VILNIUS UNIVERSITY

DIANA BUŽINSKIENĖ

PERI-ANAL DISEASES IN PREGNANCY AND AFTER CHILDBIRTH: INCIDENCE, RISK FACTORS AND IMPACT ON WOMAN'S QUALITY OF LIFE

Summary Of Doctoral Dissertation

Biomedical Sciences, Medicine (06 B)

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DIANA BUŽINSKIENĖ

NĖŠČIŲJŲ IR GIMDYVIŲ IŠANGĖS LIGŲ DAŽNIS, RIZIKOS VEIKSNIAI IR ĮTAKA MOTERS GYVENIMO KOKYBEI

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INTRODUCTION

The current national demographic situation with a low birth rate and negative shifts in the natural increase of the population obliges the medical community of the Republic of Lithuania, i.e. obstetricians and gynecologists, neonatologists, perinatologists and family doctors to join efforts in providing maximum assistance for pregnant women that every pregnancy results not only in the birth of a healthy child but also a good quality of life of the woman. The external factors like inadequate maternal diet, bad habits, lack of physical activity have a strong impact on both, a fetus and each pregnant woman, or may trigger the emergence of different diseases during pregnancy and after childbirth.

Despite the fact that pregnancy is a physiological condition, a pregnant woman is experiencing significant changes taking place in terms of anthropometry, body composition, visceral topography or metabolism that can influence the occurrence of new diseases in pregnant women or those suffered from before pregnancy and those with a remission status.

Considerable hormonal, anatomical changes as well as altered blood circulation in the small pelvis during pregnancy have a direct impact on the rectum and peri-anal area. Pregnancy and childbirth are predisposing factors of peri-anal diseases. External hemorrhoids thrombosis and fissures are the two most common causes of peri-anal pathology during pregnancy and after childbirth. These diseases not only disrupt a normal process of pregnancy, delivery or the period after childbirth, but also can be a cause of the woman's poor quality of life in the future.

The relevance of peri-anal diseases is evidenced by the fact that hemorrhoids have been described in the historical sources since ancient times. References can be found in Babylon, ancient Egypt, Greece and Hebrew cultural sources. The first historical facts were found in Mesopotamian times, more than 4,000 years ago (Parks, 1955).

The rectal and peri-anal pathology remains relevant until today. The incidence of these diseases in the Western population ranges from 4% to 10%. In the US, per year almost one million of people aged from 45 to 65 are diagnosed with hemorrhoids. Even though, in accordance with the data provided by some authors, the prevalence of hemorrhoids between the sexes does not differ, epidemiological studies

have found that hemorrhoids incidence in women is more common, i.e. approximately 24.8%. The clinical expression of the disease is more common in women of reproductive age, especially in pregnant women.

In Lithuania, even though the issue of peri-anal pathology in pregnant women has been highlighted by the popular press, so far there is not a single scientific medical study conducted on the subject, nor there are any available data on the incidence of peri-anal pathology in Lithuania. Our study attempts to be the first prospective cohort study of peri-anal diseases in pregnancy and after childbirth that involves monitoring of women throughout pregnancy and over the first month after delivery, determining the incidence and risk factors of these diseases as well as their impact on the woman's quality of life.

THE AIM OF THE STUDY

The study aimed to evaluate peri-anal diseases during pregnancy and after childbirth, their incidence and association with the woman's physical condition and health, peculiarities characteristic to pregnancy and childbirth, the indicators of a newborn's physical condition, as well as risk factors for peri-anal diseases and their impact on the woman's quality of life.

THE OBJECTIVES OF THE STUDY

1. To identify the peri-anal diseases occurring during pregnancy and after childbirth, their indicence, the time of the occurrence during pregnancy and over a puerperal period.
2. To evaluate the risk factors of peri-anal diseases in pregnacy, after delivery and after childbirth:
    - Relationship of women's lifestyle, demographic and anthropometric indicators with peri-anal diseases;
    - The impact of the peculiarities of pregnancy and childbirth (delivery mode, duration) on the occurrence of peri-anal diseases after childbirth;
    - The relationship of a newborn's anthropometric indicators with the peri-anal diseases in women after childbirth.

3. To evaluate the impact of peri-anal diseases developed during pregnancy or after childbirth, on the woman's quality of life.

THE RELEVANCE, NOVELTY AND THE SCIENTIFIC SIGNIFICANCE OF THE STUDY

The ongoing changes observed over recent decades in people's lifestyle, social and economic factors have made a crucial impact on the negative demographic shifts that have occurred in Lithuania.

Low birth rate, morbidity of pregnant women and the quality of life after childbirth are closely interrelated factors. Clinicians tend to look for the relationship between the mother, fetus and the indicators of a newborn. Therefore, the search of the impact of each pregnant woman's pathological condition on the health of both, a fetus and a newborn, is significant and continuously relevant as it is concerned with the health of future generations.

Another relevant issue in demand for in-depth investigation is coloproctological pathology in pregnancy and after childbirth. In accordance with scholarly literature, hemorrhoids is considered to be most common peri-anal disease bothering around one-third of women during pregnancy, delivery and puerperium. After delivery the symptoms of hemorrhoids usually regress, but do not solely disappear. This fact is described in many studies based on data provided by the surveyed women. Pregnant women provide a rather innacurate self-diagnosis of peri-anal diseases, while an accurate diagnosis of peri-anal pathology and causes for its occurrence during pregnancy and puerperium are found in only a few scientific studies. The newly conducted research identifies risk factors for the occurrence of hemorrhoids and anal fissures over the third trimester of pregnancy and puerperium, i.e. constipation and prolonged pregnancy. So far researchers have not carried out any prospective study that would involve monitoring of pregnant women throughout pregnancy and after childbirth, determining the incidence and risk factors of peri-anal diseases as well as their impact on a woman's quality of life. Nor there is a systematic cooperation between obstetricians-gynecologists and colon and rectal surgeons in terms of treatment of pregnant and postpartum women for peri-anal diseases.

The incidence of peri-anal diseases in Lithuania is not known. Not a single prospective study was carried out on monitoring women throughout pregnancy and

the early puerperial period or pregnant women were diagnosed by colorectal surgeons.

Therefore, this study, in which women were observed throughout pregnancy and during the first month after childbirth, is relevant in terms of addressing risk factors and incidence of pregnancy and post-partum anal diseases, their relationship with the newborn's health, quality of life of women after childbirth, new and complementary to other studies dealing with this pathology carried out by scientists in Lithuania and other countries. The findings of this study will assist in identifying the risk factors of peri-anal diseases in pregnancy and after childbirth, their preventive measures and timely administration of treatment by involving medical specialists - dietitians, gastroenterologists, proctologists, surgeons - seeking to avoid peri-anal pathology in pregnancy, which is undoubtedly related not only to the women's quality of life, but also to colorectal pathology in the future.

STATEMENTS TO BE DEFENDED BY THE DISSERTATION

1. Peri-anal disease is a common pathology during pregnancy and childbirth, usually occurring in the third trimester of pregnancy and on the first or second day after delivery.
2. Constipation in pregnancy, peri-anal diseases suffered before pregnancy, peculiarities of delivery (duration of straining, mode of delivery), a newborn's birthweight are directly related to peri-anal pathology of women after childbirth.
3. Peri-anal diseases worsen quality of female life during pregnancy and childbirth.

RESEARCH METHODOLOGY

Research population

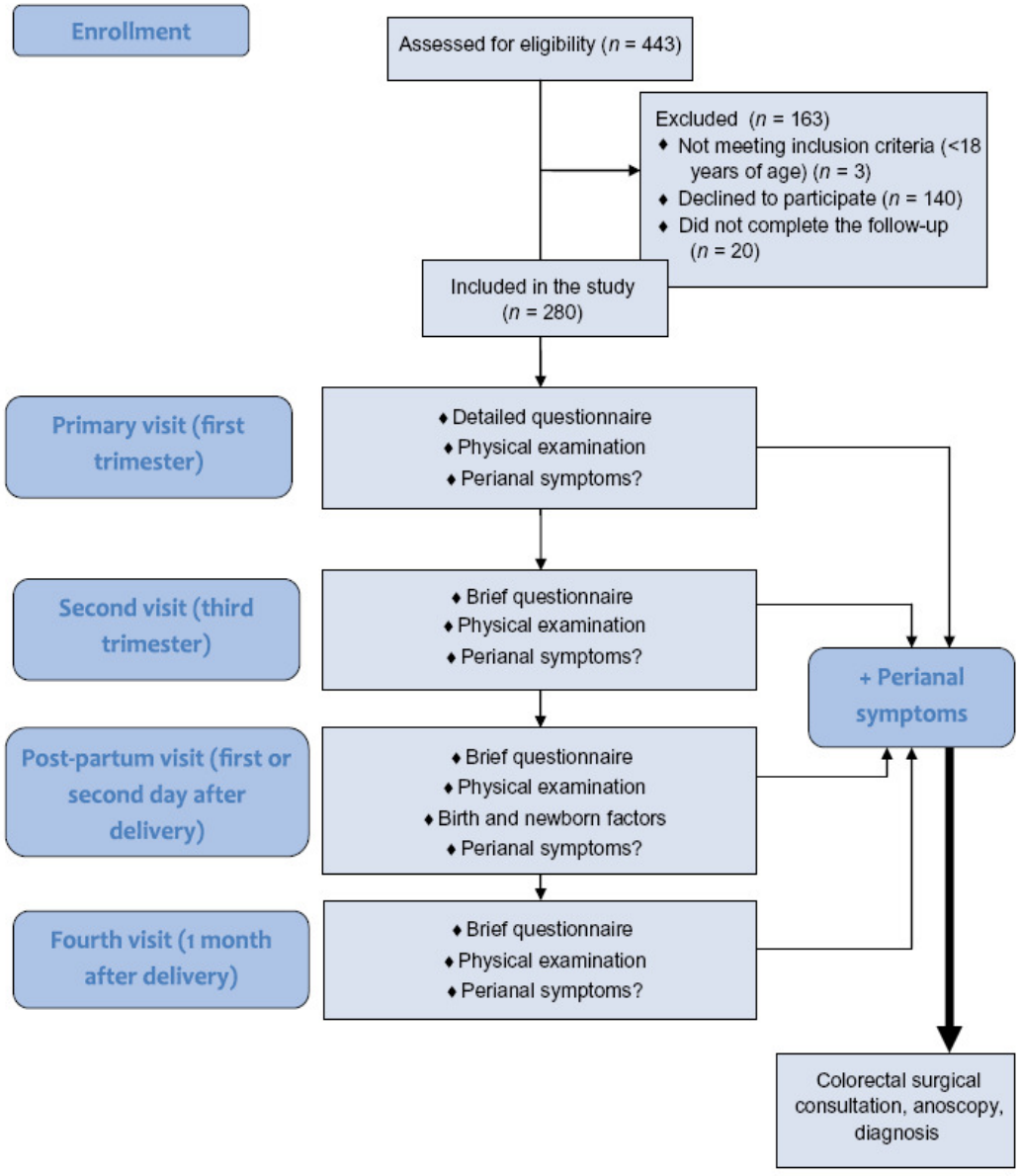
All the pregnant women were investigated at Obstetrics and Gynecology Clinic of Vilnius University in 2010-2011. The examination focused on pregnant women of 18-45 years of age who contacted their family doctor or an obstetrician gynecologist for pregnancy care provision at the Central branch of Out-Patient Clinic of PI Santariskiu Clinics and Antakalnis Out-Patient Clinic of Vilnius City, as well as women after delivery and treatment undergone at Obstetrics and Gynecology Unit of the Central Branch of PI Santariskiu Clinics.

Pregnant women signed a consent agreement to participate in a study (personal information form and the informed consent form). Vilnius Regional Biomedical Research Ethics Committee issued a permission to conduct this study. The study was conducted by the following researchers: a physician obstetrician-gynecologist and a physician coloproctologist.

The criteria for enrollment in the research were as follows: the first trimester of pregnancy, the first / repeated pregnancy, single fetus / multi-fetal pregnancy, consent of pregnant women to take part in the study. The women were examined four times: in the first trimester (up to 12 weeks of gestation), in the third trimester (27-40 and> weeks of gestation), on the first/the second day after delivery, during the first month after delivery. The pregnant women complaining of the symptoms of peri-anal diseases were examined and advised by a colorectal surgeon.

The flow diagram of the study is presented in Figure 1.

Figure 1. The flow diagram of the study



Research Methods:

Survey (a special unified questionnaire and a proctological survey questionnaire)

A questionnaire was developed that included major risk factors of peri-anal diseases in pregnant women: demographic indicators (age, ethnicity, marital status), social factors (education, residential place, living conditions), physical activity, anthropometric characteristics (height, weight before pregnancy, body mass index before pregnancy, weight gain during pregnancy), heredity (peri-anal diseases in the family), bad habits (smoking, alcohol consumption), fluid consumption during pregnancy, constipation during pregnancy, perianal diseases before pregnancy and during previous pregnancies. The diet in pregnancy was examined by using standardised the WHO Nutrition Research questionnaire modified to evaluate the diet of pregnant women under our survey.

The medical factors were assessed by the data obtained from obstetric and gynecological anamnesis, medical history and diseases diagnosed in the course of the current pregnancy. Constipation in pregnant women was assessed on the basis of the Rome III criteria: defecation less than 3 per week, straining during defecation, hard stools, sensation of anorectal obstruction on defecation, sensation of incomplete evacuation, manual manoeuvring required to defecate (at least two symptoms must be experienced within 3 months).

The study assessed the impact of peri-anal diseases women suffered in pregnancy on the woman's quality of life by the standardized generic quality of life questionnaire (SF-36) *(Short Form 36 Medical Outcomes Study Questionnaire)*, widely used in the world and adapted for Lithuania. It consists of 36 questions reflecting the eight spheres of the human life: physical activity, activity limitation due to physical and emotional problems, pain, general health assessment, energy and vitality, social function and emotional state. These areas of life are connected with the two categories of health, i.e. physical and mental health. The physical health is assessed by evaluating such areas as physical activity, activity limitations due to physical problems, bodily pain, general health condition, etc. The mental health assessment focuses on areas related with the activity limitations due to the emotional state, social relations, energy and vitality. The responses to the questions were evaluated on a scale of 0 to 100, using the calculation algorithm. Each area was rated

from 0 to 100 points (using the calculation algorithm). Higher scores were considered to reflect a better quality of life.

The questionnaire that was aimed at proctological survey of pregnant women was developed by taking into account the key symptoms of a peri-anal disease: pain, bleeding from the anus, anal area nodes, constipation and its nature. On the first or the second day after delivery the following delivery data were evaluated: mode of delivery, duration of labour, perineal injuries during delivery - cuts or fissures and neonatal anthropometric indicators: height, weight, girth of the head and the chest.

Recommendations provided by a colorectal surgeon

The pregnant women with complaints of unpleasant sensations in the peri-anal area, i.e.pain, bleeding, formation of a protrusion in the peri-anal area, anal mucosal eversion or other symptoms of the colon and rectal area were immediately referred to colorectal surgeon for examination. The patients were examined in a left lateral decubitus position. The peri-anal area was examined looking for external or thrombosed hemorrhoids. Thereafter, the patients were asked to strain, if convenient, to demonstrate any protrusion. Then peri-anus was examined manually to identify protrusions or soreness points in the peri-anal area (digital rectal examination). Finally, with a lighted direct-view endoscope, anoscopy was performed with the woman in a relaxed state and with the woman straining.

Anthropometric investigation

The woman's anthropometric indicators are as follows: the height of pregnant women was measured with a standard vertical height gauge - a wooden stadiometer (measurement accuracy of ± 5 mm) in accordance with the conventional postural requirements, the body weight was measured with mechanical medical Ferbenks scales with the measurement accuracy of 100 g. The scales were regularly calibrated with the standard weight (4x10 kg and 8x10 kg). The pregnant women under examination were weighed in the morning before a meal, lightly dressed and after urinating.The women's body mass index (BMI, Quetelet index) was calculated by the formula: BMI = body mass (kg) / height (m^2).

The statistical analysis of the data

The prospective cohort (monitoring) study was carried out. The cumulative digital data base and fundamental statistical calculations were performed using the standard *Microsoft Excel* software. More complex statistical calculations (analysis of statistical data and medical record data) were performed using *SPSS Statistics programme* (version 21). The evaluation of the results obtained from statistical analysis focused on the following indicators: means of quantitative characteristics, standard deviations (SD), mean confidence intervals (CI), minimum (Min) and maximum (Max) values, the percentage of qualitative or categorical characteristics. The results were evaluated by numbers and percentages.

The differences of various indicators between groups were evaluated by the following criteria: Student's t criterion or *Wilcoxon-Man-Whitney* criterion (quantitative feature), $\chi 2$ criterion or Fisher's exact test (for qualitative characteristics). The differences were considered statistically significant when the error probability $p < 0.05$, highly significant when the error probability $p < 0.005$. The relationship between the risk factor and the indicator of the state under investigation is evaluated by calculation of the odds ratio (OR) and its 95 percent confidence interval (CI). A single-member logistic regression analysis of statistically significant indicators was performed. In order to determine the risk factors of peri-anal diseases, a multiple logistic regression analysis of significant single-member indicators was performed.

RESEARCH FINDINGS

The scientific study involved 280 women during pregnancy and after childbirth, 443 pregnant women were invited to enter the study. Of these, 20 women declined to participate in the study, 140 participated only during pregnancy (i.e., in the first and third trimester), 3 women did not meet the study criteria (were younger than 18 years old).

At the end of the study two target groups were compiled: Group I involved patients with peri-anal diseases and Group II (control) comprised healthy women.

Peri-anal diseases in pregnancy and after childbirth, their frequency, time of occurrence and symptoms

Out of 280 pregnant women under the study, 123 (43.9%) were diagnosed with coloproctological pathology (Group I), 157 (56.1%) women were healthy (Group II). Of 123 pregnant women 114 (92.7%) suffered from hemorrhoids, seven (5.7%) women were diagnosed with hemorrhoids and anal fissure, two women (1.6%) suffered from anal fissure. The data are shown in Figure 2. Of 121 women who were diagnosed with hemorrhoids, 64 (52.9%) women suffered from hemorrhoids thrombosis.

Since only a few women suffered from anal fissure, they were attributed to those suffering from hemorrhoids and a group of 123 women with coloproctological pathology was formed (Group I).

