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COMPARATIVE CHARACTERISTICS OF WOMEN SUFFERING FROM HABITUAL MISCARRIAGE

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ABSTRACT

Miscarriage is an urgent problem in modern obstetrics in connection with the medical and social aspect of this pathology. The etiology is multifactorial. Studies conducted by foreign authors indicate the influence of risk factors such as age, obstetric and gynecological history contribute to the development of miscarriage. Assessment of the age characteristics of women suffering from habitual miscarriage and determination of the risk degree for developing this pathology. Analysis of 21961 medical records of a hospital patient (f. 003-y) of gynecological hospitals for 2016-2018 in the city of Moscow. The calculation of the minimum risk of ST in specific age groups was performed using the coefficient P /N/, equal to 0.0896, and the maximum - 0.1699.The proportion of women of the most active reproductive age of 21-30 years is 61.7% of cases of PNB, in the age group of 31-35 years, the number of women with PN is reduced to 17.80% (puerperas - 10.4%). Subsequently, with age, there was a sharp spasmodic decrease in the amount of PNB. After 36 years, NSPs occurred in 12.2% of women, among them: in 36–40 years old in 9.7%, in 41–45 years old – 2.4% and in 46 years old and older — in 0.2%.

There is a tendency to increase the risk of PN with the age of a woman at conception. An important role in the development of miscarriage is played by indicators of a woman's age, data from an obstetric and gynecological history and risk factors (smoking, psycho-emotional stress, etc.). There is a tendency to increase the risk of habitual miscarriage with the woman's age at conception.

Keywords: miscarriage, habitual miscarriage, risk factors, smoking.

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INTRODUCTION

Improving the quality of care provided during pregnancy has led to a significant reduction in perinatal and maternal mortality, as well as a decrease in other adverse pregnancy outcomes. Despite this, the percentage of women with miscarriage (NB) ranges from 20% to 30%. Miscarriage is understood to mean spontaneous, without interference from a woman or other persons, termination of pregnancy at various times from conception to 28 weeks inclusive, starting from the first day of the last menstruation. Habitual miscarriage (PNB) is called spontaneous abortion in a row two or more times [1,2].

Since the etiology of this pathology is multifactorial, most of the studies conducted are aimed at identifying potential risk factors.

Among them, great attention is paid to the complex interaction between the mother's age group, genetic, hormonal, immunological factors and environmental factors. Genetic factors, including chromosomal rearrangements and abnormal embryonic genotypes or karyotypes, make up more than half of repeated miscarriages. Most authors believe that maternal age is one of the most well-known risk factors [3, 4, 5].

The literature data describes that the risk of miscarriage is increased in young girls and women in the age category over 40 years old. In addition, other risk factors are noted, among them: the presence of somatic pathology (diabetes mellitus, chronic barrel disease, blood system diseases, etc.), smoking, stress, psycho-emotional stress, hormonal imbalance. Of particular importance is the analysis of obstetric and gynecological history of women with verification of existing gynecological pathology, the collection of information on previous interventions and operations. In the literature, studies comparing the risk of miscarriage and risk factors are found mainly among foreign sources [4, 5, 6]. In this regard, the study of this correlation among patients of domestic medical institutions is of particular relevance.

Objective: To assess the age characteristics of women suffering from habitual miscarriage and to determine the degree of risk of developing this pathology.

MATERIALS AND METHODS

In the research process, archival materials of gynecological hospitals in Moscow were used. An analysis of 21,961 medical records of a hospital patient (f. 003-y) of gynecological hospitals for 2016-2018 was performed, which contributed to the achievement of a 100% sample of women with miscarriage. At the same time, 2017 cards of women with this problem were revealed. To study the effect of numerous and diverse socio-hygienic, biomedical, medico-demographic and other factors on the level and nature of habitual miscarriage, a comprehensive assessment of the health status of pregnant women who received medical and social prophylaxis was performed according to the following parameters frames: general and obstetric history, course of pregnancy, the presence of extragenital pathology, data from Vegetotest, ECG, blood pressure, ultrasound and cardiomonitor studies. Using the Bayesian theorem allowed us to use the results obtained in this study to predict the probable risk of PN depending on the age of the woman.

