PREGNANCY AND RISKS IN PATIENTS 35+

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SUMMARY

The article presents the results of a retrospective and prospective study: analysis of fertility, Caesarean section frequency, assessment of the course of pregnancy and childbirth, the state of the fetoplacental system in primi- and multiparous women of various age groups – 18-25, 26-28, 29-30, 31-35, 36-40 years, older than 40 years. It is shown that the increase in the number of births is due to the rise in fertility only among patients older than 30 years. At the same time, there is a significant decrease in fertility – by 1.3 (due to the age subgroup of 18-25) among younger women. At the same time, an increase in the number of births in older patients occurred in all three groups of observations (31-35, 36-40, over 40 y.o.) by 1.7-2.1. The increase in the CS frequency (from 1998 to 2008) in the age group under 30 years is due to the rise in this indicator only in women aged 26-28 and 29-30. In the group of patients over 30, the increase in the CS frequency concerned only the age groups of 31-35 and 36-40 years(by 1.6 and 1.3). With the age of the patients, the frequency of gestosis, the severity of fetal growth restriction and the frequency of premature birth increased. The duration of labor in multiparous patients in all age groups identified by us did not depend on the interbirth interval and, therefore, the large time interval between labor itself should not serve as a basis for expanding the indications for planned Caesarean delivery.
Keywords: Birth rate, caesarean section frequency, pregnant and parturient women younger and older than 30

INTRODUCTION

The course of pregnancy and childbirth depends on many factors, among which a patient's age is not less important. Many authors consider the age of a woman in labor under 18 and over 30-35 years old as a risk factor for a high incidence of complications for both mother and child.[3, 4, 5, 12] At the same

time, several researchers do not find a significant difference in the frequency of pregnancy complications in women of different age groups.[9, 11]

Most of the studies on the influence of the age factor on the course and outcomes of childbirth concern primiparous women of the older age group. However, there is still no standard view regarding the age "barrier" that would indicate an increased risk of pregnancy complications and childbirth and determine the development of optimal management tactics. The approach to the allocation of groups of patients of "elderly" age is ambiguous: women who give birth for the first time at the age of 30 and older are considered to be such, according to the foreign literature – older than 35 years.[1, 6, 7] There is no finding on the influence of age on the course of pregnancy, childbirth, and perinatal outcomes in multiparous patients, and there is no information about the value of the interbirth interval in them. There is also no precise data on the birth rate in various age groups.

In connection with the above, we conducted a fertility analysis, a comprehensive assessment of the course of pregnancy and childbirth, and the state of the fetoplacental system in first-time and repeat-giving patients of different age groups in two maternity institutions in Moscow.

