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Research Article

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The Impact of the Factor of the Russian-Ukrainian war (2021-2025) on the Dynamics of the Quality of Life of Pregnant Women with Primary Chronic Disease of the Veins of the Lower Extremities During Gestation

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ABSTRACT

Wars have always affected the deterioration of the mental and emotional state of the population in general, and especially among women of reproductive age. It is extremely important for Ukraine to identify and assess the impact of the Russian-Ukrainian war on the quality of life of pregnant women as a source of demographic recovery, especially with primary chronic disease of the veins of the lower extremities, which occurs from 23.7% to 34.2% of pregnant women.

Methods: This article provides an assessment of the dynamics of changes in the quality of life of pregnant women with primary chronic disease of the veins of the lower extremities according to subjective criteria during gestation in the period 2021 - 2025. The control year is 2021, as between the war period. The work was carried out on the basis of the municipal institution "Rivne Regional Perinatal Center" of the Rivne Regional Council. Quality of life was evaluated according to physical, social and psychological aspects and the presence of such an aspect as pain. For this purpose, the CIVIQ-20 and VCSS questionnaires were used. The patient's direct participation in the assessment of her condition provides adequate information about the quality of life directly related to the course of the disease and its impact on psychological, physical and social states against the background of the deterioration of the mental and emotional state caused by the war. And, in addition, the disease can significantly affect physical, psychological states and role in social life.

Results: According to the analysis, we can focus on negative trends in the deterioration of the quality of life during the study period. Thus, the quality of life, according to the CIVIQ-20 questionnaire, was estimated at 31.51±0.2 points in 2021, and in 2025 it was already 52.61±0.4 points. It decreased by 66.9%. A tendency to reduce the birth rate by 25.3% was noticed, from year to year during 2022-2025. compared to 2021; also the number of women giving birth for the first time by 3.3%. The number of pregnant women under 30 years of age increased from 36.2% in 2021 to 42.3% in 2025, with a long-term primary chronic disease of the veins of the lower extremities for more than 5 years from 37.5% to 43.8%, The number of women giving birth to more than 3 children increased compared to 2021, so in 2021 it was 34.9% to 42% in 2025.

Conclusion: The obtained results of assessing the quality of life of pregnant women can be used in planning the possibilities of demographic growth both in Ukraine as a whole and in a specific region, which will ultimately affect the socio-economic development of Ukraine.

Keywords: Quality of life, CIVIQ-20 and VCSS Questionnaires, Demography, Reproduction

Introduction

Chronic venous disease is today a common form of pathology among patients with cardiovascular diseases and the unresolved problem of its treatment, especially in pregnant women. Eberhard Rabe, President of the International Union of Phlebologists, noted that chronic venous diseases are one of the main reasons for the decline in the quality of life and the development of disability [1].

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This problem is especially relevant and not fully resolved, namely: maintaining the quality of life in women with venous pathology, especially during pregnancy. Pregnancy is a physiological state of a woman, during which hormonal, hemodynamic changes occur and continue in a woman's body throughout the entire period of pregnancy and in the postpartum period. During this period, problems of inherited and acquired defects from the venous system of the basin of the inferior vena cava are most often manifested. In addition, each pregnant woman is special and individual in terms of both the structure of the venous system and its compensatory capabilities due to the formation of a collateral venous network for the outflow of venous blood from the venous system of the lower extremities to the inferior vena cava, bypassing the venous outflow from the pregnant uterus. The progression of varicose veins of the lower extremities was noted in 25.5%-53.7% of pregnant women. Among pregnant women giving birth for the first time and especially in the 3rd trimester, this pathology occurs in 37.5%, and in repeated pregnancies – in 27.8% of patients [2]. Varicose veins of the lower extremities (saphenous veins) are observed in 32%-50% of pregnant women, and in more than half of pregnant women (60-80%) the disease that occurs during pregnancy accounts for 5.6% of all extragenital pathology during pregnancy [3-5]. Most often, during pregnancy, varicose veins undergo varicose transformation in the form of varicose veins, branches of large or small saphenous veins, less often trunks in a ratio of 3:1 and in 15% are found in combination. In only 9.7% of cases, the trunk and/or termination of the saphenous veins are affected [5]. In pregnant women with varicose veins of the lower extremities, 53.7% recorded the progression of the disease during the gestational period and in the period between pregnancies.