Based on this, the calculation of the minimum risk of ST in specific age groups was performed using the coefficient P / N /, equal to 0.0896, and the maximum - 0.1699.

RESULTS

Age structure of women with PN according to archival materials of the Perinatal Center of the City Clinical Hospital named after M.P. Konchalovsky for 2017 (as a percentage of the total number of surveyed) is presented in Figure 1.

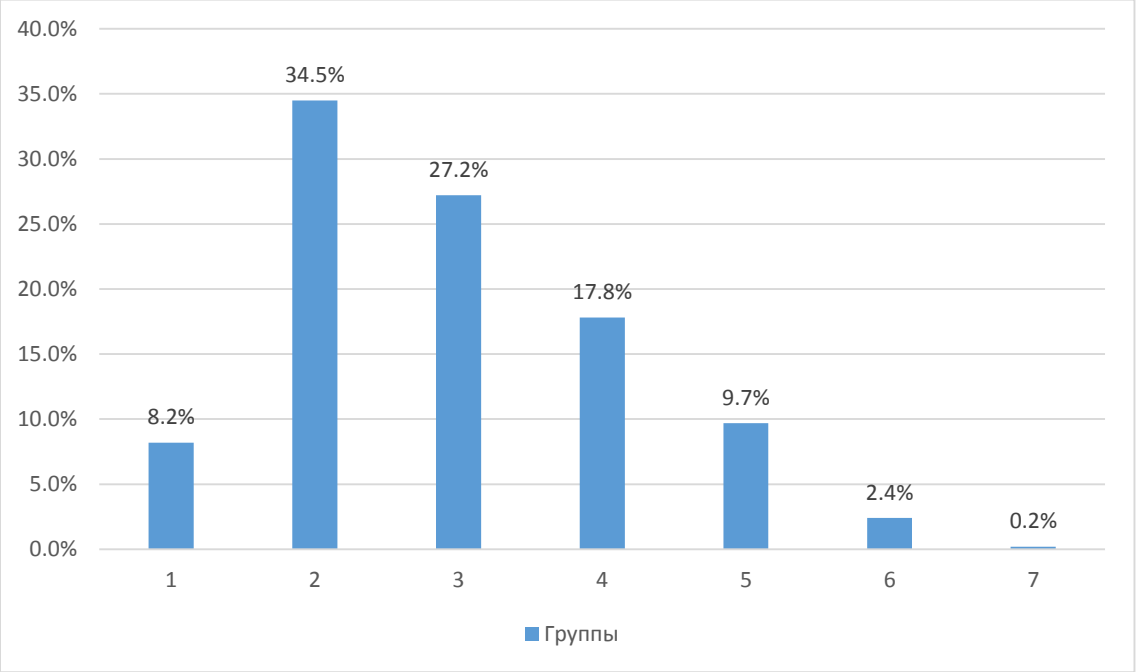

Figure 1. **Comparative characteristics of the age structure of women suffering from habitual miscarriage**

Note: 1) 16-20 years; 2) 21-25 years old; 3) 26-30 years; 4) 31-35 years old; 5) 36-40 years; 6) 41-45 years old; 7) 46 years and older.

