



GESTATIONAL DIABETES UNVEILED: INSIGHTS INTO MATERNAL HEALTH AND NEONATAL RISKS

Dr. Rubab Khalid, Dr. Saba Ansari, Dr Mariam Iqbal, Prof Rubina Sohail, Dr Asifa Noreen, Dr. Kanwal Nosheen



BACKGROUND

Gestational diabetes mellitus (GDM) is a common pregnancy complication that affects both maternal and neonatal outcomes. This study evaluated the impact of GDM on maternal and neonatal health, focusing on risk factors, management strategies, and outcomes.

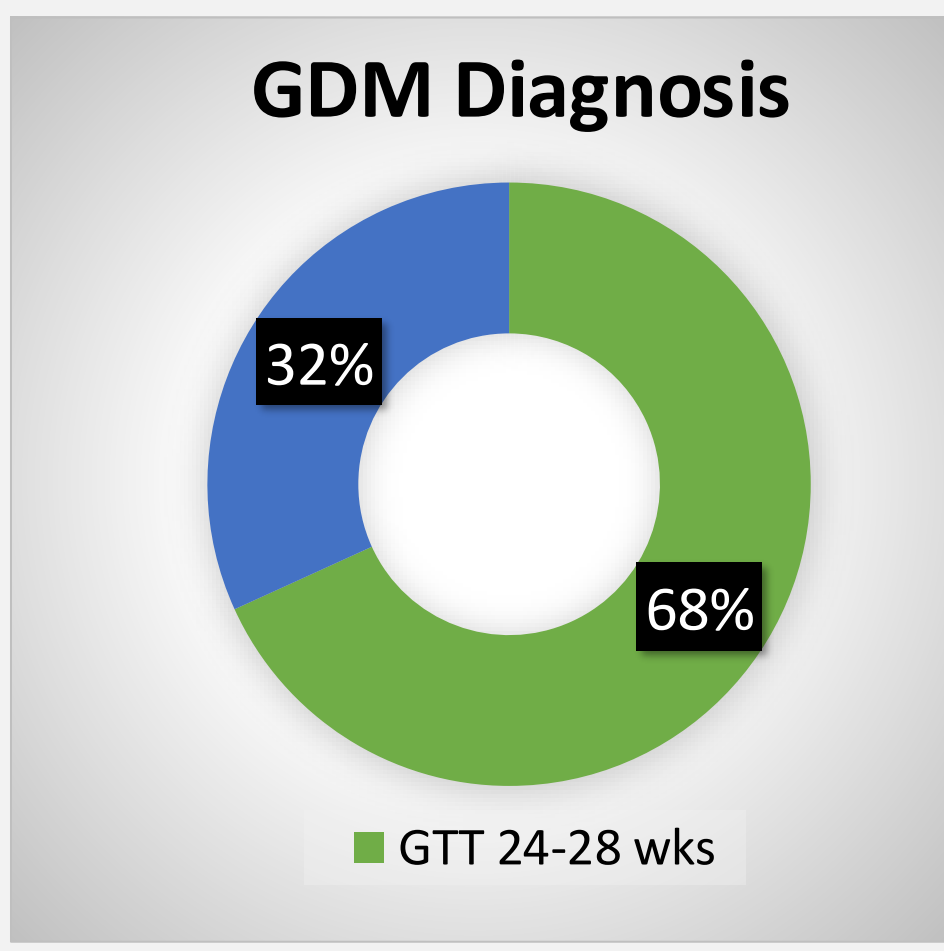
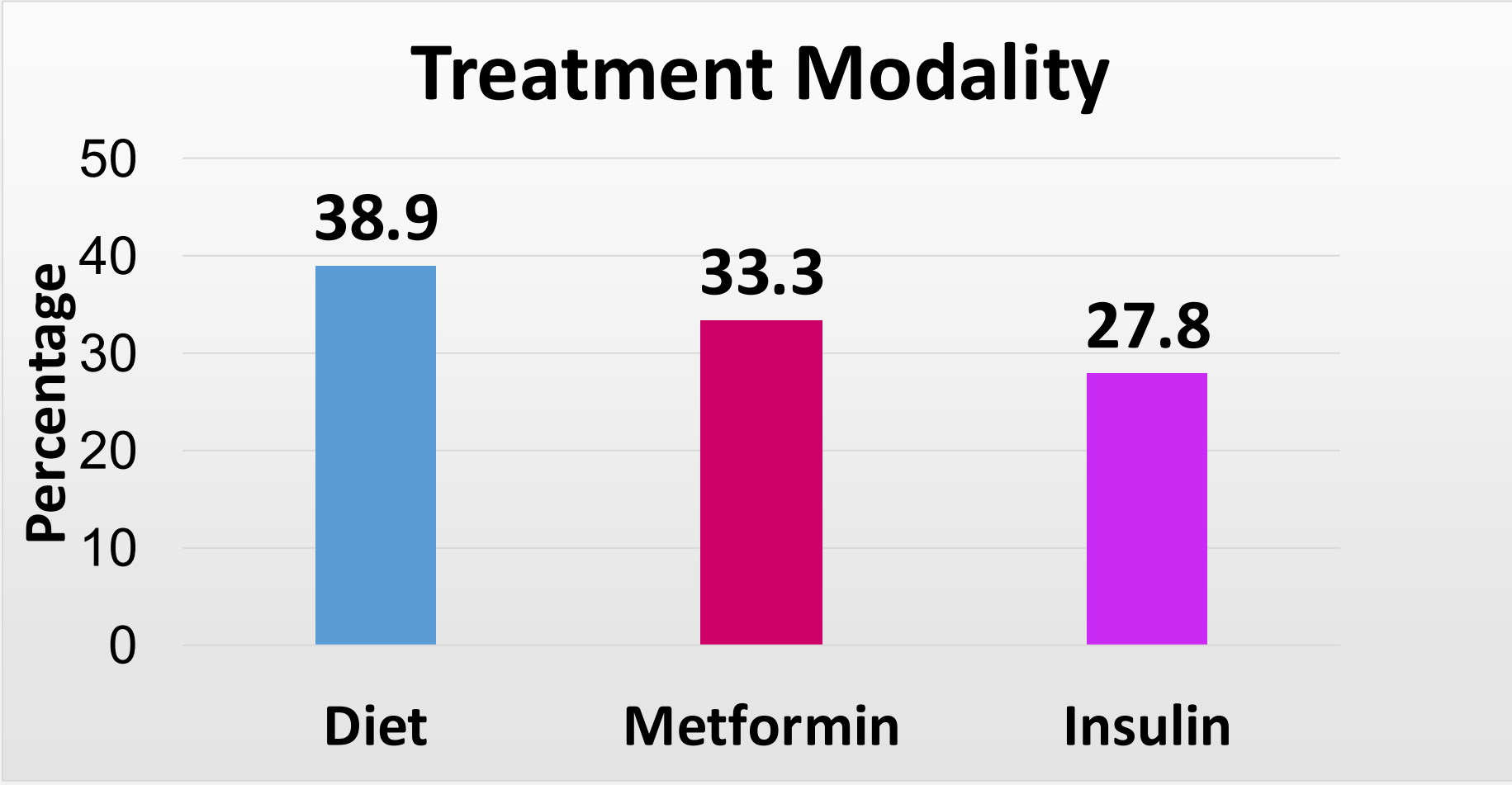
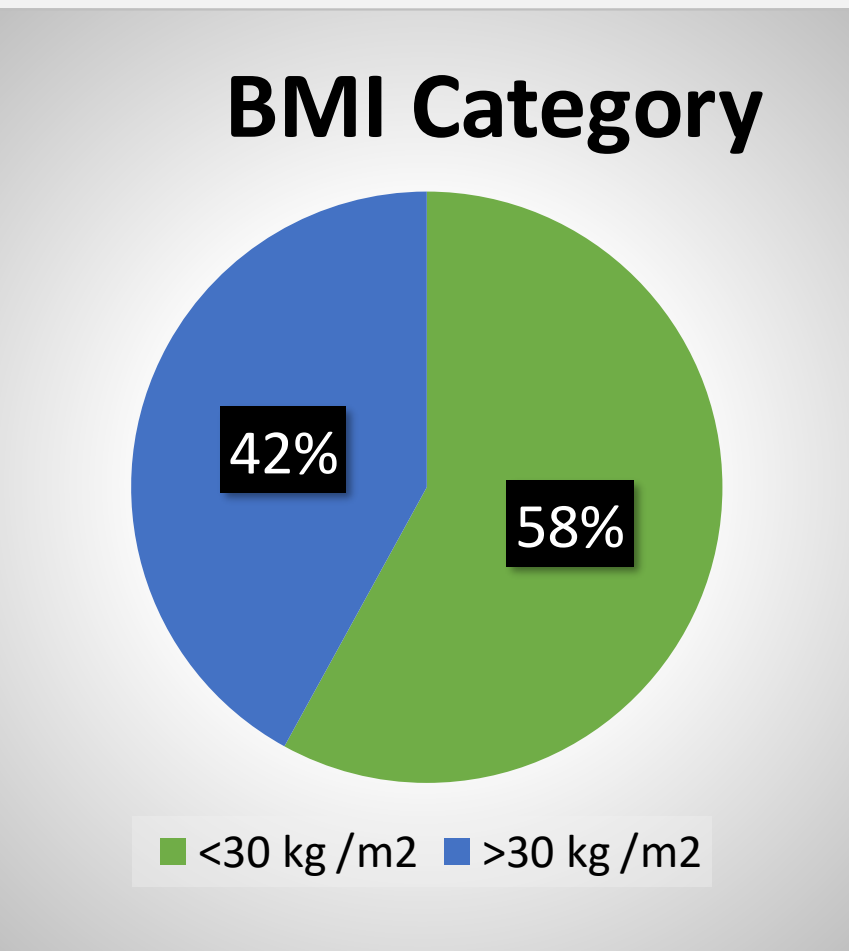