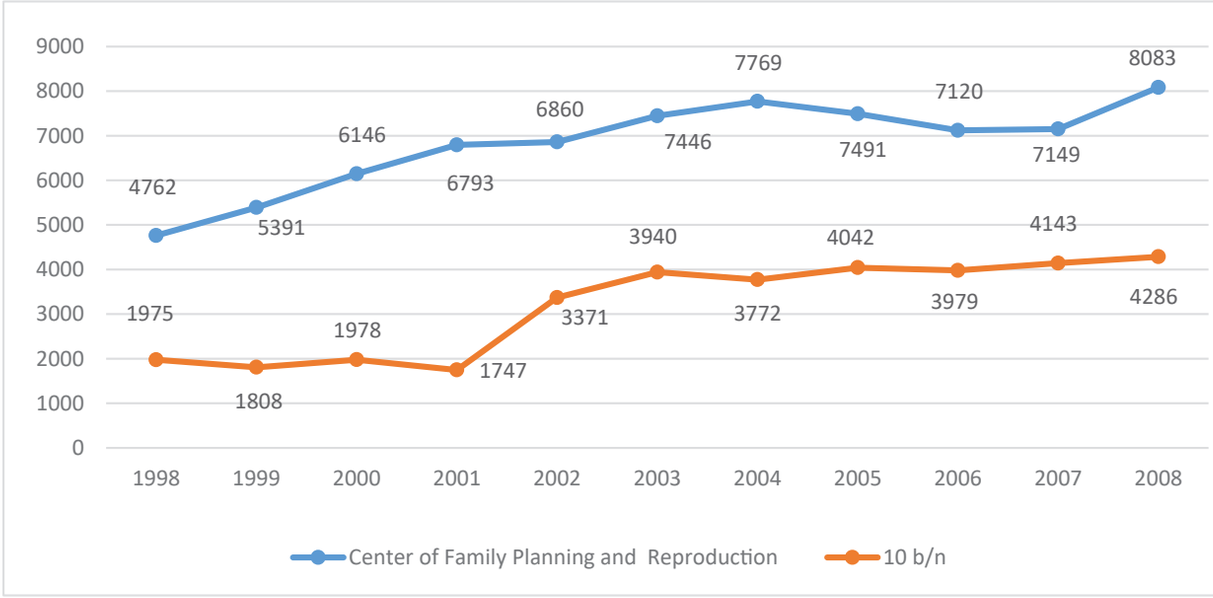
MATERIAL AND METHODS OF RESEARCH

In the first stage, to analyze fertility and study the peculiarities of pregnancy and childbirth in patients of different age groups, we conducted a retrospective analysis of the birth histories of 79,600 patients(46,067 primiparous, 33,533 multiparous women). In the process of retrospective research, we identified the following age groups: 18-25, 26-28, 29-30, 31-35, 36-40, and above 40 years.

The prospective study group consisted of 709 patients (277 – primiparous, 432 – multiparous women) with a similar division to age groups. The frequency of premature and delayed labor, gestoses of various severity, fetal growth resrtriction, labor anomalies, Caesarean section (planned/emergency) were analyzed. The examination of pregnant women in the prospective group, in addition to general clinical and laboratory methods, included ultrasound fetometry and placentometry, dopplerometric assessment of blood flow in the mother-placenta-fetus system, and cardiotocography. The peculiarities of the course of childbirth and the duration of childbearing in different age groups were evaluated, considering parity and, in addition, in multiparous women – depending on the interbirth interval.

RESEARCH RESULTS AND THEIR DISCUSSION

There has been a clear trend towards an increase in the birth rate in recent years. Thus, in Moscow in 2008, the number of births was 104,876, which was 35,902 more than in 1998. In 2008, the number of births reached 8,083, which is 1.7 times higher than in 1998 in the Center of Family Planning and Reproduction, and in maternity hospital No. 10, the number of births increased by 2.17 times over 10 years (Fig. 1).



Picture 1. ***Dynamics of the number of births in the Center of Family Planning and Reproduction and Maternity Hospital No. 10***

We have identified significant differences in fertility dynamics among patients of different age groups. The increase in the number of births is due to the rise in fertility only among patients older than 30 years (from 24% in 1997 to 43.2% in 2008), while among younger women, fertility significantly decreases by 1.3 times (Fig. 2).

