



**International Science Group**

**ISG-KONF.COM**

**V**

**INTERNATIONAL SCIENTIFIC  
AND PRACTICAL CONFERENCE  
"MODERN TECHNOLOGIES AND PROCESSES OF  
IMPLEMENTATION OF NEW METHODS"**

**Madrid, Spain**

**February 06 - 09, 2024**

**ISBN 979-8-89292-746-8**

**DOI 10.46299/ISG.2024.1.5**

# **MODERN TECHNOLOGIES AND PROCESSES OF IMPLEMENTATION OF NEW METHODS**

Proceedings of the V International Scientific and Practical Conference

Madrid, Spain  
February 06 - 09, 2024

**UDC 01.1**

The 5th International scientific and practical conference “Modern technologies and processes of implementation of new methods” (February 06 - 09, 2024) Madrid, Spain. International Science Group. 2024. 368 p.

**ISBN – 979-8-89292-746-8**

**DOI – 10.46299/ISG.2024.1.5**

EDITORIAL BOARD

<u>Pluzhnik Elena</u>	Professor of the Department of Criminal Law and Criminology Odessa State University of Internal Affairs Candidate of Law, Associate Professor
<u>Liudmyla Polyvana</u>	Department of Accounting and Auditing Kharkiv National Technical University of Agriculture named after Petr Vasilenko, Ukraine
<u>Mushenyk Iryna</u>	Candidate of Economic Sciences, Associate Professor of Mathematical Disciplines, Informatics and Modeling. Podolsk State Agrarian Technical University
<u>Prudka Liudmyla</u>	Odessa State University of Internal Affairs, Associate Professor of Criminology and Psychology Department
<u>Marchenko Dmytro</u>	PhD, Associate Professor, Lecturer, Deputy Dean on Academic Affairs Faculty of Engineering and Energy
<u>Harchenko Roman</u>	Candidate of Technical Sciences, specialty 05.22.20 - operation and repair of vehicles.
<u>Belei Svitlana</u>	Ph.D., Associate Professor, Department of Economics and Security of Enterprise
<u>Lidiya Parashchuk</u>	PhD in specialty 05.17.11 "Technology of refractory non-metallic materials"
<u>Levon Mariia</u>	Candidate of Medical Sciences, Associate Professor, Scientific direction - morphology of the human digestive system
<u>Hubal Halyna Mykolaiivna</u>	Ph.D. in Physical and Mathematical Sciences, Associate Professor

26.	Цимбалюк А.І. РЕГУЛЮВАННЯ ВІРТУАЛЬНИХ АКТИВІВ І ТЕХНОЛОГІЙ БЛОКЧЕЙН В ЄС І УКРАЇНІ: ЗАКОНОДАВЧІ НОВАЦІЇ	144
MANAGEMENT, MARKETING		
27.	Nurova G. EMPOWERING EDUCATION: CRAFTING A COMPREHENSIVE DEVELOPMENT AND SCALING STRATEGY FOR PRIVATE SCHOOLS IN THE REPUBLIC OF KAZAKHSTAN	153
28.	Білик В.М. ОСОБЛИВОСТІ РОЗВИТКУ НАУКИ ПУБЛІЧНОГО УПРАВЛІННЯ В ДЕЯКИХ КРАЇНАХ СВІТУ: ІСТОРИЧНИЙ АСПЕКТ	164
29.	Леськів Т.С. ТЕОРЕТИЧНІ СПЕКТИ ФОРМУВАННЯ ПОНЯТТЯ ЦИФРОВИЙ ОНЛАЙН СЕРВІС У ПУБЛІЧНОМУ УПРАВЛІННІ	167
30.	Мармаза О.І. КУЛЬТУРА ОРГАНІЗАЦІЇ: СУТНІСТЬ, ФУНКЦІЇ, МОДЕЛІ	170
MEDICINE		
31.	Borzenko U., Morhun V. DIAGNOSTIC MEASURES AND COMPREHENSIVE TREATMENT OF CHILDREN WITH WOUNDS OF VARIOUS LOCALIZATION AS A RESULT OF HOSTILITIES	178
32.	Khrebtii H. PATHOPHYSIOLOGICAL MECHANISMS OF DEVELOPMENT OF CHRONIC HEART FAILURE	181
33.	Kurychenko M., Siusiuka V. THE RETROSPECTIVE ANALYSIS OF OBSTETRIC AND PERINATAL OUTCOMES OF PREGNANCIES IN WOMEN WITH HYPERTENSIVE DISORDERS	189
34.	Гаман І.О., Човганюк О.С., Кочержат О.І., Василечко М.М., Вацеба Б.Р. МІКРОАЛЬБУМІУРІЯ ЯК МАРКЕР ДІАСТОЛІЧНОЇ ДИСФУНКЦІЇ МІОКАРДА У ХВОРИХ ІЗ МЕТАБОЛІЧНИМ СИНДРОМОМ	193

