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CONTENTS

LANGUAGE, CULTURE, COMMUNICATION

INNOVATION, WORK, SOCIETY

HEALTH, ENVIRONMENT, DEVELOPMENT

TECHNOLOGY, CREATIVITY, IMPLEMENTATION

CHANGES IN MENTAL HEALTH AFTER COVID-19 TRANSFER AND HEALTH CARE RESOURCES

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Summary
The article analyzes the incidence of COVID-19 and complications after the disease, especially in terms of the mental health of the world's population. The purpose of the study was to analyze changes in the mental health of the population of Ukraine after the transfer of COVID-19 and determine the resources of health professionals in the field of health, summarize the most common complaints that arose during the disease, identify compliance with quarantine measures and duration of treatment as in the hospital and at home, in the systematization of complications after the disorder, the duration of antidepressants and the assessment of respondents' attitudes towards vaccination against COVID-19. A sociological survey has been conducting of 611 respondents mostly students, and teachers of Vinnytsia National University Pirogov. According to the results of the questionnaire, complaints from the nervous system: fatigue – 85.6%, sleep disorders during the disease were noted – 41.4%, irritability – 38.6%, anxiety disorders – 26.0%, memory impairment – 23,2%, depression – 17.9%, fear – 13.3%, confusion – 11.9%, panic attacks – 10.2%, convulsions – 4.9% and suicidal thoughts in 2.1% (66.6% of men) respondents. In Ukraine, it is necessary to create new conditions for alternative treatment of the mentally ill and the population that has negative consequences in mental health after the transfer of COVID-19 based on primary health care, namely: in psychiatric wards of general hospitals, day hospitals, in crisis centers, mental health centers. It is necessary to create a single electronic medical system for recording appeals from the public (personal data) to improve the health care system, as is done in European countries.
Keywords: pandemic, mental disorders, quarantine, isolation, depression.

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1. Introduction

Prolonged quarantine due to the COVID-19 pandemic has affected the mental health of people in 188 countries. A speech by WHO Director-General Tedros Adhan Gebreesus noted the importance of the COVID-19 pandemic's impact on the mental health of millions of people on the planet who have fallen ill and have been quarantined or isolated for a long time. According to scientists from many countries, there have been changes not only in the respiratory system – a characteristic respiratory syndrome but also in changes in mental health. Thus, according to Nasir Mustafa, Carod-Artal F.J., Garg R.K. – 52.7% of respondents rated the impact of the pandemic as «severe»; the presence of symptoms of depression has been finding in 18.6% of respondents; anxiety symptoms in 26.5%; high levels of stress as a result of COVID-19 disease,

concerns about their health and loved ones, financial losses due to quarantine restrictions in 7.9% of respondents *(Carod-Artal F.J.,2020; Gard R.K., 2020; Mustafa N., 2020).*

Mental health disorders in the world are the chief causes of disability and significant burdens for any state in financial, economic, and social policy. The WHO is constantly working to prevent depression, anxiety, stress, and suicide due to epidemiological data that 5 to 7% of the world's population suffers from the mental illness of the COVID-19 pandemic. The WHO predicted that by 2020, mental illness worldwide would increase to 50% of all diseases but did not expect chief consequences from the COVID-19 pandemic. At the same time, according to the WHO, before the start of the COVID-19 pandemic in Ukraine, 628 new cases of mental illness were registered each year (per 100,000 population), and no less predominate environmental/anti-terrorist operation in the east of the country *(Gladun Z.S., 2005; Korol`chuk O.L., 2016).*

The shortage of health workers in the EU has always been an acute problem, especially in the field of mental health (psychiatrists, neurologists, psychologists) as in Ukraine. Thus, according to Satiani A. (2018), in the United States by 2024, the deficit of the number of psychiatrists to the population will be between 14,280 and 31,091, according to Hadlaczky G. (2012), the number of practicing psychiatrists in Sweden has decreased, and therefore 5-10% of the population needs psychiatric treatment, and only 3-4% seek psychiatric help, and about 10 million Swedes commit suicide each year *(Hadiaczky G. et el., 2012; Satiani A. et el., 2018; Sun J., Sun R. et el., 2020).*

The aim – to analyze the changes in the mental health of the population of Ukraine after the transfer of COVID-19 and determine the resource of health professionals in the field of health, summarize the most common complaints that arose during the disease, identify compliance with quarantine measures and duration of treatment in hospital and at home, to systematize the occurrence of post-disease complications, the duration of antidepressant use, and to assess respondents' attitudes toward COVID-19 vaccination.