A pregnant woman belongs to the most vulnerable group of the population in terms of the impact of adverse factors on the state of quality of life. Therefore, the assessment of the quality of life can be used as an integral indicator to characterize the health status of a given contingent of the population [6]. Assessment of the quality of life, in combination with objective data, provides a comprehensive medical and social approach to assessing the health status of a pregnant woman and can be used to improve medical care for this contingent of the population [6]. In modern terminology, according to M.A. Naumova, "quality of life" is defined as an integral characteristic of the physical, psychological, emotional and social functioning of the patient, based on a subjective feeling [7]. One of the areas of research on the quality of life in medicine is the study of the impact of preventive measures and treatment methods on the parameters of the patient's quality of life. Subjective assessment by patients of well-being, which does not always coincide with objective biometric indicators, that is, the effectiveness of medical manipulations is subjectively assessed. The coincidence of the patient's subjective assessment of the improvement of her condition and objective biometric indicators contributes to mutual understanding between the doctor and the patient. Sometimes the subjective assessment of the patient differs from the doctor's opinion in the dynamics of the disease and the results of surgical or conservative treatment. There is a need, along with laboratory and instrumental monitoring of the condition of a pregnant woman, to take into account her subjective criteria for assessing the quality of life.

To do this, use a complex that includes the CIVIQ-20 questionnaire for patients with primary chronic venous disease of the lower extremities and the VCSS scale to assess the severity of chronic venous disease.

Specific for patients with varicose veins is the CIVIQ-20 questionnaire, developed by prof. Robert Launois from the Paris Laboratory of Public Health [7]. The method for assessing the quality of life is quite simple, economical and universal. The CIVIQ-20 (Chronic Venous Insufficiency Questionnaire) is recognized by most phlebologists, composed of 20 items reflecting 4 components of quality of life: physical, psychological, social and severity of pain syndrome. Each answer is evaluated from 1 to 5 points [8-11]. The sum of points is graded from 20 (maximum health) to 100 (the worst indicator is the maximum decrease in the quality of life). In addition, to identify changes in the severity of chronic venous disease during pregnancy, which affect the quality of life, the VCSS scale is used as an addition to the 2010 CEAP classification. Pregnancy is a special physiological state of a woman, in which, depending on the gestational age, the condition of the fetus, the condition of the woman herself, the ability to improve the quality of her life in each trimester of pregnancy with this pathology depends on the course of pregnancy. Drug improvement of the quality of life due to reducing the severity of manifestations of a chronic disease is limited due to the fact that there is a fear of harming the child in his development. This is mainly the use of pleotropic drugs approved during pregnancy for general and / or local (topical) use, compression therapy, compression class 2 or in combination. In the literature available to us, there was no assessment of the quality of life in pregnant women in dynamics during the gestational period with the above pathology during the Russian-Ukrainian war of 2021-2025.

Therefore, there is a need and urgency to carry out a comparative assessment of the quality of life of pregnant women in different years of the war in 2022-2025. with chronic venous disease as a woman's reaction to war.

The purpose of the study is to identify and evaluate in dynamics the factors affecting the quality of life of pregnant women with primary chronic disease of the veins of the lower extremities caused by the Russian-Ukrainian war during 2021-2025 during gestation.

Material and methods

All patients, of different ages and social status, were treated and monitored on the basis of the municipal institution "Rivne Regional Perinatal Center" of the Rivne Regional Council for the period 2021-2025. The control year was taken as 2021 as an interwar period, relatively stable. Analysis of quality of life, severity of chronic venous disease, by questionnaire, was carried out in pregnant women with clinical class of disease C0 -C4s according to the CEAP classification (2010). During gestation, during the Russian-Ukrainian war of 2022-2025. To assess the quality of life, the CIVIQ-20 questionnaire was used (the developer CIVIQ-20 allows non-commercial use of the questionnaire, provided that all publications using CIVIQ-20 are contain the phrase "This questionnaire was developed by Prof LAUNOIS with an educational grant from SERVIER") in

units, which is recognized by most phlebologists. The evaluation method is quite simple, economical and versatile. The severity of chronic venous disease was assessed according to the VCSS (venous clinical severity score) scale in points, as an addition to the 2010 CEAP classification by 5 parameters and the CEAP classification (2010) to assess the clinical manifestations of primary chronic disease of the veins of the lower extremities

Results and Discussion

One of the important problems, especially during gestation, is the feeling of discomfort in the lower extremities of varying degrees in all patients, especially in patients with primary chronic disease of the veins of the lower extremities, which affects them as a physical, social and psychological state. To assess the quality of life of a woman in dynamics during gestation with primary chronic disease of the veins of the lower extremities, which is most common in women, especially during pregnancy, used the CIVIQ-20 questionnaire by questionnaire as an integral indicator of its assessment, obtained in points according to the subjective individual assessment of their answers to questions of social, physical, psychological functioning and pain.