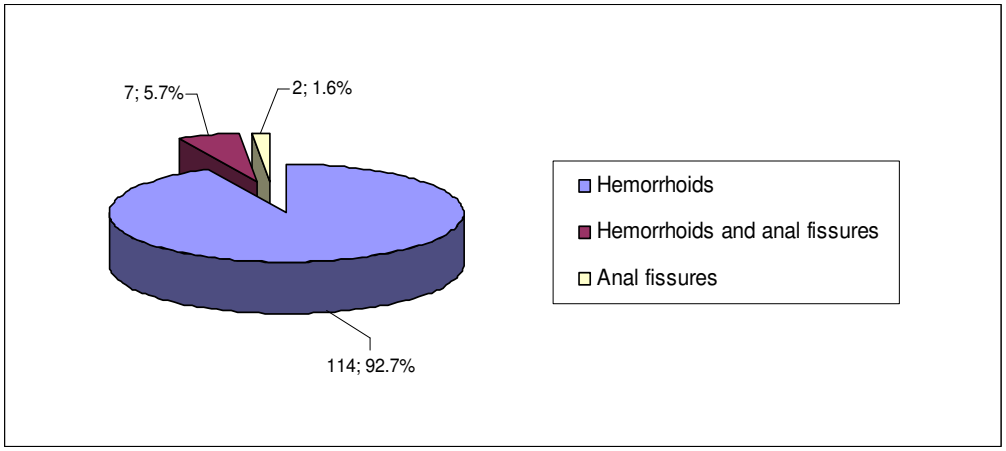


Figure 2. Frequency of coloproctological pathology in women in the study

Four women were diagnosed with the external hemorrhoids, while the internal hemorrhoids of 1st , 2nd and 3rd degree was found in 32 (26.4%), 61 (50.4%) and 24 (19.8%) women accordingly (Table 1). Six women (4.9%) were diagnosed with chronic anal fissure and three of them (2.4%) with acute anal fissure.

Table 1. Hemorrhoids distribution among pregnant women in the study

Hemorrhoids	n	%
External	4	3.3
1st degree (grade I) internal	32	26.4
2nd degree (grade II) internal	61	50.4
3rd degree (grade III) internal	24	19.8
In Total	121	100.0

The most common time of the occurrence of peri-anal diseases in pregnancy and after childbirth was the third trimester of pregnancy and the first or second day after delivery (Figure 3). 75 (61.0 %) of women were diagnosed of perianal pathology in the third trimester of pregnancy (27-40 weeks and more), 42 (34.2 %) of them - first to second day after delivery, 4 (3.3 %) of them - first month after delivery, 2 (1.6 %) - in the first trimester of pregnancy (0-12 weeks), none in the second trimester (13-26 weeks) of pregnancy.

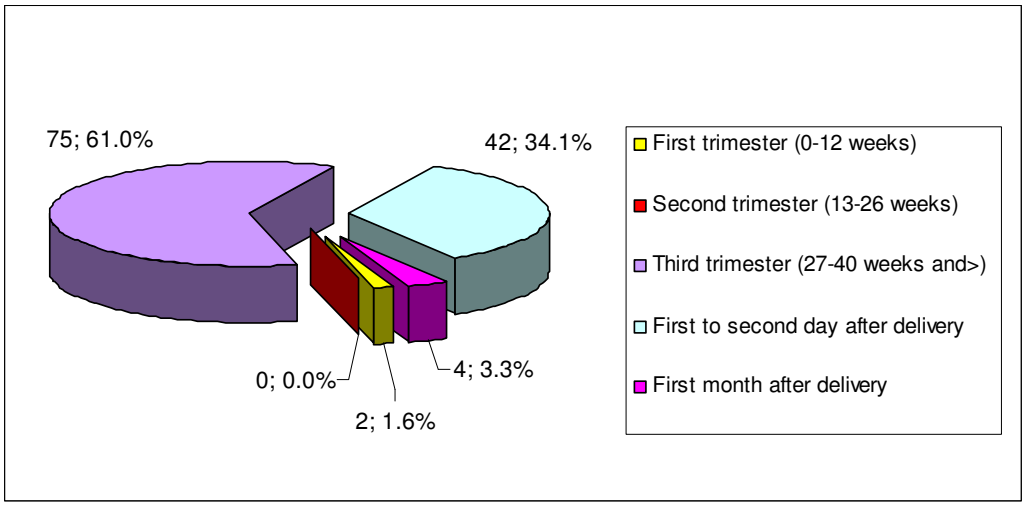


Figure 3. The most common time of the occurrence of peri-anal diseases

The most common symptoms of peri-anal diseases in the examined women were pain, discomfort, itching, knots, burning, mucus in peri-anal area, bleeding from the anus.

The most common symptoms of peri-anal diseases found in Group I of the researched women are shown in Table 2.

Table 2. Symptoms of peri-anal diseases in Group I of women in the study

Symptom	n	%
Peri-anal pain and its nature:	121	98.4
Sharp pain	6	4.9
Dull pain	75	61.9
Dull pain with increase on defecation	71	58.7
Pain on defecation	12	9.9
Peri-anal discomfort	110	89.4
Itching	99	80.5
Painful protrusion at the anus	54	43.9
Burning	98	79.7
Mucous discharge	91	74.0
Bleeding from the anus	77	62.6

Risk factors of peri-anal diseases in pregnancy and after childbirth

Personal history:

Age. The study involved pregnant women from 18 to 45 years of age.Their age median was 28.7 years (SD=5.4; Min–Max=16.4–45.1). The majority of women, i.e. 110 (39.3 %) were of the age range from 25 to 30, 61 (21.8 %) women aged 30–35, 59 (21.1 %) women aged 20–25, 35 (12.5 %) of 35–40 years of age, 8 (29 %) up to 20. 7 (2.5 %) over 40 (Figure 4).

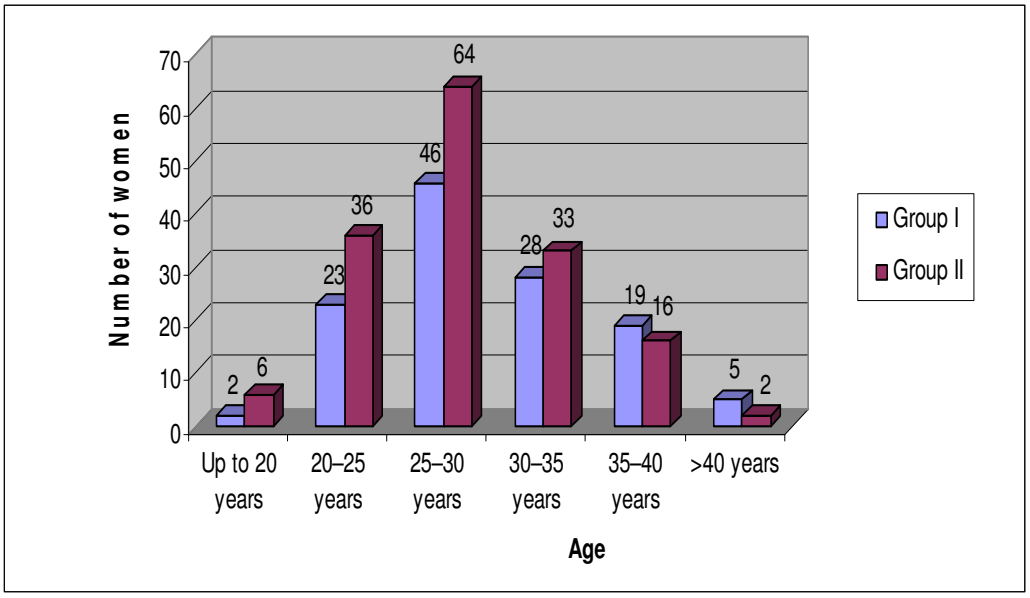


Figure 4. Age of women at pregnancy, after delivery and after childbirth

The median age of women suffering from hemohrroids (Group I) was 29.6 years (SD=5.5; Min–Max=18.8–45.1). Most of the women, i.e. 46 (37.4 %) were aged 25–30, 28 women (22.8 %) were of 30–35 years, 23 women (18.7 %) were 20–25 years, 19 (15.4 %) - 35–40 years, 5 (4.1 %) older than 40, two (1.6 %) were up to 20 years of age. The median of the age of healthy women (Group II) was 28.3 years (SD=5.2; Min–Max= 16.4–42.5). Most of the women, i.e. 64 (40.8 %) were aged 25–30 years, 36 (22.9 %) of women were aged 20–25, 33 (21.0 %) were 30–35, 16 (10.2 %) 35–40, 6 (3.8 %) up to 20, two of the women (1.3 %) were older than 40 years of age. In accordance with the data obtained in our study, peri-anal diseases were more common in older women of the age ranges of 30-35 and 35-40, and older than 40. The median age difference between the healthy women and those suffering from peri-anal diseases is 1.3 years. OR 1.52 (95 % CI 0.933 to 2.483), p=0.092.

Nationality. Out of the 280 women included in the study, those of the Lithuanian nationality 179 (63.9%) comprised the largest part, 42 (15.0%) women were of Russian nationality, 53 (18.9%) women were Polish, six women (2.1%) were representatives of other nationalities.

Marital status. Out of the 280 women included in the study, 188 (67.1%) women were married, 27 women (9.6%) were single, 37 (13.2%) divorced, 28 (10%) were

living in partnership. Of all women from Group II, i.e. those suffering from hemorrhoids, 96 (78.0%), were married, 14 (11.4%) were single, 9.8 divorced, one (0.8%) was living in partnership. In Group I, 92 (58.6%) of the healthy women were married, 13 (8.3%) were single, 25 (15.9%) were divorced, 27 (17.2) lived in partnership (Figure 5).

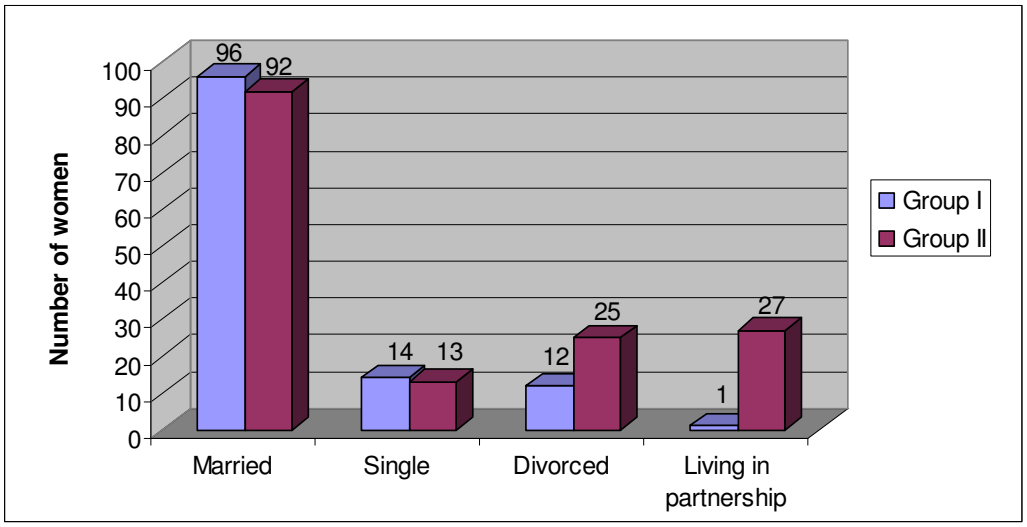


Figure 5. Distribution of women by marital status

Education. The larger part of women with the higher (University) education, i.e. 81 (65.9%) were found in Group I, while in Group II, there were 61 (38.9%) women who had attained higher education (Table 3).

Table 3. Distribution of women by education

Education	All women		Group I		Group II	
	n	%	n	%	n	%
Primary	1	0.4	0	0.0	1	0.6
Incomplete secondary	10	3.6	0	0.0	10	6.4
Secondary	22	7.9	4	3.3	18	11.5
Spec. secondary	33	11.8	11	8.9	22	14.0
Incomplete higher (University)	72	25.7	27	22.0	45	28.7
Higher (University)	142	50.7	81	65.9	61	38.9
	280	100.0	123	100.0	157	100.0

Domestic and working conditions, physical activity. The number of urban and rural women suffering from hemorrhoids did not show any statistically significant difference from the healthy women residing in urban and rural areas. Overall, 87.8% of urban pregnant women were found in Group I and 80.3% in Group II, while those living in rural areas showed a distribution of 12.2% and 19.7% accordingly.

Also, no difference was detected between the two groups of women in terms of their residential place, i.e. the apartment, dormitory or a family house. Group I comprised 77.2% of the subjects who lived in an apartment, 5.7% - in a dormitory, 17.1% - in a family house, while Group II - 75.2%, 6.4%, 18.5%, respectively. Peri-anal pathology was more common in women with higher income: 21.1% in Group I and 10.2% in Group II. The incidence of peri-anal diseases was higher in women who lived in better conditions: Group I comprised 87.0%, Group II - 71.2% ($p < 0.01$). The pregnant women belonging to Group II (healthy) were more physically active - 31.8% rather than the women of Group I, i.e. only 18%.

More women (87.8%) of Group I were involved in mental work rather than those of Group II (77.7%) (OR 1.99 (95% CI (1.03 - 3.85)). Group II comprised a significantly larger number of women employed in physical labour (21.7%) and those doing jobs that require standing (19.1%) ($p<0.05$), while in Group I - mental (87.8%) and sedentary jobs (87.0%).

We evaluated the impact of the psychophysiological factors (stress) experienced by women on the occurrence of peri-anal diseases during pregnancy, yet we did not obtain any statistically reliable results: 69.1% of women in Group I and 61.8% of women of Group II indicated they were experiencing stress.

Addictions. The study of pregnant women did not show any statistically significant difference between pregnant women's bad habits (smoking and alcohol consumption) and the occurance of peri-anal diseases during pregnancy and after childbirth. The number of smokers in Group I is higher (23.6%) than in Group II (15.9%), but the difference was not statistically significant ($p = 0.11$). The difference between those who used alcohol during pregnancy in Group I and in Group II (16.3% and 25.4%, respectively) was statistically not significant ($p = 0.07$).

Heredity factors. A very significant difference between pregnant women of Groups I and II was observed in evaluating the impact of heredity factors on the occurrence of peri-anal pathology during pregnancy and after childbirth. Out of 280 pregnant women under the study, 179 (63.9%) refer to peri-anal diseases suffered by their family members. The most commonly mentioned family member was the mother who either was suffering or had a past history of a peri-anal disease (hemorrhoids, peri-anal fissure) - 144 out of 179 subjects: in Group I - 97 of 123 (78.7%) and in Group II - 82 out of 157 (52.2%); OR 3.41 (95% CI 2.0 - 5.8), $p<0.001$.

Peri-anal diseases based on anamnesis/past history data. A very significant, statistically relevant difference between pregnant women of Groups I and II was identified in assessing their peri-anal diseases during their former pregnancy and delivery. 56 (20.0%) of pregnant women out of 280 involved in the study refer to hemorrhoids suffered before their pregnancy, i.e. 54 women (43.9%) in Group I and 2 women (1.3%) in Group II; OR 60.652 (95% CI 14.377 - 255.881), $p<0.001$.

Peri-anal diseases and their symptoms in previous pregnancies. Among 280 pregnant women involved in the study, 35.0% of women indicated complaints related to peri-anal disease during their previous pregnancy: 59.3% of women (more than half) in Group I, 15.9% of women (i.e. about one-sixth) in Group II. The difference between groups is huge and statistically significant ($p <0.001$). Almost all the women of Group I claimed having had had more than one complaint: 29 women out of 73 (59.3%) indicated four symptoms (hemorrhoids, constipation, slight peri-anal bleeding, peri-anal nodes), 27 women - two symptoms (constipation and hemorrhoids) 11 women - three symptoms (hemorrhoids, constipation and peri-anal nodes), one woman - only hemorrhoids, 5 women - only constipation. In Group II only one or two symptoms were more common: out of 25 (15.9%) women, 4 of women indicated hemorrhoids, 14 - constipation, 7 - hemorrhoids and constipation.

Gynecological anamnesis

Features of the menstrual cycle:

First menstrual cycle. The first menstrual cycle in pregnant women of Group I started slightly earlier than that in women of Group II (0.3 years). The difference is neither high - 12.6 years and 12.9 years, nor it is statistically significant (p> 0.05) (Table 4).

Table 4. The start of the menstrual cycle

	All women	Group I	Group II
Mean	12.8	12.6	12.9
SD	0.8	0.7	0.8
Min	11	11	11
Max	15	14	15

II > I, p>0.05

The duration of menstrual bleeding. The menstrual bleeding of women in Group I was longer than that of women in Group II: the mean duration of menstrual bleeding in women of Group I was 4.7 days (SD = 1.3; min-max = 3-8), in women of Group II - 4.4 days (SD = 1 0; min-max = 3-9). This indicates a slight, statistically insignificant difference (p> 0.05).

The duration of the menstrual cycle in the groups was statistically unreliable – in Group II the menstrual cycle was shorter on average for approximately 2 days: the average menstrual cycle of Group II was 30.4 days (SD = 4.7; Min-Max = 18-50) while in Group I – 32.5 days (SD = 5.6; Min-Max = 20-50). **Menstrual regularity.** The majority of women in Group II had regular monthly (65.0%) while in Group I a regular monthly was observed in 54.7% of pregnant women under the study. The difference by $\chi 2$ test is insignificant (p> 0.05). **Menstrual flow**. In Group II the largest part of the investigated women indicated not heavy menstrual flow (66.9%), while in Group I the majority of women described their menstrual flow as average (52.3%). The difference is statistically not significant (p> 0.05, by $\chi 2$ test).

Characteristics of previous pregnancies

Number of pregnancies. In Group I, 82 (66.7%) of the women had repeated pregnancies, while in Group II – 74 (47.1%). The difference is statistically significant ($p < 0.01$, according to the criterion $\chi 2$, $p = 0.0011$). In Group I, 41 (33.3 %) of women were pregnant for the first time, while in Group II – 83 (52.9 %) (Figure 6).

