

The background is a light peach color with abstract blue and orange shapes. Various medical illustrations are scattered around: an orange insulin bottle labeled 'INSULIN Injection 10ml' in the top right; a blue syringe with a needle in the top right; a blue container with multiple syringes in the top right; a blue glucose meter with a screen showing a line graph in the bottom left; a blue glucose meter with a screen showing '124 mg/dL' in the bottom center; a blue syringe in the bottom center; and a blue glucose meter with a screen showing a line graph in the bottom left.

ANALYSIS OF DIABETES-RELATED HEALTH METRICS

Investigating Key Indicators of Diabetes
Prevalence and Risk

INTRODUCTION

DIABETES

- chronic condition affecting millions worldwide, with increasing prevalence.
- Understanding its risk factors is crucial for prevention and management.

OBJECTIVE

- Use dataset insights to explore relationships between physiological metrics (e.g., glucose, BMI) and diabetes.



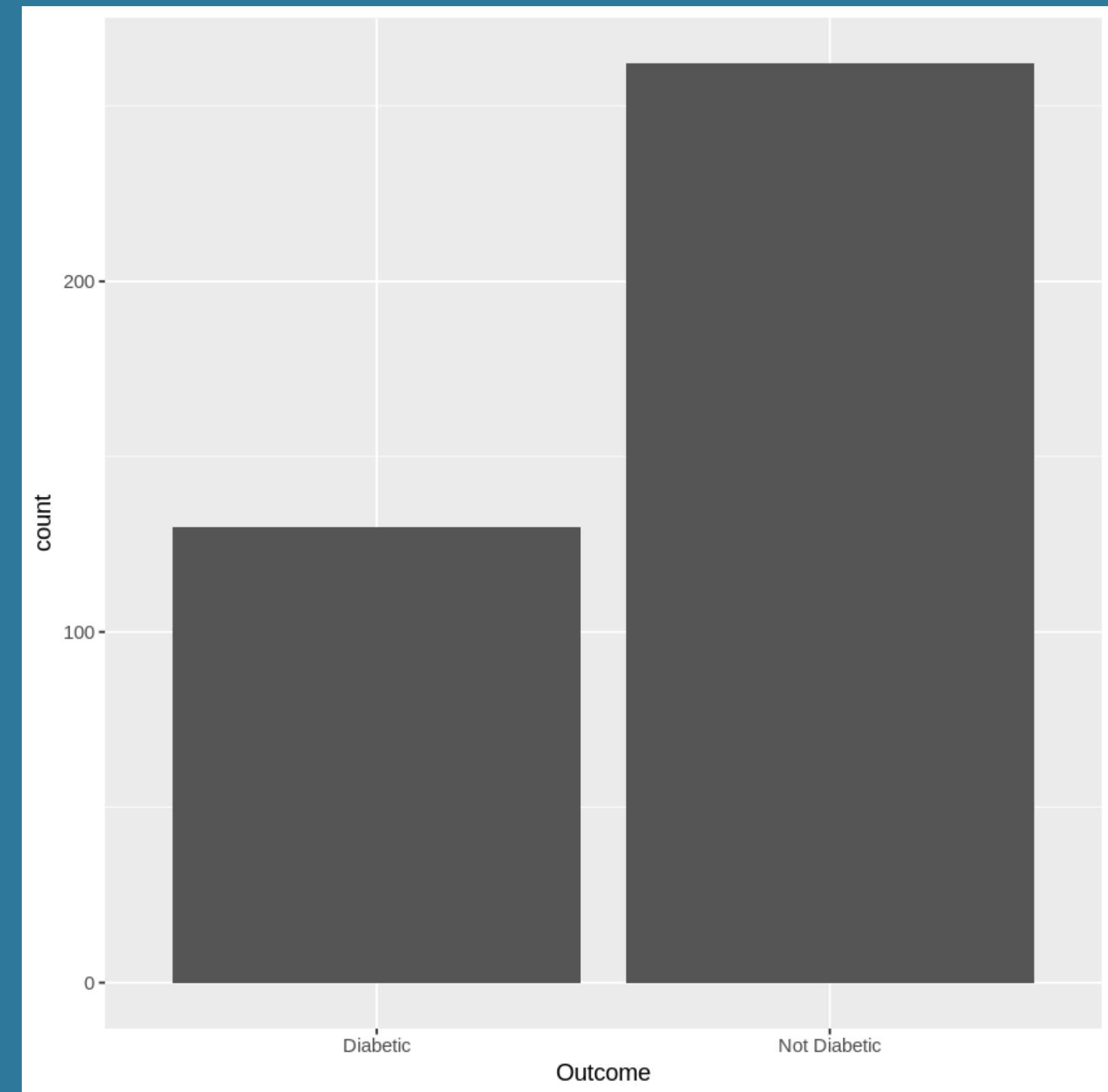
DIABETES PREVALENCE

Dataset Findings

- Global diabetes prevalence: 10.5% of adults.
- Significant public health concern.

