

# Comparative Characteristics of Pregnancy Course and Labour Outcomes in Pregnant Women, Depending on Observation Conditions and Location of Health Improvement Activities

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## Summary

Recurrent pregnancy loss (RPL) is quite an urgent problem in modern obstetric practice, as it has an important effect on perinatal morbidity and mortality, as well as on women's reproductive health. In the treatment of pregnancy loss, specialists have few attempts, and the doctor is responsible for diagnostic assessment, management and place of treatment.

**Purpose of study:** To compare characteristics of pregnancy course and labour outcomes in pregnant women, depending on observation conditions and location of health improvement activities

**Materials and methods:** Group I included 206 pregnant women, receiving in-patient treatment at the sanatorium; and 147 (group II), who were treated in the pathologic pregnancy department in the maternity hospital, were assigned to the risk group for pregnancy loss. At this, 45 patients in group I and 43 patients in group II 43 were treated for threatened miscarriage. Among women from the risk group of pregnancy loss in more than 70% of cases, a burdened obstetric and gynaecological history was revealed.

Pregnant women with threatened pregnancy loss at the sanatorium received a complex therapeutic and preventive treatment, including consultations with a psychotherapist (auto-training), physiotherapy, vitamin therapy, herbal medicine, acupuncture.

Pregnant women, belonging only to the risk group for pregnancy loss, received a preventive course of central electrical analgesia (CEA), psychophysiological training and general sanatorium regimen. The therapy was combined with test cardiac monitoring.

The therapeutic measures in pathologic pregnancy department in the maternity hospital were limited to bed rest and medical therapy, vitamin therapy, prescription of sedatives and tocolytic therapy. Some pregnant women were treated using physical treatment methods - electric relaxation according to A.Z. Haskin on Amplipulse-4 device.

**Results:** The performed study demonstrates that pregnant women, treated in the sanatorium, were less likely to suffer from gestational toxicosis, threatened miscarriage and anaemia of pregnant women. In women of group I, compared to group II, in a large percentage the delivery was in time and natural. In

**Keywords:** recurrent pregnancy loss, sanatorium, anaemia, gestational toxicosis, pathologic pregnancy department.

the pathologic pregnancy department, the following complications were recorded: poor uterine contraction strength and bleeding in the 3rd period.

**Conclusion:** In women with RPL, it is recommended to include a sanatorium stage in the system of specialized care for such patients to prolong pregnancy, normalize psycho-emotional state and reduce the number of postnatal complications.

### Summary

Habitual miscarriage (PNB) is a fairly urgent problem in modern obstetric practice, since it has an important effect on the indicators of perinatal morbidity and mortality, as well as on the reproductive health of women. In the treatment of miscarriage, specialists are limited in the number of attempts, and this imposes the greatest responsibility on the doctor in diagnosing and choosing the tactics and place of treatment.

**Purpose of work:** To evaluate the course of pregnancy and the outcome of childbirth in pregnant women, depending on the conditions of observation and the venue of medical and recreational activities.

**Materials and methods:** In group I - 206 pregnant women receiving inpatient treatment at the sanatorium; and 147 (group II), who were treated in the department of pathology of pregnant women in the maternity hospital, were assigned to the risk group for miscarriage. Moreover, of them with the threat of termination of pregnancy were in group I 45 and in group II 43 people. Among women at risk of miscarriage in more than 70% of cases, a burdened obstetric and gynecological history was revealed.

Pregnant women with a threat of miscarriage at the sanatorium received a complex of therapeutic and preventive measures, including classes with a psychotherapist (auto-training), physiotherapy, vitamin therapy, herbal medicine, acupuncture.

Pregnant women belonging only to the risk group for miscarriage received a prophylactic course of central electroanalgesia (CEA), psychophysiological training and general sanatorium regimen. Against the background of the therapy, a control cardiomonitor examination was carried out. Therapeutic measures in the department of pathology of pregnant women of the maternity hospital were limited to bed rest and medical therapy, vitamin therapy, the appointment of sedatives and tocolytic therapy. Some pregnant women received physical treatment methods - electrorelaxation according to A.Z. Haskin on the Amplipulse-4 apparatus.

**Results:** The study indicates that pregnant women treated in the sanatorium were less likely to have gestosis, the threat of termination of pregnancy, anemia of pregnant women. In women of group I, in comparison with class II, in a large percentage of cases they were urgent, naturally. In the conditions of the department of pathology of pregnant women, the following complications were recorded: weak labor and bleeding in the 3rd period.