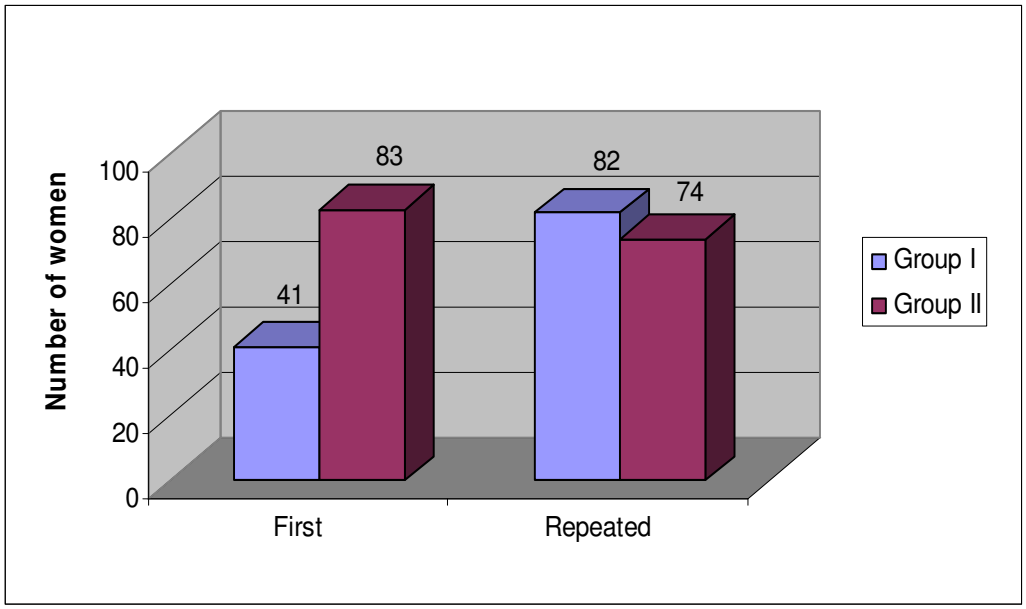


Figure 6. Number of pregnancies in women in the study

The outcomes of previous pregnancies. The greater part of women with peri-anal diseases in both the groups (Group I and Group II) in the past had natural vaginal delivery without caesarean section or any instrumental (vacuum extraction and forceps) intervention.The outcomes of previous pregnancies in women of both groups are shown in Table 5.

Table 5. Outcomes of previous pregnancies of women of both the groups

Outcome of the pregnancy	All the women	Group I	Group II
Vaginal delivery	128	68	60
Caesarian section	23	12	11
Miscarriage	33	18	15
Termination of pregnancy	19	10	9
Vacuum extraction	0	0	0
Forceps	0	0	0

Characteristics of previous deliveries. Of the 280 pregnant women 151 (80 in Group I, 71 in Group II) gave birth not for the first time.

Injuries of soft birth canals and operating intervention during the previous deliveries. In Group I of 80 women with first childbirth 63 had injuries in the past (78.6%), in Group II of the 71 women giving repeated childbirth, 41 had injuries in the past (57.7%), OR 2.48 (95% CI 1.22–5.03), p<0.05 (Table 6).

Table 6. Injuries of soft birth canals in women during previous deliveries

Injuries of soft birth canals during previous deliveries	Group I	Group II
Perineal laceration	15	3
Perineal laceration and tear of other structures (vagina, cervix)	22	7
Perineal cut	6	20
Perineal cut and vaginal and (or) cervical tear	2	6
Perineal tear and cut	6	1
Tear and cut in the perineum and other structures	7	3
Vaginal and (or) cervical tear	5	1
Number of women	63	41

Our data indicate that the pregnant women with the injured perineum (perineal tear and cut) during previous deliveries were more likely to suffer from peri-anal diseases. Perineal tear by anamnesis data: OR 6.996 (95% CI 3.629-13.486), p <0.001.

Birthweight of previous newborns. Following the findings obtained from our research, the birthweight of previous newborns of women of Group I was bigger rather than those delivered by women of Group II (Table 7). OR 0.190 (95% CI 0.078 - 0.465), p <0.001.

Table 7. Largest birthweight of a previous newborn

	All the pregnant women	Group I	Group II
N	151	80	71
Average	3547.3	3712.1	3364.0
Min	1870.0	2800.0	1870.0
Max	5000.0	5000.0	4700.0
SD	504.3	451.1	499.8

$p<0.001$

The diet during the above mentioned pregnancy

The analysis of eating habits of women involved in the study revealed their dietary regime, the criteria according to which women chose foods as well as some of their food consumption patterns.

Dietary patterns. We found that pregnant women of Group I had three meals a day (64.2% subjects) more often than those of Group II, also a significantly higher proportion of women in Group II had four meals per day (OR 1.82 (95% CI 1.10 - 3.02), $p <0.01$.

The regularity of meals in both groups of women did not differ, but 87% of women stated that they ate irregularly, 96% of women ate in the evenings.

Almost all pregnant women in both groups indicated having snacks between main meals (98.5% women).

A significantly higher proportion of women in Group II had hot meals more often rather than women in Group I ($p <0.01$, Fisher's exact test).

About 30 percent of all the pregnant women defined their diet as not wholesome (30.9% of the pregnant women in Group I and 28.7% - in Group II). The largest part of all the pregnant women assessed their diet as normal (85.4% in Group I and 79.0% in Group II).

The main criteria according to which women chose foods were as follows: Group I - by the need for a special diet (65% of women) and taste (59.3% women), according to the effect on health - only 32.5% of pregnant women, and the majority women of

Group II chose the food according to its effect on health - 43.9% of women. The data are statistically significant ($p < 0.001$).

A variety of foods. The assessment of a variety of foods the pregnant women consumed showed that both groups of women ate meat almost equally (meat was consumed every day by 46.3% of women in Group I and 41.4% of women in Group II, thus a statistical reliability was not observed, $p = 0.17$). Although, if the data were rearranged, i.e. those who consumed meat and its products every day and 3-5 times a week were integrated into one group and compared with pregnant women – rare meat consumers, the difference would be slightly bigger, yet still unreliable, $p = 0.06$ (87.0% of women in Group I and 78.3% of women in Group II consumed meat on a daily basis and 3-5 times a week, while those who ate meat rarely comprised 13.0% of women in Group I and 21.7% - in Group II). We found no statistically significant difference in the consumption of flour products: every day and 3-5 times a week flour products were consumed by 89.4% of women in Group I, 86.0% - in Group II, flour products were rarely consumed by 10.6% of women in Group I and 14.0 % - in Group II ($p = 0.15$). The evaluation of milk consumption in both groups of pregnant women showed a statistically significant difference: a larger part of women (46.5%) in Group II consumed milk daily compared to those in Group I where only 13.8% ($p < 0.001$) of women were consuming milk on a daily basis. Statistically a highly significant difference was found when assessing the consumption of grain products in both groups of women: a much higher proportion of women (68.7%) in Group II compared to only 39. 0% of women in Group I consumed grain products every day or 3-5 times a week, i.e., almost two times less ($p < 0.001$). We found no significant statistical confidence in women in terms of eggs consumption: 74.8% of pregnant women of Group I and 75.8% of women in group II ate eggs every day or 3-5 times a week ($p = 0.64$).

Fish consumption in both groups showed quite different results: all the women in Group I consumed fish daily while 22.0% of the women 3-5 times a week, there were no women who ate fish, 37.6 % of women in Group II ate fish daily or 3-5 times a week while 12.7% of women in this group did not eat fish. Therefore, these data are difficult to compare. A highly significant statistically confident difference was found when assessing fruit and vegetable consumption in both groups of women: these products were eaten often (i.e. several times a day, every day, 3-5 times a week) by

69.1% of women in Group I and 83.4% of the tested pregnant women in Group II, while rare consumption of fruits and vegetables (i.e. 1-2 times a week) was found in 30.9% of women in Group I and 16.6% of tested pregnant women in Group II (which is almost twice less), OR 2.25 (95% CI 1,28 - 3.98), p <0.001.

When considering the results of our study, we conclude that pregnant women with peri-anal diseases suffered from an unbalanced diet, as most of them had three meals a day, failed to keep dietary regime (irregular meals, meals in the evening, a snack between main meals), gave preference to taste and diet fads, rather than the effects of food on health, consumed too little of milk and grain products, or fruits and vegetables.

Fluid consumption patterns. The assessment of fluid intake in both groups of the women showed statistically significant results. In Group I, even 98.4% of pregnant women drank less than 2 liters of liquids per day and only 1.6% - more than 2 liters per day while in Group II - 89.8 and 10.2% of the pregnant women – respectively. OR 6.87 (95% CI 1.55 - 30.53), p <0.01.

Constipation. Our results showed that, of all the 280 women, 45.7% of pregnant women suffered from constipation. Constipation during pregnancy was experienced by even 87.0% pregnant women in Group I and only 13.4% of pregnant women in Group II (Table 8). OR 40.381 (95% CI 20.294 - 80.349), p <0.001.

Table 8. Constipation in the pregnant women

Constipation	All the women		Group I		Group II	
	n	%	n	%	n	%
Suffered	128	45.7	107	87.0	21	13.4
Did not suffer	152	54.3	16	13.0	136	86.6
	280	100.0	123	100.0	157	100.0

Most pregnant women (in both groups) encountered this problem in the third trimester of pregnancy (91.4% of all the subjects) and only 8.6% of the women – in the first trimester. The difference is very significant, p <0.001.

Our study revealed that pregnant women had a past history of constipation (before pregnancy and during previous pregnancies): even 57.7% of pregnant women in Group I suffered from constipation in the past, while in Group II - only 13.38% subjects. The difference is highly significant (OR 8.84 (95% CI 4.94 - 15.86), p <0.001.

Constipation identification criteria. Constipation in pregnant women was assessed on the basis of Rome III criteria: defecation less than 3 times a week, straining during defecation, hard stools, anorectal obstruction during defecation, sensation of incomplete evacuation, manual manoeuvring required to defecate (at least two symptoms within 3 months must be experienced).

Overall, 21 pregnant women did not meet the above mentioned criteria for constipation, because they suffered from only one symptom (defecation less than 3 times per week). Of all the 128 pregnant women with constipation history, 25% of women identified two criteria for constipation (defecation less than three times a week and hard stools), 75% of women indicated three or more criteria for constipation.

Therefore, the evaluation of our results leads to the conclusion that constipation is one of the peri-anal disease risk factors for pregnant women.

Varicosity of superficial veins in pregnancy

Of all the 280 women under investigation, only 6 (2.1%) were diagnosed with varicose veins, so no statistically reliable results were obtained.

Characteristics of the current pregnancy

Diseases suffered during pregnancy. 57.7% of the pregnant women in Group I reported past history of the diseases suffered during pregnancy, i.e. anemia - by 24.4% of women, gynecological pathology (colpitis) – by 21.1%. In Group II, 51.6% of pregnant women reported diseases suffered during pregnancy, of which 18.5% - anemia, 19.1% - gynecological pathology (colpitis). However, the statistical analysis did not show any reliable results (p = 0.31).

Characteristics of the current delivery

The number of births. Of all the 280 women under the study, the greater part of the women in Group I were repeatedly giving a birth - 80 (65.0%), while there were 71 (45.2%) of women giving repeated birth in Group II. First childbirth in Group I had 43 (35.0%) women, in Group II – 86 (54.8%) women. The difference is statistically significant ($p<0.001$ by $\chi 2$ criterion) OR 2.254 (95% CI 1.386 - 3.664), $p <0.001$ (Figure 7).

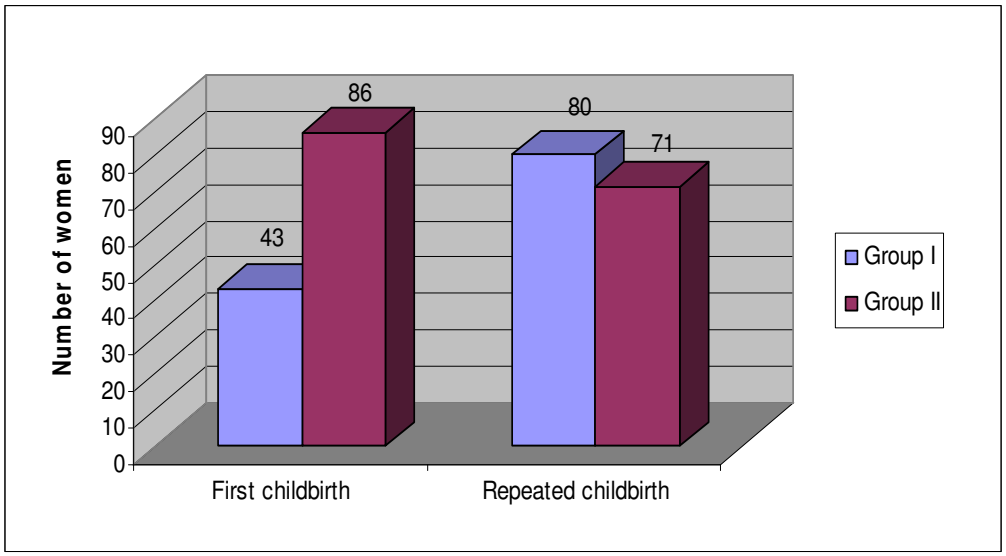


Figure 7. Number of childbirths

Mode of delivery. Our results show that the largest part of women in both groups gave birth by natural childbirth canals: in Group I - 75.6%, in group II - 72.0% of women. Childbirth occurrence via caesarean section was observed in 19.5% and 28.0% of the women, OR 1.61 (95% CI 0.91 - 2.83), $p = 0.10$. All the women involved in our study were performed emergency cesarean section during labour. In all the women of Group I, due to weakness of strain, the delivery was completed by forceps and vacuum extraction (4.9%) while in Group II, forceps and vacuum extraction during delivery was not necessary ($p <0.01$ by Fisher's test) (Table 9). The indications for the emergency caesarean section in Group I and Group II were as follows: Group I - fetal hypoxia, disproportion of the fetal head and the female pelvis, irregular position of the fetal head; Group II: fetal hypoxia, disproportion of the fetal head and the female pelvis, irregular position of the fetal head, placental detachment.

Seven women of Group I and three women of Group II were operated on for disproportion of the fetal head and the female pelvis, full cervical dilatation. The indications to perform elective caesarean section were as follows: breech presentation, placental presentation, scar in the uterus after caesarean section, childbirth canal is not ready, scar in the uterus after two caesarean sections, scar in the uterus after a caesarean section and after the former uterine myoma surgery.

Table 9. Mode of delivery

Mode of delivery	All the women		Group I		Group II	
	n	%	n	%	n	%
Vaginal delivery	206	73.6	93	75.6	113	72.0
Elective caesarian section	31	11.1	9	7.3	22	14.0
Emergency caesarian section	37	13.2	15	12.2	22	14.0
Vacuum extraction	2	0.7	2	1.6	0	0.0
Forceps	4	1.4	4	3.3	0	0.0
	280	100.0	123	100.0	157	100.0

The childbirth process (via natural childbirth canal). The results calculated on the basis of 212 women who gave birth via natural childbirth canals (68 cases of cesarean section were not taken into count). Our data show that childbirth process was spontaneous in women of both groups (Group I - 97.0%, Group II - 100.0%). Labour was induced (by amniotomy) in 2.0% of women from Group I, and labour was stimulated (by intravenous drip infusion of oxytocin) for 1.0% of women. The study did not find any statistically significant results (Table 10).

Table 10. The childbirth process (via natural childbirth canal).

Childbirth process	All the women		Group I		Group II	
	n	%	n	%	n	%
Spontaneous	209	98.6	96	97.0	113	100.0
Induced	2	0.9	2	2.0	0	0.0
Stimulated	1	0.5	1	1.0	0	0.0
	212	100.0	99	100.0	113	100.0

Pathology of childbirth. A range of diverse pathological cases of childbirth were identified in pregnant women in Group I (31.7%) and in Group II (21.0%). The difference is statistically significant, $p < 0.05$ (Table 11).

Table 11. Cases of childbirth pathology

Childbirth pathology	Group I	Group II
Weak labour contractions/activity	7	0
Fast delivery	10	6
Fetal hypoxia	4	8
Disproportion of the head and the pelvis	7	10
Uncoordinated labour activity	8	6
Irregular position of the fetal head	4	2
Placental detachment	0	2
In Total	40	34

Duration of labour. We calculated the duration of labour of the women under examination in minutes (overall duration of labour, the duration of the first labour stage, fetal ejection period, duration of straining).

Overall duration of labour. Overall duration of labour can be calculated in two versions.

Variant One: women who gave childbirth via vaginal delivery canal and via an emergency caesarean section (212 and 37 women), yet no statistically significant difference between the two groups was determined ($p = 0.94$) (Table 12).

Table 12. Overall duration of labour (in minutes)

	All the women	Group I	Group II
N	249	114	135
Average	420.8	419.7	421.8
Min	28.0	28.0	30.0
Max	1080.0	1080.0	1080.0
SD	233.5	241.1	227.3

p=0.94

Variant Two: women (212) who gave childbirth only via the natural delivery canal, no statistically significant difference between the two groups was observed (p = 0.73) (Table 13).

Table 13. Overall duration of labour (in minutes)

	All the women	Group I	Group II
N	212	99	113
Average	431.1	425.9	435.6
Min	40.0	40.0	80.0
Max	955.0	955.0	900.0
SD	200.7	203.6	199.0

p=0.73

Also our study did not find any statistically significant difference in assessing the overall duration of labour in primiparous and multiparous women (Tables 14 and 15).

Table 14. Overall labour duration in primiparas (in minutes)

	All the women	Group I	Group II
N	88	31	57
Average	532.9	563.5	516.3
Min	100.0	140.0	100.0
Max	955.0	955.0	900.0
SD	198.6	191.5	202.0

p=0.28

Table 15. Overall labour duration in multiparas (in minutes)

	All the women	Group I	Group II
N	124	68	56
Average	358.8	363.2	353.5
Min	40.0	40.0	80.0
Max	840.0	840.0	773.0
SD	168.9	177.3	159.6

p=0.75

Duration of the first period of labour. The duration of the first period of labour was measured in all women of both groups with childbirth via the natural delivery canal or via an emergency caesarian secion (this figure involves only those women who underwent an emergency cesarean section for disproportion of fetal head and the female pelvis at full cervical dilatation, i.e., 212 and 10 women). We did not find any statistically significant results (Table 16).

Table 16. Duration of the first period of labour (in minutes)

	All the women	Group I	Group II
N	222	106	116
Mean	394.7	392.4	396.8
Min	20.0	20.0	50.0
Max	1020.0	1020.0	1020.0
SD	202.9	207.7	199.2

p=0.87

The duration of the first period of labour was assessed in women who gave childbirth via natural delivery canal (212 cases). However, in this case, we did not find statistically significant results either (Table 17).