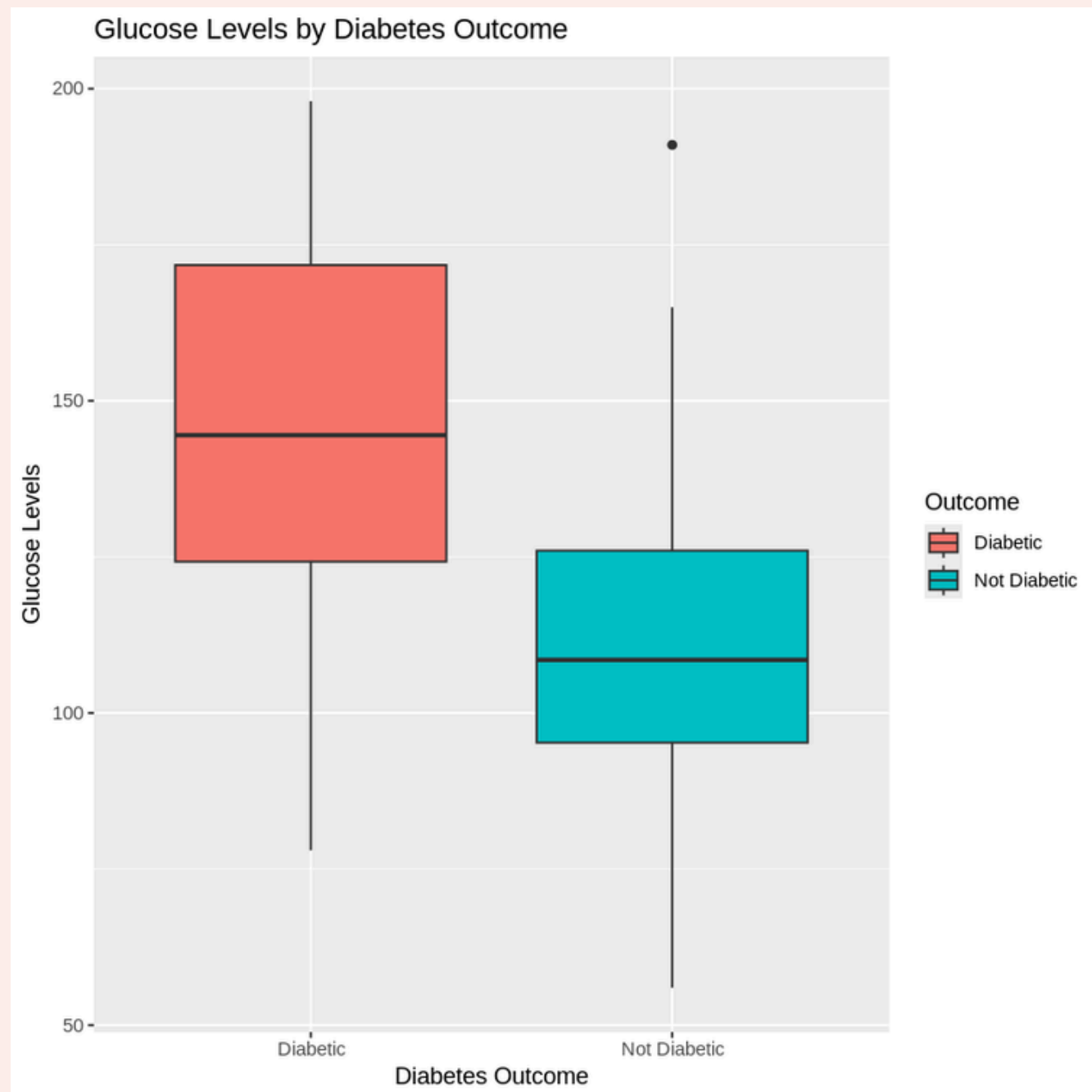
Dataset Findings

- Diabetes rate in the dataset: 34.9%.