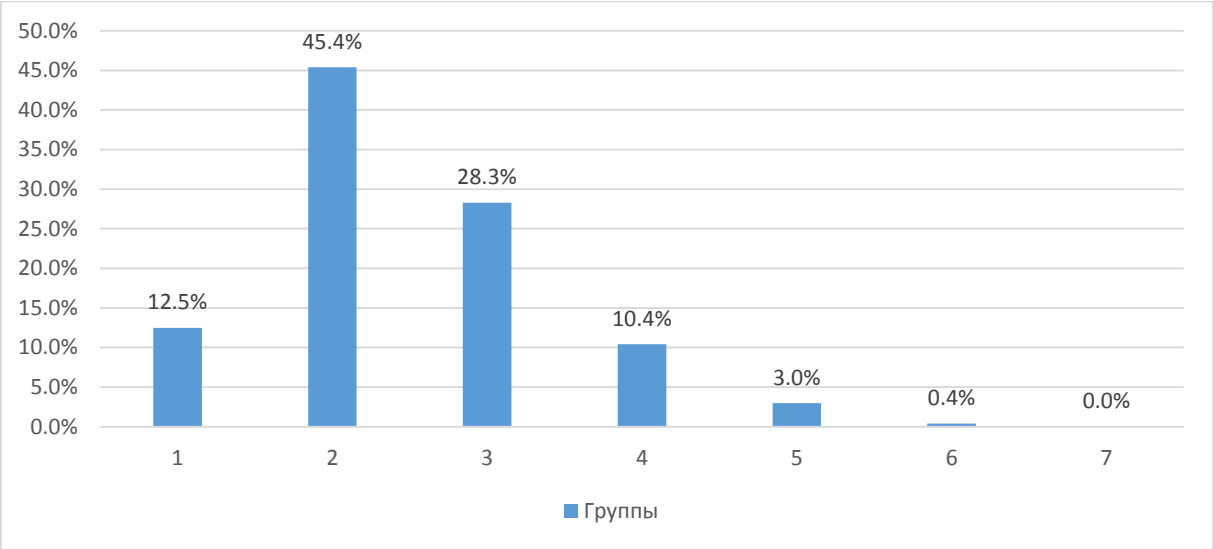

Figure 2. **Comparative characteristics of the age structure of puerperas with miscarriage**

Note: 1) 16-20 years; 2) 21-25 years old; 3) 26-30 years; 4) 31-35 years old; 5) 36-40 years; 6) 41-45 years old; 7) 46 years and older.

As can be seen from the data presented, in the examined groups the highest proportion is taken by patients aged 21-25 (34.5% and 45.4%) and 26-30 (7.2% and 28.3%) years. Thus, the proportion of women of the most active reproductive age of 21-30 years old is 61.7% of cases of PNB, in the age group of 31-35 years, the number of women with PN is reduced to 17.80% (puerperas - 10.4%). Subsequently, with age, there was a sharp spasmodic decrease in the amount of PNB. After 36 years, NSPs occurred in 12.2% of women, among them: in 36–40 years old in 9.7%, in 41–45 years old –2.4% and in 46 years old and older –– in 0.2%.

The calculations of indicators of the risk of miscarriage for women of different age groups are analyzed, which are presented in table 1.

Table 1. Comparative characteristics of the risk of miscarriage for women of different age groups (in percent)

No	Age group (years)	The risk of PN during pregnancy	
		Minimal value	Maximal value
1	16-20	6,05	11,81
2	21-25	6,96	13,46
3	26-30	8,64	16,44
4	31-35	14,41	25,94
5	36-40	24,08	39,74
6	41-45	36,93	54,91
7	46 and older	До 100	До 100
8	Total population risk	8,96	16,99

Both the minimum and maximum values show the same tendency to increase the risk of PNB with the woman's age at conception.

The structure of gynecological pathology in women with habitual miscarriage as one of the medical and social risk factors is analyzed (table 2).

Table 2.Comparative characteristics of the history of gynecological diseases in women with PN (according to medical documentation without surgical interventions)

No	Name of disease	Absolute number of cases	The number of cases as a percentage of the total
1	Nonspecific acute and chronic inflammatory diseases of the uterus and appendages	88	4,37
2	Primary and secondary infertility	55	2,72
3	Menstrual disorders (including amenorrhea)	42	2,08
4	Cervical erosion	20	1,00
5	Habitual miscarriage of unknown etiology	19	0,93
6	Habitual miscarriage due to:		
	a) isthmic-cervical insufficiency	11	0,55
	b) genital malformations	2	0,10
7	Uterine Fibromyoma	19	0,94
8	Trichomoniasis	14	0,69
9	Sclerocystic ovary syndrome	8	0,40
10	Ovarian Cystoma	4	0,20
11	Endometrial polyposis	2	0,10
12	No diseases indicated	1733	85,92
	In total:	2017	100

A history of gynecological diseases was noted in 14.08% of women.

The following is a description of the surgical interventions that took place in the anamnesis of the studied group of women with PN (table 3).

61.38% of women with PN underwent surgical treatment. In most cases, it was due to pathology from the genitals (57.16%). Extragenital pathology, as the cause of surgical interventions, was observed only in 4.22% of women with PNB.

