ISSN: 3067-9443

*Research Article*

Journal of Gynecology and Womens Health Care

# Obesity in Obstetrics: A Cross-Cutting Challenge from Fertility to Contraception Clinical and Strategic Issues a Retrospective Study of 600 Patients Followed at Sétif University Hospital

**Chouali Leila***

*Associate Professor (Class A), Faculty of Medicine, Ferhat Abbas University Sétif-1 Department of Obstetrics and Gynecology, Sétif University Hospital (CHU), Algeria*

***Corresponding author:**
Chouali Leila, Associate Professor (Class A), Faculty of Medicine, Ferhat Abbas University Sétif-1, Department of Obstetrics and Gynecology, Sétif University Hospital (CHU), Tel: (+213) 699 62 3367; Algeria.

## Abstract

**Introduction**: Female obesity is increasing in the Maghreb and represents a major public health concern. It affects the entire obstetric pathway, from fertility to postpartum contraception, increasing maternal and fetal complications.

**Materials and Methods**: We conducted a retrospective study of 600 obese patients (BMI ≥ 30 kg/m²) followed at the Department of Obstetrics and Gynecology, Sétif University Hospital, over five years. Data collected included sociodemographic characteristics, fertility, pregnancy complications, delivery mode, postpartum events, and contraceptive use. Statistical analyses were performed using SPSS, with significance set at $p < 0.05$.

**Results:**
Five key aspects were identified:

- **Fertility**: Chronic anovulation was present in 42% of patients.
- **Pregnancy**: High-risk pregnancies were frequent, with gestational hypertension in 35% and gestational diabetes in 28%.
- **Delivery**: Cesarean section rate was 62%, with increased anesthetic complications.
- **Postpartum**: Increased infections, thromboembolic events, and psychological disorders.
- **Contraception**: Choice was limited due to vascular risks and failures of conventional methods.

**Conclusion**: Maternal obesity negatively impacts all stages of the obstetric pathway. Early, personalized, multidisciplinary management is crucial to improving obstetric outcomes and reproductive health in obese women.

**Keywords:** Obesity, Obstetrics, Fertility, High-Risk Pregnancy, Cesarean Section, Contraception, Maghreb.

**Received:** January 02, 2025;
**Accepted:** January 09, 2025;
**Published:** January 16, 2026

## Abbreviations

**BMI:** Body Mass Index
**CHU:** University Hospital Center
**IUGR:** Intrauterine Growth Restriction
**ART:** Assisted Reproductive Technology

## Introduction

Female obesity represents a major public health concern, with rapid growth in Maghreb countries. This condition profoundly affects women's reproductive pathways, leading to consequences for fertility, pregnancy outcomes, childbirth, postpartum period, as well as the choice and effectiveness of contraceptive methods [1].

Excess body fat disrupts the hypothalamic-pituitary-ovarian axis, causing chronic anovulation, irregular cycles, and reduced fertility. During pregnancy, obesity increases the risk of maternal-fetal complications such as hypertension, gestational diabetes, and fetal growth abnormalities. Childbirth is often more complex, with increased rates of cesarean section, difficult instrumental deliveries, and anesthetic complications [2].

Moreover, the postpartum period is marked by heightened vulnerability, including thromboembolic events, infections, wound complications, and psychological disorders.

**Citation:** Chouali Leila (2026) Obesity in Obstetrics: A Cross-Cutting Challenge from Fertility to Contraception Clinical and Strategic Issues a Retrospective Study of 600 Patients Followed at Sétif University Hospital. J Gyne Womens Heal Care 2: 1-4.

Finally, contraceptive choices are limited due to cardiovascular risks and higher failure rates of conventional methods [3].

Given these challenges, early and integrated management is essential. The aim of this study was to identify the main challenges associated with obesity in women undergoing obstetric care and to propose clinical and organizational strategies adapted to the local context.

## Materials and Methods

### Study Design

This was a retrospective, descriptive, and analytical study based on the medical records of patients followed in the gynecology-obstetrics consultation.

### Study Setting and Period

The study was conducted in the gynecology-obstetrics department of the University Hospital Center (CHU) of Sétif over a five-year period from January 2019 to December 2024 [4].

### Study Population

The study included 600 obese patients followed from the preconception period to postpartum, who delivered at CHU Sétif during the study period.

### Inclusion Criteria

Patients meeting the following criteria were included:

- Pre-pregnancy BMI ≥ 30 kg/m²
- Pregnancy regularly monitored at CHU Sétif
- Delivery performed at CHU Sétif
- Complete medical records including preconceptional, prenatal, peripartum, and postpartum data

#### Exclusion Criteria

Excluded were:

- Multiple pregnancies
- Patients with major chronic diseases not directly related to obesity (systemic lupus erythematosus, severe heart disease, chronic autoimmune or renal diseases)

### Data Collected

Data were collected from medical records and obstetric registries using a standardized collection form.