Materials and methods

611 respondents mostly students and teachers of National Pirogov Memorial Medical University, took part in the optional anonymous sociological survey, aged 17 to 23 years – 68.6%, from 23 to 30 years – 19.0%, from 30 to 45 years – 6.2% and over 45 years – 6.2%. Of all respondents, women accounted for 77.9% and 22.1% of males, respectively. Statistical processing of the survey results has been performing in the licensed standardized package «Statistica 6.1 for Windows» and Excel-2010. The analysis of domestic and foreign scientific sources, biblio-semantic and analytical research methods have been also using in the work.

2. Results and discussion of indicators of morbidity and prevalence of the disease

In recent years, the incidence and prevalence of diseases and disabilities in Ukraine have increased with a catastrophic decrease/reduction in the number of doctors of all specialties for the period 1995/2015 at 3.1%, and for 2010/2017 by 10.5% (10 thousand population) and nurses for the period 1995/2015 at 25.1%, and 2010/2017 by 16.6% (10 thousand population); the number of health care hospitals decreased during the period 1995/2015 at 53.8%, and for 2010/2017 – by 39.3% (thousand units) and the number of hospital beds decreased during the period 1995/2015 at 37.6%, and for 2010/2017 by 22.2% respectively (10 thousand population). And among psychiatrists and psychiatrists-narcologists per 10 thousand population for the period 1995/2015 at 15.4%, and for 2010/2017 by 21.4%, respectively, since the beginning of the JFO (OOS)/ATO in the East of the country since 2014, the number

of patients with mental disorders has increased, who needed the help of psychiatrists, narcologists, psychologists. The second fatalistic side of the health care reform is the lack of funding for the outdated material and technical base of psychiatric hospitals built in the XVIII-XIX centuries, which contradicts the solution requirements of the mental health system in European countries and does not allow to create of a «therapeutic environment» *(Chorna V.V. et el., 2020: 150; Chorna V.V. et el., 2020: 8).* According to the results of the survey, we found that out of 611 respondents – 47.5% became ill with COVID-19, of which 11.0% were male, and 36.4% were female.

According to Komisarenko S.V., there are three types of COVID-19 virus: A, B, C. It depends on the nucleotide sequence Sequencing is a method that determines the sequence of nucleotides (DNA and RNA), but unfortunately in Ukraine, this is not yet possible, as it depends on the funding of research institutes. We can assume that the population of Ukraine suffers from different strains of COVID-19 from the answers of respondents how many times they were sick, the data are as follows: 1 time fell ill – 91.5% 2 times – 7.5% and 1% of respondents fell ill three times. The following data have been establishing from the analysis of scientific works (see table № 1) *(Komisarenko S.V., 2020).*

Table 1

The dynamics of the spread of the disease, fatalities caused by various pathogens of the coronavirus

Year of registered pandemic	The causative agent of the disease	The number of countries covered	The number of cases	The number of fatalities	% of fatalities
2002-2004	Virus SARS-CoV (civet)	37	8422	916	10,9%
2012-2018	MERS-Cov (camels)	26	2519	866	34,4%
3 2019 p.	SARS-CoV-2	188	The number is constantly increasing today to 119 million.	The number is constantly increas-ing today 2.64 million.	11-12%

72.5% of respondents had a mild severity, 23.7% had a moderate severity, and 3.8% had a severe severity. According to data (Petri W. (2020), in 7 countries, 40% of respondents had mild symptoms of the disease. All data depend on the epidemiological situation during the observation *(Petri W., 2020).*

Complaints that respondents indicated in the anonymous questionnaire were as follows: from the respiratory system – cough has been finding in 52.3% (76% in women and 24% in men), nasal congestion in 48.8% (81% in women and 19% in men), difficulty breathing in 28.1% (67% in women and 13% in men) and fever in 54.7% (72.0% in women and 28.0% in men). The data are shown in Figure 1.

As a result of the analysis of respondents' complaints from the nervous system: fatigue was noted in 85.6%, sleep arrhythmia during the disease was noting in 41.4%, irritability in 38.6%, anxiety disorders in 26.0%, memory impairment 23.2%, depression 17.9%, fear 13.3%, confusion 11.9%, panic attacks 10.2%, seizures 4.9% and suicidal thoughts 2.1% (66.6% in men). Respondents' data have been presenting in Figure 2.