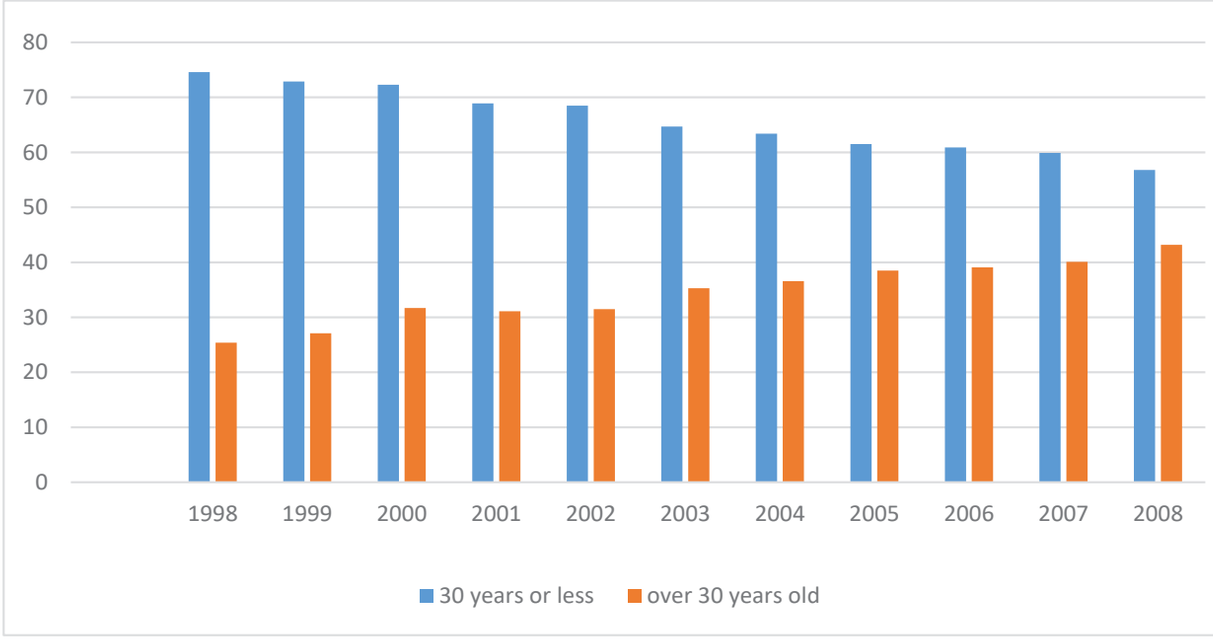


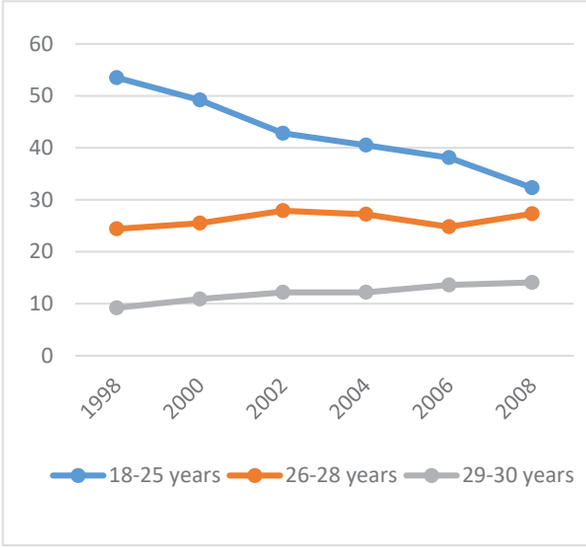
Figure 2. ***Distribution of parturient women depending on age (1998-2008)***

A more detailed analysis of the birthrate dynamics, considering the identified age groups (18-25, 26-28, 29-30, 31-35, 36-40, and above 40 years), showed that it is not quite right to talk about a decrease in the birthrate in the group under 30: a decrease (by 2 times) in the birthrate among patients under 30 years of age occurred only in the age group of 18-25. At the same time, an

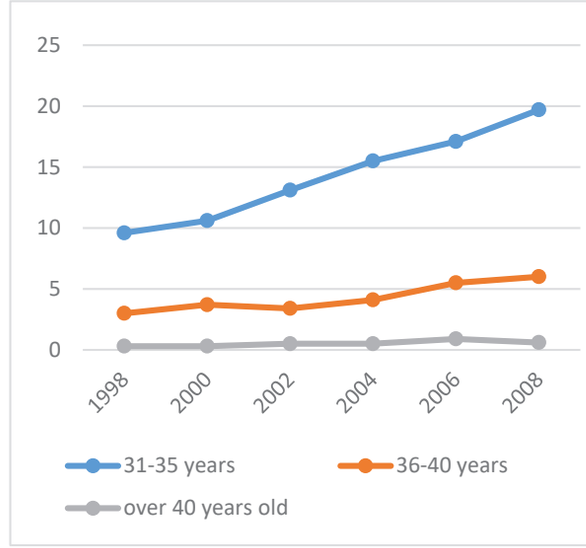
increase in the number of births in older patients happened in all three groups of observations (31-35, 36-40, over 40 years old) by 1.7-2.1 times.

If we analyze the dynamics of fertility according to the parity with the standard division of patients younger and older than 30 years, then the decrease in the number of births among patients younger than 30 years was typical for both primi-and multiparous women from 87.8 to 73.7%% and from 55.3 to 37.1%%, respectively. The increase in the number of births in older patients also did not depend on parity and increased both in primiparous from 12.2 to 26.3%%, and in multiparous women – from 44.7 to 62.9%%.

