



Multifaceted Role of Obstetricians and Gynecologists in Reducing Recurrent Miscarriage

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Dear Editor-in-Chief,

Miscarriage, particularly recurrent miscarriage, represents a complex and multifactorial challenge in reproductive health, with significant physical, psychological, and economic impacts on women and families. Obstetricians and gynecologists play a crucial role in identifying and managing the genetic, hormonal, structural, and infectious factors contributing to miscarriage. Key interventions include parental karyotyping, treatment of hormonal disorders, correction of uterine anomalies, targeted use of assisted reproductive technologies (IVF, ICSI, IUD), and provision of continuous specialized care. These comprehensive approaches significantly increase pregnancy success rates, reduce the incidence of miscarriage, and alleviate associated burdens. This letter highlights the multifaceted and specialized roles of these professionals in improving reproductive outcomes and emphasizes the importance of utilizing advanced diagnostic and therapeutic strategies alongside sustained patient monitoring.

Key Words: Miscarriage, Obstetricians and Gynecologists, Pregnancy outcomes.

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1. INTRODUCTION

Miscarriage is a fundamental and critical challenge in reproductive health worldwide, with approximately 73 million induced abortions occurring annually. About half of these are performed under unsafe conditions, leading to irreversible health complications for women (1, 2). This issue is on the rise in many countries, including Iran, where the induced abortion rate is estimated to be around 8.9 to 10.7 per 1,000 women aged 15 to 44 years. Over recent decades, this rate has increased significantly, raising serious concerns for health policy and planning (3, 4).

The consequences of miscarriage extend beyond physical complications such as bleeding, infection, and potential damage to the reproductive system; they also impose a considerable psychological burden on affected women and their families, often resulting in anxiety, depression, and other mental health disorders (5, 6). Furthermore, the economic costs associated with treatment and the negative impact on population fertility underscore the importance of a comprehensive and multifaceted approach to this issue (2, 7).

Obstetricians and gynecologists play a vital role by applying specialized knowledge and advanced diagnostic and therapeutic tools to identify and manage the underlying causes of recurrent miscarriage and reduce their occurrence. Hormonal, genetic, anatomical, and immunological assessments, combined with the use of modern assisted reproductive technologies, represent essential interventions that contribute to improving pregnancy outcomes and preserving maternal and fetal health (8–10).

2. RESULTS

Given the multifactorial nature of recurrent miscarriage, obstetricians and gynecologists play a specialized, multifaceted, and personalized role in reducing its occurrence, which includes the following:

- **Identification and Management of Genetic Causes of Miscarriage:** Parental karyotyping in patients with a history of recurrent miscarriage is essential for identifying chromosomal abnormalities that account for a significant proportion of miscarriages. This provides the foundation for specialized genetic counseling and personalized treatment (11–13).
- **Evaluation and Treatment of Hormonal Disorders Related to Pregnancy:** Diagnosing conditions such as polycystic ovary syndrome (PCOS), luteal phase defect, and other hormonal imbalances, along with the application of targeted pharmacological therapies, improves endometrial receptivity, enhances pregnancy maintenance, and reduces miscarriage rates (9, 14).
- **Identification and Correction of Structural Uterine Abnormalities:** Advanced diagnostic and surgical procedures, including laparoscopy and hysteroscopy, are used to detect and treat abnormalities such as uterine septum, fibroids, and adenomyosis, which are associated with an increased risk of miscarriage. Appropriate treatment of these anomalies significantly reduces miscarriage incidence (15–17).
- **Application of Specialized Assisted Reproductive Technologies:** Utilizing techniques such as IVF, ICSI, and IUI in couples experiencing infertility or recurrent miscarriage allows for the selection of healthier embryos and determination of optimal fertilization timing, thereby enhancing pregnancy success rates and lowering miscarriage frequency (9, 18).
- **Design of Specialized Care Plans and Treatment Monitoring:** Providing specialized care from preconception through pregnancy—including precise monitoring of medical conditions, individualized medication adjustments, and regular follow-up—improves treatment efficacy and increases pregnancy success (9, 20).
- **Accurate Infection Control and Prevention of Reproductive System Damage:** Prompt diagnosis and treatment of infections and inflammatory diseases of the reproductive tract are critical in reducing miscarriage risk (21, 22).

3. CONCLUSION

Given the complex and multifactorial nature of recurrent miscarriage, obstetricians and gynecologists play a vital and specialized role in its reduction. Through precise diagnosis and management of genetic factors, treatment of hormonal disorders, correction of structural uterine abnormalities, utilization of assisted reproductive technologies, and provision of specialized care with continuous monitoring, they significantly increase the chances of a successful pregnancy and reduce miscarriage rates. Timely diagnosis and control of infections also constitute an essential component of their specialized care. Collectively, these targeted interventions improve maternal and fetal health, alleviate the psychological and economic burdens associated with miscarriage, and enhance the overall quality of life for affected couples.

4. ABBREVIATIONS

IVF: In Vitro Fertilization, ICSI: Intracytoplasmic Sperm Injection, IUI: Intrauterine Insemination.

5. CONFLICT OF INTEREST: None.

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