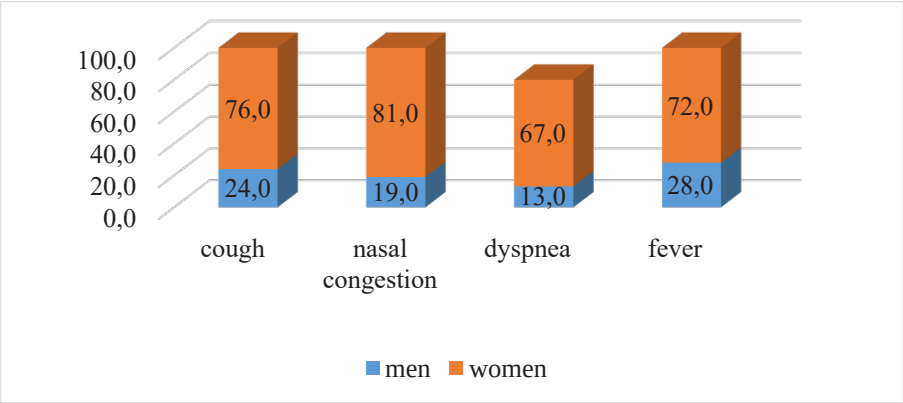

Figure 1. The proportion of complaints of patients with COVID-19, (%)

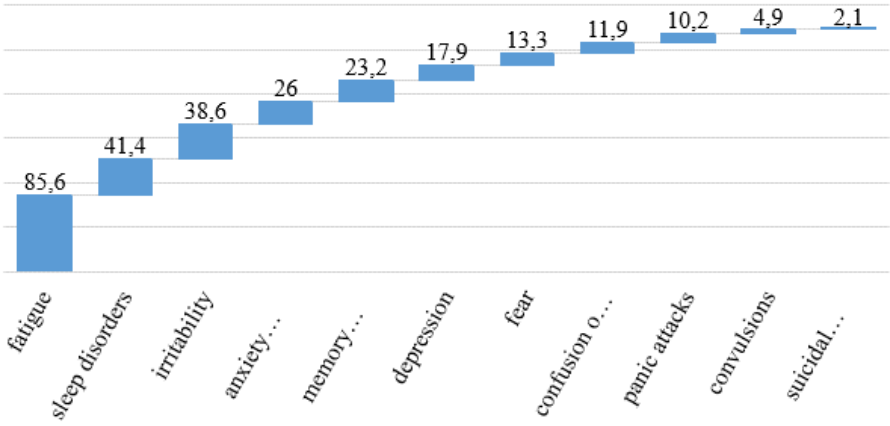

Figure 2. The proportion of mental health disorders after COVID-19 transfer, (%)

More frequent changes in mental health have been noting by women in both Ukraine and the EU. According to EU scientists, there were mental health disorders in the form of stress in 22.8%, maladaptation in 21.8%, anxiety disorders in 20.8%, depression in 17.3%, sleep disorders in 7, 3% of respondents. The World Federation of Neurology has proposed the introduction of international neurological registries and international neuro-epidemiological cooperation to help identify the problem of neurological disorders *(Roman G.C. et el., 2020).*

Symptoms such as loss of taste and smell in COVID-19 patients with 59.9% of respondents noted in themselves, namely: 47% – female and 15.2% – male, and this symptom is specific to COVID-19. Polymerase chain reaction (PCR) tests from all sick respondents showed a positive result in 20.2%, negative in 18.6%, and did not pass this test – 61.2% due to the high cost. According to research by Liuqian L. (2020), 14% of patients after hospital discharge from COVID-19 with negative PCR test results after recovery had a positive outcome after some time *(Liuqian L. et el., 2020).* Blood test for IgG-class antibodies from sick respondents has been doing by only 31.3%, they appear on the 24-28th day in each patient with COVID-19,

their number varies depending on many factors and can remain in the human body both from several months and years *(Hadiaczky G. et el., 2012).*

43.4% of respondents sought medical help from a family doctor, 28.7% treated themselves and 27.9% did not take any medication due to the mild course of the disease. Of the complications indicated by the respondents, these are mostly disorders of the nervous system – 63.9%, from the respiratory system – 33.9%, from the gastrointestinal tract – 26.7%. On the side of mental health disorders, patients have been forcing to turn to psychiatrists who prescribed antidepressants. The duration of antidepressants up to 14 days was noted – 47.7% (66.6% – women), up to 1 month – 25.0% (81.8% – women), up to 2 months – 6.8% (of which 100% – women), more than 2 months – 20.5% of respondents (77.7% of them – women). According to scientists for the month (from 15.02.2020 to 15.03.2020) prescriptions for antidepressants increased by 18.6% and sleeping pills by 14.8% in European countries *(Mosolov S.N., 2020).* According to the results of the questionnaires, the respondents needed medical care the most – 41.3%, psychological – 32.7%, information – 20.9%, and 32.7% – noted the need for help from relatives. And the last question for the respondents was about their attitude to the vaccination against COVID-19. Of all 611 respondents – 17.9% are ready to receive vaccinations, 30.5% – flatly refused, and 51.6% – have doubts about the quality of the vaccine.

Vaccination has been currently carrying out in many countries, but its effectiveness has also been studying *(Komisarenko S.V., 2020).*

3. Conclusions

Millions of people around the world have been severely damaging by the COVID-19 pandemic, which has become a global socio-economic problem. The consequences are catastrophic and require global action, especially in the field of healthcare in Ukraine and around the world.

