Evaluation of Sale Maternity Clinic of Obstetrics, Clinical Center of Sarajevo University in 2012th Year

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ABSTRACT

Clinic for Gynecology and Obstetrics, Clinical Center University of Sarajevo represents a tertiary level of health care with more than 3,000 births during one year. The aim of this article is to present the operation of the birth room at the Clinic for Gynecology and Obstetrics in 2012. Data were obtained on the basis of protocol of deliveries from the birth room. Material and Methods: Analyzed are the total number of births, the incidence of obstetric surgeries and other manual interventions. Results: Over the study period, there were a total of 3216 births, of which by Caesarean section was, completed 1115. The highest number of births was in September (n=305). The largest number of women who gave birth was nulliparous. Also among primiparous is performed the majority of cesarean sections (n=731). In the study period, multiple births were recorded in a total of 60 (59 twins, 1-triplets). Number of premature births was 370, and the perinatal mortality was 7.12 %. Number of newborn with birth weight below 2500g was 271. Among manual interventions in the delivery room mostly was used manual exploration of the uterus followed by the manual lysis of the placenta.

Keywords: Clinic for Gynecology and Obstetrics, birth room.

1. INTRODUCTION

Clinic of Obstetrics, Clinical Center University of Sarajevo is a tertiary level of health care with more than 3,000 births per year. During the 1992-1995 war the old building of the Clinic of Obstetrics and Gynecology was the target of destruction, so the Clinic was relocated into another building within the Clinical Center University of Sarajevo. During 2010 the original building of the Clinic of Obstetrics and Gynecology at the location „Jezero“ in Sarajevo was rebuild, officially opened and put into operation on November 25, 2010. Two years later, there was the reorganization of the Clinic operation, so in the framework of the existing building was organized a discipline that consists of two clinics or the Clinic of Obstetrics and Gynecology Clinic. Clinic of Obstetrics currently has about 15 doctors, specialist in obstetrics and gynecology, more than 10 doctors on residency and about 20 nurses and other supporting staff. Birth room of the Clinic of Obstetrics is organized to provide services 24 hours a day throughout the year. In the delivery rooms are located the most modern equipment for vaginal delivery, with a total of 10 beds for delivery, with room for delivery in the presence of a spouse (partner). As part of the Clinic of Obstetrics, there are operating rooms with direct access from the delivery room in case of emergencies. (Figure 1 and 2).

Figure 1. Delivery room and Figure 2. Operating room

2. GOALS

The goal is to show the operation at the birth room of Clinic for Gynecology and Obstetrics for the year 2012, frequency of completed deliveries by caesarian section, also describe manners of delivery and to provide a description of other techniques and manual interventions that have been applied during childbirth.

3. MATERIAL AND METHODS

The study was conducted at the Clinic of Obstetrics, Clinical Center University of Sarajevo. The research covered the period from January 1st 2012 to December 31st 2012. A database based on the data from the delivery room protocol is made in

which are entered all details regarding delivery (parity, mode of delivery, interventions during birth, information on newborn). Data were entered in MS Excel, imported into the statistical program SPSS v.20.0 and then statistically analyzed. For the statistical analysis of qualitative data we used chi-square tests, and for quantifying data ANOVA.

4. RESULTS

In the study period of one year at the Clinic of Obstetrics there were 3216 (100%) deliveries. Of the total number of births vaginally completed delivery was in 2101 (65%) cases and cesarean section in 1115 (35%) cases (Figure 3).

Figure 3. The frequency of vaginal and deliveries by cesarean section

The analysis of the frequency of the number of births per month reveals that the lowest number of births per month was during February with a total of 234 (7.27%) and the highest percentage in September (9.48%). The average number of births per day in the 2012 amounted to 8.81 (Figure 4). ANOVA test showed a statistically significant difference in the incidence of cesarean sections on a monthly basis ($p < 0.05$). In the 2012 the total of 48 pregnant women completed delivery by Caesarean section after a failed trial of vaginal delivery (Figure 5).

Figure 4. The frequency of births annually (monthly view)

Figure 5. Rate of Cesarean sections after failed vaginal delivery (monthly view)

Of the total number of pregnant women delivered during the study period in 1603 (49.84%) cases they were nulliparous, second child had 1186 (36.87%), while third or more delivery was in 427 (13.27%) cases. Chi-square test showed a statistically significant difference ($\chi^2 = 663.02$, $DF = 2$, $p = 0.05$) in the parity of pregnant women who gave birth in the 2012 (Figure 6).

Figure 6. Presentation of parity among delivered women in the 2012

The number of births completed by cesarean section in 2012 amounted to 1115 (100%). In 731 (65.56%) cases it was the first cesarean section, repeated-iterative caesarean section was performed in 353 (31.66%) cases, while reiterative caesarean section was performed in 31 (2.78%) cases with statistically significant difference in the incidence of cesarean section ($\chi^2 = 660.02$, $DF = 2$, $p < 0.05$).

Figure 7. Presentation of cesarean sections type during the study period

Table 1 shows the number of births in relation to the number of babies. Of the total number of births 3156 (98.13%) were singleton pregnancies, twin pregnancy and childbirth was in 59 (1.83%) cases and the triplets were only 1 (0.03%) case.