**Conclusion:** In women with PNB, it is advisable to include a sanatorium phase in the system of specialized care for such patients to prolong pregnancy, normalize the psycho-emotional state and reduce the number of complications in the postnatal period.

**Keywords:** habitual miscarriage, sanatorium, anemia,

**Table 1.** Comparative characteristics of patients of groups I and II

Parameter	Group I		Group II	
	Abs.	Rel. (%)	Abs.	Rel. (%)
Women under 25 years old	153	40.4	40	47.6
Women under 25 years old	226	34.9	44	29.3
Women over 25 years old	267	24.7	66	23.1

gestosis, department of pregnancy pathology.

### INTRODUCTION

RPL is quite an urgent problem in modern obstetric practice, as it has an important effect on perinatal morbidity and mortality, as well as on women's reproductive health. [1].

According to literary sources, RPL development belongs to a polygenic pathology and is associated with various nosological forms of pathological processes.

Therefore, such patients shall be closely supervised.[2,3].

Currently, fundamental principles of a specialized outpatient and inpatient system of care for women, suffering from RPL, have been established in the country. The system consists of the following stages: women's consultation clinic, a specialized unit or wards in pathologic pregnancy departments, a maternity hospital for premature delivery and the first stage of developmental care for premature babies[4,5].

According to some authors, this group of women need sanatorium stage of treatment, since pregnant women with threatened miscarriage in the II trimester are often characterized by social dysfunction (unmarried woman, age over 30, presence of occupational hazards; stress associated with the situation in family and at work, burdened by obstetric and gynecological history; high frequency of somatic and gynecological pathologies [6,7,8].

Sanatorium rehabilitation helps to increase the non-specific adaptive reactions of pregnant women, normalize their psychoemotional state (in particular, sleep parameters, increase in mood and activity); reduce the severity of asthenia symptoms; improvement of non-specific immunity [9,10].

The implementation of all treatment and rehabilitation measures helps to increase overall sanitary culture of women, prevent and reduce complications during pregnancy and childbirth, morbidity and mortality of newborns.

### PURPOSE OF STUDY

To compare characteristics of pregnancy course and labour outcomes in pregnant women, depending on observation conditions and location of health improvement activities.

### MATERIALS AND METHODS

2 groups were formed for the study: group I - 646 pregnant women at risk of pregnancy loss, who received medical and social assistance in women's consultation clinics; group II - 150 pregnant women who received treatment in the

pathologic pregnancy department in the maternity hospital. Comparative characteristics of patients of groups I and II are presented in Table 1.

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Primigravida	384	59.4	69	46.0
Multigravida	262	40.5	81	54.0
Unmarried	91	14	18	12.0

Group I included 206 pregnant women, receiving in-patient treatment at the sanatorium; and 147 (group II), who were treated in the pathologic pregnancy department in the maternity hospital, were assigned to the risk group for

pregnancy loss. At this, 45 patients in group I and 43 patients in group II 43 were treated for threatened miscarriage. A comparative history of women at risk (n = 353) for pregnancy loss is presented in Table 2.

**Table 2.** A comparative history of women at risk (n = 353).

Parameter	Women with recurrent pregnancy loss (n=353).	
	Abs.	Rel.
Grade II anemia	225	54.2
Chronic pyelonephritis	33	7.9
Gestosis (early and late)	73	17.6
Frequent (up to 5 times) abortions	59	14.2
Menstrual dysfunction	2	0.5
Cesarean section	14	3.4
Uterine myoma	9	2.2

Among women from the risk group of pregnancy loss in more than 70% of cases, a burdened obstetric and gynaecological history was revealed.

Pregnant women with the threatened miscarriage received the following complex of therapeutic and preventive measures in the sanatorium:

- 1) consultations with a neuropsychiatrist, auto-training sessions;
- 2) CEA using LENAR device;
- 3) vitamin therapy, herbal medicine;
- 4) acupuncture therapy - if medically required, with low efficiency of other types of therapy; physiotherapy; climatotherapy.

Pregnant women, belonging only to the risk group for pregnancy loss, received a preventive course of CEA, psychophysiological training and general sanatorium regimen. The therapy was combined with test cardiac monitoring.