Carrying out the reform in the field of mental health care in Ukraine according to the experience of EU countries: with reduced places in psychoneurological hospitals (deinstitutionalization) of Ukraine, it is necessary to create new conditions for alternative treatment of mentally ill people -19 based on primary health care, psychiatric wards in general hospitals, day hospitals, crisis centers, mental health centers and the creation of a single electronic register of appeals of the population of Ukraine to improve the provision of medical care.

Conflict of interest. The authors declare no conflict of interest.

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MATERNAL RISK FACTORS OF PERINATAL WOMEN COMPLICATIONS WITH THE URINARY SYSTEM DISEASES

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Summary

The aim of the study was to determine the maternal factors of perinatal complications in women with diseases of the urinary system. A group of women with pathology of the urinary system were studied during the course and completion of pregnancy. The complications in childbirth condition of newborns in comparison with similar indicators in healthy women were also assessed. It was found that most women with urinary tract pathology that were pregnant again, had complications of somatic (most often a combination of urinary tract pathology and chronic infectious diseases) and reproductive history (most often – miscarriages). Women with complications during pregnancy, pyelonephritis, anemia, and the threat of abortion were significantly more often registered in the main group ($p<0.05$). Women in the main group were significantly more likely to have premature births: 15.4% of women with acute pyelonephritis and 46.2% of women with chronic pyelonephritis, while all women in the control group gave birth on time ($P<0.05$). Significantly more women in the main group had complications in childbirth: most often – weakness of labor – I group 8 (6.2%), II – 9 (6.9%). Termination of pregnancy in the vast majority of women in the main group was physiological, cesarean delivery was completed in 3 (2.3%) women in group I and 10 (7.7%) women in group II. All women in the control group had timely, physiological births. The condition of newborns of mothers with pathology of the urinary system was often disturbed. A significant proportion of children from the main group (I – 5.4%, II – 10.0%) required immediate resuscitation measures at birth and their transfer to specialized departments for further treatment.

Keywords: kidney diseases, pregnancy, retrospective analysis.

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1. Introduction

In Ukraine, studies of genetic and demographic processes conducted in recent years have shown that the socially conditioned demographic crisis observed in the country is significantly exacerbated by perinatal complications. This is manifested in an increased incidence of lost pregnancies and the birth of unhealthy children in women with extragenital pathology *(Veropotvelian MP, 2016; Shestakova T. S., 2012; Mandal D., 2017).*

The relevance of the study of infectious diseases of the urinary system in obstetrics is due to the high prevalence of this pathology, as well as complications that occur during

pregnancy, childbirth and postpartum and pose a danger to mother and fetus *(Bounds KR, 2015; Hryhorenko AP, 2014; Samigullina AE, 2016; Sharhorodska Ye.B., 2018)*. Nowadays, almost 60% of pregnant women have diseases of the internal organs. Abnormalities in the development of the child are observed in extragenital diseases of the mother 4 times more often than in the general population. The relationship between the severity of the clinical course of the disease in pregnant women and the degree of fetal and neonatal disorders was found *(Haistruk N.A., 2017; Limanskaya A.Yu., 2016; Olshevska O.V., 2016).*

The role of extragenital diseases (diseases of internal organs) in the occurrence of obstetric complications (late preeclampsia, prematurity, uterine contractile dysfunction, etc.) in the development of perinatal pathology *(Tillett J., 2015; Veropotvelian P. M., 2011; Wing D. A., 2014)* has been convincingly proven.

Diseases of the urinary system in pregnant women are second only to extragenital diseases. Their frequency is from 0.1 to 7 – 10% and poses a serious danger to the normal development of pregnancy and fetus *(Glaser A. P., 2015; Govoruha I. T., 2016; Talalaienko Yu. O., 2016)*. First of all, it is pyelonephritis, urolithiasis, abnormalities in the development of the kidneys and ureters, chronic cystitis, asymptomatic bacteriuria, chronic glomerulonephritis *(Bahri A. El., 2015; Holubenko M. Yu., 2012)*. Most often there is a combination of several diseases of the urinary system *(Kazemier B. M., 2015; Szweda H., 2016).*