Table 3.Comparative characteristics of surgical intervention in the history of women with PN (according to medical documentation)

No	Name of disease	Absolute number of cases	The number of cases as a percentage of the total
Gynecological operations, of which:		1153	57,16
1	Artificial Abortion	818	40,56
2	Diagnostic curettage of the walls of the uterine cavity	292	14,46
3	Adnexectomy	13	0,65
4	Tubectomy	10	0,50
5	Cesarean section	7	0,35
6	Diagnostic puncture of the posterior pnoda	5	0,25
7	Wedge resection of the ovaries	4	0,20
8	Polypectomy	3	0,15
9	Enucleation of fibromatous nodes	1	0,05
Other surgical interventions			
10	Appendectomy	61	3,02
11	Tonsillectomy	22	1,09
12	Heart surgery	1	0,05

13	Cholecystectomy	1	0,05
Total surgical treatment		1238	61,38
No surgical intervention indicated		779	38,62
In total:		2017	100

Among the factors that determine a woman's healthy lifestyle are such as the absence of bad habits, personal hygiene, adherence to work and rest, and optimal activity. However, despite the correct overall assessment by women of the factors that shape a healthy lifestyle, in reality there are differences between the declared values of maintaining health and the real ones in everyday life. Distribution of women according to verified risk factors that have a negative impact on health (table 4).

Table 4. Comparative characteristics of the distribution of risk factors in women suffering from miscarriage

No	Risk factors	For 100 women
1.	Tobacco or secondhand smoke	**77,2**
2.	Alcohol abuse	**66,9**
3.	Personal hygiene	**55,9**
4.	Physical and emotional overload	**53,1**
5.	**Non-observance of work and rest**	**46,5**

The data presented indicate a high proportion of women smoking and drinking alcohol.

DISCUSSION

Obviously, such a sharp decrease in the proportion of women with PN at a more mature age is relative: it is due to the withering of the reproductive function and, accordingly, a decrease in the number of full-fledged conceptions. However, after 30 years, the proportion of women in whom pregnancy ended in PN is higher compared with childbirth. At this age, the number of risk factors (medical and social) affecting these pregnancy outcomes increases [1, 4, 5, 7].

Noteworthy is the significant number of women in the group with PN under the age of 20 years, which amounted to 8.18%. Spontaneous abortions in women of this age group pose a serious threat to their reproductive function in the future. The data obtained are comparable with the results of studies conducted earlier, when a number of authors concluded that the increase in the risk of PN in the absence of known provocative factors begins at the age of 30, reaching a "peak" by 40 years.

Other researchers have shown an increase in PNB with a woman's age, and this dependence is non-linear. This indicator remains approximately at the same level up to 30-32 years and varies from 5 to 10-12% according to different authors, and after 35 years it experimentally rises to 25% and even 40% over the age of 40 [6,7,8]. The results obtained by us showed that the curve of the NB indicator relative to age has maximums in the age groups of 25-27 and 35-37 years. Further, with age, this value in the population decreases.

The risk factors for miscarriage obtained in this study, depending on age, in general, confirm the objective trend. Increased risk is observed starting from 31-35 years old, reaching a maximum at the age of 46 years and older. The risk of miscarriage varies greatly depending on the age of the mother, shows a strong relapse rate, and also increases after some adverse pregnancy outcomes. Miscarriage and other pregnancy complications may have common causes, which may be biological conditions or unmeasured common risk factors. The overall risk of miscarriage among recognized pregnancies in Norway was 12.8%. This risk is surprisingly similar to reports from other countries of Northern Europe (from 13% to 14%). Estimates from the USA and Canada were more volatile (from 9% to 20%). This consistency with other Nordic studies and prospective studies with the complete detection of early miscarriages gives some certainty that the Norwegian registries record the majority of recognized miscarriages [7, 8, 9, 10, 11].

CONCLUSIONS

An important role in the development of miscarriage is played by indicators of a woman's age, data from an obstetric and gynecological history and risk factors (smoking, psycho-emotional stress, etc.). There is a tendency of increasing the risk of habitual miscarriage with the woman's age at conception.

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