Additionally, to clarify the reasons for the increase in intensity and dynamics of pain, the factors that affected it (varicose veins, edema, pigmentation of the skin of the lower leg, the use of compression stockings) were additionally taken into account, for this purpose the VCSS questionnaire was used by questionnaire in points according to the subjective assessment of patients.

According to our data, primary chronic disease of the veins of the lower extremities in 89.2% occurred during pregnancy, due to the fact that during pregnancy there is a physiologically increased volume of circulating blood by 40-70% of the original one, depending on the number of fetuses, an increase in the concentration of progesterone levels in the blood, which contributes to the expansion of blood vessels, especially venous ones, an increase in intra-abdominal pressure due to an increase in the uterus, which helps to slow down blood flow in the veins of the inferior vena cava. Only 10.8% of primary chronic venous disease occurred before pregnancy. Pathology is, in most cases, chronic progressive, especially during pregnancy. The occurrence of this pathology in 98.3% of patients was hereditary, and in 1.7% as one of the symptoms of undifferentiated connective tissue dysplasia syndrome.

Among pregnant women, there was a tendency to increase the duration of primary chronic disease of the veins of the lower extremities in the period 2022-2025. So, in 2021. The duration of this pathology up to a year was diagnosed in 12.6% of patients, and in 2025 it was only 8.9%. At the same time, the percentage of patients with a history of varicose veins for more than 5 years has increased. In 2021, it was 37.5%, and in 2025 it was 43.8% (Table No. 1)

Table: 1 Duration of Varicose History Among Pregnant Women

Duration of Varicose History	Years				
	2021	2022	2023	2024	2025
Up to a year	12.6±0.2%	10.2±0.3	9.9±0.3	9.1±0.1%	8.9±0.1%
Up to 5 years	49.9±0.1%	50.1±0.6	50.2±0.8	48.3±0.6	47.3±0.4%
More than 5 years	37.5±0.1%	39.7±0.1	39.9±0.4	42.6±0.2%	43.8±0.1

During the analysis of the course of primary chronic disease of the veins of the lower extremities, 2 groups of patients were identified among patients according to their subjective assessment. The first group consisted of patients with a stable course of the disease, the second group with a progressive course of the disease during gestation.

It was noted that among patients of the first group, with a stable course of this vein pathology throughout pregnancy, there was a clear tendency to reduce the stable course among this contingent of patients from 12.7% in 2021 to 7.9% in 2025 and an increase in patients of the second group with a progressive course from 87.3% to 92.1% in 2025. (Table No. 2).

Table 2: Dynamics of the Course of the Disease

Assessment of the course of the disease	Aug. 2021	Aug. 2022	Aug. 2023	Aug. 2024	2025 year
Stable(%)	12.7	9.9	7.9	9.9	7.9
Progressive(%)	87.3	90.1	92.1	90.1	92.1

It was important to assess the dynamics of the severity of primary chronic disease of the veins of the lower extremities in these groups by the sum of points on the VCSS scale, taking into account symptoms such as pain, varicose veins, edema, pigmentation of the skin on the lower legs, and the use of compression therapy.

Thus, among patients of the first group, pain in the lower extremities did not require drug anesthesia, minor swelling of the soft tissues of only the feet, which disappeared due to night rest, slight pigmentation of skin impulses over varicose veins on the lower legs. Pregnant women used elastic knitwear in 45.3%, especially during physical exertion. (Table No. 3).

Table 3: Dynamics of Severity of Manifestations of Primary Chronic Disease of the Veins of the Lower Extremities During Pregnancy According to the VCSS Scale (in points) in the Group of Patients with a Stable Course of the Disease

Symptoms	Weekends / when registering / in points	Second Trimester of Pregnancy / in Points /	Third Trimester of Pregnancy / in Points /
Pain	1.1±0.1	1.1±0.2	1.9±0.2
Varicose veins	1.0±0.2	1.3±0.3	1.7±0.1
Pigmentation of the skin on the lower legs	2.3±0.3	2.3±0.4	2.3±0.3
Edema	1.4±0.2	1.4±0.2	1.9±0.3
Application of compression therapy	1.2±0.1	2.1±0.2	2.5±0.3

In the second group, pregnant women, the progression of this pathology during pregnancy from trimester to trimester was noted.

