

Type 2 Diabetes treatment and treatment outcomes by race, sex, and disease onset

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Introduction

- Type 2 Diabetes (T2D) affects 462 million people globally
- Female patients and patients from minority races reportedly receive lower quality treatment and attain less treatment targets in European countries and the United States

Objective of the Study

- 1) Analyze disparities in treatment and treatment outcomes based on race and sex among Malaysian patients with T2D
- 2) Identify characteristics for more accurate diagnosis of patients with early-onset T2D

Methods

- Compare the effectiveness of treatment therapies on important biometric signs
- Quantify the alignment of treatment methods with clinical guidelines
- Develop predictive model to classify early-onset vs. late-onset T2D

Results

Analysis by sex

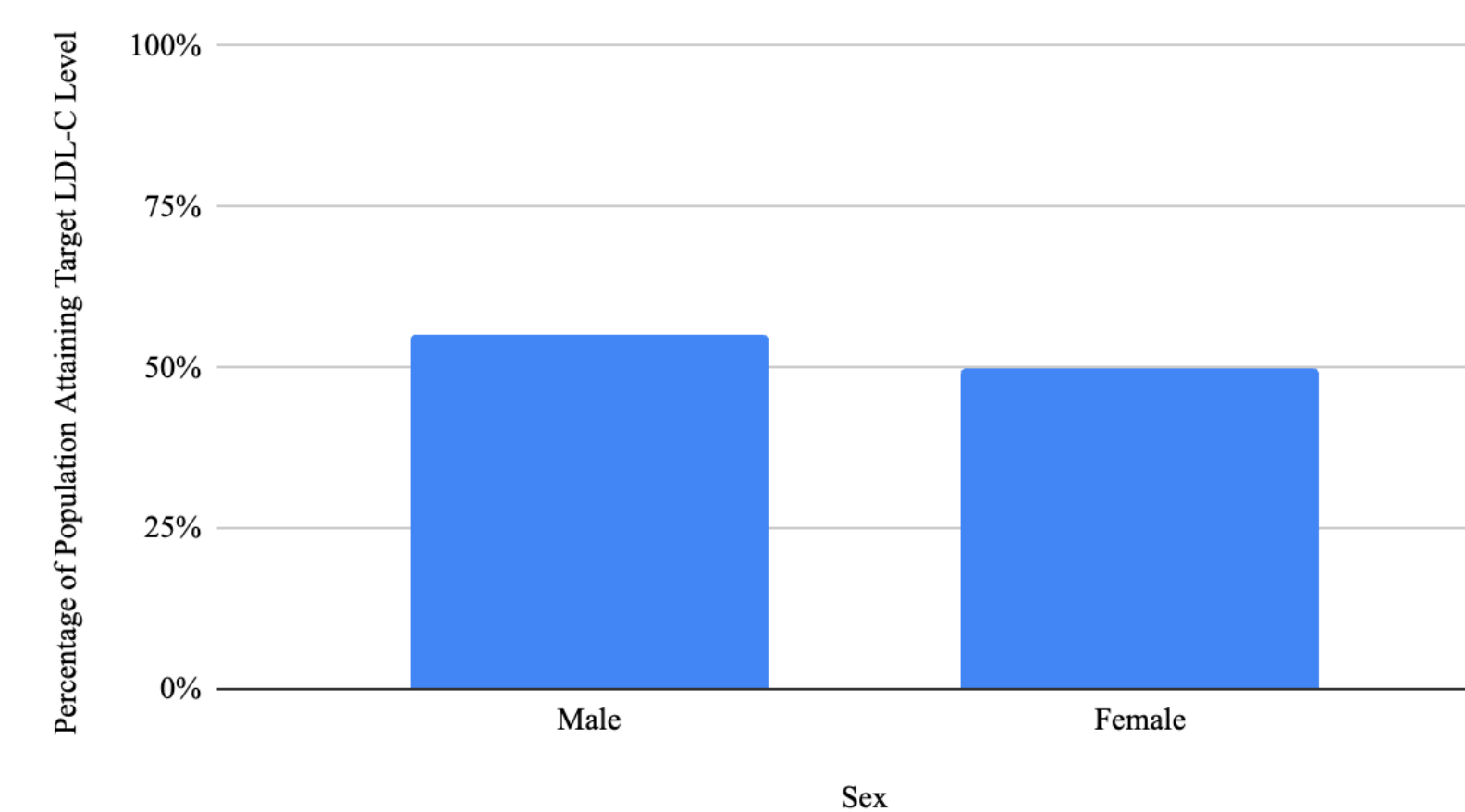
At baseline, females:

- Had more central obesity
- Had higher risk of blood disorders
- Had a greater prevalence of high total cholesterol, triglycerides, and non-HDL cholesterol

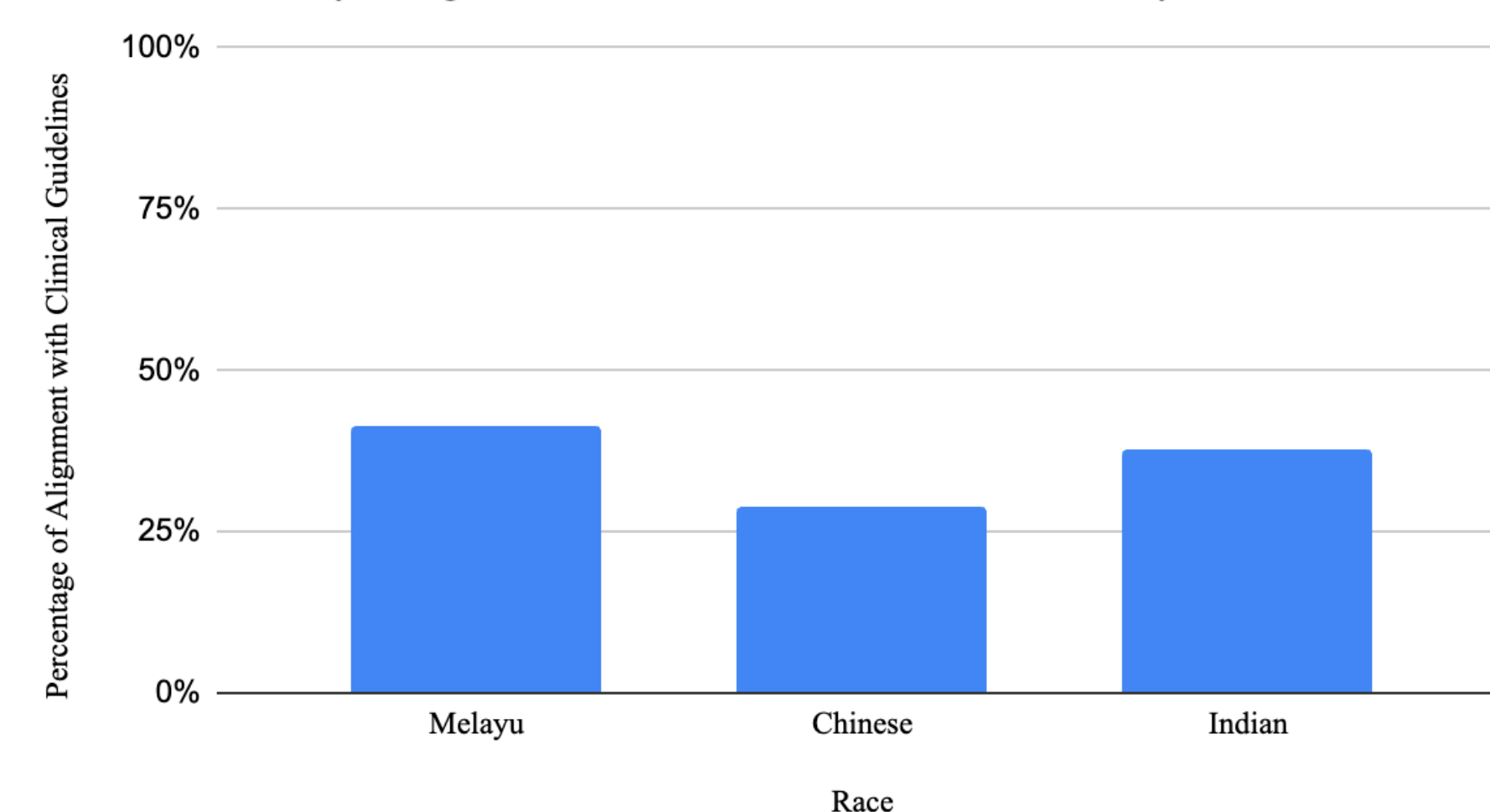
During treatment, females:

- Were less likely to attain target LDL-C levels
- Had equivalent alignment of treatment therapies with ADA/AHA clinical guidelines