METHODOLOGY

Study Design: Retrospective cohort study
Setting: IMC, a private hospital in Lahore, Pakistan
Study Period: February to December 2024
Sample Size: 72 women diagnosed with GDM
Data Source: Medical records review
Statistical Analysis: Descriptive statistics, Chi-square test for categorical variables, Independent t-test for continuous variables using SPSS version 27

RESULTS

- The average maternal age was 28.9 years, with 41.7% being obese; 68.2% were diagnosed with GDM around 24-28 weeks
- Management strategies included dietary modifications (38.9%), Metformin (33.3%), and insulin therapy (27.8%)
- Neonatal outcomes showed a mean birth weight of 3.1 kg, with 10% of infants admitted to the NICU. Women treated with insulin had statistically significant higher mean birth weights (3320g) and NICU admissions (30%)
- A history of previous GDM had a strong association with NICU admission ($p = 0.01$)
- Higher maternal BMI ($>30 \text{ kg/m}^2$) was significantly associated with insulin use ($p = 0.04$) and NICU admissions ($p = 0.05$)



BMI and Insulin Use				
BMI Category	N	% of Group on Insulin	% of Total Insulin Users	p-value
< 30 kg/m²	42	9.5% (4/42)	20% (4/20)	< 0.001
> 30 kg/m²	30	53.3% (16/30)	80% (16/20)	
There is a strong and statistically significant association between higher BMI (>30 kg/m²) and insulin use (p < 0.001). A large proportion (80%) of insulin users had BMI >30.				

Neonatal Outcomes by Type of GDM Treatment

Variable	Diet (n = 28)	Metformin (n = 24)	Insulin (n = 20)	p-value
Mean Birthweight (g)	3050 ± 430	3125 ± 455	3320 ± 490	0.04*
NICU Admission	2 (7.1%)	4 (16.7%)	6 (30%)	0.03*

Neonates of mothers treated with insulin had significantly higher birthweights and NICU admission rates compared to those managed with diet or Metformin

CONCLUSION

Maternal obesity significantly impacts GDM management and neonatal outcomes. Higher BMI was linked to increased insulin use and NICU admissions. Individualized care, early screening, and weight control are key to improving outcomes in GDM pregnancies.

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