It is special that in this group, 23.2% of pregnant women already had episodic pain, which did not limit activity and did not require taking medical painkillers, in 10.2% the pain occurred daily, decreased activity, required periodic medication, in 0.9% there was daily pain, which significantly affected activity and required regular intake of painkillers. In addition, in 20.1% of the swelling of the soft tissues of the feet was permanent, in 10.1% they tended to spread to the lower legs with a slight decrease after a night's rest. In all patients, venous transformation of the saphenous veins increased with their spread in the distal direction to the lower legs in 32.2% and the feet in 9.9%. Pregnant women in the second group used elastic knitwear in 78.3% to minimize the severity of clinical manifestations of the disease, minimizing the spread of edema and varicose veins during physical exertion. (Table No. 4).

Table 4: Dynamics of Severity of Manifestations of Chronic Venous Disease During Pregnancy According to the VCSS Scale in Patients with a Progressive Course of the Disease

Symptoms	Weekends / when registering / in points	Second trimester of pregnancy / in points /	Third trimester of pregnancy / in points /
Pain	1.5±0.1	2.1±0.2	2.9±0.2
Varicose veins	2.0±0.2	2.1±0.3	2.7±0.1
Pigmentation of the skin on the lower legs	2.3±0.3	2.6±0.4	2.6±0.3
Edema	1.4±0.2	2.4±0.2	2.9±0.3
Application of compression therapy	1.2±0.1	2.1±0.2	2.5±0.3

Among pregnant women with primary chronic disease of the veins of the lower extremities, the dynamics of a stable increase in the severity of clinical manifestations of the disease over the years was noted. (Table No. 5).

Table 5: Frequency of Clinical Manifestations of Primary Chronic Disease of the Veins of the Lower Extremities among Pregnant Women according to the CEAP Classification (2000).

Clinical manifestations	Years				
	2021	2022	2023	2024	2025
C0	29.09%	24.1±0.1%	22.3±0.3%	19.2±0.6%	20.2±0.1%
C1	37.02%	33.2±0.2%	30.5±0.2%	24.1±0.2%	25.1±0.4%
C2	18.10%	23.1±0.3%	25.6±0.3%	34.1±0.3%	35.3±0.3%
C3	15.62%	20.2±0.2%	21.3±0.6%	19.2±0.1%	19.1±0.3%
C4	0.18%	0.3±01%	0.3±0.1%	1.0±0.2%	1.1±0.1%

During the follow-up, a clear trend towards a decrease in the frequency of mild clinical manifestations of primary chronic disease of the veins of the lower extremities in patients was noted. Thus, the clinical manifestations of the disease C0 + C1 decreased from 66.11% in 2021 to 45.3% in 2025 before an increase in the frequency of severe clinical manifestations of the disease. and in 2025, 55.5%.

When analyzing the frequency of primary chronic disease of the veins of the lower extremities during 2021-2025, a decrease in its frequency among pregnant patients under 20 years of age and consistently high among patients under 30 and up to 40 years of age was observed. (Table No. 6).

Table 6: Dynamics of the Frequency of Primary Chronic Disease of the Veins of the Lower Extremities among Pregnant Women during 2021-2025.

Years	Aug. 2021	Aug. 2022	Aug. 2023	Aug. 2024	2025 year
Up to 20 years old	12.2±0.1%	14.3±0.2%	10.1±0.2%	9.2±0.2%	10.2±0.3%

Up to 30 years old	24.3±0.2%	22.7±0.1%	27.1±0.2%	33.2±0.1%	33.2±0.1%
Up to 40 years	31.3±0.1%	30.2±0.2%	34.1±02%	35.1±0.2%	37.3±0.2%
More than 40 years	32.1±0.1%	33.2±0.4%	29.1±0.2%	23.5±0.1%	20.3±0.2%

The dynamics of estimating the age of patients giving birth during 2021-2025 is very important. (Table No. 7).

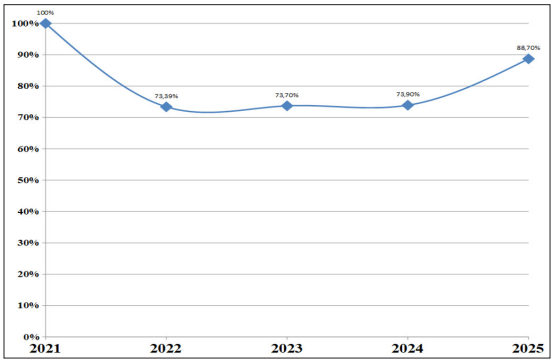
Table 7: Age of Pregnant Women

Age of pregnant women	2021 year	2022 year	2023 year	2024 year	2025
Up to 20 years old	19.2±0.1%	18.2±0.1%	16.2±0.1%	15.3±0.1%	16.2±0.1%
Up to 30 years old	36.2±0.3%	37.1±0.4%	39.5±0.3%	40.1±0.3%	42.3±0.1%
Up to 40 years	34.3±0.2%	35.3±0.4%	37.2±0.1%	38.4±0.6%	37.1±0.4%
More than 40 years	10.3±0.3%	9.2±0.2%	7.1±0.4%	6.2±0.3%	4.4±0.1%