The therapeutic measures in pathologic pregnancy department in the maternity hospital were limited to bed rest, medical therapy, vitamin therapy, prescription of sedatives and tocolytic therapy. Some pregnant women were treated using physical treatment methods - electric relaxation according to A.Z. Haskin on Amplipulse-4 device.

For statistical analysis, to compare two dependent (paired) samples of parameters, the paired Student t-test was used. Mann-Whitney test was used to compare two unrelated groups. The critical level of reliable significance of the

**Table 3.** Comparative characteristics of labour activity parameters in the sanatorium and pathologic pregnancy department

Parameter	Sanatorium		Pathologic pregnancy department	
	Abs.	Rel.	Abs.	Rel.
Delivery at term	201	97.6	103	70.1
Premature delivery	5	2.4	38	25.8
Natural delivery	192	93.2	129	87.7
Cesarean section	14	6.8	18	12.3

analysed statistical hypotheses was taken as a value of less than 0.05, since it was at this level that the probability of differences of the studied parameters was more than 95%. The result analysis is presented as  $M \pm \sigma$ .

### RESULTS

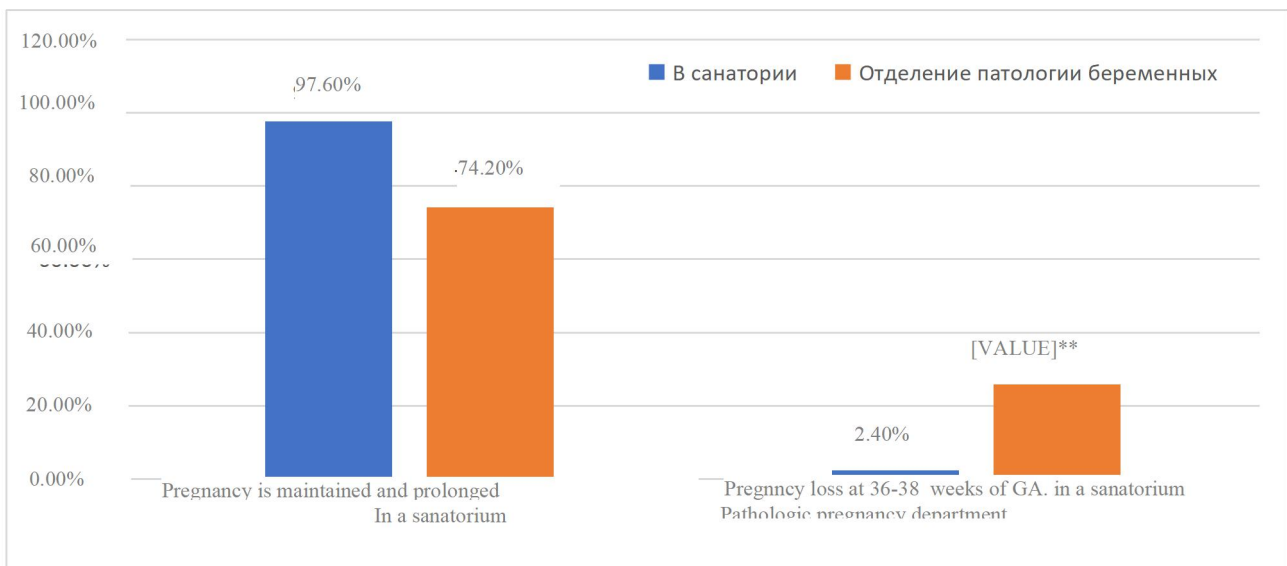
The performed study demonstrates that pregnant women, treated in the sanatorium, were less likely to suffer from gestational toxicosis, threatened miscarriage and anaemia of pregnant women, pregnant anaemia; 3.2 times - untimely bursting of water ( $p < 0.01$ ).

Comparative characteristics of labour activity parameters in the sanatorium and pathologic pregnancy department are presented in table 3.

The presented data prove that in women who received treatment in a sanatorium, the labour outcome was as follows: in 201 (97.6%) pregnant women, delivery was at term, in 5 (2.4%) delivery was premature. Natural delivery was in 192 (93.2%) pregnant women; in 14 (6.8%) cases, delivery was performed by caesarean section. The outcome of pregnancy and labour in women in pathologic pregnancy department is as follows: in 70.1% of cases, delivery was at term; in 25.8% - premature.