Most complications of the gestational period manifest in the second half of pregnancy, but the causes of their occurrence, which are due to a complex of placental dysfunction, are most often laid in the pre-pregnancy, implantation and early placental periods *(Holubenko M. Yu., 2012).* Pregnant women with pyelonephritis develop the following obstetric and perinatal complications: early toxicosis (65.5%), placental dysfunction (73.3%), preeclampsia (78.3%), risk of miscarriage (76.1%) and premature birth (56.2%), low placentation (76.1%), polyhydramnios (76.7%), gestational anemia (67.8%), fetal growth retardation (17.1%), premature placental abruption (26.3%). During childbirth they develop premature ejaculation of amniotic fluid (22.4%), weakness of labor (72.3%), obstetric bleeding (47.1%). In the postpartum period they develop subinvolution of the uterus (26.3%) *(Godaly G., 2015; Haistruk N.A., 2017; Holubenko M. Yu., 2012; Romanenko T. H., 2016).* The level of perinatal mortality and miscarriage increases by 2 – 3 times *(Hryhorenko A.P., 2014).*

Scientific research and practical experience show that the issues of preserving reproductive health, reducing maternal and fetal losses, and especially the demographic situation go far beyond the medical field and have become a national interdisciplinary problem in Ukraine.

Improving the principles of pregnancy management and the use of optimal delivery help reduce infant mortality and morbidity. The analysis of the literature shows that not all reserves for the improvement of perinatal indicators are used. One such reserve is the improvement of measures to improve the preconceived health of the population of reproductive age. Screening of preconception perinatal risk and its active correction in women who have had negative consequences of previous pregnancies, allows to realize the positive results of the next pregnancy *(Melenchuk L. M., 2019; Safonova I. M, 2015).*

Therefore, the development of informative criteria for individual prediction of pregnancy and perinatal period is of great medical and social importance.

Thus, effective prevention of the pathological condition of the fetus in women with diseases of the urinary system requires a targeted study of maternal factors due to the influence of somatic pathology. Timely detection of women at risk will create a basis for the prognosis of the next pregnancy, reduce the level of perinatal pathology, which will have a significant medical and social effect. The obtained data will allow to improve the system of approaches

to determining the risk groups of perinatal pathology and improve specialized care for women with diseases of the urinary system. As a result of this work, informative factors of high risk of perinatal pathology in women at risk with pathology of the urinary system will be identified.

The purpose of the research is to identify maternal factors of perinatal complications in women with kidney disease. To solve this goal, the following tasks were set:

1. To form contingents of women with pathology of the urinary system among the population of Lviv region.

2. Investigate the complications of pregnancy and childbirth in women with kidney disease.

3. Assess the condition of newborns in women with kidney disease.

2. Selecting a group of women with pathology of the urinary system for this research

To achieve this goal, we conducted an analysis of clinical, epidemiological, medical and statistical data of primary medical records. Selected maps of pregnant women with a clinical diagnosis of "Diseases of the urinary system" according to the International Classification of Diseases-10 (N010 – N099). The obtained indicators were compared with similar parameters of the control group: healthy women who gave birth to alive children in the maternity ward of the Regional Clinical Hospital of Lviv in 2014-2017: 100 healthy pregnant women who gave birth to children in the same period of time formed a control group. To assess the maternal factors of perinatal complications in women with diseases of the urinary system, the course of pregnancy and childbirth, gestational age at birth, assessment of the condition of children at birth were studied.

For the purpose of this study two groups of researched women were created – the main 130 pregnant women and the control 100 women (without extragenital pathology). The main group was divided into two groups: I – pregnant women with acute pyelonephritis (GP), this group included pregnant women, who were diagnosed with acute pyelonephritis for the first time during their pregnancy. Group II included pregnant women with chronic pyelonephritis (CP) – women who had diseases of the urinary system before pregnancy.

The women in the control group had no reproductive and somatic history of diseases and were healthy.

It should be noted that in the Regional Clinical Hospital of Lviv pregnant women with extragenital pathology from all Lviv region are concentrated. Statistical processing of research results was performed using computer programs «Statistica 6.0» and Excel 5.0 «. Differences were considered significant at $P < 0.05$.

3. The course of pregnancy in women with diseases of the urinary system

Analysis of archival documentation – maps of pregnant women in the obstetrics department of the Regional Clinical Hospital of Lviv for a period of (for) 4 years showed that most women in groups I and II were pregnant again, and the control group was dominated by women with the first pregnancy number ($P < 0.05$), table 1.

According to the results of a detailed retrospective analysis, it was proved that somatic diseases were diagnosed in the majority of patients of the main group. In 10 (7.7%) women of the main group and in all 100 (100.0%) women of the control group complications of somatic anamnesis were not registered ($p < 0.05$). Significantly more often than the control group, women with kidney disease had a combination of pathology of the urinary system and chronic

infectious diseases (58-44.6%), diseases of the endocrine system (21-16.2%), a combination of cardiovascular diseases and chronic infectious diseases (17–13.1%), a combination of diseases of the cardiovascular and endocrine system (12–9.2%), diseases of the cardiovascular system (12–9.2%), a combination of pathology of the urinary system and endocrine pathology (5-3.8%) (p <0.05).