Table 17. Duration of the first period of labour in vaginal delivery (in minutes)

	All the women	Group I	Group II
N	212	99	113
Mean	383.6	373.9	392.1
Min	20.0	20.0	50.0
Max	900.0	900.0	870.0
SD	195.1	195,6	195.0

p=0.50

Also, there was no statistically significant difference found in assessing primiparas and multiparas in terms of the duration of the first labour (Tables 18 and 19).

Table 18. Duration of the first period of labour in primiparas

	All the women	Group I	Group II
N	88	31	57
Mean	475.4	492.9	465.9
Min	60.0	105.0	60.0
Max	900.0	900.0	870.0
SD	197.7	190.8	202.3

p=0.54

Table 19. Duration of the first period of labour in multiparas

	All the women	Group I	Group II
N	124	68	56
Mean	318.5	319.7	317.0
Min	20.0	20.0	50.0
Max	810.0	810.0	720.0
SD	165.3	173.6	156.1

p=0.93

Duration of the second stage of labour in minutes (pushing stage). The calculation of the pushing stage duration in all women with natural delivery did not show any statistically significant results (Table 20).

The assessment of the duration of the second labour in primaparas and the duration of the second labour in multiparas did not show any statistically significant results (Tables 21 and 22).

Table 20. Duration of the pushing stage (in minutes)

	All the women	Group I	Group II
N	212	99	113
Mean	25.6	27.2	24.2
Min	1.0	1.0	1.0
Max	120.0	120.0	98.0
SD	18.3	20.9	15.6

p=0.24

Table 21. Duration of the pushing stage in primaparas (in minutes)

	All the women	Group I	Group II
N	88	31	57
Mean	33.3	40.8	29.2
Min	1.0	1.0	1.0
Max	120.0	120.0	98.0
SD	21.7	26.9	17.3

p=0.06

Table 22. Duration of the pushing stage in multiparas (in minutes)

	All the women	Group I	Group II
N	124	68	56
Mean	20.2	21.0	19.2
Min	5.0	5.0	5.0
Max	60.0	60.0	55.0
SD	12.9	13.7	11.8

p=0.43

Duration of straining during delivery. Statistically significant results were obtained when assessing the duration of straining (in both of the groups of women taken together as well as evaluating them separately, i.e. primiparas and multiparas) (Tables 23, 24, 25). Our study proved that the duration of straining lasting for 20 minutes and longer increases the risk of peri-anal diseases in women after childbirth. OR 0.067 (95 % CI 0.015–0,294), p<0.001.

Table 23. Mean duration of straining stage (in minutes)

	All the women	Group I	Group II
N	212	99	113
Mean	10.9	12.8	9.3
Min	2.0	2.0	3.0
Max	50.0	50.0	20.0
SD	6.2	7.9	3.5

p<0.001

Table 24. Mean duration of straining stage in primiparas (in minutes)

	All the women	Group I	Group II
N	88	31	57
Mean	13.4	20	10.5
Min	3.0	3.0	3.0
Max	50.0	50.0	20.0
SD	7.4	9.4	3.5

p<0.001

Table 25. Mean duration of straining stage in multiparas (in minutes)

	All the women	Group I	Group II
N	124	68	56
Mean	9.2	10.0	8.1
Min	2.0	2.0	5.0
Max	25.0	25.0	16.0
SD	4.4	5.2	3.1

p=0.01

Injuries of the integrity of the birth canal. In 212 women involved in groups I and II, the study identified the number of cases with perineal, cervical tears (degree of tears), vaginal tears and perineal cuts.

Perineal tear. Of all the 212 women, 20.8% of them were found with ruptured perineum during delivery: 27.3% in Group I, (9 cases in primiparas, 18 cases in multiparas), in Group II - 15.0% (6 cases in primiparas, 11 cases in multiparas). The difference is statistically reliable - $p < 0.05$ (by $\chi 2$ test).OR 2.316 (95% CI 1.197 - 4.482), $p = 0.013$.In group I, 24 women were diagnosed with first-degree perineal tear, three women – with second degree perineal tear; in Group II - 16 and 1 woman, respectively.

Cervical rupture. Of all the 212 subjects, 12.3% of women were diagnosed with cervical rupture: in Group I, 12.1% of women, in group II - 12.4% of women. Almost equal frequency was observed in both groups, thus no statistical reliability was found. First-degree tear is prevailing: in Group I, nine women were diagnosed with first-degree tear and three women - with second degree tear, in Group II - 12 and two subjects.

Vaginal rupture. Of all the 212 women, 10.9% were diagnosed with vaginal rupture: in group I - 13.1% of women, in group II - 8.8% of women. The difference is statistically insignificant.

Labia rupture. This category of injuries was the least common injury of birth canal integrity found in women of both the groups, i.e. 3.3% (2 cases in Group I, 5 – in the group of the healthy). The difference is statistically insignificant.

Incision of the perineum (perineotomy). Of all the 212 women, perineotomy during delivery was performed in 45.7% of the subjects: in Group I - 42 cases (42.4%), in Group II - 55 cases (48.7%). The difference was statistically insignificant. OR 0.962 (95% CI 0.585 - 1.580), $p = 0.877$.

Women‘s physical condition in pregnancy and after childbirth

Height. The mean height of pregnant women in Groups I and II was almost the same: the mean height of women in Group I was 167.6 cm, while in Group II - 167.0 cm (Table 26).

Table 26. Height of the women

	All the women	Group I	Group II
Mean	167.3	167.6	167.0
SD	5.8	5.9	5.8
Min	149.0	150.0	149.0
Max	185.0	185.0	180.0

Women's weight before pregnancy. The mean weight of the women of Group I was 68.4 kg, in Group II - 61.4 kg. The difference in weight between the two groups is considerably large. The data is statistically significant ($p < 0.001$) (Table 27).

Table 27. The weight of women before pregnancy

	All	Group I	Group II
Mean	64.4	68.4	61.4
SD	11.7	13.7	8.7
Min	40.0	47.0	40.0
Max	130.0	130.0	87.0

I>II, $p<0.001$

Body mass index (BMI). In both groups of pregnant women due to differences in the weight, a big difference in BMI was observed (in women of Group I the average BMI was 24.38, in women of Group II - 22.02), because BMI is a derivative indicator, related to the woman's weight. This anthropometric indicator was consistent with weight difference between the groups. A statistically highly reliable result was obtained ($p<0.001$) (Table 28). OR 4.190 (95% CI 2.291 - 7.665), $p < 0.001$.

Table 28. Mean BMI of the women involved in the study

	All the women	Group I	Group II
Mean	23.06	24.38	22.02
SD	4.00	4.79	2.86
Min	15.44	16.61	15.44
Max	43.48	43.48	31.64

$p<0.001$

There were 67 of 123 (54.4 %) normal weight women (BMI ≤ 24.99) found in Group I and 136 out of 157 (86.6 %) in Group II.

There were 43 of 123 (35.0 %) overweight women (BMI 25.0–29.99) found in Group I and 19 out of 157 (12.1 %) in Group II.

There were 13 out of 123 (10.6 %) of obese women (BMI > 30.0) in Group I and only two out of 157 (1.3 %) in Group II.

The difference is statistically insignificant: OR 3.9 (95 % CI 2.1–7.2), p<0.001 (Figure 8).

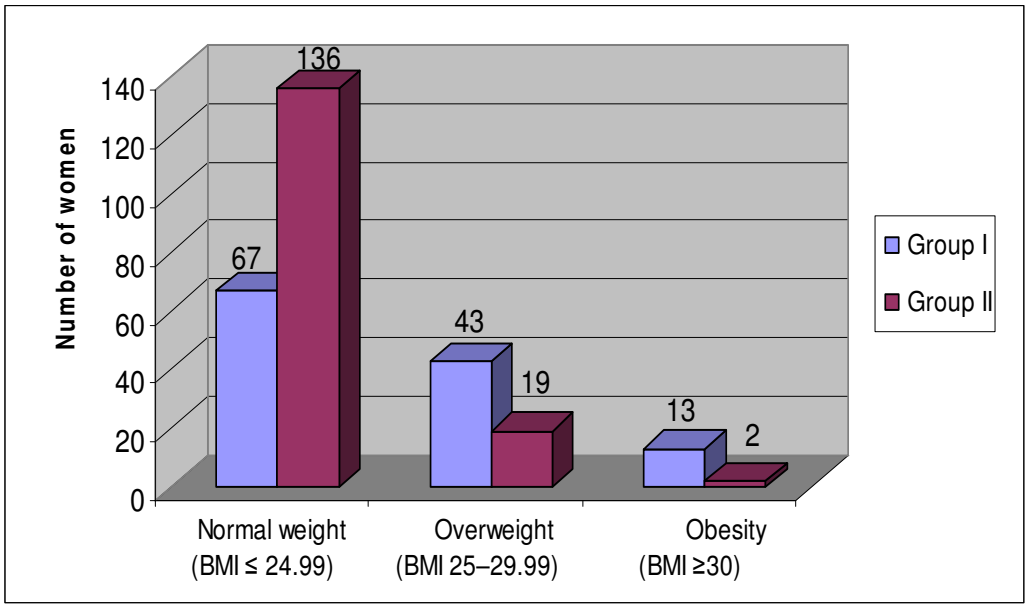


Figure 8. BMI of the women in the study

Weight gain during pregnancy. Pregnant women of Group I gained approximately 14.5 kg of excess weight, while those in Group II – on average 12.4 kg. This difference of weight gain observed during pregnancy in both groups is also statistically significant (p<0.001) (Table 29).

Table 29. Weight gain during pregnancy in women under the study

	All the women	Group I	Group II
Mean	77.8	82.9	73.8
SD	11.6	12.5	9.0
Min	45.0	58.0	45.0
Max	134.5	134.5	101.0

p<0.001

Overweight of family members. According to data of our study, overweight observed in family members did not impact the pregnant women involved in the study to suffer from peri-anal diseases during pregnancy. In both groups of women studied only 25.0% reported their family members being overweight (Group I - 26.8%, group II - 23.6%). Therefore, the difference between groups is very small, thus statistically insignificant ($p = 0.53$). In most cases, women under the study referred to overweight of their mothers - 64 out of 70 cases (94% women).

Physical condition of a newborn

Birthweight of newborns. Our study showed that women of Group I gave birth too larger weight babies than women in Group II (Table 30). This data is statistically significant ($p<0.001$). We have found that delivery of newborns with higher birthweight (> 3800 g) increases the risk of peri-anal disease after childbirth. OR 37.349 (95% CI 8.806 - 158.420), $p <0.001$.

Table 30. Birthweight of newborns of women in the study

	All the women	Group I	Group II
N	280	123	157
Mean	3568.1	3829.7	3363.1
Min	2100.0	2340.0	2100.0
Max	5340.0	5340.0	4130.0
SD	472.3	479.5	350.7

I>II, $p<0.001$

Comparing the birthweight of newborns in primiparous women and those after repeated pregnancy, we found a statistically significant difference between the two groups (newborns delivered by women of Group I weighed more than those of women in Group II) (Tables 31 and 32).

Table 31. Birthweight of newborns in primiparous women

	All the women	Group I	Group II
N	129	43	86
Mean	3550.6	3903.8	3374.0
Min	2100.0	3150.0	2100.0
Max	4900.0	4900.0	4130.0
SD	445.2	368.5	369.7

I>II, p<0.001

Table 32. Birthweight of newborns of women after repeated delivery

	All the women	Group I	Group II
N	151	80	71
Mean	3583.0	3789.8	3349.9
Min	2300.0	2340.0	2300.0
Max	5340.0	5340.0	3850.0
SD	495.4	527.5	328.3

I> II, p <0.001

Height of newborns. A statistically significant difference was observed between the height of newborns of the two groups of women (Table 33).

Table 33. Height of newborns of women of Groups I and II

	All the women	Group I	Group II
N	280	123	157
Mean	52.6	53.5	51.8
Min	45.0	46.0	45.0
Max	60.0	60.0	56.0
SD	2.4	2.7	1.9

I > II, p<0.001

Newborn head circumference. A statistically significant difference was also recorded in newborn head circumference between the two groups of women (Table 34).

Table 34. Newborn head circumference in women of groups I and II

	All the women	Group I	Group II
N	280	123	157
Mean	34.7	35.2	34.4
Min	31.0	32.0	31.0
Max	52.0	38.0	52.0
SD	1.8	1.4	2.0

I>II, $p<0.001$

Newborn chest circumference. A statistically significant difference was observed between the newborn chest circumference of two groups of women (Table 35).

Table 35. Newborn chest circumference of women of Groups I and II

	All the women	Group I	Group II
N	280	123	157
Mean	34.1	35.0	33.4
Min	27.0	30.0	27.0
Max	39.0	39.0	38.0
SD	1.8	1.7	1.6

I>II, $p<0.001$

Association between maternal and newborn physical conditions. Our study showed that women of Group I whose weight, BMI and weight gain during pregnancy were higher than those of Group II, gave birth to newborns with higher weight.

A woman's quality of life (according to SF-36) and peri-anal diseases.

The results and the differences in the quality of life of women in both groups are presented in Table 36.

Table 36. Quality of life (by SF-36) of women in Groups I and II.

Group	Statistical indicator	Physical activity	Limitations of activity due to physical problems	Limitations of activity due to emotional problems	Energy / vitality	Emotional condition	Social function	Pain	Overall health assessment
I	Mean	58.3	0.0	0.0	38.7	38.7	38.5	44.2	37.4
	SD	12.7	0.0	0.0	3.3	3.2	7.4	5.4	3.5
	Min	40	0.0	0.0	25.0	28.0	25	22.5	25
	Max	95	0.0	0.0	50.0	52.0	50	65	50
	p	**<0.001**	**<0.001**	**<0.001**	**<0.001**	**<0.001**	**<0.001**	**<0.001**	**<0.001**
II	Mean	86.6	68.5	65.4	55.9	55.9	76.0	78.8	48.2
	SD	17.7	46.1	46.2	12.8	13.0	26.7	25.4	8.5
	Min	40	0	0	35	36	25	32.5	25
	Max	100	100	100	90	96	100	100	70
	p	**<0.001**	**<0.001**	**<0.001**	**<0.001**	**<0.001**	**<0.001**	**<0.001**	**<0.001**

(p – by Student‘s t-test)

Multiple logistic regression

Table 37. Multiple logistic regression

Factor	OR	95 % PI		p
		Min	Max	
Newborn birthweight (> 3800 g)	**17.99**	**3.29**	**98.49**	**0.001**
Woman‘s age (≥ 30 years)	1.29	0.47	3.56	0.629
BMI 25	1.44	0.51	4.02	0.49
Repeated delivery	1.272	0.44	3.67	0.66
Perinenal tear	1.51	0.429	5.326	0.521
Constipation during pregnancy	**18.975**	**7.125**	**50.535**	**0.000**
Mode of delivery (vacuum extraction and forceps)	**99.49**	**9.833**	**1006.699**	**0.000**
Straining (≥ 20 min.)	**29.746**	**4.000**	**221.231**	**0.001**
Peri-anal diseases during previous pregnancy and delivery	**11.928**	**2.179**	**65.295**	**0.004**
Peri-anal diseases in the family	1.377	0.509	3.728	0.529

DISCUSSION OF THE FINDINGS OF THE STUDY

According to our study, peri-anal pathology was found in 43.9% of pregnant women. The most common peri-anal disease in pregnancy is hemorrhoids. Our study showed that the most common time of the occurrence of peri-anal disease is the third trimester of pregnancy and the early period after delivery. Overall 61% of pregnant women suffering from peri-anal diseases developed the clinical signs of the disease largely in the third trimester of pregnancy. It is associated with the most intense growth of the fetus in uterus, because a growing fetus is mechanically pressing blood vessels of the small pelvis and interferes with pelvic, rectal and peri-anal blood circulation of the woman. The second most common time of the occurrence of peri-anal diseases is the early period after delivery (1-2 days) - 34.2% of the women in the study. It is associated with the pelvic dysfunction after delivery (due to childbirth, as the main risk factor leading to woman's pelvic dysfunction, violation of peri-anal cushions integrity that causes constipation, peri-anal diseases).

The scientific literature also indicates the occurrence of considerably diverse peri-anal pathology prevalence in pregnancy, i.e. 23.7%, 27%, 41.52%. Scholarly data show that hemorrhoids diagnosis is usually found in women of reproductive age, especially during pregnancy and after childbirth. Various scientific studies show that 85% of pregnant women suffer from hemorrhoids in third trimester of pregnancy. The surveyed pregnant women claim that 38% of pregnant women suffer from hemorrhoids in the third trimester of pregnancy. However, there is opposite data obtained by researchers: according to the survey data, hemorrhoids was identified in 8% of women in the first trimester of pregnancy, according to data obtained from anoscopy of pregnant women - in the third trimester – in 9.1% of women in the study (thrombosis of the external hemorrhoids - in 7.9% and anal tear - in 1.2%). As described in the literature, based on data obtained from surveyed women and peri-anal examination, the prevalence of hemorrhoids after childbirth is also quite diverse, i.e. 60%, 53.3%, 34%, 25%.

We assessed the symptoms of peri-anal diseases identified during this pregnancy. In assessing the presence of peri-anal pain during pregnancy we found a statistically significant difference in both groups of women in the study: even 98.4% of women of Group I experienced pain in the peri-anus, while in the second group

this symptom was reported by only 23.6% of women (I> II, p <0.001). In assessing the nature of peri-anal pain, a dull pain was the most commonly reported (by 61.9% of women of Group I, 18.8% of women of Group II,) as well as a dull pain intensifying during defecation (58.7% of women of Group I, 5.1% of women of Group II), acute pain in the peri-anus was bothering only 4.9% of the first group of women (acute pain was not indicated by any of the tested women from Group II). The women who felt pain during defecation comprised 9.9% in Group I (this symptom was not indicated by women in Group II). The peri-anal bleeding during pregnancy was bothering 30.4% of all women of the two studied groups (of them 62.6% in Group I and 5.1% in Group II). All the women complained of light-red bleeding from the anus (dark red blood was not found in any of the women), the nature of bleeding by pregnant women was stated as follows: "the blood on the surface of the stool" and "the blood smears the paper". Other peri-anal symptoms identified during pregnancy were as follows: itching, burning, discomfort, painful swelling, mucus). Peri-anal itching was bothering 80.5% of women in Group I, 7.6% of women in Group II (p <0.001), burning sensation in the peri-anus - 79.7% and 7.6% of women respectively (p <0.001), peri-anal discomfort – in 89.4% and 17.2% of women (p <0.001), painful peri-anal nodes - 43.9% and 6.4% of women respectively (p <0.001), peri-anal mucus was indicated by 74.0% and 5.7% of women (p <0.001).