Comparative characteristics of the outcome of pregnancy among women of group I, treated in a sanatorium and group II, who receive medical care in pathologic pregnancy department, is presented in Figure 1.

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**Figure 1.** Comparative characteristics of the outcome of pregnancy among women of group I, treated in a sanatorium and group II, who receive medical care in pathologic pregnancy department in percentage ratio.

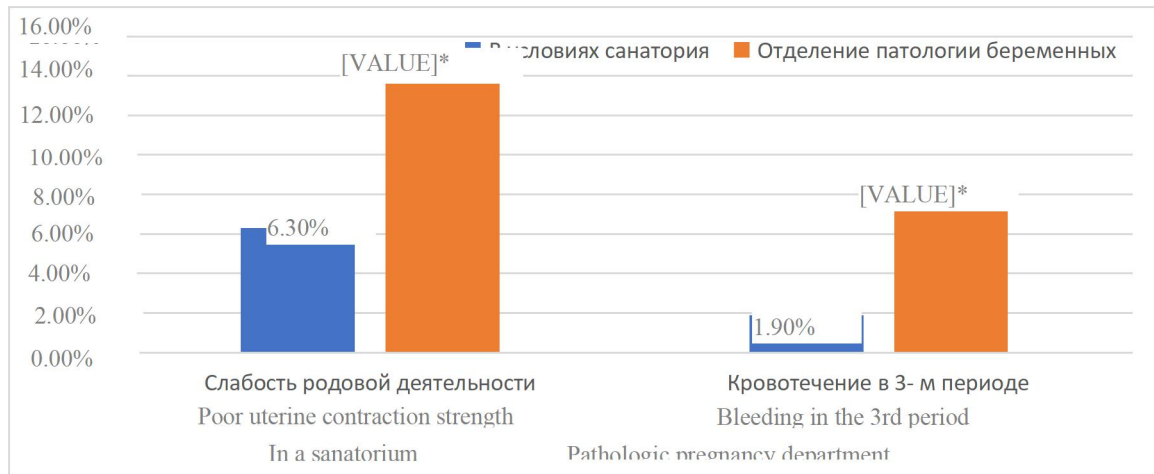
Note: \*\*  $p < 0.01$  - significance of parameter differences between compared groups.

According to presented data, pregnancy was maintained in women of group I in 97.6% of cases, the patients were discharged from the sanatorium with appropriate recommendations. Pregnant women with myoma and cicatricial uterus deformity were hospitalized in a specialized maternity hospital at 37-38 weeks for appropriate preparation for delivery.

Despite such complex therapy in a maternity hospital, 25.8% of pregnancies were terminated at 36 - 38 weeks, which significantly ( $p < 0.01$ ) exceeds the same parameter for women, treated in the sanatorium.

Comparative characteristics of birth complications in the sanatorium and pathologic pregnancy department are presented in Figure 2.

**Figure 2.** Comparative characteristics of birth complications in the sanatorium and pathologic pregnancy department in percentage ratio.



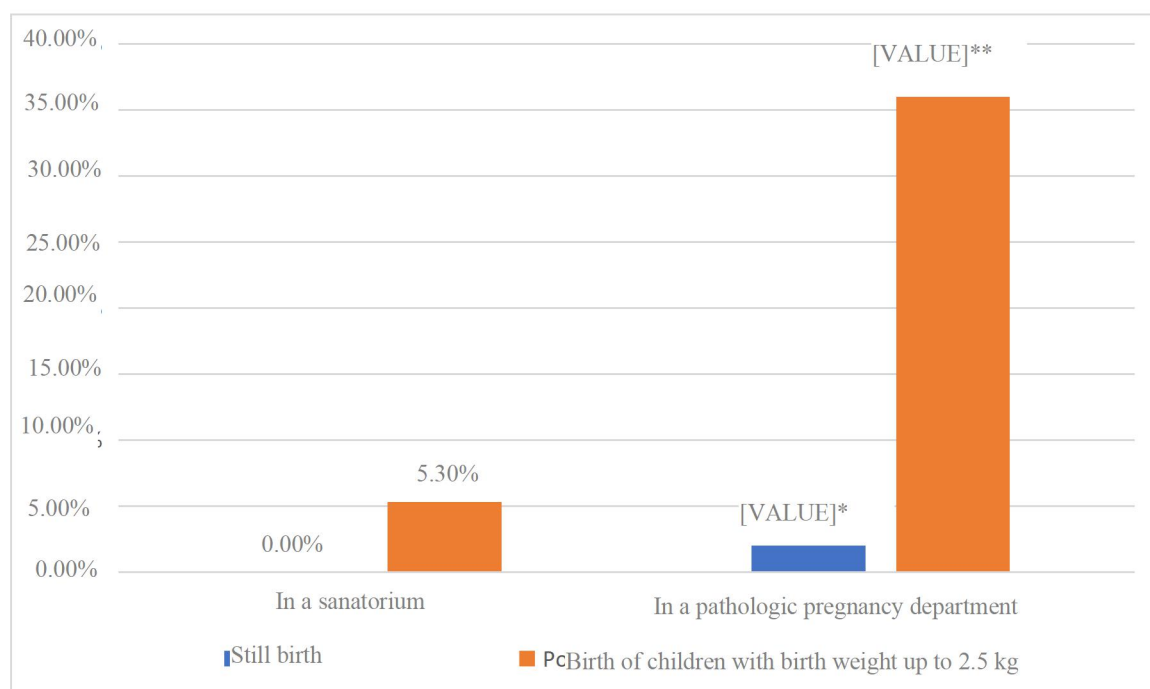
Note: \*  $p < 0.05$  - significance of parameter differences between compared groups.

