attendant countries.

**STUDY DESIGN:** A simple questionnaire related to maternal mortality was prepared asked each representative to fill that form. The questionnaire consisted of three parts. Aim of the first part was to get some knowledge about the geographical and economical properties of that country The second part was related directly to maternal mortality. The third part was about the etiology of maternal mortality.

**RESULTS:** Turkey has the largest surface area and the largest population among the countries. But Romania has the largest gross domestic product and the mean gross national income per capita. Most of the countries have national legislations for maternal mortality, presence of skilled attendant in delivery and for abortions. Among the countries Albania has the highest maternal mortality rate. All the attendant countries have national registry for maternal mortality and therefore these data belong to nationwide statistics in all of the countries.

**Key Words:** Maternal mortality, South east europe, Economic indicators

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## Introduction

Maternal mortality has always been thought as one of the primary indicator of developmental status of a country. In other words, this ratio is a reflection of the nation's insight about the health of mothers, neonates and women. Surely, there may be some problems in achieving the desired level of developmental status regarding the maternal mortality. These problems may be social, economical, educational or cultural but in all conditions it must be kept in mind that a healthy future begins with a delivery of a healthy infant. The Safe Motherhood Initiative, which is a worldwide effort of the Worldbank, in collaboration with WHO and UNFPA to reduce deaths and illnesses among women and infants was first described at the Safe Motherhood Conference in Nairobi in 1987. The goals of this initiative are to raise international awareness of safe motherhood, develop program priorities, support national programs, stimulate research, mobilize resources, and share information to make pregnancy and childbirth safer.

The official definition of a maternal death is "the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of pregnancy, from any cause related to or

aggravated by pregnancy or its management, but not from accidental or incidental causes".<sup>1</sup> Approximately 99% of maternal deaths occur in developing countries, and maternal mortality has the highest discrepancy between developed and less developed countries of any health indicator.<sup>2</sup> Direct maternal deaths are those resulting from conditions or complications, or their management, which are unique to pregnancy and occur during the antenatal, intrapartum or postpartum period.<sup>3</sup> Indirect maternal deaths are those resulting from previously existing disease or disease developing during pregnancy which was not due to direct obstetric causes, but which was aggravated by physiologic effects of pregnancy.<sup>3</sup> Examples of indirect deaths include epilepsy, diabetes, cardiac disease and hormone-dependent malignancies.

South East European Society of Perinatal Medicine (SEESPM) was founded by the obstetricians of this region. The member countries of the society are Turkey, Greece, Albania, Serbia, Bulgaria, Romania, Former Yugoslavian Republic of Macedonia, Slovenia, Moldova, Croatia, Montenegro, Bosnia and Herzegovina and Cyprus. Almost all of these countries are developing countries and share some similarities regarding the social, cultural and economical background. Thus, incidence and etiologies of maternal mortality and therefore precautions are thought to be similar. Before taking into action we have to know the current situation in our region. To determine the current status regarding the rate, causes and precautions of maternal mortality, South East European Society of Perinatal Medicine (SEESPM) decided to make a survey with the related countries within the context of 2<sup>nd</sup> Congress of SEESPM. This report will summarize the results of the attendant countries.

## Material and Method

A simple questionnaire related to maternal mortality was prepared by the organizing committee and before the congress, each representative from the regional countries was asked to fill that form. The questionnaire was a simple form which consists of three parts (Table 1). Aim of the first part was to get some

knowledge about the geographical and economical properties of that country. This part also has questions related to some national legislations about the issues related to maternal mortality. The second part was related directly to maternal mortality. The third part was about the etiology of maternal mortality. Each representative was asked to fill that form and send back before the congress and also make a presentation within the 2<sup>nd</sup> Congress of SEESPM.

Table 1. Simple questionnaire about the maternal mortality.