## **THE RETROSPECTIVE ANALYSIS OF OBSTETRIC AND PERINATAL OUTCOMES OF PREGNANCIES IN WOMEN WITH HYPERTENSIVE DISORDERS**

**Kyrychenko Mykhailo**

Postgraduate Student  
Department of Obstetrics and Gynecology  
Zaporizhzhia State Medical and Pharmaceutical University,  
Zaporizhzhia Ukraine

**Siusiuka Volodymyr**

MD, DSc, Professor, in. at. the Head of the Department  
Department of Obstetrics and Gynecology  
Zaporizhzhia State Medical and Pharmaceutical University,  
Zaporizhzhia Ukraine

Preeclampsia is a polyetiological hypertensive disorder specific to humans. This condition develops in women during the second half of pregnancy. The International Society for the Study of Hypertension in Pregnancy (ISSHP) defines preeclampsia as a condition manifesting after the 20th week of pregnancy and characterized by a combination of elevated blood pressure (SBP/DBP above 140/90 mmHg) and significant proteinuria (over 300 mg per day) [1, 2, 3].

As of today, the prediction of the development and severity of preeclampsia in pregnant women remains a pressing issue. This condition is extremely dangerous for both the mother and the fetus and can lead to a range of complications such as fetal growth restriction, severe disorders of fetoplacental hemodynamics, preterm birth, and, in severe cases, even the death of both mother and fetus [4, 5].

According to WHO data, severe preeclampsia complicates 2% to 8% of all pregnancies worldwide and is the second leading cause of maternal mortality, accounting for about 14%. Annually, more than 50,000 women worldwide die during pregnancy due to complications related to hypertensive disorders [6, 7, 8].

It is important to note that the International Federation of Gynecology and Obstetrics (FIGO) points out that causes of maternal mortality related to hypertensive disorders during pregnancy, including preeclampsia, are preventable. Most deaths caused by hypertensive disorders can be avoided provided that women with such complications receive timely and effective medical care. This makes the search for effective and accurate methods of predicting the occurrence and development of this pathology in pregnant women one of the priority tasks of modern obstetrics [9, 10].

**Study objective:** to analyze the obstetric and perinatal outcomes of childbirth in women with hypertensive disorders.

**Materials and methods.** A retrospective analysis of medical records of 100 cases of pregnancy and childbirth from the archive of the Regional Perinatal Center. The

analysis included cases with singleton pregnancies complicated by gestational hypertension, mild or severe preeclampsia. The average age of the pregnant women in the study group was  $29.81 \pm 0.62$  years. The diagnosis, management tactics, and childbirth were conducted according to the current orders of the Ministry of Health of Ukraine. The study complies with contemporary ethical standards. The data were analyzed using licensed standard packages of multidimensional statistical analysis software "STATISTICA 13".