Our study revealed that hemorrhoids more commonly occurred in older women – in groups of women aged from 30 to 35 and from 35 to 40, and older than 40 years. These results of our study are consistent with the data obtained by other studies. It can be concluded that older age is one of all the coloproctologic pathology risk factors studied in all pregnant women during pregnancy and after delivery. The statistical mean of the age of all the participants of our study showed no significant difference from the statistical mean of postpartum women in Lithuania during this period. According to the research data, when the women's age increases, the friability and resistance of the connective tissue decreases, peri-anal cushions lose elasticity. It was found that as soon as a woman reaches 30 years of age, changes occur in the structures of the peri-anal canal function (proved microscopically) and the anal sphincter tone increases, resulting in the occurrence and progression of hemorrhoids. Scholarly literature claims that women older than 35 years are twice more likely to develop hemorrhoids during pregnancy and after childbirth.

Our research data shows that of all the pregnant women in the study, women of the Lithuanian nationality accounted for the largest part. This distribution of women in Vilnius city by nationality is close to the composition of the population in Lithuania. Therefore, the impact of diet and external factors on the relevant prenatal coloproctological pathology in pregnant women is not related to nationality, because all the women involved in the study lived under the same conditions.

Our findings showed that the incidence of peri-anal diseases were more common to married women. A higher incidence of peri-anal diseases during pregnancy and after childbirth identified in married women can be associated with their dietary habits before and during pregnancy. We believe that married couples tend to live a sedentary life as well as their family eating habits could encourage consumption of richer foods. These results of our study coincide with the data obtained by other researchers.

Our data indicate that mental and sedentary work increases the risk to suffer from hemorrhoids. The number of urban and rural women suffering from hemorrhoids did not show a statistically significant difference from healthy urban and rural females. We believe that this finding is related to the advance of technological evolution in the villages, i.e. women tend to be less involved in physical work.

We ranked the impact of psychophysiological factors (stress) on the occurrence of peri-anal diseases during pregnancy, yet we did not find any statistically reliable results. Nor did the available scholarly literature provide any data on the impact of stress on the occurrence of peri-anal diseases during pregnancy and after childbirth.

The studied pregnant women did not show any statistically significant difference between the harmful habits (smoking and alcohol consumption) during pregnancy and the occurrence of peri-anal diseases during pregnancy and after childbirth. A moderate consumption of alcohol and cigarette-smoking was found in both groups of pregnant women, thus no statistically significant differences between the groups were found. The literature also did not show any data on the associations between alcohol and smoking during pregnancy and the occurrence of peri-anal pathology after childbirth.

Our research results are consistent with the data available in scholarly literature in terms of the impact of heredity factors on the occurrence of peri-anal pathology during pregnancy and after childbirth. Some literary sources indicate that there is a

genetic predisposition to suffer from these peri-anal disorders. We conclude that hereditary factors (peri-anal diseases running in the family) is one of the risk factors of the occurrence of peri-anal diseases in pregnant women.

Our study showed that an important risk factor for peri-anal pathology in pregnant and postpartum women is peri-anal diseases suffered during previous pregnancy and childbirth. The scientific literature also indicates an important risk factor for hemorrhoids in pregnant women, i.e. hemorrhoids suffered prior to pregnancy (a risk of developing hemorrhoids during pregnancy for women who have suffered from hemorrhoids before pregnancy increases approximately 5 times).

Our study involved identification of menstrual cycle characteristics of the examined women. The fact that women of Group I had earlier menstrual periods than those of Group II, can be associated with hormonal changes. Our study findings show that menstrual cycle of women of Group I was longer, the menstrual flow was stronger and irregular in a greater proportion of women. This is related to anthropometric indicators of women suffering from peri-anal diseases: overweight or obesity. The mean weight of women of Group I (with peri-anal diseases) was 68.4 kg, while that of Group II (healthy women) was 61.4 kg. We found that the weight of women in Group I was higher than that of the women of Group II. After assessing the body mass index in the examined pregnant women we found that overweight (BMI from 25.0 to 29.99) was characteristic to 35.0% of pregnant women in Group I while only 12.1% of women belonging to Group II were overweight. The difference is statistically significant ($p < 0.001$), OR = 3.9 (95% CI = 2.1 to 7.2). Group I comprised 10.6% of obese women (BMI> 30.0), while Group II - only 1.3% of women. The scientific literature indicates that a female body's adipose tissue affects the menstrual cycle, i.e. overweight and obesity may trigger the menstrual cycle disorders.

According to our study, women with repeated pregnancy and childbirth were more likely to suffer from peri-anal diseases. These data of our study are consistent with the data available in scholarly works which state that peri-anal diseases were more commonly detected in women who were pregnant not for the first time, rather than in those pregnant for the first time, while the risk of developing hemorrhoids directly correlated with the number of pregnancies and childbirths. The studies show that 70% of women who were diagnosed with hemorrhoids, had a past history of one

or more pregnancies, while other authors claim that even over 85% of women with repeated pregnancies suffer from hemorrhoids. The changes that occur in the pregnant woman's peri-anal sphincter muscle tone and position of pelvic floor structures affect the changes in the function of the peri-anal cushions and cause peri-anal pathology. During each pregnancy the changes affecting the function of peri-anal cushions are increasingly more pronounced, so the occurrence of peri-anal diseases is more common in women with repeated pregnancy.

Our study showed that a greater part of women with peri-anal diseases in both the groups had a past history of delivery via natural childbirth canals rather than via the caesarean section and instrumental means (vacuum extraction and forceps). Childbirth via the natural paths enables the fetal head to slowly slide down the maternal delivery paths. The fetus confronts with the resistance of soft tissues, thus their integrity may be affected. However, when compared with caesarean section, which undoubtedly has more complications in comparison to developing a peri-anal disease, childbirth via the natural canals is encouraged. The fact that women with repeated delivery tend to suffer from peri-anal disease has been confirmed by the data of scientific literature. Peri-anal pathology during pregnancy in women with repeated deliveries is more common than that in women of the first childbirth. It was found out that childbirth increases the risk of hemorrhoids almost 8 times. Childbirth is considered to be the greatest factor among other factors for the occurrence of various pelvic floor dysfunctions (which causes the changes in the function of the peri-anal cushions, leading to the development of hemorrhoids). The studies show that about half of all women after childbirth experience the dysfunction of the pelvic floor, while the mentioned pathology occurs in only approximately 2% of cases of non-parous women. We conclude that repeated childbirth is one of the risk factors for peri-anal diseases in pregnant women.

Our data indicate that the pregnant women, who experienced injuries in the perineum (perineal tear and cut) during previous childbirth, were more likely to suffer from peri-anal diseases. Unfortunately, while reviewing literature, we did not detect any data on the past history of the injuries of soft birth canals during previous childbirth and their relationship with peri-anal pathology.

According to the findings of our study, the women of Group I in the past gave birth to newborns with higher birthweight than women in Group II. Unfortunately,

the literature did not provide any scientific data on the relationship of a previous newborn birthweight with peri-anal diseasers during pregnancy and after childbirth.

Also, our study examined the diet characteristics of the women involved in the study. According to our data, a woman's diet influenced the emergence of symptoms of peri-anal diseases during pregnancy and after childbirth. When evaluating the results of our study, we conclude that the diet of pregnant women suffering from peri-anal diseases is unbalanced, most of them eat three times a day and fail to keep regular diet (irregular meals, a meal in the evening, snacks between the main meals), choose the food by taste and by necessity of a special diet rather than by its impact on health, consume too little milk and cereal products or fruits and vegetables. According to scientific literature, one of the leading health-protecting lifestyle factors is a healthy diet. A wholesome and rationally balanced diet during pregnancy has a crucial impact on the health of both, the fetus and the mother, helps to reduce the risk of various diseases. A diet which is irrational and insufficient, too excessive and unbalanced is unfavourable to maternal and fetal bodies. Many women gain excessive weight during pregnancy or/and grow a large fetus, therefore, they are prone to more complications not only at childbirth but also after during the postpartum period. While the role of diet on health is undisputed, the studies carried out in the world indicate that people and pregnant women as part of them eat unhealthily which results in non-compliance with diet, inadequate and frequently insufficient bodily provision with necessary nutrients. The Lithuanian scientists who examined the diet of pregnant women obtained the data providing evidence that the diet is irrational and unbalanced, excessive amount of fats and sugars (monosaccharides) is consumed, maternal malnutrition alters the metabolism and the balance of the endocrine system, which can provoke a functional failure of the placenta, fetal hypoxia and retardation of fetus growth. The eating habits in Lithuania are hard to Lithuania adjust as they are quite stable and not easily altered. In fact, seeking to solve this problem, throughout the pregnancy period, gynecologists should be assisted by nutritionists and dieticians.

Constipation is another very important risk factor for peri-anal diseases in pregnancy. Therefore, while evaluating our results, we may conclude that constipation during pregnancy is one of the peri-anal disease risk factors during pregnancy and after childbirth. This evidence is confirmed by scholarly literature. Constipation may occur as a new complaint or may progress due to physiological

changes occurring in the woman's body during pregnancy. The scholars refer to frequency of constipation during pregnancy in different ways. According to the literature, up to 40% of pregnant women experience constipation. Other literary sources claim that about one-third of all pregnant women suffer from constipation in the third trimester of pregnancy. The association between constipation and hemorrhoids is proven by scientific research (defecation less than three times a week significantly increases the risk of hemorrhoids, $p = 0.0056$), this theory is widely applied in clinical practice of gastroenterologists and surgeons. Literature data shows that constipation during pregnancy increases the likelihood of hemorrhoids by six times. The number of childbirths also increases the risk of constipation, i.e. this problem is more likely to bother women with repeated childbirth as well as those whose previous pregnancy was completed by performing cesarean section.

We did not find any statistical association between varicose veins in pregnant women and peri-anal diseases. Nor do scholars provide evidence of any statistically reliable data on the relationship of surface varicose veins with peri-anal pathology during pregnancy and the postpartum period.

Our study results provide for the conclusion that the repeated childbirth/delivery is one of risk factors for peri-anal diseases in pregnant women. Our research results show that childbirth via the natural canals and instrumental mode of delivery (vacuum extraction and forceps) is a risk factor for peri-anal pathology after childbirth. The caesarean section does not increase the risk of developing peri-anal pathology after childbirth. This is supported by the scientific literature. According to the literature, a spontaneous delivery under assistance (using a vacuum extractor or obstetric forceps) increases the risk of hemorrhoids after giving childbirth, while delivery through a caesarean section reduces this risk. According to the scientific data, a woman's pelvic floor dysfunction is caused by the use of obstetrical delivery forceps, a longer second period of labour, a third-degree perineal tear and a high birth-weight of a newborn. It was also found that a pelvic floor dysfunction is impacted by a woman's age, the number of births, the mode of delivery and a newborn's birthweight. According to literature data, the number of childbirths, instrumental delivery (forceps and vacuum extraction), prolonged labour, a heavy-weight newborn are the pelvic floor dysfunction risk factors triggered by delivery.The literature indicates that the cut of the perineum during childbirth, longer duration of

the first stage of labour, higher gain of maternal BMI and weight during pregnancy weakens the pelvic floor muscles after childbirth.

Our research showed that the duration of straining has an impact on the occurrence of peri-anal pathology in women after childbirth (duration of straining of more than 20 minutes is a risk factor for peri-anal pathology in women after childbirth). Earlier studies showed that the risk factors that determine the occurrence of peri-anal diseases after childbirth are as follows: protracted, long delivery (more than 12 hrs), prolonged second stage of labour and the duration of straining. These external factors increase the risk of thrombosis of haemorrhoids nodes after childbirth.

Our scientific research has shown that a rupture of the perineum during childbirth impact the occurrence of peri-anal pathology after childbirth. The scientific literature showed a statistically significant relationship between the likelihood of developing hemorrhoids and the injury in the perineum during childbirth (due to both, a spontaneous perineal tear and episiotomy performed). The perineal tears during childbirth are as a risk factor for the occurrence of hemorrhoids after childbirth. Research data reveals that injuries of the perineum that occur during childbirth (both, the perineal tear and cut) promote the pelvic floor dysfunction after childbirth, episiotomy has a lower impact on the quality of life of women after childbirth rather than than a rupture of the perineum during childbirth.

In terms of height, the women from both the groups involved in the study showed no significant differences. It is scientifically proven that height is genetically fixed, integral and a strong hereditary anthropometric indicator, that is why these indicators were almost the same in both groups.

The weight difference between both groups of women under our examination was huge. The pregnant women in Group I gained an average of 14.5 kg, while those in the second group - an average of 12.4 kg. The data is statistically significant ($p<0.001$). It is associated with sedentary lifestyle, lack of physical activity, irrational, unbalanced diet (low consumption of fluids, too much of animal fat and low consumption of fruit and vegetable or fiber nutrients) observed in women suffering from peri-anal diseases. Therefore, based on our data, we conclude that BMI is one of the risk factors for peri-anal diseases during pregnancy and after childbirth. According to the literature, other researchers also found a correlation

between BMI and anal diseases during pregnancy (with the increasing BMI, increases the risk to develop peri-anal diseases not only during pregnancy but also after choldbirth). Undoubtedly, obesity has a negative impact on each woman's reproductive health. It is associated with an increased risk for a variety of pregnancy and childbirth complications and can be a cause of long-term negative health consequences for both, women and their children, i.e. obesity has a negative impact on the development of the fetus in the uterus or it may also be a cause of perinatal death, premature delivery or neonatal diseases.

Our research showed that women in Group I, with a higher weight and BMI as well as weight gain during pregnancy, gave birth to newborns of higher weight compared to women in Group II. The scientific literature also presents data on the association between maternal and neonatal physical conditions. Maternal obesity has a negative impact on their children's health by causing a variety of health problems not only during the neonatal period but also later.

Our scientific research has shown that the weight of a newborn impacts the woman's peri-anal pathology after childbirth (newborn birth weight, more than 3800g, is a risk factor for peri-anal pathology after childbirth). The scientific literature refers to a risk factor for peri-anal pathology in women after childbirth, i.e. a spontaneous delivery of a newborn with excess weight (4000 g or more). This factor increases the risk for thrombosis of external haemorrhoids nodes during this period. It was found that the incidence of peri-anal diseases (hemorrhoids and peri-anal tear) in women who gave birth to heavier weight newborns is higher.

The women's quality of life was examined by a generic (non-patented) SF-36 questionnaire (*Short Form 36 Medical Outcomes Study Questionnaire*), validated in Lithuania and applicable to assess the quality of life for treatment of various diseases. The questionnaire consists of 36 questions that reflect life in eight domains: physical activity, activity limitations due to physical ailments, emotional disturbances, energy/vitality, emotional state, social functionality, pain, general health assessment. Each woman's living area was evaluated from 0 to 100 points (higher scores reflect a better quality of life). Our study showed that peri-anal diseases during pregnancy have a negative impact on both the physical and the psychological and social health of the woman. Most likely it can be related to a larger weight, overweight and obesity found in women of Group I, symptoms caused by peri-anal diseases during

pregnancy and after childbirth. It was found that during pregnancy the symptoms of hemorrhoids progress, so many women experience a significant impact of their peri-anal pathology on their life and the quality of their life, especially in the third trimester of pregnancy and after childbirth.

CONCLUSIONS

1. The most common peri-anal diseases in pregnancy anf after childbirth are hemorrhoids and peri-anal fissure with frequency of 43.9% and the most common time of occurrence being the third trimester of pregnancy and the first or the second day after delivery.
2. Risk factors for peri-anal diseases in pregnancy, during delivery and after childbirth:
    - constipation during pregnancy, peri-anal diseases during previous pregnancy and childbirth;
    - instrumental mode of delivery (vacuum extraction of the fetus and forceps), straining duration (> 20 min);
    - indicators of a newborn's physical condition (> 3800 g newborn's birth weight).
3. Peri-anal diseases worsen the quality of life of both, pregnant and postpartum women.

RECOMMENDATIONS

1. General practitioners and obstetricians gynecologists, attending pregnant women in an outpatient chain must assess risk factors for coloproctologic pathology and warn the pregnant woman of the early symptoms of peri-anal diseases and after evaluating the pregnant woman's past history and complaints, related to anal pathology, to timely refer the pregnant woman to consult physicians-specialists (nutritionist, gastroenterologists, coloproctologists, etc.) seeking for guidance and timely treatment.

2. Further research should examine the measures and actions that can reduce the risk of peri-anal diseases during pregnancy and after childbirth.

PUBLICATIONS OF SCIENTIFIC ARTICLES AND PRESENTATIONS ON THE THEME OF THE DISSERTATION

SCIENTIFIC ARTICLES

1. D. Bužinskienė, G. Drąsutienė, T. Poškus. Nėščiųjų ir pagimdžiusiųjų hemorojus ir išangės įplėša: paplitimas, rizikos veiksniai bei įtaka moters gyvenimo kokybei (literatūros apžvalga). Lietuvos chirurgija 2014; 13 (2): 72–87.
2. Poskus T, Buzinskiene D, Drasutiene G, Samalavicius N, Barkus A, Barisauskiene A, Tutkuviene J, Sakalauskaite I, Drasutis J, Jasulaitis A, Jakaitiene A. Haemorrhoids and anal fissures during pregnancy and after childbirth: a prospective cohort study. British Journal of Obstetrics and Gynaecology, BJOG. 2014 May 9. doi: 10.1111/1471-0528.12838). IF 3.86.

SCIENTIFIC PRESENTATIONS ON THE THEME OF THE DISSERTATION

1. D. Buzinskiene, T. Poskus, G. Drasutiene, A. Akelyte, N. E. Samalavicius. Characteristics of patients with perianal disease of pregnancy: prospective cohort study (Presentation at the International Conference of the European Society of Coloproctology Annual Meeting, Copenhagen, 2011). Published in Colorectal Disease 2011; 13 (Suppl. 6): 50 (poster).
2. T. Poskus, D. Buzinskiene, G. Drasutiene, A.Akelyte, N. E. Samalavicius. Hemorrhoids in pregnancy and puerperium. Presentation at the World Colorectal Cancer Conference “Mayo Clinic Days in Vilnius 2012“, Vilnius, Lithuania, May 18–19, 2012 (podium).