In case of natural delivery, the following complications were observed: in 13 cases (6.3%), poor uterine contraction strength; in 4 cases (1.9%) of bleeding in the 3rd period. When women were treated in pathologic pregnancy department, poor uterine contraction strength was verified in

20 (13.6%) women in labour, bleeding in in the 3rd period was verified in 11 people (7.5% of cases).

The labour outcome for the fetus among women of groups I and II is presented in Figure 3.

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**Figure 3.** Comparative characteristics of labour outcomes for the fetus among women of groups I and II in percentage ratio.

Note: \*\*  $p < 0.01$  - significance of parameter differences between compared groups.

The presented data prove that among respondents of group I in 100% of cases live births were recorded, in 5.3% of cases the fetal weight was up to 2.5 kg.

It is worth mentioning, that in women of group II, a large percentage of birth of premature babies with a body weight of up to 2.5 kg is 53 people (36%) and stillbirths in 3 people (2%).

### DISCUSSION

It should be noted that in recent years, new organizational forms have been proposed for pregnant women recovery, especially those at risk for RPL [11,12].

In literary sources there is information about perspective of local health resort institution, combining the effects of natural and climatic factors and highly efficient medical and health technologies used in the sanatorium [13,14,15,16].

In these medical and preventive institutions, pregnant women who have risk factors during pregnancy, as well as socially unprotected, healthy pregnant women - students, primiparous adolescents, large families and single mothers can receive medical and social assistance and prevention.

When treated in a sanatorium, pregnant women receive consultative and therapeutic assistance from specialists of various profiles: psychoneurologist, dentist, optometrist, general practitioner, etc. The women, suffering from extragenital pathology are provided with special control, including cardiomonitor, ultrasound, etc. [17,18,19].

The advantage of health improvement of pregnant women in a sanatorium is the use of natural factors. In this case, rational nutrition, daily regimen, active use of climatic factors, physical and psychophysical preparation for the delivery.

To adjust revealed disorders, physiotherapeutic methods, acupuncture therapy, vitamin therapy can be used with the maximum possible exception of drug treatment [20].

In literary sources, it is noted that in sanatoriums, rehabilitation of pregnant women is performed in three main areas: diagnostic (diagnosis of extragenital diseases,

pregnancy complications); treatment and prophylactic; 3. health education to achieve the best possible results. A similar result was demonstrated in our study.

Many authors assume, that this stage is necessary for observation of a pregnant woman with RPL to reduce pharmacological load on the pregnant woman's body and fetus, and eliminate polypharmacy and iatrogeny; expansion of non-drug exposure in various pregnancy complications [1,2,7,21,22,23].

### CONCLUSION

The study results confirm the need to improve health activities for pregnant women with obstetric and gynecological pathologies in the sanatorium, especially with concomitant chronic diseases or threatened pregnancy. The analysis data provide the basis for the following recommendations: In case of threatened pregnancy, timely hospitalization in the pathologic pregnancy department in the maternity hospital; after stabilization, at 30-32 weeks of GA - to the local prevention departments (sanatoriums) for premature delivery prevention.

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