### 1. Information about the country

- a. Name of the country
- b. What is the surface area of your country? .....Km<sup>2</sup>
- c. What is the population of your country? .....million
- d. What is the mean gross domestic product of your country? ..... Euro
- e. What is the mean gross national income per capita in your country? ..... Euro
- f. Is there national legislation within the government of health regarding maternal mortality? (e.g, Center for maternal mortality, safe motherhood center etc)  YES  NO
- g. Is there a mandatory antenatal care program for pregnant in your country? (in which the contents of antenatal care program are determined by laws)  YES  NO
- h. Do presence of a skilled attendant in deliveries is mandatory your country? (specialist, physician, midwife, nurse)  YES  NO
- i. Is there national registry for determination of maternal mortality rate in your country?  YES  NO
- j. Is there a national family planning program in your country?  YES  NO
- k. Do induced abortion up to a predetermined gestational age legal in your country?  YES  NO

### 2. Maternal Mortality rate

- a. What is the maternal mortality rate in your country? ..... death/100000 birth (per 100.000 birth) birth
- b. Do the data belong to a nation wide statistic ?  YES  NO
- c. Which time period do the data include? Between..... to .....

### 3. What are the main causes of maternal mortality in your country?

- a. Direct causes %
  - i. Hypertensive diseases of pregnancy
  - ii. Hemorrhage
  - iii. Infection
  - iv. Obstructed labour
  - v. Unsafe abortion
  - vi. Other (please indicate)
- b. Indirect causes %
  - i. Anemia
  - ii. Neoplasia
  - iii. Heart diseases
  - iv. Other (please indicate)

## Results

Seven out of 14 countries filled out the form and returned back. The answers related to the first part of the questionnaire are summarized in Table 2.

The answers related to the second and the third parts are summarized in Table 3. The data acquired from the questionnaire in four countries (Macedonia, Romania, Turkey and Slovenia) and from the presentations of the attendants in 3 countries (Albania, Montenegro and Bulgaria).

Turkey has the largest surface area and the largest population among the countries. But Romania has the largest gross domestic product and the mean gross national income per

capita. Most of the countries have national legislations for maternal mortality, presence of skilled attendant and abortions. Among the countries Turkey has the highest maternal mortality rate. All the attendant countries have national registry for maternal mortality and therefore these data belong to nationwide statistics in all of the countries. Direct causes are the leading etiology for maternal mortality in almost all of the countries except Slovenia. The details for the statistics are summarized in Table 2 and 3.

Table 2. The answers of the attendant countries to the first part of the Maternal Mortality Questionnaire.

Question	Macedonia	Romania	Turkey	Slovenia	Montenegro	Bulgaria	Albania
Surface area (Km <sup>2</sup> )	25.713	238.391	814,578	20000	13218	NA	28000
Population (million)	2,03	22.68	73.8	2	0,627	7.72	3,5
Gross Domestic Product (Billion \$)	4,1	97	79,6	29.6	NA	NA	NA
Mean gross national income per capita (\$)	2041	7615	3384	14811	NA	NA	NA
National legislation within the government of health regarding maternal mortality	NO	YES	YES	YES	NA	NA	YES
Mandatory antenatal care program for pregnant	NO	YES	NO	YES	NA	NA	NA
Presence of a skilled attendant in deliveries	NO	YES	YES	YES	NA	NA	NA
National registry for determination of maternal mortality rate	YES	YES	YES	YES	NA	NA	NA
National family planning program	YES	YES	YES	YES	NA	NA	NA
Induced abortion up to a predetermined gestational age legal?	YES	YES	YES	YES	NA	NA	NA

NA; Not Available

Table 3. The answers of the attendant countries to the second and third parts of the Maternal Mortality Questionnaire

Question	Macedonia	Romania	Turkey	Slovenia	Montenegro	Bulgaria	Albania
Maternal Mortality rate country? (per 100.000 birth)	12	17	28,5	15.1	8	11,2	20
Do the data belong to a nation wide statistic ?	YES	YES	YES	YES	YES	YES	NA
Which time period do the data include?	2001-2005	1990-2006	2005-2006	2000-2002	2001-2003	2005	NA
Direct causes (%)	100	75	58,4	40	88	NA	80
Hypertensive diseases of pregnancy (%)	29	10	18,4	0	16	NA	12
Hemorrhage (%)	35	40	24,9	30	29	NA	25
Infection (%)	29	8	4,6	0	10	NA	15
Obstructed labour(%)	0	5	NA	0	12	NA	8
Unsafe abortion(%)	0	1	1,8	0	21	NA	NA
Other (%)	7	11	8,7	10	NA	NA	8
Indirect causes	0	25	15,8 %	60	12	NA	20
Anemia(%)	0	5	NA	0	NA	NA	NA
Neoplasia(%)	0	2	2,8%	0	NA	NA	NA
Heart diseases(%)	0	5	10,1 %	20	NA	NA	NA
Other (%)	0	13	25,6 %	40	NA	NA	NA

NA; Not Available

## Discussion

As a doctor, obstetrician and a perinatologist, our one of the most important goal is to decrease the maternal mortality and morbidity. In this context, worldwide organizations, regional and local societies have an important role for organization of the strategies and promoting the healthcare providers.