The dynamics showed that the percentage of patients under the age of 20 who gave birth in 2021 was 19.2±0.1%, while in 2025 it was only 16.2±0.1%. At the same time, the number of patients under 30 years of age increased in 2025 and amounted to 42.3±0.1%, and in 2021 – 36.2±0.3%.

It was noted that during 2022-2025. Compared to 2021, there is a clear trend towards a decrease in the number of births. Thus, in 2022, the number of births compared to 2021 decreased by 27.4% and this trend was maintained in 2023 by 26.3%, in 2024 by 26.1% and in 2025 by 11.3%. (Table No. 8).

Table 8: Number of Births by Year (In the Form of a Graph).



At the same time, there is an increase in the frequency of visits to the polyclinic department by pregnant women during 2022-2025. In 2022, compared to 2021, visits decreased by 20%, but in 2023, compared to the number of visits in 2021, it increased by 300%, respectively, in 2024 - by 255%, in 2025 - by 233%.

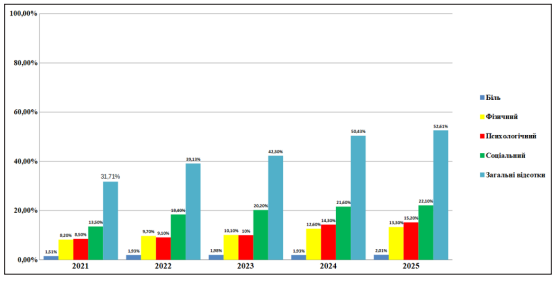
It was important to assess the dynamics of the number of births in women who gave birth in the period 2021-2025. During the analysis, the following was singled out: compared to 2021, there were 8.57% of women who gave birth for the first time, and in 2025 only 7.5%, with a clear upward trend in women with repeated pregnancies. Thus, in 2021, their frequency was 91.42%, and in 2025 – 92.4%. In addition, there is a tendency to increase births of more than 3 children in a family. When in 2021. Their percentage was 34.89%, then in 2025 it was 42.6%. (Table No. 9).

Table 9: Frequency of Childbirth During 2021 – 2025

Number of births	Years				
	2021	2022	2023	2024	2025
First	8.57%	11.03%	10.07%	8.4%	7.5%
repeated	91.42%	88.97%	89.9%	91.6%	92.4
Up to 3	56.53%	47.05%	46.5%	46.5%	49.8%
More than 3	34.89%	41.9%	43.4%	45.1%	42.6%

The results of the study of the quality of life of pregnant women during the war of 2022-2025 Compared to 2021, it decreased annually during this war period. (Table No. 10).

Table 10: Dynamics of the Quality of Life of Pregnant Women (as the sum of points according to the CIVIQ-20 questionnaire) During Gestation



Thus, the quality decreased in 2022 compared to 2021 by 7.62 points, in 2023 by 10.8 points. Respectively, in 2024, 2025 by 18.8% and 21.1%. The main reason for the deterioration in the quality of life of patients is a decrease in physical and psychological functioning and pain.

Conclusions

Based on the analysis, negative trends in the deterioration of the quality of life of pregnant women during gestation during the war were noted. Thus, the quality of life, according to the CIVIQ-20 questionnaire, was estimated at 22.1±0.2 points in 2021, and in 2025 it was 48.5±0.4 points. as well as the number of women giving birth for the first time from 19.2% in 2021 to 16.2% in 2025 The number of pregnant women under 30 years of age has increased, from 36.2% in 2021 to 42.3% in 2025 with long-term primary chronic disease of the veins of the lower extremities from 37.5% in 2021 to 43.8% in 2025, the

number of women, giving birth to more than 3 children, their frequency was 42.6% in 2025 and 34.89% in 2021. The results of the assessment of the quality of life of pregnant women and the factors that affect these indicators can be used in planning the possibilities of demographic growth both in Ukraine as a whole and in a specific region, which will ultimately affect the socio-economic development of Ukraine.

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