Glucose Levels and Diabetes

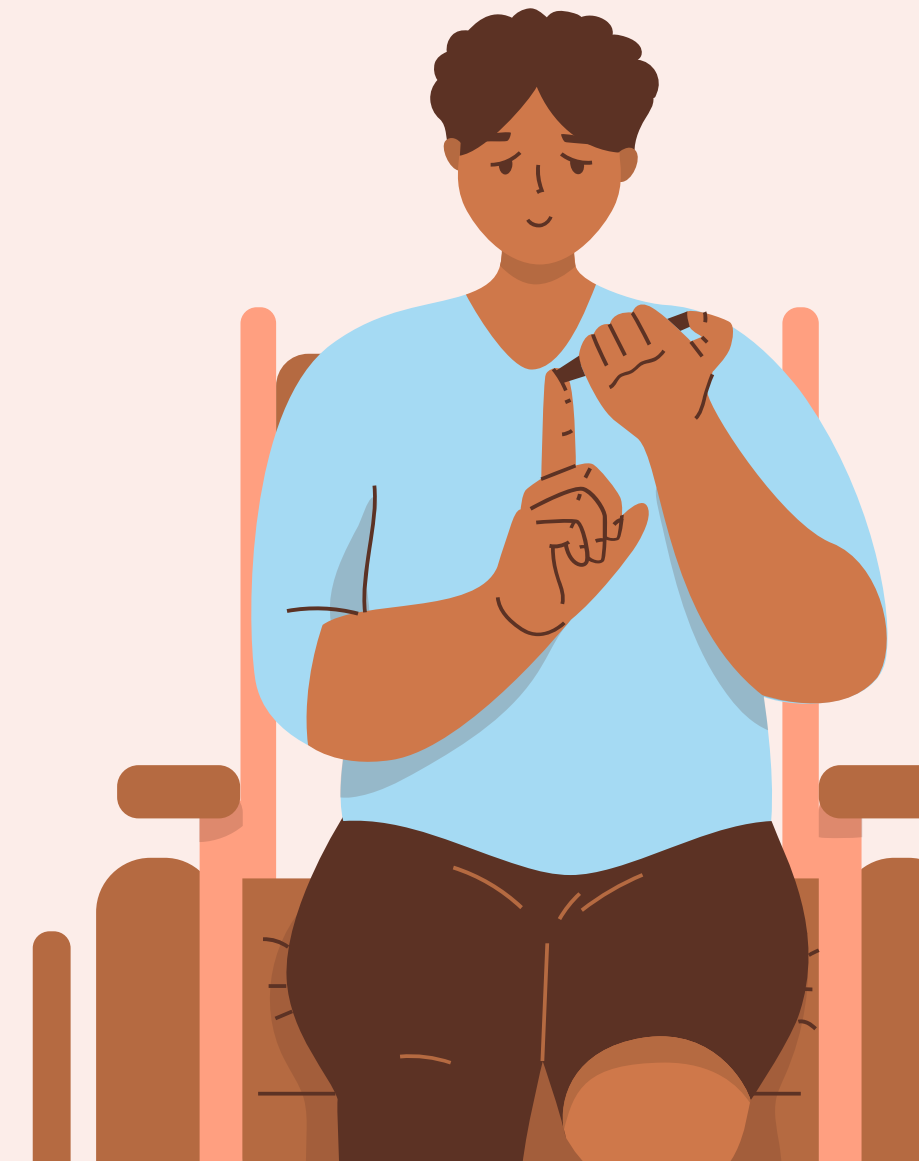
Diabetic patients have significantly higher glucose levels than non-diabetics.



KEY DATA:

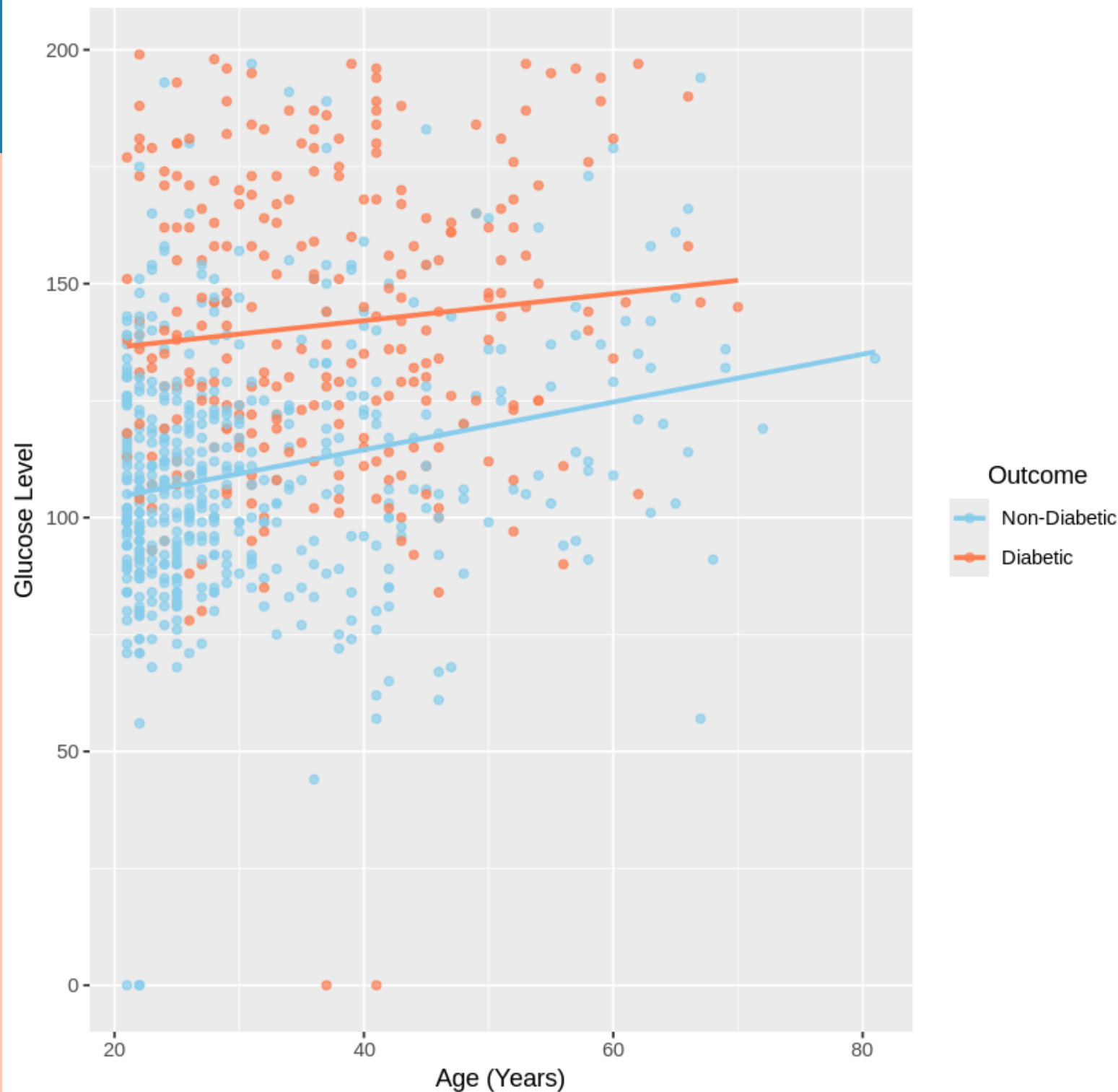
- **MEAN GLUCOSE**

- Diabetics: 145.19 mg/dL
- Non-diabetics: 141.2 mg/dL



AGE TRENDS IN DIABETES

Trend of Glucose Levels with Age



Finding:

- Diabetic patients are older on average.
- Glucose levels increase with age across both groups.

Key Data:

- Average Age:
 - Diabetics: 31 years
 - Non-diabetics: 37 years.



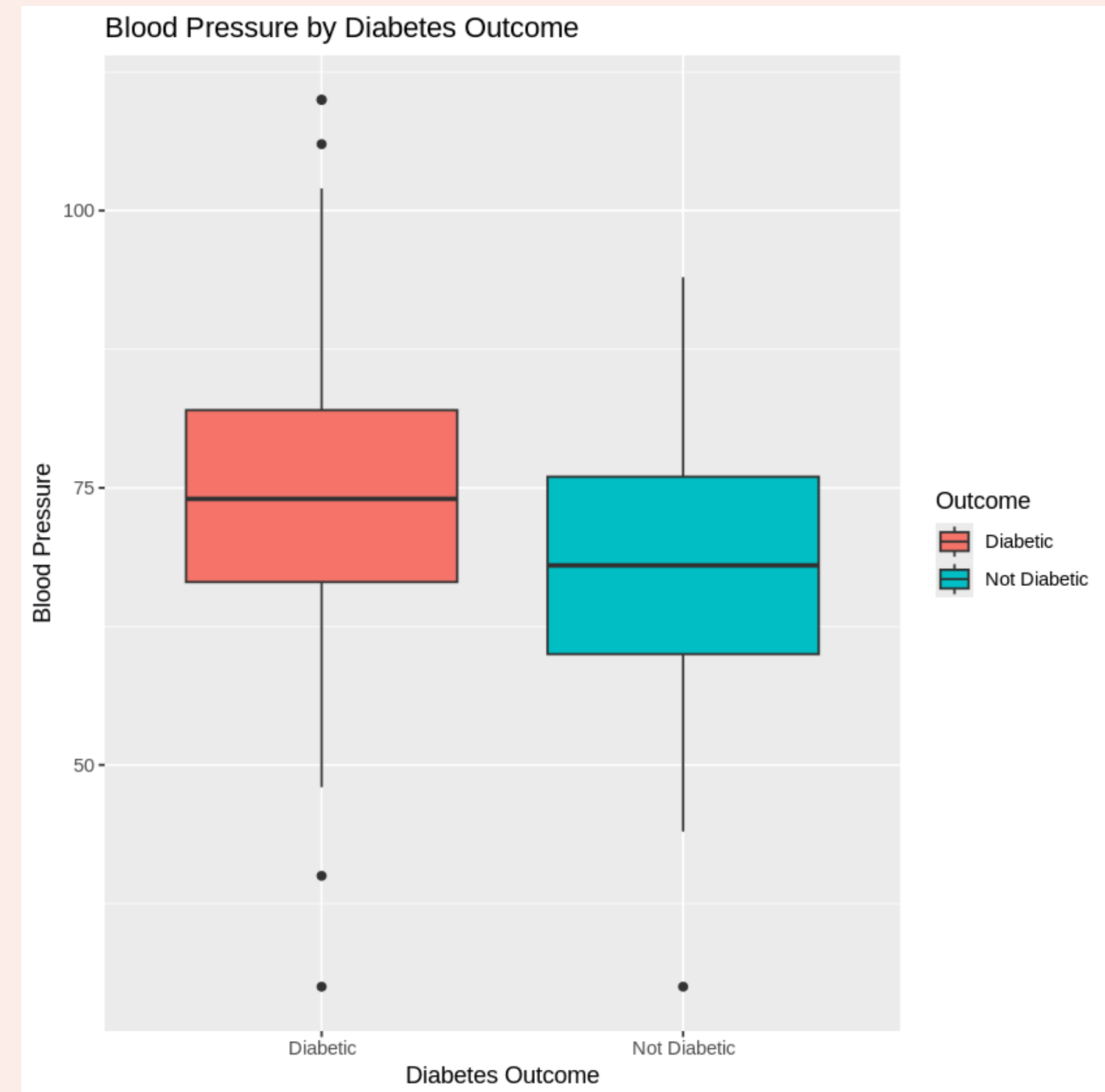
BLOOD PRESSURE AND DIABETES

Finding:

- Slightly higher blood pressure in diabetic patients.