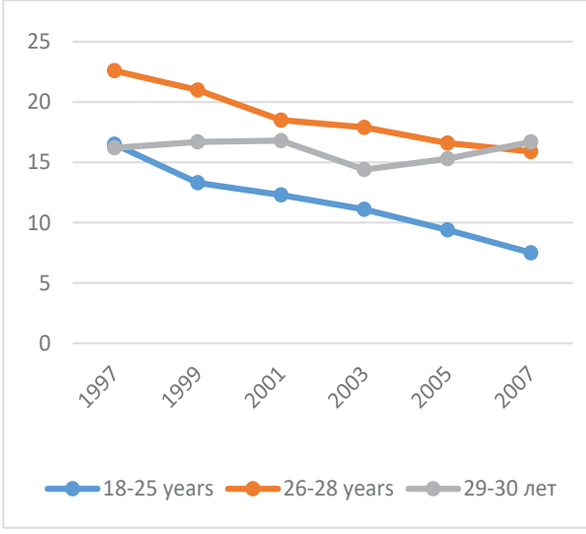
At the same time, a more detailed analysis of the birthrate dynamics in women of the proposed age groups, depending on the parity, revealed important patterns (Fig. 3).



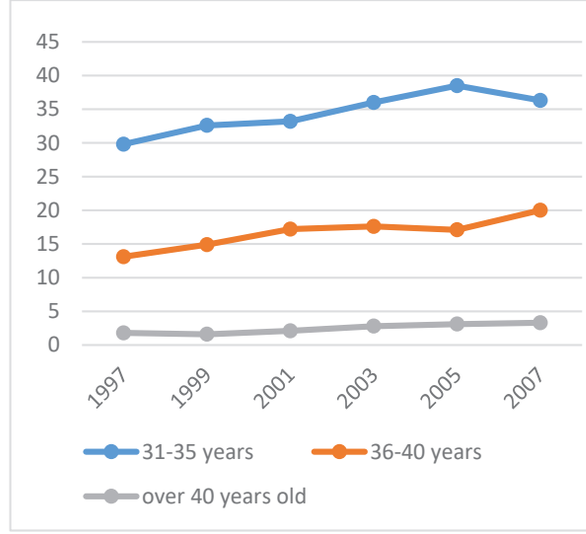
Primiparous women under 30 years old



Primiparous women above 30 years old



Multiparous women under 30 years old



Multiparous women above 30 years old

Figure 3. ***The number of births, the age of parturient women and parity***

As can be seen from Picture 3, if among multiparous women younger than 30 years, a decrease in the number of births by 2008 was observed in all the groups(18-25, 26-28, 29-30 years), then

in primiparous women, a decrease (by 1.7 times) in the number of births was characteristic only for patients 18-25 years old. As for the older age group, the revealed irregularity – an increase in the number of births – did not depend on parity and was observed in all groups (31-35, 36-40, over 40 years old).

As for operative delivery, with a steadily increasing overall frequency of CS, the growth of this indicator from 1998 to 2008 in the group of patients above 30 years and under 30 years was almost the same – by 1.4 and 1.3 times, respectively (Fig. 4).