	Number	Percent
Single newborn	3156	98.13
Twins	59	1.83
Triplets	1	0.03
Total	3216	100.00

Table 1. The frequency of singleton and multiple births

Of the total number of births in the 2012 in term deliveries had a total of 2907 (89%), while premature births had 370 (11%) pregnant women. (Table 2).

	Number	Percent
Delivery in term	2907	89.00
Preterm delivery	370	11.00
Total	3216	100.00

Table 2. The frequency of deliveries on term and before term

Analysis of infants weight has led to the fact that in 2012 was born 3006 (91.73%) infants with birth weight over 2500g, with a body weight of 1000-2500g was born 240 (7.32%) infants, while the body weight of 500-1000g had a total of 31 (0.95%) infants. (Table 3).

Birth weight	Number	Percent
500-1000g	31	0.95
1000-2500g	240	7.32
>2500g	3006	91.73
Total	3216	100.00

Table 3. Presentation of newborns by birth weight

Perinatal mortality rate in 2012 was 7.12 ‰. In total 23 babies died. Of the total number of deaths, 15 had birth weight from 1000–2500g, while 8 had a body weight over 2500g. Of all obstetric surgeries in 2012, the majority was manual explorations of the uterus (197), followed by manual placental lysis (49). Among other surgeries was performed 21 vacuum extractions, 15 hand assisted births in case of breech births and 3 births with use of forceps. (figure 7 and 8.)

Figure 8. Presentation of obstetrics surgeries during the study period

5. DISCUSSION

For centuries the pregnancy caused fear and caution of poor outcome for the mother or child. Unfortunately it was often been the case in the past. All of us, who have ever attended childbirth, are aware of the fact, that there is nothing more natural and normal than normal birth and that there is nothing abnormally as abnormal childbirth—and nothing so astonishingly quickly yarn from one to another (1). Work of birth room at the Clinic of Obstetrics is based on a 24-hour working time and involvement of experts in the field of obstetrics. In the 2012 year at the Clinic of Obstetrics, 3216 woman gave birth. Of the total number of births 35% was completed by caesarean section. Abadzic in his study showed that the percentage of caesarean sections at the Clinic of Obstetrics, Clinical Center of Sarajevo University is in relation to the total number of births and in the 1996 it was 8.57% while the percentage of 2007 was 27.75%. For a 12 years period the number of caesarean sections is tripled compared to the total number of births (2). The upward trend in caesarean sections is continued in the 2012. Obstetric practice is witness to the world trend of increasing rates of caesarean sections in the past few years. Australia and the United States have the highest rate of caesarean sections in the developed world of 28.5% and 29.1% (3). Similar trends of increasing rates of caesarean sections occur in Latin America, especially in Mexico and Brazil 25.7% and 27.9%, as well as in other developing countries, such as India (Kerala State), 21.4% (5). Although “optimal rate” of caesarean sections remains point of many debates. World Health Organization proposed and optimal rate of 15% (5). Fatusic and colleagues in a retrospective study at Clinic of Gynecology and Obstetrics in Tuzla,

processed medical data on caesarean sections completed in five years period, from 1984 to 1988. Period which they processed was not affected by the epidemic of Caesarean sections. In the study period was performed 6.47% (1819) Caesarean section in relation to the total number of births. Of the total percentage of performed caesarean sections 90.22% (1641) was an unplanned caesarean section while 9.78% (178) was elective caesarean sections (6). The largest number of births in the 2012 year was by primiparous women (1603), then the second child (1186). Perinatal mortality in this period amounted to 7.12 ‰. Abadzic in his study showed that the rate of perinatal mortality in 1996 amounted to 16.65 ‰ whereas in 2007 it amounted to 9.60 ‰ (2). The study, “The Rate of Caesarean Delivery and Perinatal Mortality in Infants at “Maichin dom” (7) is performed in Bulgaria in the period from 1976 to 2000 and showed that the increase in the caesarean section rate of 4.8% to 24.4% lead to the reduction of perinatal mortality from 27.7 ‰ to 11.4 ‰. In the group of women with normal pregnancy, perinatal mortality is 8-11 ‰ at the frequencies of performed caesarean sections of 15-16%, while in high-risk pregnancies perinatal mortality is the same with the rate of performed caesarean sections of 24-26%. “No correlation between caesarean section rates and perinatal mortality of singleton infants over 2500g” is a study conducted in Iceland which provided new data when obstetric trends are in question (8). Iceland has one of the lowest rates of perinatal mortality. Information is gathered through Icelandic birth registry for a period of 20 years from 1987 to 2006. Perinatal mortality for this period amounts to an average of 2 ‰ annually and the range is from 0.8 to 4.1 ‰. Caesarean section rate varied between 11.9% and 16.7% and did not correlate with perinatal mortality. Among primiparas, the rate of caesarean section was increased from 13.1 to 17.8%, without correlation with perinatal mortality, which averaged to 1.7 ‰.

6. CONCLUSION

The number of births at the Clinic of Obstetrics, Clinical Center University of Sarajevo has gradually decreased, while the number of caesarean sections is constantly increasing. During the 2012 perinatal mortality has decreased and the percentage of infants with low birth weight (<2500g) is in limits of the birth of such children in the European Union. A small number of completed vaginal deliveries after previous caesarean section warn that we should instead prefer instead of elective caesarean section first a test delivery.

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