Key Data:

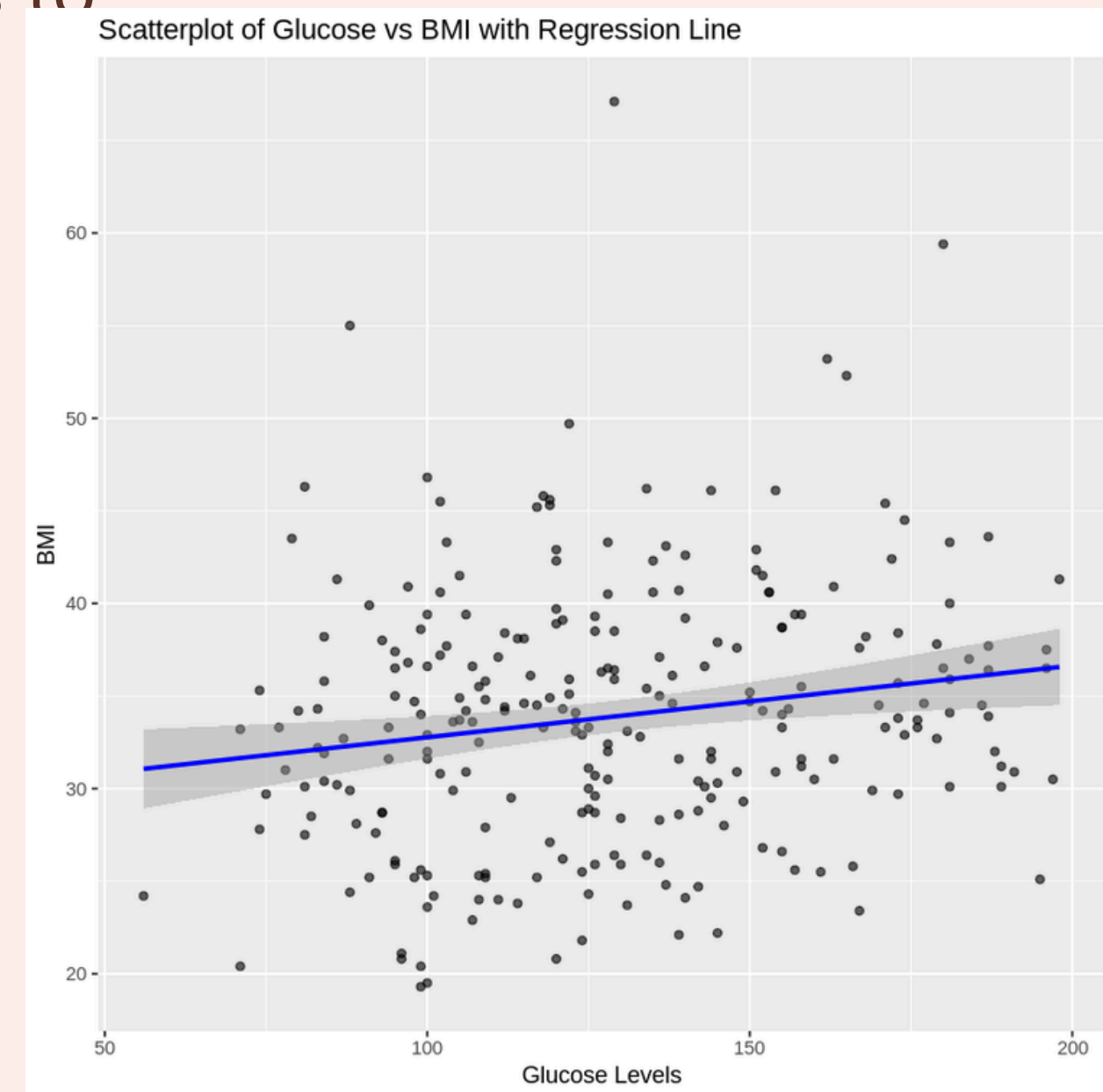
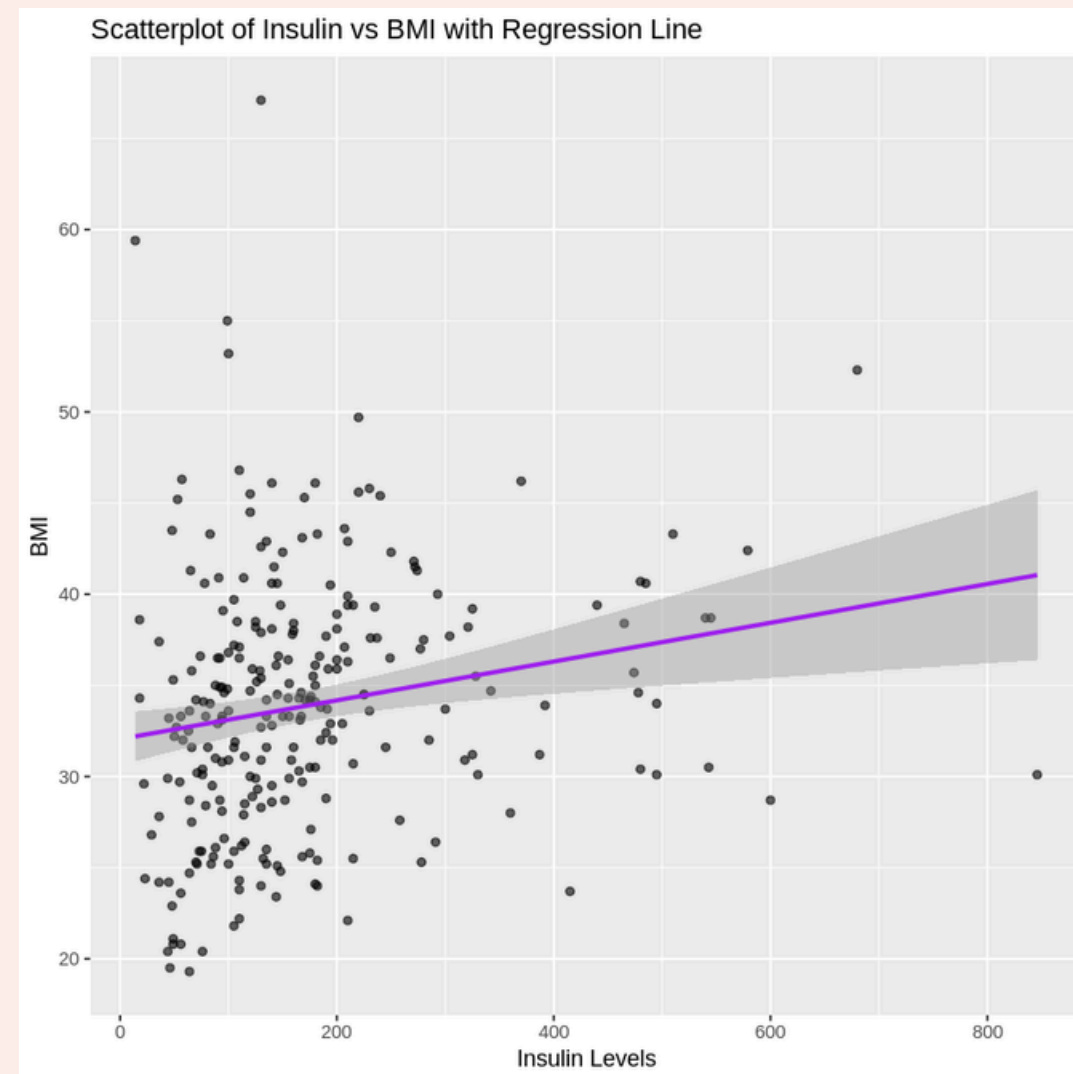
- Average BP
 - Diabetics: 70.8
 - Non-diabetics: 68.2