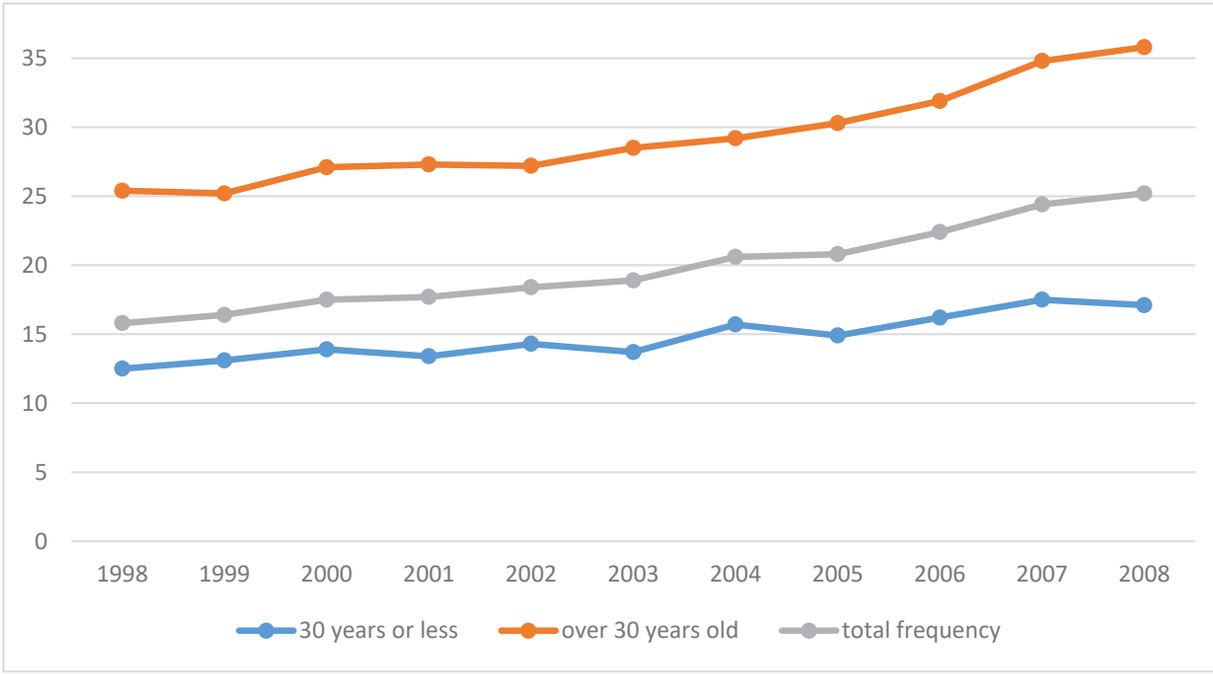


Figure 4. ***Frequency of CS and age of maternity***

At the same time, it is interesting to note that the percentage of primiparous and multiparous women among all those delivered by CS has undergone significant changes over 10 years. Thus, if in 1998 the share of multiparas was only 33.7%, then in 2008, this indicator increased to 48.7%; that is, among the patients operated on in 2008, the number of primiparas and multiparas was almost the same. The increase in the frequency of CS in multiparous women can be explained, first of all, by the rise in the number of patients with a uterine scar.

A more detailed analysis with consideration of the identified age subgroups showed that the increase in the frequency of CS (from 1998 to 2008) in the age group under 30 years is related to the rise in this indicator only in women 26-28 and 29-30 of age (by 1.25-1.3 times). In the group of patients over 30 years of age, the increase in the frequency of CS was only concerned with the age groups of 31-35 and 36-40 years(1.6 and 1.3 times). In patients aged 18-25 and over 40, the frequency of CS practically did not change (10.6 – 11.9% and 45.2-44.6% respectively).

Further, as part of a prospective study (709 patients), we analyzed the course of pregnancy, childbirth, and perinatal outcomes in patients considering the age categories we identified: 18-25, 26-28, 29-30, 31-35, 36-40, and above 40.

The course of pregnancy in the prospective group was complicated by gestosis of varying severity in 6.6% of patients. The analysis of this complication frequency, considering the se-

lected age groups, showed a direct correlation between the frequency of gestosis and the age of patients. Thus, the frequency of gestosis in patients 18-25, 26-28, 29-30, 31-35, 36-40 and older than 40 years was respectively 4,7 %, 5,6 %, 6,3 %, 7,9 %, 8,4 %, 8,5 % and it did not depend on the degree of its severity. Ebclab U. and Vilpa T (1994) also indicate a higher frequency of gestosis (by 2 times) in women above 30-35 years, although the authors cite higher rates of this complication.[8] At the same time, Z. Kozinszky et al. (2002) and B. Sibai et al. (1997) in their studies showed that the age of a woman is not a risk factor for the development of gestosis.[10, 13]

We did not find a clear dependence of the frequency of placental insufficiency and fetal growth retention on the age of primiparous women. At the same time, a more pronounced degree of fetal growth retardation (2-3 degrees) among patients above 35 years attracted attention in multiparous women. At the same time, it should be noted that in the group multiparous of 36-40 years, the ratio of fetuses with growth restriction of 2 and 3 degrees was 63.6% and 36.4%. In patients over 40, these indicators were 71.4% and 28.6%; that is, fetus growth restriction of 3rd degree was observed more. This is, to a certain extent, consistent with the findings of Belousova V.S. (2004), who showed that fetus growth restriction of 2 and 3 grade was more common (1.9 and 2.2 times) in the group of patients above 30 years.[2]

With an increase in the age of the examined patients, the frequency of pre-term labor significantly increased, amounting to 4.3% in the group of 18-25 years and 12.4% in women over 40 years (Fig. 5). This fact can be explained by a higher frequency of multiple pregnancies (5.2%) in the group of patients older than 40 years. And even excluding multiple pregnancies, the frequency of premature births in them exceeded those in patients below 30 years by more than 2 times.

It is important to note that the frequency of premature birth was the highest in primiparous mothers over 40 years old, almost 4 times higher than in multiparous patients of the same age.