1. **Sociodemographic Data**:
- Maternal age (years)
- Socioeconomic status (low, medium, high) assessed based on occupation and family income
- Education level (illiterate, primary, secondary, university)

2. **Clinical Data**:
- Pre-pregnancy BMI (kg/m²) classified according to WHO:
- Class I obesity (30–34.9 kg/m²)
- Class II obesity (35–39.9 kg/m²)
- Class III obesity (≥ 40 kg/m²)
- Medical history: diabetes, hypertension
- Obstetric history: miscarriage, fetal death in utero, previous cesarean

3. **Fertility-Related Data**:
1. Chronic anovulation
2. Menstrual cycle disorders (irregularity, amenorrhea)
3. Use of assisted reproductive technology (ART)

4. **Pregnancy-Related Data**:
- Gestational hypertension
- Gestational diabetes
- Fetal growth abnormalities (IUGR, macrosomia)
- Other obstetric complications (threatened preterm labor, preeclampsia)

5. **Delivery Data**:
- Mode of delivery (vaginal or cesarean)
- Use of instrumental extraction
- Peripartum complications
- Anesthetic difficulties and complications

6. **Postpartum Data**:
- Maternal infections
- Thromboembolic complications
- Wound complications
- Postpartum psychological disorders

7. **Contraceptive Data**:
- Contraceptive methods offered and used postpartum
- Contraindications to hormonal methods
- Reported contraceptive failures

### Statistical Analysis

Statistical analysis was performed using SPSS version 26.

- Quantitative variables were expressed as mean ± standard deviation and compared using Student's t-test.
- Qualitative variables were expressed as numbers and percentages and compared using the Chi-square test.
- Statistical significance was set at $p < 0.05$.

### Ethical Considerations

The study was conducted in accordance with the principles of the Declaration of Helsinki. Data were collected anonymously and confidentially.

## Results

### General Characteristics of Patients

The study included 600 obese patients, with a mean age of 32.4 ± 5.8 years. Most patients had a low socioeconomic status (60%) and a low education level (65%). Regarding obesity severity, 45% had class I, 35% class II, and 20% class III obesity [5].

**Table 1: Sociodemographic and Clinical Characteristics**

| Variable | N | % |
|---|---|---|
| Mean age (years) | 32.4 ± 5.8 | — |
| Low socioeconomic status | 360 | 60 |
| Medium socioeconomic status | 180 | 30 |
| High socioeconomic status | 60 | 10 |
| Low education | 390 | 65 |
| Secondary education | 150 | 25 |
| University | 60 | 10 |

| | | |
|---|---|---|
| Class I obesity (30–34.9) | 270 | 45 |
| Class II obesity (35–39.9) | 210 | 35 |
| Class III obesity (≥ 40) | 120 | 20 |

### Fertility History and Disorders

Chronic anovulation was observed in 42% of patients, often associated with irregular menstrual cycles (53%). ART was used in 16% of cases.

**Table 2: Gynecologic-Obstetric History and Fertility Disorders**

| Parameter | N | % |
|---|---|---|
| Chronic anovulation | 252 | 42 |
| Irregular cycles | 318 | 53 |
| History of miscarriage | 114 | 19 |
| Use of ART | 96 | 16 |

### Pregnancy Complications

Gestational hypertension occurred in 28%, and gestational diabetes in 35% of patients. Fetal growth abnormalities were mainly macrosomia (25%) versus IUGR (9%). Macrosomia was more frequent in class II and III obesity [6].

**Table 3: Pregnancy Complications in Obese Patients**

| Complication | N | % |
|---|---|---|
| Gestational hypertension | 168 | 28 |
| Gestational diabetes | 210 | 35 |
| Fetal macrosomia | 150 | 25 |
| IUGR | 54 | 9 |
| Preeclampsia | 72 | 12 |

**Table 4: Pregnancy Complications by Obesity Class**

| Obesity Class | Gestational HTN (%) | Gestational Diabetes (%) | Macrosomia (%) |
|---|---|---|---|
| Class I | 25 | 18 | 3 |
| Class II | 38 | 30 | 6 |
| Class III | 52 | 44 | 12 |

**Table 5: Maternal BMI and Gestational Diabetes**

| BMI (kg/m²) | Gestational Diabetes (%) |
|---|---|
| 31 | 15 |
| 33 | 20 |
| 35 | 28 |
| 37 | 35 |
| 40 | 45 |
| 43 | 52 |

### Delivery

Cesarean section was performed in 62% of cases, while 38% delivered vaginally. Instrumental deliveries were more difficult, and anesthetic complications more frequent in severe obesity.

### Postpartum Complications

Postpartum infections occurred in 12%, thromboembolic events in 5%, psychological disorders in 7%, and wound complications in 10%, mainly after cesarean [7].