3. T. Poskus, D. Buzinskiene, G. Drasutiene, A. Akelyte, N. E. Samalavicius. Positive family history and associated varicose veins are significant predictors of perianal disease of pregnancy: prospective cohort study. Presentation at the American Society of Colon and Rectal Surgeons Annual scientific meeting, San Antonio, USA, June 2-6, 2012 (poster).
4. N. E. Samalavicius, T. Poskus, D. Buzinskiene, G. Drasutiene, A. Akelyte. Positive family history and associated varicose veins are significant predictors of perianal disease of pregnancy: prospective cohort study.
   XXV International Society of University Colon and Rectal Surgeons Biennial Congress, Bologna, Italy, November 24-26, 2012 (podium).
5. D. Bužinskienė, G. Drąsutienė, T. Poškus. Išangės ligų paplitimo ir rizikos veiksnių įvertinimas nėštumo metu ir laikotarpyje po gimdymo.
   Mokslinės tezės Lietuvos akušerių ginekologų draugijos suvažiavime 2013 09 13–14. [Scientific theses publicised at the annual meeting of the Lithuanian Society of Obstetricians and Gynaecologists, September 13-14, 2013]

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SUMMARY IN LITHUANIAN

ĮVADAS

Ryškūs hormoniniai, anatominiai ir mažojo dubens kraujotakos pokyčiai nėštumo laikotarpiu turi tiesioginės įtakos tiesiosios žarnos ir išangės sričiai. Nėštumas ir gimdymas yra išangės ligas predisponuojantys veiksniai. Išorinio hemorojaus trombozė ir įplėša yra dvi dažniausios išangės patologijos priežastys nėštumo ir gimdymo laikotarpiu. Šios ligos ne tik sutrikdo normalią nėštumo, gimdymo ar laikotarpio po gimdymo eigą, bet taip pat gali būti moters blogos gyvenimo kokybės ateityje priežastis.

Tiesiosios žarnos ir išangės patologija išlieka aktuali ir šiandien. Šių ligų dažnis bendroje Vakarų populiacijoje svyruoja nuo 4 % iki 10 %. JAV per metus hemorojus diagnozuojamas bemaž vienam milijonui 45–65 metų amžiaus gyventojų. Vienas iš rizikos veiksnių susirgti hemorojumi yra vyresnis amžius. Net 50 % vyresnių nei 50 metų žmonių vargina hemorojaus sukeliami simptomai. Nors kai kurių autorių duomenimis ligos paplitimas tarp lyčių nesiskiria, tačiau epidemiologiniais tyrimais nustatyta, kad moterys serga dažniau – joms hemorojaus dažnis siekia 24,8 %. Šios ligos klinikinė raiška yra dažnesnė reprodukcinio amžiaus moterims, ypač nėščiosioms.

Lietuvoje apie nėščiųjų išangės patologiją skelbiama populiariojoje spaudoje, tačiau iki šiol nėra nė vieno mokslinio medicininio nėščiųjų tyrimo šia tema, nėra sergamumo išangės patologija Lietuvoje duomenų. Mūsų atliktas tyrimas yra pirmasis nėščiųjų ir gimdyvių išangės ligų perspektyvusis kohortinis tyrimas, kuriame moterys buvo stebėtos visą nėštumo laikotarpį ir pirmą mėnesį po gimdymo, nustatytas šių ligų dažnis ir rizikos veiksniai, įtaka moters gyvenimo kokybei.

DARBO TIKSLAS

Įvertinti nėščiųjų ir gimdyvių išangės ligas, dažnį, jų ryšį su moterų fizine ir sveikatos būkle, nėštumo ir gimdymo ypatumais bei naujagimio fizinės būklės rodikliais, išangės ligų rizikos veiksnius ir šių ligų įtaką moters gyvenimo kokybei.

DARBO UŽDAVINIAI

1. Nustatyti nėščiųjų ir gimdyvių išangės ligas, jų dažnį, atsiradimo laiką nėštumo metu ir laikotarpiu po gimdymo.
2. Įvertinti nėščiųjų, gimdyvių ir pagimdžiusių moterų išangės ligų rizikos veiksnius:
    - moterų gyvensenos, demografinių ir antropometrinių rodiklių sąsajas su išangės ligomis,
    - nėštumo ir gimdymo ypatumų (gimdymo būdo, trukmės) įtaką išangės ligų atsiradimui po gimdymo,
    - naujagimio antropometrinių rodiklių sąsajas su išangės ligomis po gimdymo.
3. Įvertinti nėščiųjų, gimdyvių išangės ligų įtaką moters gyvenimo kokybei.

DARBO AKTUALUMAS IR NAUJUMAS, MOKSLINĖ REIKŠMĖ

Iki šiol nėra atlikta nė vieno perspektyvaus mokslinio tyrimo, kuriame nėščiosios būtų stebėtos viso nėštumo laikotarpiu ir po gimdymo, nustatytas nėščiųjų ir gimdyvių išangės ligų dažnis ir rizikos veiksniai bei šių ligų įtaka moters gyvenimo kokybei. Nėra taip pat sisteminio akušerių ginekologų ir chirurgų koloproktologų bendradarbiavimo gydant nėščiąsias ir moteris po gimdymo nuo išangės ligų. Šis mokslinis darbas, kuriame moterys buvo stebėtos visą nėštumo laikotarpį ir pirmąjį mėnesį po gimdymo ir kuriame buvo nagrinėjami nėščiųjų ir gimdyvių išangės ligų rizikos veiksniai, dažnis, jų ryšys su naujagimio sveikata, pagimdžiusių moterų gyvenimo kokybe, yra aktualus, naujas ir papildantis Lietuvos ir kitų šalių mokslininkų, nagrinėjančių šią patologiją, tyrinėjimus. Jo rezultatai padės išsiaiškinti nėščiųjų ir gimdyvių išangės ligų rizikos veiksnius, numatyti jų profilaktikos priemones ir laiku skirti gydymą, pasitelkiant gydytojus specialistus – dietologus, gastroenterologus, proktologus, chirurgus, siekiant išvengti nėščiųjų išangės patologijos, kuri neabejotinai siejasi ne tik su moterų gyvenimo kokybe, bet ir su storosios žarnos patologija ateityje.

GINAMIEJI DISERTACIJOS TEIGINIAI

1. Išangės ligos – dažna patologija nėštumo ir gimdymo laikotarpiu, dažniausiai atsiranganti trečiuoju nėštumo trečdaliu ir pirmą ar antrą parą po gimdymo.

2. Vidurių užkietėjimas nėštumo laikotarpiu, iki nėštumo buvusios išangės ligos, gimdymo ypatumai (stangų laikotarpio trukmė, gimdymo būdas), naujagimio svoris yra tiesiogiai susiję su moterų išangės patologija po gimdymo.
3. Išangės ligos blogina nėščiosios ir gimdyvės gyvenimo kokybę.

TYRIMO METODIKA

Visi nėščiųjų tyrimai buvo atlikti Vilniaus universiteto Akušerijos ir ginekologijos klinikoje 2010–2011 metais. Buvo tiriamos 18–45 metų amžiaus nėščiosios, kurios kreipėsi į šeimos gydytoją ar gydytoją akušerį ginekologą nėštumo priežiūrai VšĮ Santariškių klinikų Centro filialo konsultacijų poliklinikoje, Vilniaus miesto Antakalnio poliklinikoje, bei moterys, kurios gimdė ir gydėsi VšĮ Santariškių klinikų Centro filiale Akušerijos ir ginekologijos skyriuje. Nėščiosios savo parašu patvirtino sutikimą dalyvauti moksliniame tyrime ir informuoto asmens sutikimo formą. Vilniaus regioninis biomedicininių tyrimų etikos komitetas davė leidimą atlikti šį tyrimą. Tyrimą atliko tyrėjai: gydytojas akušeris ginekologas ir gydytojas koloproktologas.

Dalyvavimo tyrime kriterijai buvo šie: pirmasis nėštumo trečdalis, pirmasis / pakartotinis nėštumas, vienvaisis / daugiavaisis nėštumas, nėščiosios sutikimas dalyvauti tyrime. Moterys buvo tirtos keturis kartus: pirmąjį nėštumo trečdalį (iki 12 nėšt. sav.), trečiąjį nėštumo trečdalį (27–40 ir > nėšt. sav.), pirmą antrą parą po gimdymo, pirmąjį mėnesį po gimdymo. Nėščiąsias, kurios skundėsi išangės ligų simptomais, konsultavo chirurgas koloproktologas.

Tyrimo metodika:

Apklausa (naudojama speciali unifikuota anketa ir proktologinės apklausos anketa)

Parengta anketa, kurioje buvo įvardyti svarbiausi nėščiųjų išangės ligų rizikos veiksniai: demografiniai rodikliai, socialiniai veiksniai, fizinis aktyvumas, antropometriniai rodikliai), paveldimumas (išangės ligos šeimoje), žalingi įpročiai, skysčių vartojimas nėštumo metu, vidurių užkietėjimas nėštumo metu, išangės ligos iki nėštumo ir praeityje buvusio nėštumo metu. Tirta nėščiųjų mityba, naudojantis standartizuota PSO mitybos tyrimo anketa, kuri modifikuota mūsų tiriamų nėščiųjų mitybai įvertinti. Medicininiai veiksniai vertinti pagal akušerinės ir ginekologinės anamnezės duomenis, persirgtas ligas, ligas tiriamo nėštumo metu.

Nėščiųjų vidurių užkietėjimas vertintas remiantis Romos III kriterijais: tuštinimasis rečiau nei 3 kartus per savaitę, stanginimasis tuštinantis, kietos išmatos, kliūtis išangėje tuštinantis, nevisiško pasituštinimo jausmas, rankų pagalba tuštinantis (turi būti patiriami bent du simptomai per 3 mėnesius).

Nėščiųjų išangės ligų įtaka moters gyvenimo kokybei vertinta pagal pasaulyje naudojamą standartizuotą generinį gyvenimo kokybės klausimyną (SF-36), adaptuotą Lietuvai. Jį sudaro 36 klausimai, kurie atspindi aštuonias žmogaus gyvenimo sritis: fizinį aktyvumą, veiklos apribojimą dėl fizinių ir emocinių problemų, skausmą, bendrą sveikatos vertinimą, energingumą ir gyvybingumą, socialinę funkciją bei emocinę būklę. Šios gyvenimo sritys yra jungiamos į dvi sveikatos kategorijas – fizinę ir psichinę. Fizinei sveikatai vertinti skirtos fizinio aktyvumo, veiklos apribojimo dėl fizinių problemų, skausmo, bendro sveikatos vertinimo sritys. Veiklos apribojimo dėl emocinės būklės, socialinių ryšių, energingumo ir gyvybingumo sritys skirtos psichinei sveikatai įvertinti. Atsakymai į klausimus buvo vertinti balais nuo 0 iki 100, naudojant skaičiavimo algoritmą. Kiekviena sritis buvo vertinta nuo 0 iki 100 balų (naudojant skaičiavimo algoritmą). Didesnis balų skaičius atspindėjo geresnę gyvenimo kokybę.

Sudaryta nėščiųjų proktologinės apklausos anketa, vertinant pagrindinius išangės ligų simptomus: skausmas, kraujavimas iš išangės, mazgai išangės srityje, vidurių užkietėjimas ir jo pobūdis.

Pirmą antrą parą po gimdymo buvo vertinti šie gimdymo duomenys: gimdymo būdas, gimdymo trukmė, tarpvietės pažeidimas gimdymo metu – kirpimas ar plyšimas bei naujagimių antropometriniai rodikliai: ūgis, svoris, galvos ir krūtinės apimtis (14.4 priedas).

<u>Gydytojo chirurgo koloproktologo konsultacija</u>

Nėščiajai pasiskundus išangės srities nemaloniais pojūčiais – skausmu, kraujavimu, darinio atsiradimu išangėje, gleivinės išvirtimu ar kitais simptomais storosios ir tiesiosios žarnos srityje, nėščioji buvo nedelsiant siunčiama chirurgo koloproktologo konsultacijos. Pacientės būdavo tiriamos joms gulint ant kairiojo šono, per kelius sulenkus kojas. Apžiūrima išangės sritis, ieškant išorinio hemorojaus ar jo trombozės. Po to pacientės buvo prašoma stangintis, ir vertinama, ar neišsiverčia tiesiosios žarnos gleivinė. Po to pacientės išeinamoji anga buvo tiriama pirštu, ieškant darinių ar skausmingumo taškų išangėje (digitalinis tyrimas per tiesiąją žarną). Galiausiai

buvo daroma anoskopija kietu apšviestu anoskopu tiek tiriant pacientę ramybėje, tiek stanginantis.

Antropometriniai tyrimai.

Nėščiųjų ūgis buvo matuojamas standartiniu vertikaliuoju ūgio matuokliu – mediniu stadiometru (matavimo tikslumas ± 5 mm), laikantis įprastinių kūno padėties reikalavimų. Kūno masė buvo matuojama medicininėmis Ferbenkso mechaninėmis svarstyklėmis 100 g tikslumu. Svarstyklės reguliariai kalibruotos standartiniais svoriais (4x10 kg ir 8x10 kg). Tiriamos nėščiosios buvo sveriamos ryte nevalgiusios, lengvai apsirengusios ir pasišlapinusios. Moterų kūno masės indeksas (KMI, Quetelet indeksas) apskaičiuotas pagal formulę: KMI = kūno masė (kg) / ūgis (m^2).

Statistinė duomenų analizė

Atliktas perspektyvusis kohortinis (stebėsenos) tyrimas. Skaitmeninė sukauptų duomenų bazė ir elementarūs statistiniai skaičiavimai atlikti naudojant standartinę *Microsoft Excel* programą. Sudėtingesni statistiniai skaičiavimai (statistinė duomenų bei medicininų dokumentų duomenų analizė) atlikti naudojant *SPSS Statistics* programą (21 versija). Statistinėje analizėje rezultatams vertinti naudoti šie rodikliai: kiekybinių požymių vidurkiai, standartiniai nuokrypiai (SD), vidurkių pasikliautiniai intervalai (PI), minimalios (Min) ir maksimalios (Max) reikšmės, kokybinių ar kategorinių požymių procentai. Rezultatai buvo vertinti skaitmenimis ir procentais.

Įvairių rodiklių skirtumai tarp grupių vertinti naudojant: Stjudento t kriterijų arba Mano–Vitnio–Vilkoksono kriterijų (angl. *Wilcoxon–Man–Whitney*) (kiekybiniams požymiams), χ^2 kriterijų arba Fišerio tikslųjį testą (kokybiniams požymiams). Skirtumai buvo vertinami kaip statistiškai reikšmingi, kai paklaidos tikimybė buvo $p<0,05$, labai reikšmingi, kai paklaidos tikimybė buvo $p<0,005$. Ryšys tarp rizikos veiksnio ir tiriamosios būklės rodiklio vertintas apskaičiuojant šansų santykį (OR) bei jo 95 procentų pasikliautinį intervalą (CI). Atlikta statistikai reikšmingų rodiklių vienanarė logistinė regresinė analizė. Siekiant nustatyti išangės ligų rizikos veiksnius, atlikta reikšmingų vienanarių rodiklių daugianarė logistinė regresinė analizė.

TYRIMO REZULTATAI

Moksliniame tyrime dalyvavo 280 moterų nėštumo metu ir laikotarpiu po gimdymo. Dalyvauti tyrime buvo pasiūlyta 443 nėščiosioms. Iš jų 20 moterų atsisakė dalyvauti

tyrime, 140 dalyvavo tik nėštumo laikotarpiu (t. y. pirmuoju ir trečiuoju nėštumo trečdaliu), 3 moterys neatitiko tyrimo kriterijų (buvo jaunesnės nei 18 metų amžiaus). Tyrimo pabaigoje buvo sudarytos dvi tirtųjų grupės: I grupė – sergančios išangės ligomis ir II (kontrolinė) grupė – sveikos moterys.

Nėščiųjų ir gimdyvių išangės ligos ir jų dažnis, atsiradimo laikas, išangės ligų simptomai

Iš 280 tirtų nėščiųjų 123 moterims (43,9 %) diagnozuota koloproktologinė patologija (I grupė), 157 moterys (56,1 %) buvo sveikos II grupė. Iš 123 nėščiųjų hemorojumi sirgo 114 (92,7 %), hemorojumi ir išangės įplėša sirgo 7 (5,7 %), išangės įplėša – 2 moterys (1,6 %). Iš 121 moters, kuriai buvo nustatytas hemorojus, 64 (52,9 %) moterų buvo diagnozuota hemorojaus trombozė. Kadangi tik išangės įplėša sirgusių moterų buvo labai nedaug, jos buvo prijungtos prie hemorojumi sirgusių moterų ir sudaryta koloproktologinę patologiją turinčių moterų grupė, t. y. 123 moterys (I grupė). 4 moterims buvo diagnozuotas išorinis, o I, II, III laipsnio vidinis hemorojus – atitinkamai 32 (26,4 %), 61 (50,4 %) ir 24 (19,8 %) moterims (2 lentelė). 6 moterims (4,9 %) buvo nustatyta lėtinė išangės įplėša, 3 (2,4 %) – ūminė išangės įplėša.

Dažniausias nėščiųjų ir gimdyvių išangės patologijos atsiradimo laikas – trečiasis nėštumo trečdalis ir pirma antra para po gimdymo: pirmąjį nėštumo trečdalį išangės patologija buvo nustatyta 2 (1,6 %) nėščiosioms, antrąjį, trečiąjį nėštumo trečdalį, pirmą – antrą parą ir pirmąjį mėnesį po gimdymo – atitinkamai 0 (0 %), 75 (61,0 %), 42 (34,2 %), 4 (3,2 %) moterų. Dažniausi tirtų moterų išangės ligų simptomai buvo skausmas, diskomfortas, niežulys, mazgai, deginimas, gleivės išangėje, kraujavimas iš išangės.

Nėščiųjų ir gimdyvių išangės ligų rizikos veiksniai

Gyvenimo anamnezė

Amžius. Tyrime dalyvavo 18–45 metų amžiaus nėščiosios. Jų amžiaus vidurkis – 28,7 metai (SD=5,4; Min–Max=16,4–45,1). Daugiausia buvo 25–30 metų moterų – 110 (39,3 %), 30–35 metų – 61 (21,8 %), 20–25 metų – 59 (21,1 %), 35–40 metų – 35 (12,5 %), iki 20 metų – 8 (2,9 %), vyresnių nei 40 metų – 7 (2,5 %).