CORRELATION INSIGHTS

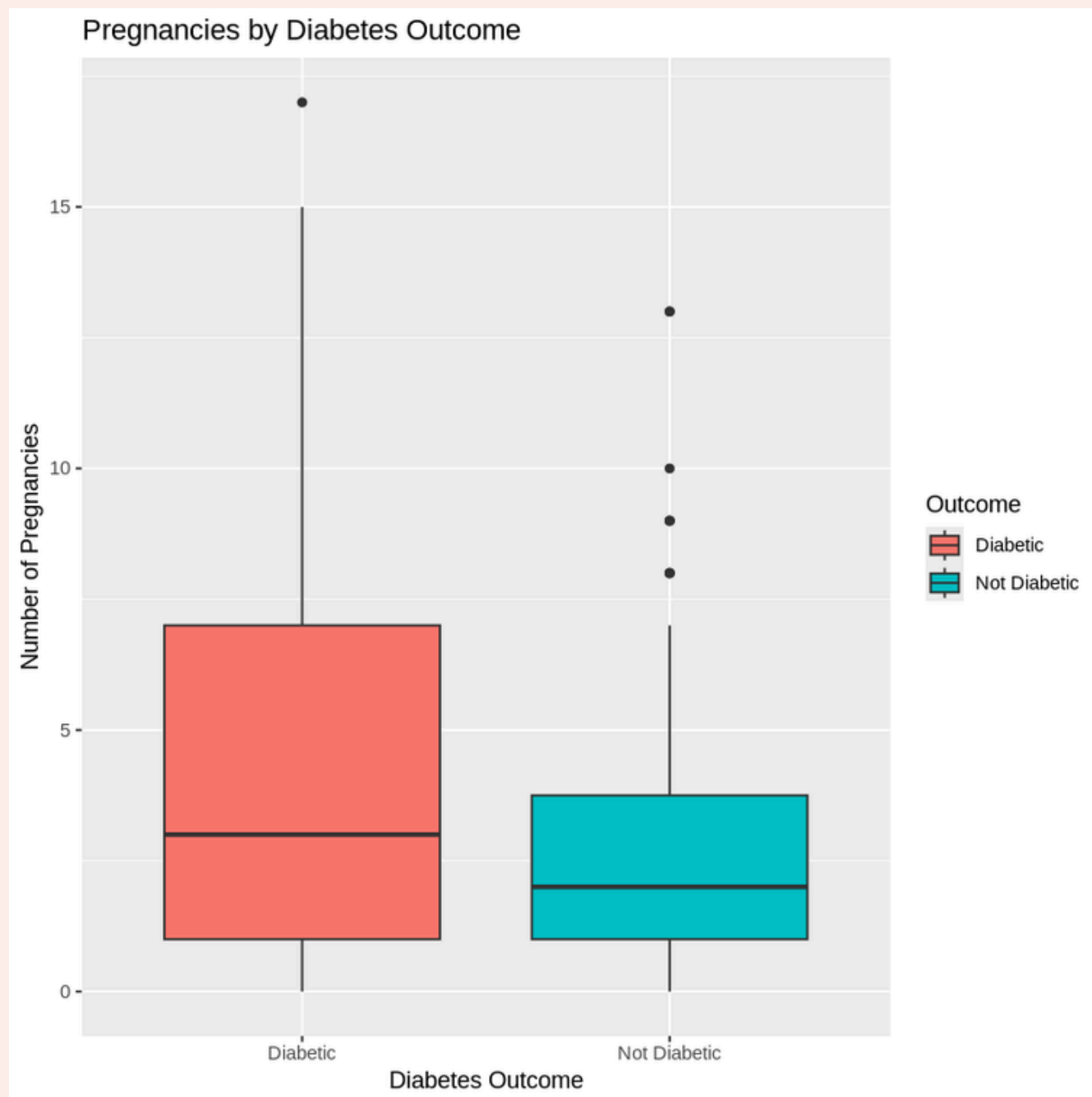
Finding:

- Moderate positive correlation between glucose levels and BMI ($r = 0.17$).
- Plots also indicate that higher BMI often corresponds to higher glucose levels and higher insulin levels.



Pregnancy and Diabetes Risk

Diabetic patients have higher pregnancy counts. The strong association confirmed through T-tests and Chi-Square tests.

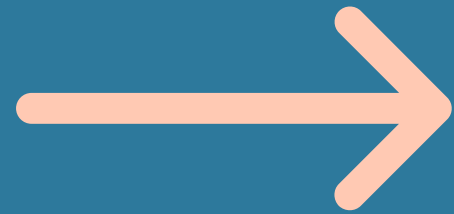


KEY DATA:

- **MEAN PREGNANCY COUNT**

- Diabetics: 4.5
- Non-diabetics: 2.7

KEY RISK PROFILES



Glucose & Insulin Levels

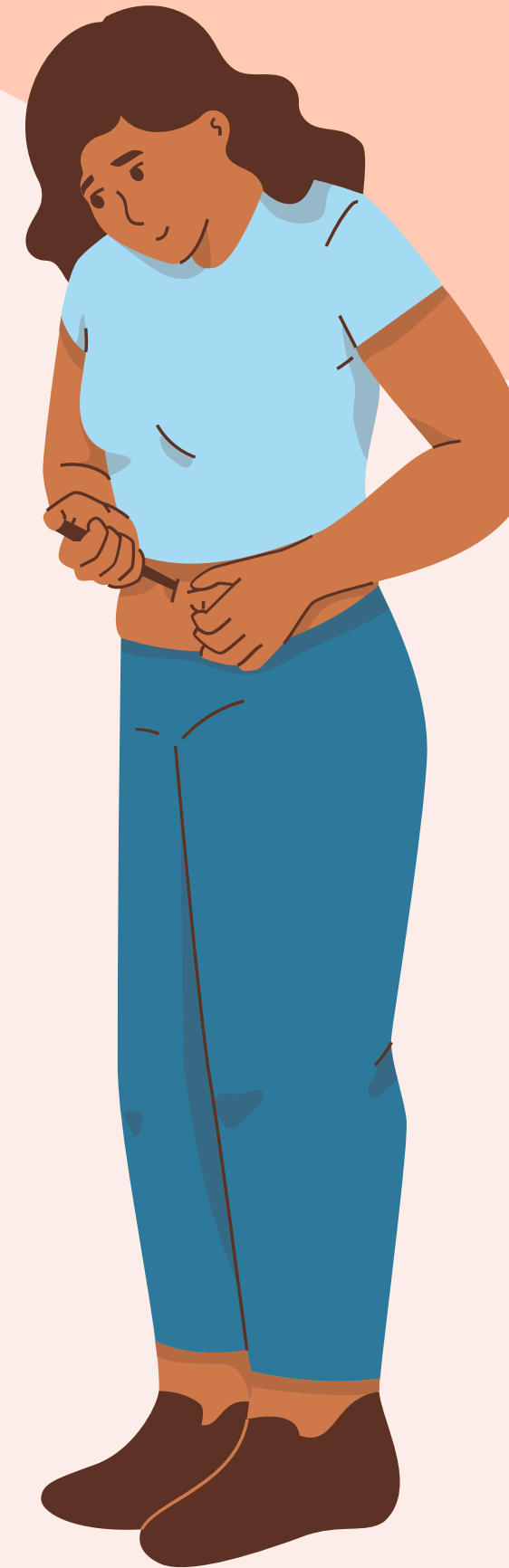
Strongest predictor
of diabetes.