**Table 6: Mode of Delivery and Postpartum Complications**

| Parameter | N | % |
|---|---|---|
| Cesarean | 372 | 62 |
| Vaginal | 228 | 38 |
| Postpartum infections | 72 | 12 |
| Thromboembolic events | 30 | 5 |
| Postpartum psychological disorders | 42 | 7 |
| Wound complications | 60 | 10 |

**Table 7: Cesarean Rate by Obesity Class**

| Obesity Class | Cesarean Rate (%) |
|---|---|
| Class I | 48 |
| Class II | 65 |
| Class III | 82 |

### Postpartum Contraceptive Choices

Hormonal methods were contraindicated or restricted in 30% of patients due to vascular risks. Additionally, 18% experienced failures with classical contraceptive methods, highlighting the need for personalized contraceptive strategies.

## Discussion

This study confirms that female obesity is a major transversal risk factor, negatively affecting the entire obstetric pathway. Our results align with international literature while highlighting context-specific features related to the socio-economic conditions of the Maghreb [8].

### - Obesity and Fertility

Chronic anovulation affected 42% of patients, consistent with studies reporting ovulatory dysfunction in 30–50% of obese women. Hyperinsulinemia and hyperandrogenism largely explain reduced fertility. ART use (16%) aligns with European and North American cohorts, confirming the challenge of infertility management.

### -Pregnancy Complications and High BMI

High rates of gestational hypertension (28%) and gestational diabetes (35%) are consistent with Conde-Agudelo et al., showing 2–3 times higher risk in obese women. Macrosomia predominated, especially in class II and III obesity, in line with Poston et al., highlighting the link between maternal obesity, gestational diabetes, and macrosomia.

### -Socioeconomic Context

A distinctive feature of our study is the high proportion of patients from low socioeconomic backgrounds. Low education and disadvantaged conditions exacerbate the impact of obesity by limiting preventive care and prenatal follow-up.

### -Delivery and Cesarean Rates

Cesarean rate of 62% matches ACOG recommendations

identifying obesity as an independent risk factor. Labor difficulties, fetal macrosomia, and anesthetic complications largely explain this high rate.

### -Postpartum Complications

Observed postpartum complications (infections, thromboembolic events, psychological disorders) align with data in Obstetrics & Gynecology and BJOG, confirming obesity as a risk factor, particularly post-cesarean.

### -Contraceptive Issues

Challenges in contraceptive choice reflect international recommendations, emphasizing the need for individualized and early counseling.

### -Clinical Implications

Results support structured, multidisciplinary, preconception care adapted to the local context. The originality of this study lies in its comprehensive approach, integrating socioeconomic factors often absent in international series.

## Conclusion

Obesity in obstetrics is a major transversal challenge, affecting fertility, pregnancy, delivery, postpartum, and contraceptive choices. Implementing integrated, personalized, context-adapted strategies, as developed at CHU Sétif, is essential to improve obstetric outcomes and reproductive health in obese women.

## Conflict of Interest

I declare that I have no conflict of interest related to this study.


## Acknowledgments

I thank the medical and nursing staff of the Department of Obstetrics and Gynecology at the University Hospital of Sétif for their contribution to patient care and clinical follow-up.


## References


1. ACOG Practice Bulletin No. 230 (2021) Obesity in Pregnancy. Obstet Gynecol 137: e128-e144.
2. Conde-Agudelo A, Belizán JM (2016) Maternal obesity and risk of adverse pregnancy outcomes: systematic review and meta-analysis. Lancet Diabetes Endocrinol 4: 341-356.
3. Marchi J, Berg M, Dencker A, Olander EK, Begley C (2015) Risks associated with obesity in pregnancy for mother and baby: systematic review of reviews. Obes Rev 16: 621-638.
4. Gaillard R, Durmuş B, Hofman A (2013) Maternal obesity, gestational weight gain, and adverse pregnancy outcomes. Obesity (Silver Spring) 21: 1046-1055.
5. Kominiarek MA, Chauhan SP (2016) Obesity before, during, and after pregnancy: a review and comparison of guidelines. Am J Perinatol 33: 433-441.
6. Black MH, Sacks DA, Xiang AH, Lawrence JM (2016) Maternal obesity and risk of gestational diabetes in diverse populations: a population-based study. Diabetes Care 39: 870-877.
7. Catalano PM, Shankar K (2017) Obesity and pregnancy: mechanisms and clinical implications. Best Pract Res Clin Obstet Gynaecol 36: 3-12.
8. Voerman E, Santos S, Inskip H, Golab BP, Pilar Amiano, et al. (2019) Maternal BMI, gestational weight gain, and risk of adverse pregnancy outcomes: an individual participant data meta-analysis. PLoS Med 16: e1002744.



**Copyright:** © 2026 Chouali Leila. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.