Table 1

The ordinal number of pregnancy in women with pathology of the urinary system

Group		Number of women (%)	Indicators (%)			
			Pregnancy I	Pregnancy II	Pregnancy III	Pregnancy IU and more
Main 130(100%)	I	68(52.3)	37 (28.4)	19(14.6)	8(6.2)	4(3.1)
	II	62(47.7)	20(15.4)	29(22.3)	8(6.2)	5(3.8)
Control		100 (100.0)	52(52.0)	29(29.0)	14(14.0)	5(5.0)
Statistical indicators			t_1=3.7 P_1<0.05 t_2=6.2 P_2<0.05	t_1=2.6 P_1<0.05 t_2=1.15 P_2>0.05	t_1=1.9 P_1>0.05 t_2=1.9 P_2>0.05	t_1=0.7 P_1>0.05 t_2=0.43 P_2>0.05

Note: t_1. P_1 – comparison of I group with control; t_2. P_2 – comparison of II group with control

Analysis of the spectrum of reproductive losses showed that 32 (24.6%) women of I and 42 (32.3%) women of group II had various complications. Thus, frozen pregnancies: in group I – 9 (6.9%), in group II – 17 (13.1%); ectopic pregnancy – in group I – 7 (5.4%), in group II – 8 (6.2%); unauthorized miscarriages – in group I – 13 (10.0%), in group II – 10 (7.7%); medical abortions – in I – 3 (2.3%), in II – 7 (5.4).

In women with acute and chronic pyelonephritis in the spectrum of reproductive losses in the first place were miscarriages – 10.0% and 7.7%, respectively. In contrast to the women of the main group, in the control group – all patients – 100 (100.0%) had no features of reproductive history (p <0.05).

In the sample of patients who were analyzed, a study of the peculiarities of the course of pregnancy of patients was conducted (Table 2).

Table 2

The course of pregnancy in women with pathology of the urinary system

Indicators	Main group, 130 (100.0%)		Control group, p. (%)	Statistical indicators
	I. p (%)	II. p(%)		
1	2	3	4	5
Without complications	-	-	90/90.0	t_1=30.0; P<0.05 t_2=30.0; P<0.05
Early gestosis	8(6.2)	2(1.50	2(2.0)	t_1=1.65; P>0.05 t_2=0.28; P>0.05
Pre-eclamsia	4(3.1)	3(2.3)	-	t_1=2.04; P<0.05 t_2=1.75; P>0.05
Early gestosis + anemia	-	6(4.6)	1(1.0)	t_1=1.0; P>0.05 t_2=1.72;P>0.05
Preeclampsia + anemia	-	7(5.4)	-	t_1=1.0;P>0.05 t_2=2.72;P<0.05

Table 2 (Continued)

1	2	3	4	5
Early gestosis + preeclampsia	3(2.3)	1(0.8)	-	t_1=1.75;P>0.05 t_2=1.03;P>0.05
Early preeclampsia + threat of abortion	6(4.6)	1(0.8)	2(2.0)	t_1=1.13;P>0.05 t_2=0.75;P>0.05
Threat of termination of the first half of pregnancy	6(4.6)	7(5.4)	2(2.0)	t_1=1.13;P>0.05 t_2=1.4;P>0.05
Threat of interruption of the second half	-	8(6.2)	1(1.0)	t_1=1.0;P>0.05 t_2=2.22;P<0.05
Anemia	7(5.4)	11(8.5)	2(2.0)	t_1=1.4;P>0.05 t_2=2.31;P<0.05
Threat of termination of the second half of pregnancy + anemia	-	9(6.9)	-	t_1=1.0;P>0.05 t_2=3.1;P<0.05
Preeclampsia + threat of termination of the first and second half of pregnancy	-	5(3.8)	-	t_1=1.0; P>0.05 t_2=2.27; P<0.05
Polyhydramnios	2(1.5)	-	-	t_1=1.41;P>0.05 t_2=1.0; P>0.05
Lowhydramnios	-	2(1.5)	-	t_1=1.0;P>0.05 t_2=1.0; P>0.05
Pyelonephritis	32(24.6	62(47.7)	-	t_1=6.51;P<0.05 t_2=10.89;P<0.05
Total	68(52.3)	62(47.7)	100 (100.0)	

Note: t_1. P_1 – comparison of I group with control; t_2. P_2 – comparison of II group with control

According to the results of the analysis of pregnancy indicators, all 130 (100.0%) women of the main group had complications. The main complications were in group I – pyelonephritis – 32 (24.6%) cases (a), and in women of group II, with chronic pyelonephritis recorded 11 (8.5%) cases of anemia, 8 (6.2%) – threats of termination of the first half of pregnancy, 7 (5.4%) cases of preeclampsia in combination with anemia, 5 (3.8%) with the threat of abortion of the first and second half of pregnancy. In contrast to women in the main group, in the control group significantly more patients – 90 (90.0%) did not notice pregnancy ($p < 0.05$). And the number of complications there was significantly lower ($p < 0.05$).