BMI

Consistently higher
in diabetics.

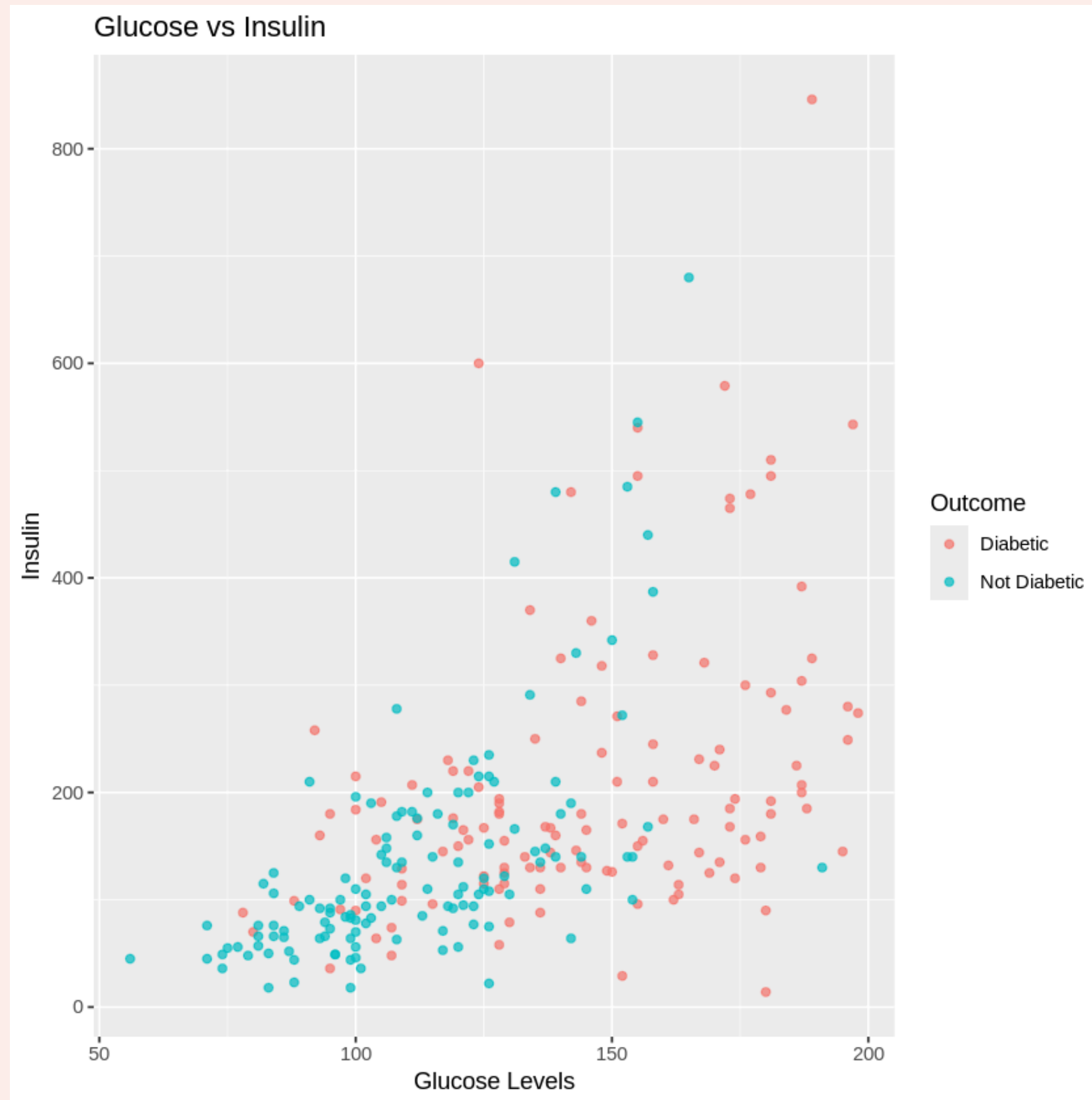
Pregnancies

Higher counts
linked to
increased risk.



Glucose & Insulin Levels

Both metrics are correlated and the increase in both of them is usually a risk profile for being diabetic



CONCLUSION

KEY TAKEAWAYS:

- DIABETES RISK IS STRONGLY ASSOCIATED WITH GLUCOSE, BMI, AND PREGNANCIES.
- MODERATE CORRELATIONS WITH OTHER FACTORS LIKE BLOOD PRESSURE AND INSULIN.

NEXT STEPS:

- EXPAND ANALYSIS TO INCLUDE LIFESTYLE AND GENETIC FACTORS.
- FOCUS ON PREVENTION STRATEGIES BASED ON IDENTIFIED RISK PROFILES.

The background features decorative wavy lines in blue and orange. A thick blue line starts from the top left, curves downwards, and then turns right towards the bottom right. Another thick orange line starts from the top left, curves downwards, and then turns right towards the bottom right, positioned below the blue line. A third thick orange line starts from the bottom right, curves upwards, and then turns left towards the top right.

THANK YOU!

Thank you so much for watching our presentation! Do you have any questions, comments, or suggestions?