



MATERNAL AND FETAL OUTCOMES IN OVERWEIGHT AND OBESE PREGNANT WOMEN

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ABSTRACT

Background: Overweight and obesity during pregnancy are increasingly common, especially in Asian populations where BMI ≥ 23 is considered overweight. Elevated maternal BMI is strongly linked with adverse outcomes for both mother and child. This study aimed to evaluate maternal and fetal outcomes, and associated short- and long-term risk factors, in pregnant women with BMI ≥ 23 . **Methods:** A hospital-based observational study of 141 pregnant women with BMI ≥ 23 was conducted. Data included age distribution, BMI categorization, antepartum complications (gestational hypertension, pre-eclampsia, gestational diabetes, preterm labor, etc.), postpartum complications (wound gapes, sepsis, ICU care), and fetal outcomes. Descriptive statistics and chi-square tests were applied, with significance at $p < 0.05$. **Results:** Most participants were aged 18–25 years (39%) and 31–35 years (35.5%). Overweight constituted 44% and obesity 39%. Antepartum complications were common: gestational hypertension in 46.8%, severe pre-eclampsia in 14.9%, and gestational diabetes in 4.2%. Preterm labor and PPRM each contributed 7%. Postpartum complications were dominated by caesarean wound gape (9.2%), episiotomy wound gape (6.4%), and sepsis (4.3%). ICU admission (3.5%), postpartum fever, UTI (2.8% each), and thromboembolism (0.7%) were less frequent. These findings are consistent with existing literature linking maternal obesity to hypertensive disorders, metabolic complications, and surgical morbidity^{1–5}. **Conclusion:** Maternal overweight and obesity (BMI ≥ 23) significantly increase the risk of antepartum hypertensive disorders, preterm events, and postpartum wound-related morbidity. Early antenatal counselling, dietary interventions, and multidisciplinary management are crucial. Long-term follow-up is needed to reduce risks of chronic hypertension, type 2 diabetes, and adverse neonatal outcomes.

KEYWORDS : Maternal and Fetal Outcomes, Overweight, Obese

INTRODUCTION

The global rise in overweight and obesity has emerged as a major public health concern, significantly impacting pregnancy outcomes. In Asian populations, BMI ≥ 23 is regarded as overweight and BMI ≥ 25 as obese, reflecting a greater risk at lower thresholds compared with Western cut-offs¹. Maternal overweight and obesity are linked to metabolic and inflammatory changes—insulin resistance, endothelial dysfunction, and systemic low-grade inflammation—that predispose to gestational hypertension, pre-eclampsia, gestational diabetes, caesarean delivery, wound infection, and sepsis². Fetal and neonatal complications—including preterm birth, low birth weight, macrosomia, shoulder dystocia, stillbirth, neonatal death, and admission to intensive care—are reported more frequently³. Beyond the peripartum period, a higher maternal BMI is associated with adverse perinatal outcomes and long-term cardio metabolic risks for both mother and child, perpetuating intergenerational obesity and cardiovascular disease^{4,5}. Given the substantial burden of disease and healthcare costs in low- and middle-income settings, and the distinct BMI risk thresholds in Asian populations, there is a pressing need for context-specific evidence to inform antenatal risk stratification and care pathways. This study was undertaken to evaluate maternal, fetal, and neonatal outcomes among overweight and obese pregnant women in an Indian tertiary-care setting, with the aim of identifying high-risk profiles and opportunities for targeted preventive and intrapartum interventions.

Objectives

1. To estimate the prevalence of maternal outcomes in patients with BMI ≥ 23 (overweight and obese).
2. To identify the specific maternal outcomes in patients with BMI ≥ 23 (overweight and obese).
3. To estimate the prevalence of fetal outcomes in patients with BMI ≥ 23 (overweight and obese).
4. To identify the specific fetal outcomes in patients with BMI ≥ 23 (overweight and obese).

5. To determine the possible short- and long-term risk factors associated with BMI ≥ 23 in pregnant women.

MATERIALS AND METHODS

This prospective, observational, hospital-based study was conducted in the Department of Obstetrics and Gynaecology at a tertiary care hospital. A total of 141 pregnant women with BMI ≥ 23 were enrolled. Eligible participants were aged 18–45 years with singleton pregnancies and BMI ≥ 23 ; women with pre-existing chronic hypertension, pre-gestational diabetes, or renal or cardiac disease were excluded. Data were recorded on a structured case record form and included demographics, BMI categorization, antepartum and postpartum complications, and delivery and fetal outcomes. Statistical analysis comprised descriptive statistics, with associations assessed using chi-square and independent t-tests; a two-sided $p < 0.05$ was considered statistically significant.