**Research findings and discussion.** According to the study results, gestational hypertension was registered in 34% of cases. Moderate preeclampsia was diagnosed in 55% of the cases, and severe preeclampsia in 11%. According to the anamnesis data, 65% of the women were expecting their first childbirth, 51% of whom were pregnant for the first time, and 13% had cases of pregnancy termination. On average, elevated BP was registered at  $31.02 \pm 0.58$  ( $\sigma = 5.80$ ) weeks. The average systolic BP was  $153.80 \pm 1.47$  mmHg ( $\sigma = 14.74$ ), and diastolic BP was  $100.80 \pm 0.68$  mmHg ( $\sigma = 6.77$ ). The average level of proteinuria was  $1.69 \pm 0.25$  g/L ( $\sigma = 2.46$ ). Characterizing the course of pregnancy among women with hypertensive disorders in this study, it was found that fetoplacental circulation disorders (FCD) were registered in 63% of cases. According to the severity of hypertensive disorders, FCD were distributed as follows: in patients with gestational hypertension, 15% of cases showed no disorders in fetoplacental circulation, 15% showed slowed fetoplacental blood flow, and in 4% of cases – terminal forms of fetoplacental hemodynamics. In pregnant women with moderate preeclampsia, no disorders in fetoplacental circulation were found in 18% of cases, slowed fetoplacental blood flow was observed in 20% of cases, and terminal forms of fetoplacental hemodynamics in 17%. Among patients with severe preeclampsia, no FCD were found in 4% of cases, slowed fetoplacental blood flow was determined in 1% of cases, and terminal forms of fetoplacental hemodynamics in 6%. According to ultrasound data, fetal growth restriction (FGR) was observed in 32% of pregnant women, of which the asymmetric form of FGR accounted for 23%.

The analysis of childbirth characteristics in the study group established that the average gestation period was  $36.22 \pm 0.32$  weeks ( $\sigma = 3.16$ ). A statistically significant negative correlation was observed between the severity of hypertensive disorders and the term of delivery ( $\rho = -0.393$ ,  $p < 0.01$ ). Spontaneous onset of labor occurred in 58% of cases in the study group. In 63% of cases, childbirth was urgent, and in 37% – premature. Childbirth through natural delivery pathways concluded in 49% of cases. Cesarean section was performed in 51% of pregnancies. The frequency of preterm births in the main group amounted to 37%, which in most cases (32%) was due to preterm delivery before 37 weeks by cesarean section. In 19% of cases, fetal distress was the indication for early abdominal delivery, and in 9% – hypertension that could not be corrected with medication. In two cases (2%), the indication for surgical intervention was the detachment of the normally located placenta, and in another two cases (2%) – spontaneous onset of labor with breech presentation of the fetus.

In cephalic presentation, 90% of the childbirths occurred, 9% in breech presentation, and one case (1%) in transverse lie of the fetus. The most common indication for cesarean section was fetal distress, accounting for 23% of the cases

overall. The second most common was severe preeclampsia that could not be managed with medication, in 9% of cases. Placental abruption of the normally situated placenta was an indication for cesarean section in 7% of cases. Primary labor weakness and breech presentation each accounted for 3%. The presence of a uterine scar due to a previous cesarean operation, clinically narrow pelvis, and fetal distress in the first stage of labor were indications for cesarean in two cases each, making up 2% respectively.

62% of the infants were born with FGR ( $\leq 10$ th percentile). 27% of the newborns had normal weight indicators ( $> 10$ th percentile). Newborns with normal weight ( $\geq 50$ th percentile) constituted 10%. There was one case (1%) of a large for gestational age infant ( $> 90$ th percentile).

In the newborns of the study group, neonatal jaundice was observed in 67% of cases, and respiratory distress syndrome in 27% of cases. Intrauterine infection was noted in 24% of cases, hypoxic-ischemic encephalopathy in 21%. It should be noted that in this group, there were also cases of patent ductus arteriosus – 17%, neonatal asphyxia – 10%, transient jaundice – 6%, and anemia of prematurity – 3%.