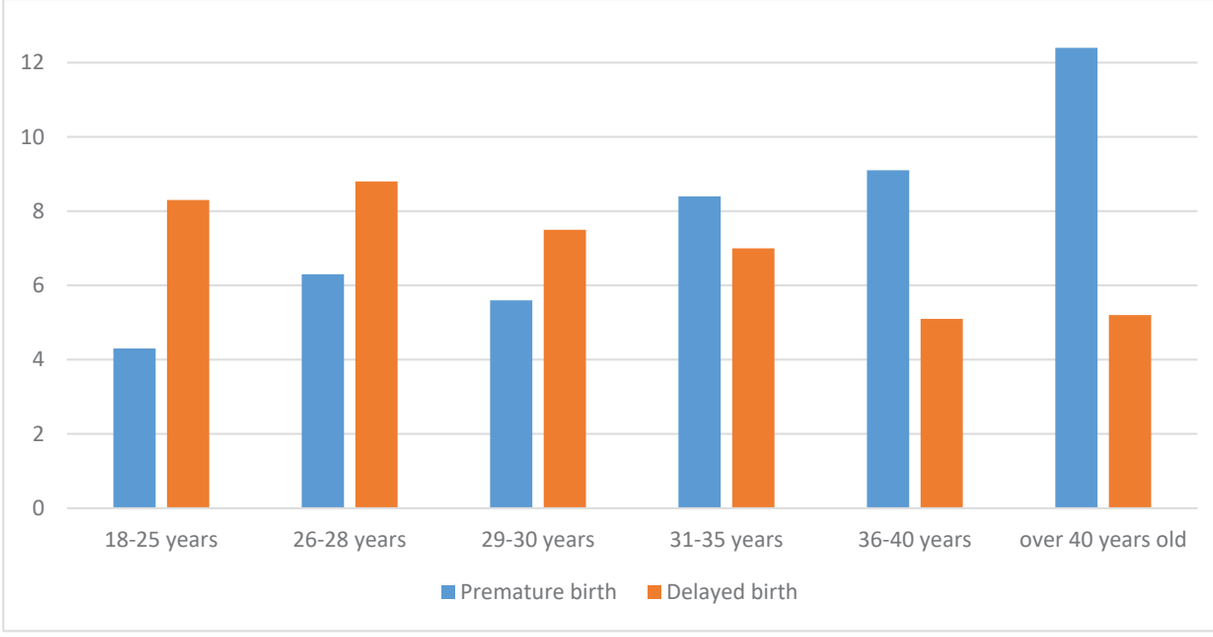


Figure 5. ***The frequency of premature and delayed births in different age groups.***

Unlike preterm labor, the frequency of delayed labor, as seen in Picture 5, was the highest in patients 18-25 and 26-28 years old. The lower frequency of delayed delivery in patients over 28 years of age can be explained by closer attention to this ("older") group of pregnant women, active management tactics: prenatal hospitalization and cervix preparation for childbirth, and an increase in indications for planned Caesarean section, which did not allow delayed birth.

Considering parity, the labour duration in primiparous women ranged from 7h 10 min. to 8 h 50 min., and in multiparous births—from 5 h 5 min. to 6 h 50 min. Of interest is our analysis of labor duration in multiparous patients depending on the intergenetic interval (Fig. 6).