Sergančiųjų hemorojumi (I grupė) amžiaus vidurkis – 29,6 metai (SD=5,5; Min–Max=18,8–45,1). Daugiausia buvo 25–30 metų moterų – 46 (37,4 %), 30–35 metų –

28 (22,8 %), 20–25 metų – 23 (18,7 %), 35–40 metų – 19 (15,4 %), vyresnių nei 40 metų – 5 (4,1 %), iki 20 metų 2 (1,6 %).

Sveikų tirtųjų (II grupė) amžiaus vidurkis buvo 28,3 metai (SD=5,2; Min–Max= 16,4–42,5). Daugiausia buvo 25–30 metų moterų – 64 (40,8 %), 20–25 metų – 36 (22,9 %), 30–35 metų – 33 (21,0 %), 35–40 metų – 16 (10,2 %), iki 20 metų – 6 (3,8 %), vyresnių nei 40 metų – 2 (1,3 %).

Mūsų atlikto tyrimo duomenimis, išangės ligomis dažniau sirgo vyresnio amžiaus moterys – 30–35 metų amžiaus ir 35–40 metų amžiaus grupėje bei vyresnės nei 40 metų. Sveikų ir sergančių išangės ligomis moterų amžiaus vidurkis skiriasi 1,3 metų. OR 1,52 (95 % CI 0,933–2,483), p=0,092.

Tautybė. Iš visų 280 tirtųjų didžiausią dalį sudarė lietuvių tautybės moterys – 179 (63,9 %), rusės – 42 (15,0 %), lenkės – 53 (18,9 %), kitų tautybių moterys – 6 (2,1 %).

Šeiminė padėtis. Iš 280 tirtų moterų 188 gyveno santuokoje (67,1 %), 27 moterys (9,6 %) buvo netekėjusios, 37 (13,2 %) išsiskyrusios, 28 (10 %) gyvenančios partnerystėje. Sergančių hemorojumi moterų grupėje 96 (78,0 %) buvo susituokusios, 14 (11,4 %) buvo netekėjusios, 9,8 išsiskyrusios, 1 (0,8 %) gyvenančios partnerystėje. Sveikų moterų grupėje 92 (58,6 %) buvo santuokoje, 13 (8,3 %) netekėjusios, 25 (15,9 %) išsiskyrusios, 27 (17,2) gyveno partnerystėje.

Išsilavinimas. Didesnė dalis aukštąjį (universitetinį) išsilavinimą turinčių tirtų moterų buvo I grupėje – 81 (65,9 %), II grupėje aukštąjį išsilavinimą turinčių buvo 61 (38,9 %).

Buities ir darbo sąlygos, fizinis aktyvumas. Mieste ir kaime gyvenančių hemorojumi sergančių moterų skaičius statistiškai reikšmingai nesiskyrė nuo sveikų miesto ir kaimo gyventojų. I grupėje mieste gyvenančių nėščiųjų buvo 87,8 %, II grupėje – 80,3 % Kaime gyvenančiųjų – atitinkamai 12,2 % ir 19,7 %. Taip pat nerasta skirtumo tarp abiejų grupių moterų, vertinant jų gyvenimą bute, bendrabutyje ar nuosavame name. I grupėje bute gyveno 77,2 % tirtųjų, bendrabutyje – 5,7 %, name – 17,1 % II grupėje – atitinkamai 75,2 %, 6,4 %, 18,5 %. Didesnes pajamas turinčios tirtosios moterys akivaizdžiai dažniau sirgo išangės patologija: I grupėje – 21,1 %, II grupėje – 10,2 %. Tirtosios moterys, kurios gyveno geresnėmis sąlygomis, dažniau sirgo išangės ligomis: I grupėje – 87,0 %, II grupėje – 71,2 % ($p<0,01$). Labiau fiziškai aktyvios buvo II grupės (sveikos) nėščiosios – 31,8 %, o I grupės – tik

18 %. Protinį darbą I grupės moterų dirbo daugiau (87,8 %) negu II grupės moterų (77,7 %) (OR 1,99 (95 % CI (1,03–3,85)). II grupėje patikimai didesnė dalis dirbančių fizinį darbą (21,7 %) ir stovimą darbą (19,1%) (p<0,05), o I grupėje – protinį (87,8 %) ir sėdimą darbą (87,0 %).

Mes vertinome patiriamų psichofiziologinių veiksnių (streso) įtaką išangės ligų atsiradimui nėštumo metu, tačiau statistiškai patikimų rezultatų neradome: I grupėje patiriamą stresą nurodė 69,1 % moterų, II grupėje – 61,8 % moterų.

Žalingi įpročiai. Iš mūsų tirtų nėščiųjų nerasta statistiškai patikimo skirtumo tarp nėščiųjų žalingų įpročių (rūkymo ir alkoholio vartojimo) ir išangės ligų atsiradimo nėštumo metu ir laikotarpiu po gimdymo. I grupėje rūkalių dalis yra didesnė (23,6 %) nei II grupėje (15,9 %), bet skirtumas statistiškai nepatikimas (p=0,11). Vartojusių alkoholį nėštumo metu moterų buvo 16,3 % I grupėje ir 25,4 % II grupėje. Skirtumas statistiškai nepatikimas (p=0,07).

Paveldimumo veiksniai. Labai reikšmingas skirtumas tarp I ir II grupės tirtų nėščiųjų nustatytas vertinant paveldimumo veiksnių įtaką išangės patologijos atsiradimui nėštumo metu ir laikotarpiu po gimdymo. Iš 280 tirtų nėščiųjų 179 (63,9 %) nurodo šeimos narių išangės ligas. Dažniausiai buvo minima mama, serganti ar praeityje sirgusi išangės liga (hemorojumi, išangės įplėša) – 144 iš 179 tirtųjų: I grupėje – 97 iš 123 (78,7 %), II grupėje – 82 iš 157 (52,2 %); OR 3,41 (95 % CI 2,0 – 5,8), p<0,001.

Išangės ligos anamnezės duomenimis. Labai reikšmingas, statistiškai patikimas skirtumas tarp I ir II grupės tirtų nėščiųjų nustatytas vertinant jų išangės ligas buvusio nėštumo ir gimdymo metu. Iš 280 tirtų nėščiųjų 56 (20,0 %) moterys nurodo iki nėštumo sirgusios hemorojumi. I grupėje – 54 moterys (43,9 %), II grupėje – 2 moterys (1,3 %); OR 60,652 (95 % CI 14,377 – 255,881), p<0,001.

Išangės ligos ir jų simptomai buvusių nėštumų metu. Iš visų tirtų 280 nėščiųjų 35,0 % moterų nurodė su išangės ligomis susijusius nusiskundimus buvusio nėštumo metu: I grupėje – 59,3 % moterų (t. y. daugiau kaip pusė), II grupėje – 15,9 % moterų (t. y. apie šeštadalis). Grupių skirtumas labai didelis ir statistiškai patikimas (p<0,001). I grupėje beveik visos tirtosios nurodė ne po vieną nusiskundimą: iš 73 (59,3 %) moterų 29 nurodė keturis simptomus (hemorojus, vidurių užkietėjimas, negausus kraujavimas iš išangės, mazgai išangėje), 27 moterys – du simptomus (hemorojus ir vidurių užkietėjimas), 11 moterų – tris simptomus (hemorojus, vidurių

užkietėjimas ir mazgai išangėje), 1 moteris – tik hemorojų, 5 moterys – tik vidurių užkietėjimą. II grupėje nėščiosios dažniau nurodė tik po vieną ar du simptomus: iš 25 moterų (15,9 %) moterų 4 nurodė hemorojų, 14 – vidurių užkietėjimą, 7 – hemorojų ir užkietėjimą.

Ginekologinė anamnezė

Mėnesinių ciklo ypatumai

Pirmosios mėnesinės. I grupės tirtų nėščiųjų mėnesinių pradžia kiek ankstesnė nei II grupės moterų (0,3 metais). Skirtumas neatrodo didelis – 12,6 metų ir 12,9 metų, jis nėra statistiškai reikšmingas ($p>0,05$).

Mėnesinių kraujavimo trukmė. I grupės moterų mėnesinės buvo ilgesnės nei II grupės moterų: I grupės moterų mėnesinių trukmės vidurkis buvo 4,7 dienos (SD=1,3; Min–Max=3–8), II grupės moterų – 4,4 dienos (SD=1,0; Min–Max=3–9). Tai rodo nedidelį, statistiškai nereikšmingą skirtumą ($p>0,05$).

Mėnesinių ciklo trukmė grupėse statistiškai taip pat nepatikimas – II grupėje mėnesinių ciklas buvo vidutiniškai trumpesnis maždaug 2 dienomis: II grupėje mėnesinių ciklo vidurkis buvo 30,4 dienos (SD=4,7; Min–Max=18–50), I grupėje – 32,5 dienos (SD=5,6; Min–Max=20–50).

Mėnesinių reguliarumas. II grupėje didesnės dalies moterų mėnesinės buvo reguliarios (65,0 %), o I grupėje reguliarias mėnesines turėjo 54,7 % tirtų nėščiųjų. Skirtumas nepatikimas ($p>0,05$, pagal χ^2 kriterijų).

Mėnesinių gausumas. II moterų grupėje didžiausios dalies tirtųjų mėnesinės negausios (66,9 %), o I grupėje didesnės dalies moterų mėnesinės vidutinio gausumo (52,3 %). Skirtumas nepatikimas ($p>0,05$, pagal χ^2 kriterijų).

Buvusių nėštumų ypatumai

Nėštumų skaičius. I grupėje 82 (66,7 %) moterų buvo ne pirmą kartą nėščios, o II grupėje tokių buvo 74 (47,1 %). Skirtumas statistiškai reikšmingas ($p<0,01$, pagal χ^2 kriterijų, $p=0,0011$) Pirmą kartą nėščios buvo I grupėje – 41 (33,3 %), II grupėje – 83 (52,9 %) moterų.

Praeityje buvusių nėštumų baigtys. Didesnė dalis tiek I, tiek II grupės moterų, sirgusių išangės ligomis, praeityje gimdė natūraliais gimdymo takais nei per cezario pjūvį ar instrumentiniu būdu (vakuumine ekstrakcija ir replėmis).

Buvusių gimdymų ypatumai. Iš 280 tirtų nėščiųjų ne pirmą kartą gimdė 151 moteris (iš jų 80 – I grupėje, 71 – II grupėje).

Minkštųjų gimdymo takų sužalojimai ir operacinės intervencijos praeityje buvusių gimdymų metu. I grupėje iš 80 ne pirmą kartą gimdančių 63 turėjo sužalojimų praeityje (78,6 %), II grupėje iš 71 pakartotinai gimdančios 41 turėjo sužalojimų praeityje (57,7 %), OR 2,48 (95 % CI 1,22–5,03), p<0,05.

Mūsų gauti duomenys rodo, kad tos nėščiosios, kurioms praeityje buvusio gimdymo metu buvo sužalota tarpvietė (tarpvietės plyšimas ir kirpimas), dažniau sirgo išangės ligomis. Tarpvietės plyšimas anamnezės duomenimis: OR 6,996 (95 % CI 3,629–13,486), p<0,001.

Praeityje gimusio naujagimio svoris. Mūsų atlikto mokslinio tyrimo duomenimis, I grupės moterys praeityje gimdė didesnio svorio naujagimį nei II grupės moterys OR 0,190 (95 % CI 0,078–0,465), p<0,001.

Mityba šio nėštumo metu

Pagal tirtų moterų mitybos įpročių analizę ažvelgėme jų mitybos režimą, kriterijus, pagal kuriuos moterys pasirinko maisto produktus, kai kurių maisto produktų vartojimo ypatumus.

Mitybos pobūdis. Nustatėme, kad I grupės tirtos nėščiosios dažniau valgė 3 kartus per dieną (64,2 % tirtųjų), II grupėje patikimai didesnė dalis moterų, kurios valgė 4 kartus per dieną (OR 1,82 (95 % CI 1,10–3,02), p<0,01. Abiejų moterų grupių valgymo reguliarumas nesiskyrė, tačiau 87 % moterų nurodė, kad valgė nereguliariai, 96 % moterų valgė vakarais. Beveik visos abiejų grupių nėščiosios teigė, kad užkandžiavo tarp pagrindinių valgymų (98,5 % moterų). II grupėje patikimai didesnė dalis dažniau valgė karštą maistą nei I grupėje (p<0,01, pagal Fišerio tikslųjį testą).

Apie 30 procentų visų tirtų nėščiųjų manė, kad jų mityba nėra visavertė (I grupėje – 30,9 %, II grupėje – 28,7 % nėščiųjų). Didžiausia dalis visų tirtųjų vertino savo mitybą kaip normalią (I grupėje – 85,4 %, II grupėje – 79,0 % nėščiųjų). Pagrindiniai kriterijai, pagal kuriuos moterys rinkosi maisto produktus, buvo šie: I grupėje – pagal specialios dietos būtinumą (65 % moterų) ir skonį (59,3 % moterų), pagal poveikį sveikatai – tik 32,5 % nėščiųjų, o II grupėje didžioji dalis tirtųjų maisto produktus rinkosi pagal poveikį sveikatai – 43,9 % moterų. Duomenys statistiškai patikimi (p<0,001).

Maisto produktų įvairovė. Vertindami nėščiųjų suvartotų maisto produktų įvairovę, nustatėme, kad abiejų grupių moterys mėsą valgė beveik vienodai (kasdien mėsą

valgė 46,3 % moterų I grupėje ir 41,4 % moterų II grupėje, todėl statistinio patikimumo negavome, p=0,17). Nors, jeigu kiek pergrupuotume duomenis – kasdien ir 3–5 kartus per savaitę valgiusias mėsą ir mėsos produktus sujungtume į vieną grupę ir palygintume su retai mėsą valgiusiomis nėščiosiomis, tai skirtumas kiek ryškesnis, bet vis tiek dar nepatikimas, p=0,06 (kasdien ir 3–5 kartus per savaitę mėsą valgė I grupėje – 87,0 %, II grupėje – 78,3 % moterų, retai mėsą valgė I grupėje – 13,0 %, II grupėje – 21, 7 % moterų). Neradome statistiškai patikimo miltinių produktų vartojimo skirtumo: kasdien ir 3–5 kartus per savaitę miltinius produktus vartojo I grupės 89,4 %, II grupės 86,0 % moterų, retai miltinius produktus vartojo I grupės 10,6 %, II grupės 14,0 % moterų (p=0,15). Vertinant pieno vartojimą, abiejose tirtų nėščiųjų grupėse nustatytas statistiškai patikimai reikšmingas skirtumas: II moterų grupėje daug didesnė dalis (46,5 %) nurodo, kad pieną vartoja kasdien, I grupėje – tik 13,8 % (p<0,001). Labai reikšmingas statistiškai patikimas skirtumas nustatytas vertinant grūdinių produktų vartojimą abiejose tirtų moterų grupėse: II moterų grupėje daug didesnė dalis nurodo, kad grūdinius produktus vartoja kasdien ir 3–5 kartus per savaitę (68,7 %), o I moterų grupėje – tik 39,0 % moterų, t. y. beveik du kartus mažiau (p<0,001).Reikšmingo statistinio patikimumo neradome tarp valgiusiųjų kiaušinius: kasdien ir 3–5 kartus per savaitę I grupėje valgė 74,8 % tirtų nėščiųjų, II grupėje – 75,8 % moterų (p=0,64). Žuvies vartojimas abiejose grupėse yra gana skirtingas: I grupės visos moterys valgė žuvį (kasdien ir 3–5 kartus per savaitę – 22,0 % tirtųjų, nevalgiusiųjų žuvies nebuvo), II grupėje kasdien ir 3–5 kartus per savaitę žuvį valgė 37,6 % moterų, 12,7 % moterų šioje grupėje žuvies nevalgė. Todėl šiuos duomenis sunku tarpusavyje palyginti. Labai reikšmingas statistiškai patikimas skirtumas nustatytas vertinant vaisių ir daržovių vartojimą abiejose tirtų moterų grupėse: dažnai minėtus produktus vartojo (t. y. kelis kartus per dieną, kasdien, 3–5 kartus per savaitę) I grupės 69,1 %, II grupės 83,4 % tirtų nėščiųjų, o retai vaisius ir daržoves vartojo (t. y. 1–2 kartus per savaitę) I grupės 30,9 %, II grupės 16,6 % tirtų nėščiųjų (tai yra beveik du kartus mažiau), OR 2,25 (95 % CI 1,28–3,98), p<0,001.

Skysčių vartojimo ypatumai. Vertinant skysčių vartojimą abiejose tirtų moterų grupėse, gautas statistiškai reikšmingas rezultatas. I grupėje net 98,4 % nėščiųjų skysčių išgerdavo mažiau nei 2 litrus per dieną, tik 1,6 % – daugiau nei 2 litrus per

dieną. II grupėje – atitinkamai 89,8 ir 10,2 % tirtų nėščiųjų. OR 6,87 (95 % CI 1,55–30,53), p< 0,01.

Vidurių užkietėjimas. Mūsų gauti rezultatai parodė, kad iš visų tirtų 280 moterų, vidurių užkietėjimas vargino net 45,7 % nėščiųjų. Vidurių užkietėjimą nėštumo laikotarpiu patyrė net 87,0 % I grupės nėščiųjų ir tik 13,4 % II grupės nėščiųjų OR 40,381 (95 % CI 20,294–80,349), p<0,001.

Daugumai nėščiųjų (abiejose grupėse) ši problema atsirado trečią nėštumo trečdalį (91,4 % visų tirtųjų) ir tik 8,6 % moterų – pirmą. Skirtumas labai reikšmingas, p<0,001. Nustatėme, jog vidurių užkietėjimas vargino tirtas nėščiąsias ir praeityje (iki nėštumo ir buvusių nėštumų metu): I grupės net 57,7 % nėščiųjų vargino vidurių užkietėjimas praeityje, II grupės – tik 13,38 % tirtųjų. Skirtumas labai patikimas (OR 8,84 (95 % CI 4,94–15,86), p<0,001.

Vidurių užkietėjimo kriterijai. Nėščiųjų vidurių užkietėjimas buvo vertintas remiantis Romos III kriterijais: tuštinimasis rečiau nei 3 kartus per savaitę, stanginimasis tuštinantis, kietos išmatos, kliūtis išangėje tuštinantis, nevisiško pasituštinimo jausmas, rankų pagalba tuštinantis (turi būti patiriami bent du simptomai per 3 mėnesius).