The populations and economical indexes among countries are not similar. But as it can be seen in Figure 1, Maternal Mortality rate is also seem to be in association with some economical indexes. Although there is not enough data to conclude, the maternal mortality rates are also not similar. But nearly all of the countries have similar legislations for decreasing the maternal mortality rates. Therefore, cooperation within the countries will reveal a more organized approach to decrease the maternal mortality rate. The actions taken within the society will force the governments to initiate policies for precautions related to maternal mortality.

This is the first initiation of SEESPM on Maternal Mortality and therefore there are some problems in collecting data and interpretation. The proceeding initiations will be more organized and detailed but at least an insight about the maternal mortality in neighborhood countries and attention to this topic are thought to be achieved.

### Güneydoğu Avrupa ve Maternal Mortalite

Maternal mortalite bir ülkenin gelişim derecesinin bir göstergesidir. Bu seviyeyi elde etmekte birçok problem ortaya çıkabilir. Güneydoğu Avrupa ülkelerinin çoğu gelişmekte olan ülkeler olup hemen hepsi benzer sosyal, kültürel

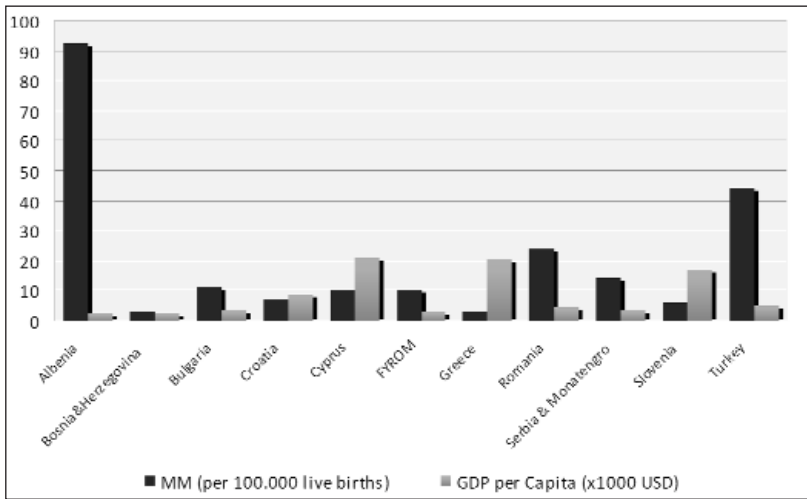


Figure 1. Maternal Mortality in relation to some economical indexes (Estimates of Maternal Mortality rate and Gross Domestic Product per Capita are derived from reference (4) and (5) respectively). (GDP; Gross Domestic Product)

ve ekonomik yapıya sahiptir. Dolayısıyla gelişmekte olan bu ülkelerin maternal mortalite oranları ve bunun için alınabilecek önlemler de benzerdir. Bu amaçla öncelikle bölgedeki maternal mortalite düzeyini belirlemek amacıyla "2. Güneydoğu Avrupa Perinatoloji Birliği Kongre"si çerçevesinde bir çalışma planlandı.

Maternal mortalite'nin değerlendirilmesi için bir anket hazırlandı ve tüm bölge ülkeleri temsilcilerine gönderildi. Bu anket üç kısımdan oluşmaktaydı. İlk kısımda ilgili ülkenin coğrafi ve ekonomik özellikleri, ikinci kısımda maternal mortalite ve son kısımda ise maternal mortalite etiolojisi sorgulandı.

Türkiye bölge ülkeleri içerisinde en geniş yüzölçümüne ve en fazla nüfusa sahipti. Fakat en çok kişi başı milli hasılatı sahip olan ülkeldi. Çoğu ülkenin maternal mortalite oranlarını azaltmak için doğumlara eğitilmiş personel katılımı ve abortuslar için kanuni düzenlemeleri vardı. Tüm ülkeler arasında en yüksek maternal mortalite oranları Arnavutluk'ta gözlemlendi.

**Anahtar Kelimeler:** Maternal mortalite, Güneydoğu Avrupa, Ekonomik belirteç

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