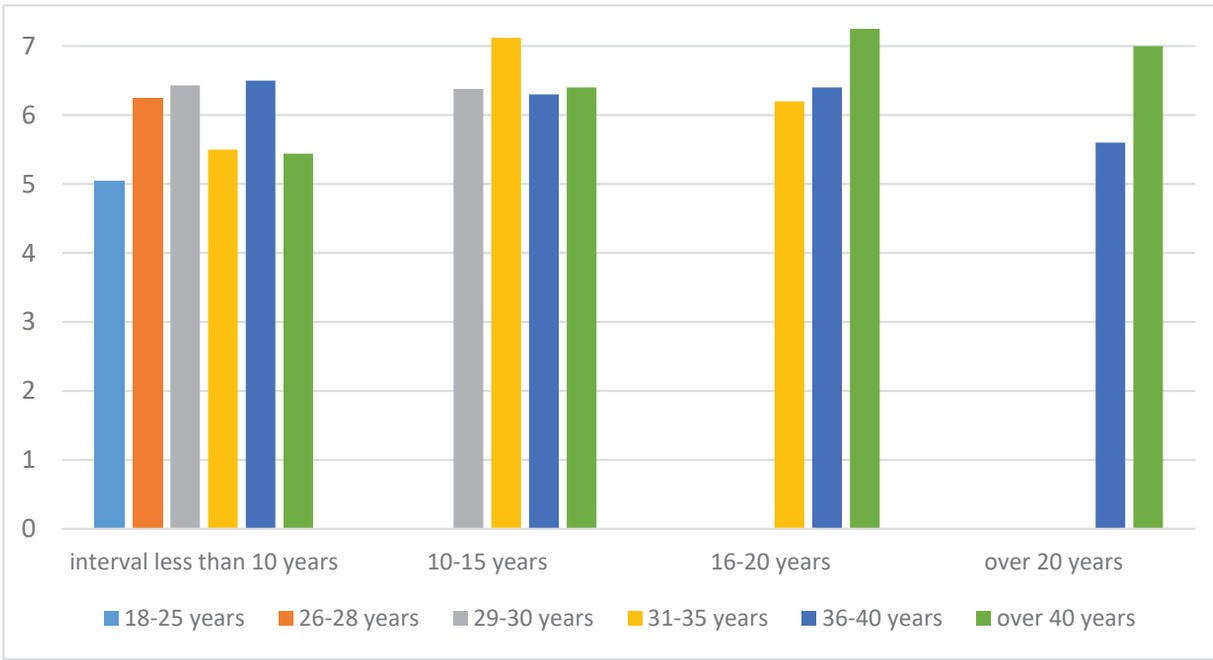


Figure 6. ***Duration of labor and the interbirth interval in patients of different age groups.***

As our studies have shown, the time interval between deliveries did not affect their duration and frequency of labor strength. Even with an interval of more than 20 years (21-24 years), the duration of labor ranged from 5 to 8 hours.

This contradicts the generally accepted opinion that a long interbirth interval is a risk factor for an increase in the duration of labor, the frequency of labor strength, etc., which often serves as one of the main indications for a planned Caesarean section even in the absence of a complicated course of pregnancy and childbirth.

As expected, the frequency of Caesarean sections in the prospective group of patients correlated with age and increased among both primer– and multiparous patients (Fig. 7).

At the same time, it should be noted that in patients 18-30 years old, the frequency of CS practically did not depend on parity, whereas in the age groups of 31-35, 36-40, and over 40, the frequency of Caesarean section was higher in primiparous mothers.

With the age of patients, the frequency of planned Caesarean section increased from 31% in 18-25 years to 44.2% in women over 40 years old, which is explained by the expansion of indications for abdominal delivery.