**Conclusions.** The study revealed a significant increase in cases of perinatal complications in newborns from women with hypertensive disorders that occurred during pregnancy, compared to newborns from healthy mothers. Among pregnant women with hypertensive disorders, a high frequency of fetoplacental circulation disorders was diagnosed – 63%. In pregnant women with gestational hypertension, the occurrence of terminal forms of blood flow disturbance was 4%, with mild preeclampsia – 17%, and with severe preeclampsia – 6%. According to ultrasound data, fetal growth restriction was observed in every third pregnant woman – 32% of cases, of which 23% were the asymmetric form. In women with hypertensive disorders, a relatively high percentage of children were born with low weight according to growth-weight indicators – 62%. The perinatal outcomes of childbirth indicate that the frequency of preterm births in the group of women with signs of hypertensive disorders was 37%. A statistically significant correlation was found between the severity of hypertensive disorders and the term of childbirth ( $\rho = -0.393$ ,  $p < 0.01$ ). In 32% of cases, premature birth of the child was due to early surgical delivery, which in 19% of cases was associated with the development of fetal distress. The most common perinatal complications observed in newborns were: neonatal jaundice – 67% of cases, respiratory distress syndrome in newborns – 27%, intrauterine infection – 24%, hypoxic-ischemic encephalopathy – 21%.

### References

1. Brown MA, Magee LA, Kenny LC, Karumanchi SA, McCarthy FP, Saito S, et al. Hypertensive Disorders of Pregnancy: ISSHP Classification, Diagnosis, and Management Recommendations for International Practice. *Hypertension*. 2018;72(1):24-43. <https://doi.org/10.1161/HYPERTENSIONAHA.117.10803>.
2. Phipps EA, Thadhani R, Benzing T, Karumanchi SA. Pre-eclampsia: pathogenesis, novel diagnostics and therapies. *Nat Rev Nephrol*. 2019;15(5):275-289. <https://doi.org/10.1038/s41581-019-0119-6>.

3. Ranjbar A, Taeidi E, Mehrnoush V, Roozbeh N, Darsareh F. Machine learning models for predicting pre-eclampsia: a systematic review protocol. *BMJ Open*. 2023;13(9):e074705. <https://doi.org/10.1136/bmjopen-2023-074705>.

4. Korzeniewski SJ, Sutton E, Escudero C, Roberts JM. The Global Pregnancy Collaboration (CoLab) symposium on short- and long-term outcomes in offspring whose mothers had preeclampsia: A scoping review of clinical evidence. *Front Med (Lausanne)*. 2022;9:984291. Published 2022 Aug 30. <https://doi.org/10.3389/fmed.2022.984291>

5. Garovic VD, White WM, Vaughan L, et al. Incidence and Long-Term Outcomes of Hypertensive Disorders of Pregnancy. *J Am Coll Cardiol*. 2020;75(18):2323-2334. <https://doi.org/10.1016/j.jacc.2020.03.028>

6. World Health Organization. Trends in maternal mortality 2000 to 2020: Estimates by WHO, UNICEF, UNFPA, World Bank Group and UNDESA/Population Division. Geneva, Switzerland: WHO; 2023. Available from: <https://www.who.int/reproductivehealth/publications/maternal-mortality-2000-2020/en/>.

7. Ward ZJ, Atun R, King G, Sequeira Dmello B, Goldie SJ. Simulation-based estimates and projections of global, regional and country-level maternal mortality by cause, 1990-2050. *Nat Med*. 2023;29(5):1253-1261. <https://doi.org/10.1038/s41591-023-02310-x>.

8. Trost SL, Beauregard J, Petersen EE, Cox S, Chandra G, St Pierre A, et al. Identifying Deaths During and After Pregnancy: New Approaches to a Perennial Challenge. *Public Health Rep*. 2023;138(4):567-572. <https://doi.org/10.1177/00333549221110487>.

9. Geary M, Goggins A. Selected papers from the XXIII FIGO World Congress. *Int J Gynaecol Obstet*. 2023;160(2):457-458. <https://doi.org/10.1002/ijgo.14624>.

10. Shennan A, Suff N, Jacobsson B, the FIGO Working Group for Preterm Birth, Simpson JL, Norman J, et al. Abstracts of the XXIII FIGO World Congress of Gynecology & Obstetrics. *Int J Gynaecol Obstet*. 2021;155 Suppl 2(1):31-532. <https://doi.org/10.1002/ijgo.13884>.