4. Completion of pregnancy and childbirth. Assessment of the condition of children at birth in women with diseases of the urinary system

The analysis of the results of termination of pregnancy showed that women of the main group II had significantly more frequent recurrences, as well as patients of group II in 10 (7.7%) cases – completion of childbirth by cesarean section ($p < 0.05$) (table 3).

When studying the course of childbirth in women of both groups a significantly higher percentage of complications in women of the main group compared to the control was found. 28 (21.5%) women with pathology of the urinary system and 97 (07%) women of the control group did not show any features of childbirth ($p < 0.05$).

Table 3

Characteristics of childbirth in women with renal pathology

Group of women	Number of women p(%)		Indicators n(%)			
			First childbirth	Second childbirth	Physiological childbirth	C-section
Main 130(100.0)	GP	68(52.3)	37 (28.5)	31 (23.8)	65 (50.0)	3 (2.3)
	HP	62(47.7)	20 (15.4)	42 (32.3)	52 (40.0)	10 (7.7)
Control	100 (100.0)		52(52.0)	48(48.0)	100(100.0)	-
Statistical indicators			t_1=3.69 P_1<0.05 t_2=6.19 P_2<0.05	t_1=3.88 P_1<0.05 t_2=2.43 P_2<0.05	t_1=11.4 P_1<0.05 t_2=13.96 P_2<0.05	t_1=1.75 P_1>0.05 t_2=3.29 P_2<0.05

Note: t_1. P_1 – comparison of group I with the control; t_2. P_2 – comparison of group II with the control

Significantly more women in the main group had a weakness of labor: Group I – 8 (6.2%), II – 9 (6.9%) against 1 (1.6%) in the control group; manure defect – group I 8 (6.2%), II – 7 (5.5%) in the absence of these complications in the control group (p <0.05). In the main group, births occurred significantly more often: Group I 6 (4.6%), II – 29 (22.3%) (p <0.05). It should be noted that much more often premature births were in group I of women with chronic pyelonephritis. All women in the control group had timely births (table 4).

Table 4

Features of childbirth in women with pathology of the urinary system

Indicators				Complications during childbirth					
Group of women, p. (%)		Timely childbirth	Premature birth	Weakness during childbirth	Premature water break	Defect manure	Bleeding	Combined	Abscent
		n(%)	n(%)	n(%)	n(%)	n(%	n(%)	n(%)	n(%)
Main 130 (100.0)	I -68 (52.3)	62 (47.7)	6(4.6)	18 (13.8)	8(6.2)	8(6.2)	2(1.5)	4(3.1)	28 (21.5)
	П-62 (47.7)	33 (25.4)	29 (22.3)	15 (11.5)	9(6.9)	7(5.5)	3(2.3)	28 (21.5)	-
Control n=100 (100.0)		100 (100.0)	–	2(2.0)	1(1.0)	–	–	-	97 (97.0)
Statistical indicators		t_1=11.9 P_1<0.05 t_2=19.5 P_2<0.05	t_1=2.5 P_1<0.05 t_2=6.1 P_2<0.05	t_1=3.54 P_1<0.05 t_2=3.03 P_2<0.05	t_1=2.22 P_1<0.05 t_2=2.42 P_2<0.05	t_1=2.93 P_1<0.05 t_2=2.75 P_2<0.05	t_1=1.4 P_1>0.05 t_2=1.75 P_2>0.05	t_1=2.04 P_1<0.05 t_2=5.97 P_2<0.05	t_1=18.9 P_1<0.05 t_2=56.8 P_2<0.05

Note: t_1. P_1 – comparison of I group with control; t_2. P_2 – comparison of II group with control

According to the results of the assessment of the condition of children at birth, it was found that the number of children of women in the main group with a score on the V. Apgar scale was: Group I satisfactory – 7-10 points – 53 (40.8%) children; mild and severe hypoxia 6 or less points – 15 (11.5%) newborns; and in group II – satisfactory condition – 7-10 points – 37 (28.46%) children; mild and severe hypoxia 6 or less points – 25 (19.2%) children.

A significant proportion of children from mothers with pathology of the urinary system required transfer to specialized intensive care units: 7 (5.4%) from women of group I and 13 (10.0%) – group II. In one case (0.8%) mortality was noted. All children from the mothers of the control group were discharged home in satisfactory condition (P <0.05) (table 5).