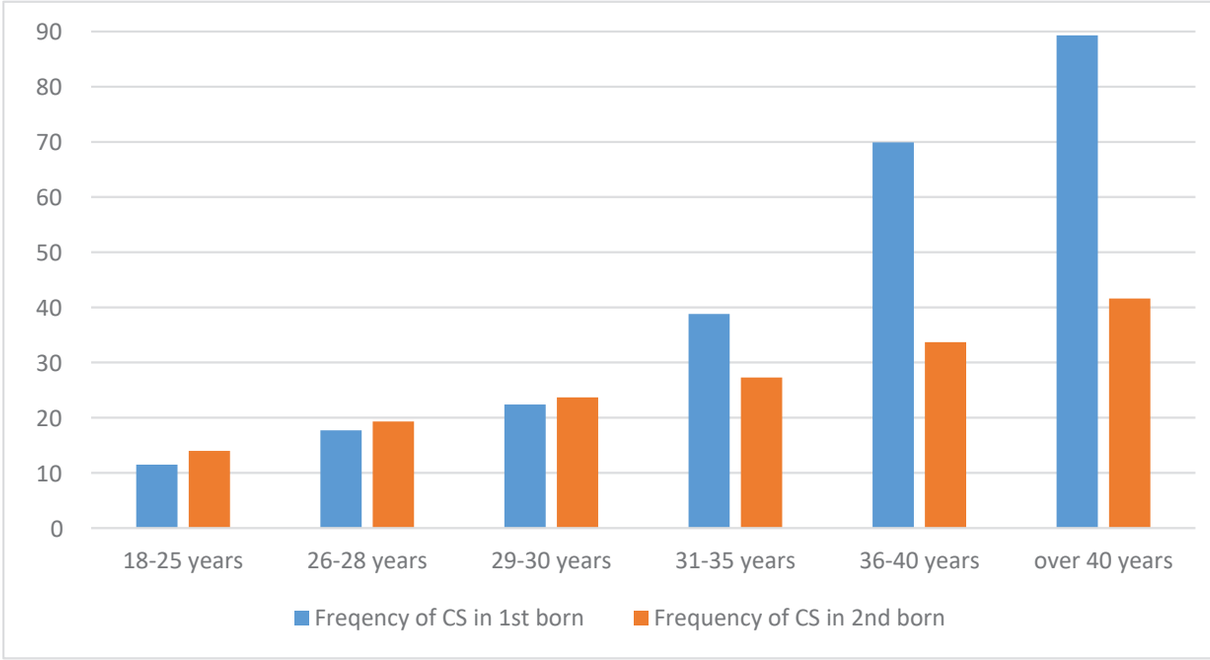


Figure 7. ***Frequency of CS in primi – and multiparous women.***

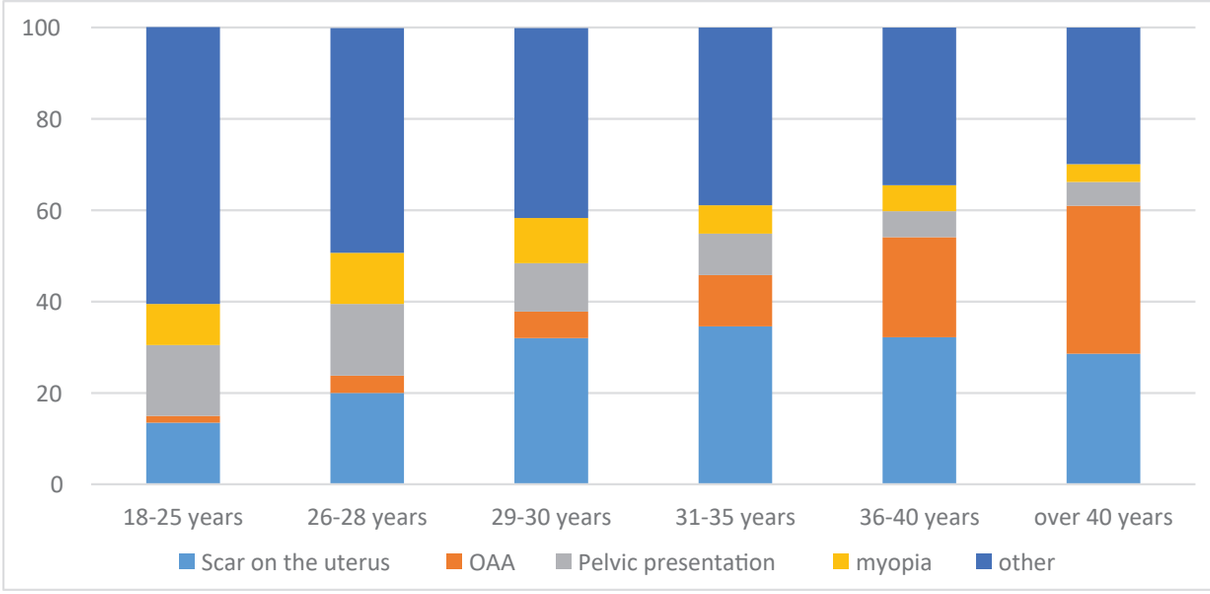


Figure 8. ***Leading indications for CS in various age groups.***

When studying the structure of indications for Caesarean section, we found that with increasing patient age, the proportion of such indications for CS as extragenital diseases, unfavorable perinatal outcome in the anamnesis, prolonged infertility, repeated IVF attempts, etc. sharply increases (Fig. 8).

Thus, to conduct an objective analysis of the dependence of the peculiarities of pregnancy and childbirth, as well as fertility, on the patients' age, we should use the gradations of age groups proposed by us (18-25, 26-28, 29-30, 31-35, 36-40 years, above 40 years), unlike the "traditional" division into two age groups (younger and older than 30 years).

The duration of labor in multiparous patients in all age groups we have identified does not depend on the interbirth interval, and, therefore, the long interval between deliveries should not serve as a basis for expanding the indications for a planned Caesarean section.

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