Percentage of Population Attaining Target LDL-C Level by Sex



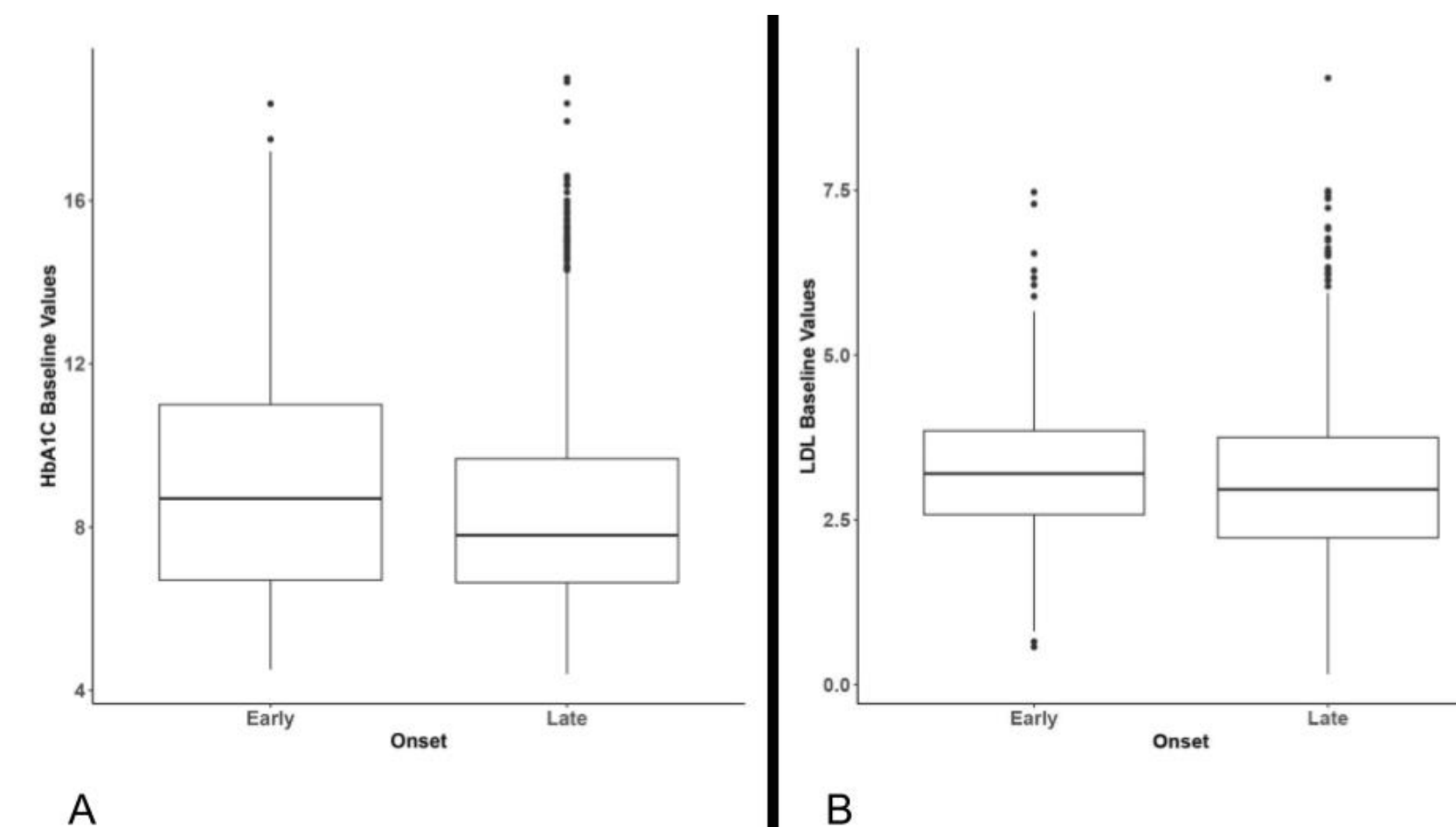
Statin Intensity Alignment with Clinical Guidelines by Race



Analysis by race

Minority races are less likely to be prescribed the correct intensity of statin medication therapy as outlined by ADA/AHA clinical guidelines

- Melayu = 41.3%
- Chinese = 28.9%
- Indian = 37.9%



Analysis by onset

Baseline HbA1C, blood pressure, and LDL-C levels predicted early-onset of T2D

- Patients with early-onset T2D had higher HbA1C levels at baseline
- Patients with early-onset T2D had higher LDL-C levels at baseline

Discussion

- Treatment therapies must be sex-based in order to address varying responses to medications
- Medical providers must be educated on racial bias to inform treatment
- Baseline HbA1C, blood pressure, and LDL-C levels can be used to classify patients with early-onset T2D

Questions

- What treatment therapies and approaches are more effective for treating female T2D patients?
- How does clinician-patient interactions differ between patients of different races?

Conclusion

• Treatment and treatment outcomes for T2D vary based on race, sex, and disease onset. It is important to develop treatment therapies that are specific to patients to ensure the best outcomes.

Acknowledgements

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