RESULTS-

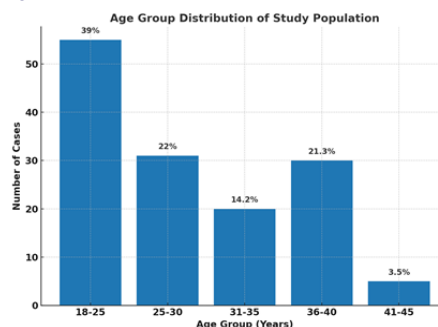


Chart No.1- Age Distribution

Most participants were young, with 39% aged 18–25 and 35.5% aged 31–35 years. This shows that overweight/obesity in pregnancy is highly prevalent even among women in early reproductive age.

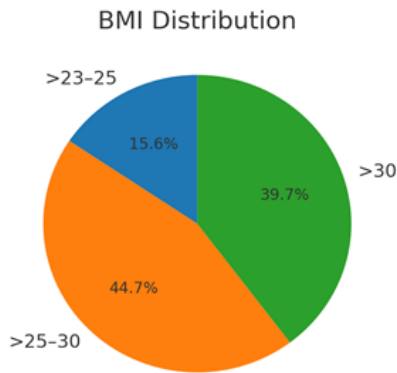


Chart No.2- BMI Distribution:

A striking 83% of women were either overweight (44%) or obese (39%). This highlights a major high-risk obstetric group predisposed to complications.

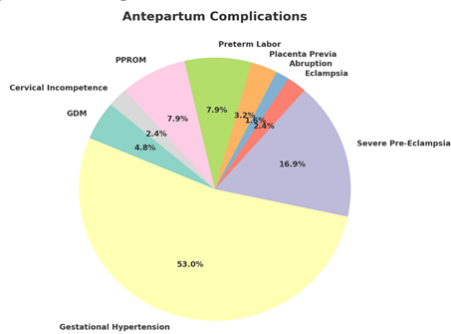


Chart No.3- Antepartum Complications:

Gestational hypertension (46.8%) and severe pre-eclampsia (14.9%) were the dominant maternal morbidities. Preterm labor and PPRM (14% combined) further increased fetal risk in obese mothers.

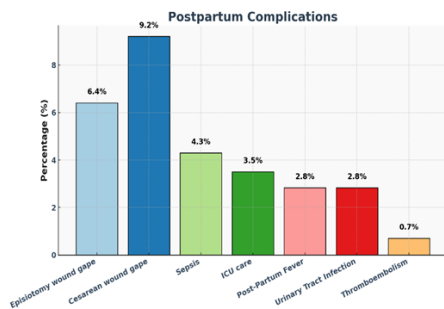


Chart No.4- Postpartum Complications:

Wound-related problems (caesarean 9.2%, episiotomy 6.4%) were the most frequent complications. Sepsis (4.3%) and ICU care (3.5%) indicate significant maternal morbidity in high-BMI pregnancies.

DISCUSSION

This study demonstrates that maternal overweight and obesity (BMI ≥ 23) markedly increase the risk of adverse outcomes. Hypertensive disorders of pregnancy were the most frequent complications, affecting nearly half of the women, aligning with previous reports that link obesity with vascular dysfunction and pre-eclampsia¹². Gestational diabetes (4.2%) was observed, though lower compared to some Western studies, possibly due to population differences³. Preterm labor and PPRM (14% combined) were also important contributors to fetal morbidity. Postpartum complications, especially wound infections and sepsis were significantly higher in obese women, consistent with impaired wound healing and immune dysregulation in obesity⁴. ICU admissions and

thromboembolic events, though less common, underscore the severity of maternal risks. These findings support earlier global and Indian studies reporting higher operative morbidity, metabolic complications, and neonatal risks in overweight/obese pregnancies⁵. Preventive strategies such as preconception counselling, antenatal nutritional guidance, and close perinatal surveillance are essential to mitigate risks.

CONCLUSION

Overweight and obesity in pregnancy are strongly associated with adverse maternal and fetal outcomes. Hypertensive disorders dominate antepartum complications, while postpartum wound morbidity is common. Early screening, lifestyle modifications, and multidisciplinary management should be integral to antenatal care in high-BMI pregnancies. Long-term follow-up is recommended to prevent future chronic diseases in both mothers and their offspring.

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