Nėščiųjų paviršinių kojų venų varikozė

Iš visų 280 tirtų moterų tik 6 (2,1 %) tirtosioms buvo rasta paviršinių kojų venų varikozė, todėl jokių statistiškai patikimų rezultatų neradome.

Dabartinio nėštumo ypatumai

Ligos nėštumo metu. I grupės 57,7 % tirtų nėščiųjų nurodė buvusias ligas nėštumo laikotarpiu, iš jų 24,4 % – anemiją, 21,1 % – ginekologinę patologiją (kolpitas). II grupės 51,6 % nėščiųjų nurodė buvusias ligas nėštumo laikotarpiu, iš jų 18,5 % – anemiją, 19,1 % – ginekologinę patologiją (kolpitas). Tačiau statistinė analizė jokių patikimų rezultatų neparodė (p=0,31).

Dabartinio gimdymo ypatumai

Gimdymų skaičius. Iš visų tirtų 280 moterų I grupėje didesnė dalis moterų buvo pakartotinai gimdžiusios – 80 (65,0 %), o II grupėje pakartotinai gimdžiusios sudarė 45,2 % (71 moteris). Pirmą kartą gimdžiusių buvo I grupėje - 43 (35,0 %), II grupėje - 86 (54,8 %). Skirtumas statistiškai reikšmingas (p<0,001 pagal χ^2 kriterijų) OR 2,254 (95 % CI 1,386–3,664), p<0,001.

Gimdymo būdas. Mūsų gauti rezultatai rodo, kad abiejose grupėse didžiausia dalis moterų gimdė natūraliais gimdymo takais: I grupėje – 75,6 %, II grupėje – 72,0 % moterų. Per cezario pjūvį gimdė atitinkamai 19,5 % ir 28,0 % moterų, OR 1,61 (95 % CI 0,91–2,83), p=0,10. Visoms mūsų tirtoms moterims skubi cezario pjūvio operacija atlikta gimdymo metu. I grupėje visoms tirtoms moterims dėl stangų silpnumo gimdymas buvo užbaigtas replėmis ir vakuumine ekstrakcija (4,9 %), II grupėje replių ir vakuuminės ekstrakcijos gimdymo metu neprireikė (p<0,01 pagal Fišerio kriterijų). Indikacijos atlikti skubią cezario pjūvio operaciją buvo: I moterų grupėje vaisiaus hipoksija, vaisiaus galvos ir moters dubens disproporcija, netaisyklinga vaisiaus galvos padėtis, II moterų grupėje vaisiaus hipoksija, vaisiaus galvos ir moters dubens disproporcija, netaisyklinga vaisiaus galvos padėtis, placentos atšoka. Dėl vaisiaus galvos ir moters dubens disproporcijos, esant visiškam gimdos kaklelio išsiplėtimui, I grupėje operuotos 7 moterys, II grupėje – 3 moterys. Indikacijos atlikti planinę cezario pjūvio operaciją buvo: vaisiaus sėdmenų pirmeiga, placentos pirmeiga, randas gimdoje po cezario pjūvio operacijos, esant nepasiruošusiems gimdymui gimdymo takams, randas gimdoje po dviejų cezario pjūvio operacijų, randas gimdoje po cezario pjūvio operacijos ir po buvusios gimdos miomos pašalinimo operacijos.

Gimdymo eiga (gimdant natūraliais gimdymo takais). Rezultatai skaičiuoti iš 212 moterų, gimdžiusių natūraliais gimdymo takais (neskaičiuoti 68 atvejai cezario pjūvio). Mūsų duomenys rodo, kad tiek I, tiek II grupės moterų gimdymo eiga buvo savaiminė (I grupės – 97,0 %, II grupės – 100,0 %). I grupės 2,0 % moterų gimdymas buvo indukuotas (atliekant amniotomiją), 1,0 % moterų gimdymas buvo stimuliuotas (intravenine lašine oksitocino infuzija). Jokio statistiškai patikimo rezultato nenustatėme.

Gimdymo trukmė. Apskaičiavome tirtų moterų gimdymo trukmę minutėmis (bendrąją gimdymo trukmę, pirmojo gimdymo laikotarpio, vaisiaus išstūmimo laikotarpio, stangų laikotarpio trukmę).

Bendroji gimdymo trukmė. Bendroji gimdymo trukmė apskaičiuota dviem variantais. *Pirmasis variantas*: gimdžiusios natūraliais gimdymo takais ir skubia cezario pjūvio operacija (212 ir 37 moterys), tačiau statistiškai patikimo skirtumo tarp abiejų grupių nenustatėme (p=0,94).

Antrasis variantas: gimdžiusios tik natūraliais gimdymo takais (212 moterų), tačiau statistiškai patikimo skirtumo tarp abiejų grupių nenustatėme (p=0,73).

Taip pat neradome jokio statistiškai patikimo skirtumo, vertindami pirmą kartą ir pakartotinai gimdžiusių moterų bendrąją gimdymo trukmę.

Pirmojo gimdymo laikotarpio trukmė. Į šio gimdymo laikotarpio trukmės skaičiavimą įtraukėme visas abiejų grupių moteris, gimdžiusias natūraliais gimdymo takais ir skubia cezario pjūvio operacija (į šį skaičių įtraukėme tik tas tirtąsias, kurioms skubus cezario pjūvis atliktas dėl vaisiaus galvos ir moters dubens disproporcijos esant visiškam gimdos kaklelio išsiplėtimui, t. y. 212 ir 10 moterų). Statistiškai patikimo rezultato nenustatėme.

Pirmojo gimdymo laikotarpio trukmę apskaičiavome gimdžiusioms tik natūraliais gimdymo takais moterims (212 atvejų). Tačiau ir šiuo atveju statistiškai patikimo rezultato nenustatėme. Taip pat neradome jokio statistiškai patikimo skirtumo, vertindami pirmą kartą ir pakartotinai gimdžiusių moterų pirmojo gimdymo laikotarpio trukmę.

Vaisiaus išstūmimo laikotarpio trukmė (minutėmis). Apskaičiavome visų natūraliais takais gimdžiusių moterų vaisiaus išstūmimo laikotarpio trukmę, tačiau statistiškai patiko rezultato nenustatėme. Vertindami pirmą kartą ir pakartotinai gimdžiusių moterų antrojo gimdymo laikotarpio trukmę, statistiškai patikimo rezultato nenustatėme.

Stangų laikotarpio trukmė. Vertinant stangų laikotarpio trukmę, gautas statistiškai patikimas rezultatas (tiek abiejų moterų grupių kartu, tiek vertinant atskirai pirmą kartą ir pakartotinai gimdžiusių nėščiųjų). Mes nustatėme, kad 20 min. ir ilgesnė stangų trukmė didina išangės ligų riziką moterims po gimdymo. OR 0,067 (95 % CI 0,015–0,294), p<0,001.

Gimdymo takų vientisumo pažeidimas. Iš I ir II grupės 212 moterų, gimdžiusių natūraliais gimdymo takais, skaičiavome, kokiam skaičiui tirtų moterų plyšo tarpvietė (ir koks buvo jos plyšimo laipsnis), gimdos kaklelis (ir jo laipsnis), makštis, kokiam skaičiui moterų buvo kirpta tarpvietė.

Tarpvietės plyšimas. Iš visų 212 moterų 20,8 % buvo plyšusi tarpvietė gimdymo metu: I grupės 27,3 % (9 atvejai pirmakartėms, 18 atvejų pakartotinai gimdžiusioms), II grupės 15,0 % (6 atvejai pirmakartėms, 11 atvejų pakartotinai gimdžiusioms). Skirtumas statistiškai patikimas – p<0,05 (pagal χ^2 kriterijų). OR 2,316 (95 % CI

1,197–4,482), p=0,013. I grupės 24 moterims buvo nustatytas pirmo laipsnio tarpvietės plyšimas, 3 moterims – antro laipsnio tarpvietės plyšimas; II grupės – atitinkamai 16 ir 1 moteriai.

Gimdos kaklelio plyšimas. Iš visų 212 tiriamųjų 12,3 % moterų buvo nustatytas gimdos kaklelio plyšimas: I grupės 12,1 % moterų, II grupės 12,4 % moterų. Beveik vienodas dažnumas abiejose grupėse, todėl statistinio patikimumo nenustatyta. Vyrauja pirmo laipsnio plyšimas: I grupės 9 moterims buvo pirmo laipsnio ir 3 moterims antro laipsnio, II grupės – atitinkamai 12 ir 2 tiriamosioms.

Makšties plyšimas. Iš 212 tirtų moterų 10,9 % buvo nustatytas makšties plyšimas: I grupės 13,1 % moterų, II grupės 8,8 % moterų. Skirtumas statistiškai nereikšmingas.

Lytinių lūpų plyšimas. Tai rečiausiai buvęs gimdymo takų vientisumo pažeidimas abiejų grupių tiriamosioms – 3,3 % (2 atvejai I grupėje, 5 – sveikųjų grupėje). Skirtumas statistiškai nereikšmingas.

Tarpvietės kirpimas (perineotomija). Iš 212 tirtų moterų perineotomija gimdymo metu buvo atlikta 45,7 % tirtųjų: I grupėje – 42 atvejai (42,4 %), II grupėje – 55 atvejai (48,7 %). Skirtumas statistiškai nereikšmingas. OR 0,962 (95 % CI 0,585–1,580), p=0,877.

Nėščiosios ir gimdyvės fizinė būklė

Ūgis. Tiek I, tiek II tirtų nėščiųjų grupėse moterų ūgio vidurkiai buvo beveik vienodi: I grupės moterų ūgio vidurkis buvo 167,6 cm, II grupės – 167,0 cm

Svoris iki nėštumo. I grupės tirtų moterų svorio vidurkis buvo 68,4 kg, II grupės – 61,4 kg. Svorio skirtumas tarp dviejų grupių gana didelis. Duomenys statistiškai patikimi ($p<0,001$).

Kūno masės indeksas (KMI). Abiejose tirtų nėščiųjų grupėse dėl svorio skirtumo susidarė ir didelis KMI skirtumas (I grupės moterų KMI vidurkis buvo 24,38, II grupės moterų – 22,02), nes KMI yra išvestinis, su moters svoriu susijęs rodiklis. Šis antropometrinis rodiklis atitiko svorio skirtumą tarp grupių. Gautas statistiškai labai patikimas rezultatas ($p<0,001$) OR 4,190 (95 % CI 2,291–7,665), $p<0,001$.

Turinčių normalų svorį (KMI $\leq$ 24,99) moterų buvo: I grupėje – 67 (54,4 %), II grupėje – 136 (86,6 %) moterų. Turinčių antsvorio (KMI 25,0–29,99) buvo: I grupėje 43 iš 123 (35,0 %), II grupėje 19 iš 157 (12,1 %). Skirtumas statistiškai reikšmingas: OR 3,9 (95 % CI 2,1–7,2), $p<0,001$. Nutukusių (KMI > 30,0) buvo: I grupėje 13 iš 123 (10,6 %), II grupėje tik 2 iš 157 (1,3 %).

Svorio prieaugis per nėštumą. I grupės tirtos nėščiosios vidutiniškai priaugo 14,5 kg svorio, o II grupės – vidutiniškai 12,4 kg. Šis svorio prieaugio nėštumo metu skirtumas abiejose grupėse irgi yra statistiškai patikimai reikšmingas ($p<0,001$)

Šeimos narių antsvoris. Mūsų mokslinio tyrimo duomenimis, artimųjų antsvoris neturėjo įtakos tirtoms nėščiosioms sirgti išangės ligomis nėštumo laikotarpiu. Iš abiejų grupių tirtų moterų tik 25,0 % nurodė antsvorį tarp šeimos narių (I grupėje – 26,8 %, II grupėje – 23,6 %). Taigi, skirtumas tarp grupių labai nedidelis, todėl statistiškai nereikšmingas ($p=0,53$). Daugumoje atvejų tiriamosios konkrečiai nurodė mamos antsvorį – 64 iš 70 atvejų (94 % moterų).

Naujagimio fizinė būklė

Naujagimio svoris. Mūsų mokslinio tyrimo rezultatai parodė, kad I grupės moterys gimdė didesnio svorio naujagimius nei II grupės moterys. Duomenys statistiškai patikimi ($p<0,001$). Mes nustatėme, kad didesnio svorio naujagimio gimdymas (>3800 g) didina išangės ligų riziką po gimdymo. OR 37,349 (95 % CI 8,806–158,420), $p<0,001$.

Vertindami pirmą kartą ir pakartotinai gimdžiusių moterų naujagimių svorį, taip pat nustatėme statistiškai patikimą skirtumą abiejose grupėse (I grupės moterų naujagimiai svėrė daugiau nei II moterų grupės)

Naujagimio ūgis. Statistiškai patikimai skyrėsi ir abiejų grupių moterų naujagimių ūgis.

Naujagimio galvos apimtis. Statistiškai patikimai skyrėsi ir abiejų grupių moterų naujagimių galvos apimtis.

Naujagimio krūtinės apimtis. Statistiškai patikimai skyrėsi ir abiejų grupių moterų naujagimių krūtinės apimtis

Motinos ir naujagimio fizinė būklės sąsajos. Mūsų mokslinio tyrimo rezultatai parodė, kad I grupės moterys, kurios, kaip jau minėjome, turėjo didesnį svorį ir KMI bei svorio prieaugį per nėštumą nei II grupės moterys, gimdė didesnio svorio naujagimius.

Moters gyvenimo kokybė (pagal SF-36) ir išangės ligos

Grupė	Statistinis rodiklis	Fizinis aktyvumas	Veiklos apribojimas dėl fizinių problemų	Veiklos apribojimas dėl emocinių problemų	Energingumas / gyvybingumas	Emocinė būklė	Socialinė funkcija	Skausmas	Bendras sveikatos vertinimas
I	Vidurkis	58,3	0,0	0,0	38,7	38,7	38,5	44,2	37,4
	SD	12,7	0,0	0,0	3,3	3,2	7,4	5,4	3,5
	Min	40	0,0	0,0	25,0	28,0	25	22,5	25
	Max	95	0,0	0,0	50,0	52,0	50	65	50
	p	**<0,001**	**<0,001**	**<0,001**	**<0,001**	**<0,001**	**<0,001**	**<0,001**	**<0,001**
II	Vidurkis	86,6	68,5	65,4	55,9	55,9	76,0	78,8	48,2
	SD	17,7	46,1	46,2	12,8	13,0	26,7	25,4	8,5
	Min	40	0	0	35	36	25	32,5	25
	Max	100	100	100	90	96	100	100	70
	p	**<0,001**	**<0,001**	**<0,001**	**<0,001**	**<0,001**	**<0,001**	**<0,001**	**<0,001**

(p – pagal Stjudento t-kriterijų)

Daugianarė logistinė regresija

Veiksnys	OR	95 % PI		p
		Min	Max	
Naujagimio svoris (> 3800 g)	**17,99**	**3,29**	**98,49**	**0,001**
Moters amžius (≥ 30 metų)	1,29	0,47	3,56	0,629
KMI 25	1,44	0,51	4,02	0,49
Pakartotinis gimdymas	1,272	0,44	3,67	0,66
Tarpvietės pyšimas	1,51	0,429	5,326	0,521
Vidurių užkietėjimas nėštumo metu	**18,975**	**7,125**	**50,535**	**0,000**
Gimdymo būdas (vakuuminė ekstrakcija ir replės)	**99,49**	**9,833**	**1006,699**	**0,000**
Stangos (≥ 20 min.)	**29,746**	**4,000**	**221,231**	**0,001**
Išangės ligos buvusio nėštumo ir gimdymo metu	**11,928**	**2,179**	**65,295**	**0,004**
Išangės ligos šeimoje	1,377	0,509	3,728	0,529

IŠVADOS

1. Dažniausios nėščiųjų ir gimdyvių išangės ligos yra hemorojus ir išangės įplėša, jų dažnis – 43,9 %, dažniausias atsiradimo laikas – trečiasis nėštumo trečdalis ir pirma antra para po gimdymo.
2. Nėščiųjų, gimdyvių ir moterų po gimdymo išangės ligų rizikos veiksniai:
    - vidurių užkietėjimas nėštumo metu, išangės ligomis buvusio nėštumo ir gimdymo metu;
    - instrumentinis gimdymo būdas (vakuuminė vaisiaus ekstrakcija ir replės), stangų laikotarpio trukmė (>20 min.);
    - naujagimio fizinės būklės rodikliai (>3800 g naujagimio svoris).
3. Išangės ligos labai pablogina tiek nėščiosios, tiek pagimdžiusios moters gyvenimo kokybę.

REKOMENDACIJOS

1. Šeimos gydytojai ir gydytojai akušeriai ginekologai, prižiūrintys nėščiąsias ambulatorinėje grandyje, privalo įvertinti koloproktologinės patologijos rizikos veiksnius, įspėti nėščiąją dėl išangės ligų ankstyvųjų simptomų ir įvertinę nėščiosios anamnezę ir nusiskundimus, susijusius su išangės patologija, laiku nusiųsti nėščiąją gydytojams specialistams (dietologams, gastroenterologams, koloproktologams ir kt.) konsultuoti ir laiku gydyti.
2. Tolesni moksliniai tyrimai turėtų nagrinėti priemones ir veiksmus, kuriais būtų galima mažinti išangės ligų riziką nėštumo metu ir laikotarpiu po gimdymo.

TRUMPAS AUTORIAUS GYVENIMO APRAŠYMAS

1994 – 2000 m.	Vilniaus universitetas Medicinos fakultetas, gydytoja.
2000 – 2001 m.	Vilniaus universitetas pirminė rezidentūra, medicinos gydytoja.
2001 – 2005 m.	Vilniaus universitetas antrinė akušerijos ir ginekologijos rezidentūra, gydytoja akušerė ginekologė.
2005 – 2013 m.	VšĮ Vilniaus universiteto ligoninės Santariškių klinikų Centro filialas, Moters fiziologijos ir patologijos centras, I ginekologijos skyrius, gydytoja akušerė ginekologė.
Nuo 2008 m. iki dabar	UAB „SK Impeks Medicinos diagnostikos ir gydymo centras“, gydytoja akušerė ginekologė.
Nuo 2013 m. iki dabar	VšĮ Vilniaus universiteto ligoninės Santariškių klinikos, Akušerijos ir ginekologijos centras, gydytoja akušerė ginekologė.
Nuo 2014 m. iki dabar	Vilniaus universitetas Medicinos fakultetas, Akušerijos ir ginekologijos klinika, asistentė.