A significant proportion of children from mothers with pathology of the urinary system required transfer to specialized intensive care units: 7 (5.4%) from women of group I and 13 (10.0%) – group II. In one case (0.8%) mortality was noted. All children from the mothers of the control group were discharged home in satisfactory condition (P <0.05) (table 5).

Table 5

Assessment of the condition of newborns from mothers with pathology of the urinary system

Group of children n (%)		Indicators (number of children. p(%)				
		Evaluation according to V. Apgar		Discharge	Transfer to reanimation	Died
		6 б. і <	7 б. і >			
Main p=130 (100%)	I 68(52.3)	15(11.5)	53(40.8)	61(46.9)	7(5.4)	-
	II 62(47.7)	25(19.2)	37(28.46)	48 (36.9)	13(10.0)	1(0.8)
Control p=100(100%)		-	100(100.0)	100(100.0)	-	-
Statistical indicators		t_1=4.11 P_1<0.05 t_2=5.56 P_2<0.05	t_1=13.7 P_1<0.05 t_2=18.06 P_2<0.05	t_1=12.13 P_1<0.05 t_2=14.91 P_2<0.05	t_1=2.72 P_1<0.05 t_2=3.8 P_2<0.05	t_2=1.02 P_2>0.05

Note: t1. P1 – comparison of group I with the control; t2. P2- comparison of group II with the control.

Therefore, after conducting a comparative analysis of reproductive losses, somatic history in women with pathology of the urinary system and studying the results of the course and completion of pregnancy, as well as complications of childbirth in such women living in Lviv region, we can draw the following conclusions.

It has been proved that women with pathology of the urinary system are at risk of obstetric complications. Significant differences were found in the comparison of pregnancy parity in women of the main and control groups (P <0.05): most women in both surveyed groups were pregnant again: 74 (56.9%) in the main group, and 22 (73.3%)in the control group with most women pregnant for the first time. There were significant differences in the rates of termination of pregnancy and complications during childbirth: women in the main group were significantly more likely to have premature births (15.4% of women with GP and 46.2% of women with CP), while all women in the control group gave birth in term (P <0.05).

5. Conclusions

1. Significant differences were found in the comparison of the ordinal number of pregnancy in women of the main and control groups: a significant number of women in the main group were pregnant again: 74 (56.9%), and the control group was dominated by first-born 22 (73.3%), (P <0.05). The majority of patients in the main group (120 – 92.3%) had somatic

diseases. The most common was the combination of pathology of the urinary system and chronic infectious diseases (58-44.6%). All women in the control group were healthy (p <0.05).

2. It was found that 32 (24.6%) women with acute pyelonephritis and 42 (32.3%) women with chronic pyelonephritis had complications of reproductive history, most often – miscarriages: 10.0% and 7.7%, respectively (p <0.05).

3. Analysis of the course of pregnancy in the studied women showed a much higher percentage of complications in pregnant women of the main group. The main complications were in group I – pyelonephritis – 32 (24.6%) cases. Significantly more often women of group II had chronic pyelonephritis, anemia – 11 (8.5%), the threat of termination of the first half of pregnancy – 8 (6.2%), preeclampsia in combination with anemia – 7 (5.4%) and the threat of termination of the first and second half of pregnancy 5 (3.8%). In the control group, 90 (90.0%) women did not note the peculiarities of pregnancy (p <0.05).

4. There were significant differences in the rates of termination of pregnancy and complications during childbirth: women in the main group were significantly more likely to have premature births (15.4% of women with acute pyelonephritis and 46.2% of women with chronic pyelonephritis), while all women in the control group gave birth on time (P <0.05). Significantly more women in the main group had a weakness of labor: Group I 8 (6.2%), Group 9 (6.9%) against 1 (1.6%) in the control group; defect of manure I group 8 (6.2%), II 7 (5.5%) in the absence of these complications in the control group (p <0.05).

5. Pregnancy termination in the vast majority of women in the main group was physiological: in 65 (50.0%) women of group I and in 52 (40.0%) women of group II (P <0.05). Respectively, cesarean delivery was completed in 3 (2.3%) women from groups I and 10 (7.7%) from group 2. All women in the control group had timely, physiological births.

6. The obtained results indicate that the condition of newborns from mothers with pathology of the urinary system, was often disturbed and was differed from similar indicators in almost healthy newborns. Estimate on the V. Apgar scale was the following: in group I 6 or less points had 15 (11.5%) newborns; and in group II – 6 or less points – 25 (19.2%) children. A significant proportion of children from the main group (I -5.4%, II – 10.0%) needed immediate resuscitation measures at birth and their transfer to specialized departments for further treatment.

Prospects for further research

The solutions proposed in the paper are promising in terms of further possibility to determine the informative range of risk factors for perinatal pathology in women with diseases of the urinary system to improve the comprehensive prevention of this pathology.

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