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REVIEW OF THE LITERATURE ON RECENT RESEARCH IN THE FIELD OF OBSTETRICS AND GYNECOLOGY

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ABSTRACT

Recent advancements in obstetrics and gynecology have led to significant improvements in the management of pregnancy-related conditions, reproductive health, and maternal mental well-being. This article highlights key research findings from various studies published in reputable journals. Notable advancements include using antioxidants to reduce preeclampsia risk, the efficacy of non-invasive prenatal testing (NIPT) for early diagnosis of chromosomal abnormalities, and the increasing emphasis on maternal mental health during the perinatal period. Furthermore, studies regarding the impact of COVID-19 on pregnancy outcomes reveal the importance of vaccination in mitigating risks. In the field of reproductive technologies, innovative protocols for ovarian stimulation are improving success rates for in vitro fertilization (IVF), particularly in older women. These developments underscore the dynamic landscape of obstetrics and gynecology, with ongoing research shaping practices to enhance maternal and fetal health.

KEYWORDS

Obstetrics, Gynecology, Pregnancy complications, Preeclampsia, Antioxidants, Non-invasive prenatal testing (NIPT), Maternal mental health, COVID-19, Reproductive technologies, In vitro fertilization (IVF).

INTRODUCTION



In recent years, many interesting studies have been conducted in the field of obstetrics and gynaecology. Let us consider a few key areas and their results.

During pregnancy, significant anatomical, physiological and biochemical changes develop in the woman's body to create optimal conditions for growth and development of the foetus. In the 1st trimester, unfavourable conditions cause death or formation of malformations. In the 2nd and 3rd trimesters, intrauterine diseases may develop and developmental delay may be formed [1, 5, 12].

Against the background of pregnancy, the course or first manifestation of a wide range of chronic diseases of organs and systems worsens. Therefore, it is important to develop the field of obstetrics at the present stage. One of the most important areas is the study of pregnancy pathology, such as pre-eclampsia and diabetes of pregnancy. Studies show that early diagnosis and the use of new medications can significantly reduce risks for mother and child. In one study published in The Lancet in 2023, scientists demonstrated that the use of antioxidants can reduce the risk of pre-eclampsia [The Lancet - Antioxidants for the prevention of preeclampsia].

Genetic tests in obstetrics are also becoming one of the most researched areas. With advances in genetics, noninvasive prenatal tests (PNTs) are increasingly being used to diagnose chromosomal abnormalities in

the fetus. New data published in the American Journal of Obstetrics & Gynecology confirm the high degree of accuracy of such tests and their importance in reducing the need for invasive diagnostics [American Journal of Obstetrics & Gynecology—Noninvasive prenatal testing].

According to research published in the Journal of Affective Disorders, a focus on maternal mental health during pregnancy is becoming increasingly important. Support programs for women suffering from postpartum depression have shown positive results, improving both maternal mental health and child development [Journal of Affective Disorders - Maternal mental health].

Effects of COVID-19 on pregnancy

Studies initiated in response to the COVID-19 pandemic continue to come in. A paper published in the BMJ analyses the impact of the virus on perinatal outcomes. It has been found that pregnant women infected with COVID-19 have a higher risk of preterm labor, but vaccination significantly reduces this risk [BMJ - COVID-19 and pregnancy outcomes].

The field of obstetrics and gynecology is rapidly evolving and new research is constantly contributing to knowledge about women's health and pregnancy. The use of innovative technologies and treatments is significantly changing the management of pregnant women and families planning to become parents.



Medicine works tirelessly and develops in all branches to provide qualified assistance to anyone and everyone who needs it. One of the most special branches of medicine is obstetrics, which has existed since human existence.

Despite the strictness of protocols and legislative projects, there are also active new developments in obstetric practice. These include:

1. the use of virtual reality: this is an innovative method that helps women to focus on visualizations using special glasses or headsets during labor. This can help them relax and reduce pain levels, which is particularly useful when epidural anesthesia is not available or desirable.
2. New health monitoring technologies: with real-time monitoring, specialists can more accurately track the condition of the fetus and mother, allowing them to respond to any complications promptly and reduce the risk of complications.
3. Perinatal medicine: this is a branch of medicine focused on preserving the health of the fetus and mother during pregnancy and during labor. It includes various medical techniques and technologies to ensure an optimal and safe process of pregnancy and labor.
4. Genetic tests: modern genetic tests can detect genetic disorders in the fetus before it is born, allowing

health professionals and parents to take action to prevent or treat possible complications.

5. Analgesia and anesthesia techniques: new techniques help to reduce pain and discomfort for women during labor, which contributes to a more comfortable process and may reduce the need to use stronger analgesics.

6. Perinatal psychology: specialists help parents overcome the stress and anxiety associated with pregnancy and childbirth and provide support and counselling during this period.

7. Rehabilitation and recovery: new techniques help to speed up the process of recovery and return to the previous lifestyle after childbirth, improving women's physical and psychological well-being.

8. Telemedicine: this is a means of providing medical care at a distance, allowing consultation with doctors and receiving the necessary care without having to visit a hospital or clinic, which is especially important for pregnant women in remote areas.

There are many innovations and technologies in obstetrics that help to improve the birthing process and ensure a comfortable and safe delivery. Some of the important innovations in this area include:

1. Medical robots and automation: the use of robotics for monitoring and support during childbirth and for medical procedures or surgery.



2. Virtual reality and analgesia: the use of virtual reality and other technologies to manage pain and stress during labour.

3. Remote counselling, online classes by specialists: the ability to receive medical care and real-time counselling remotely, allowing easier access to skilled medical care.

4. New techniques for the treatment and prevention of complications during labour: development of more effective treatment and prevention protocols to reduce the risk of complications and improve birth outcomes.

5. Use of advanced doulas to monitor maternal and child health: development of new technologies to continuously monitor health indicators in real time during all stages of labour, allowing rapid response to any changes.

These innovations and technologies in obstetrics aim to improve the quality of care, the comfort of the birthing process and safety for both mother and baby. It is important to note that new techniques should always be evaluated and applied with safety and evidence-based medicine in mind.

Innovations in reproductive technologies

Assisted reproductive technology (ART) techniques are evolving and improving every year. Studies show that new ovarian stimulation protocols can increase

the chances of a successful pregnancy with IVF. An article published in Reproductive BioMedicine Online discusses new techniques that improve IVF outcomes in older women [Reproductive BioMedicine Online - Advances in ART].

CONCLUSIONS

In summary, modern technologies and techniques in the field of perinatal medicine play a key role in improving healthcare for pregnant women and newborns. Their use contributes to more accurate diagnosis, more effective treatment and care, and provides more comfortable conditions for the process of pregnancy and childbirth. The development and implementation of new technologies in this field can reduce the risk of complications, improve the quality of care and improve outcomes for mother and child. All this makes perinatal medicine more accessible, effective and humane, which is important for ensuring the health and well-being of expectant and new mothers and their children.

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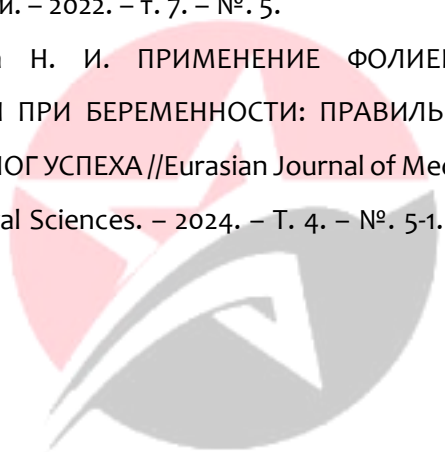


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