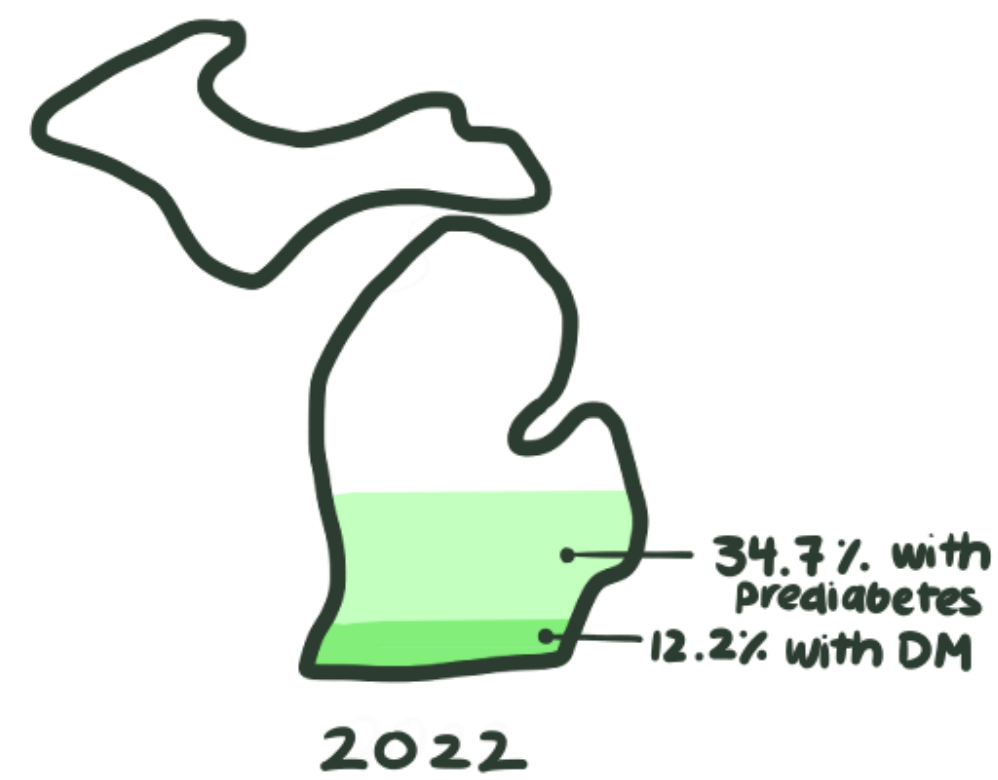


Introduction

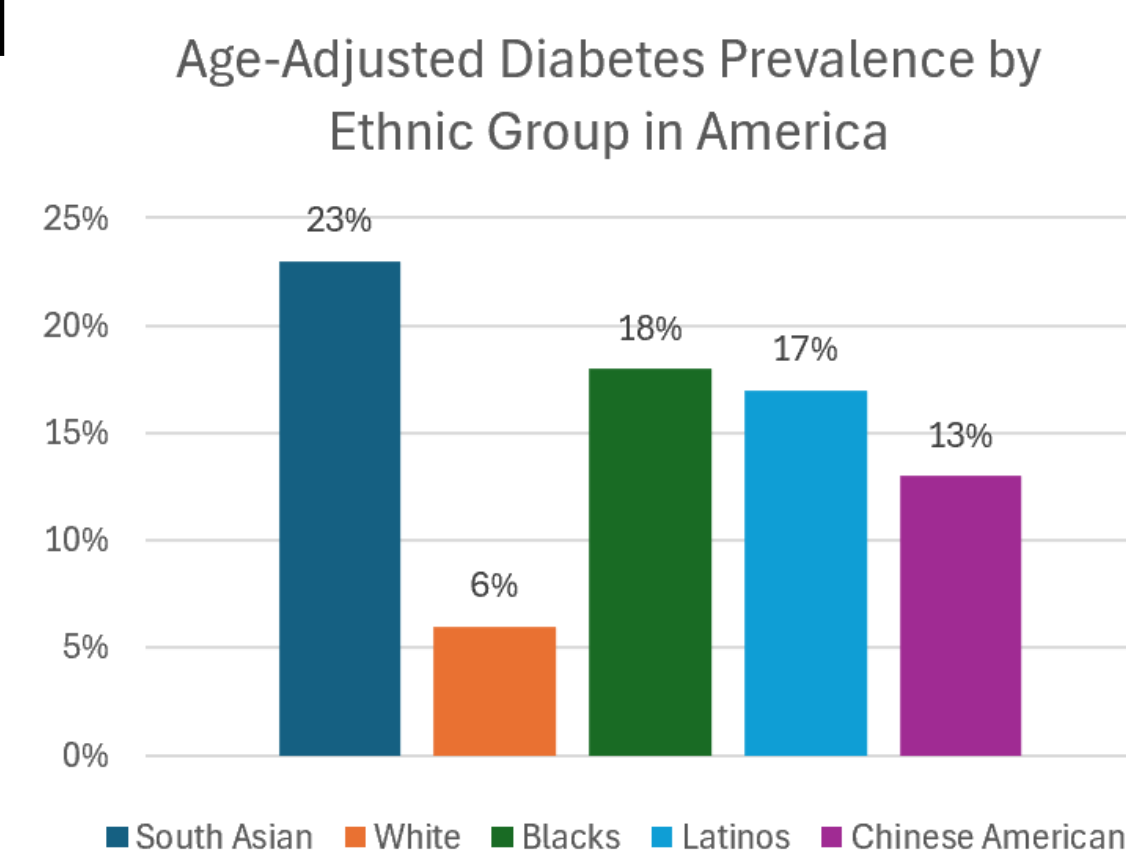
Engaging communities in diabetes mellitus (DM) prevention and management remains a challenge in Michigan,^{1,2} where nearly half the population has DM or pre-diabetes, yet less than 60% receive formal DM education.³

Current DM education primarily focuses on treatment and complication management, often neglecting the underlying biomedical and physiological principles of DM.⁴



Population

- South Asians (SA) have higher age adjusted prevalence of DM (23%) than Whites, Blacks, Latinos, and Chinese Americans nationally.⁵
- Unique risk factors include:
 - Adapting to sedentary western lifestyle.⁶
 - Diet high in carbohydrates, saturated fats, trans fats.⁶
 - Increased risk for insulin resistance.⁷



Methods

- Our new DM education model emphasizes:
 - 1) Biomedical fundamentals with investigator-designed visual aids.
 - 2) Multifactorial management strategies to support holistic wellbeing.
 - 3) Population-specific dietary and lifestyle recommendations for easy implementation.
- Inspiration: *Diabetes to Go* video and print model,⁸ Michigan State University College of Osteopathic Medicine (MSUCOM) curriculum
- Content: PowerPoint featuring OMS-created animated videos and culturally tailored dietary and lifestyle recommendations for the SA community.

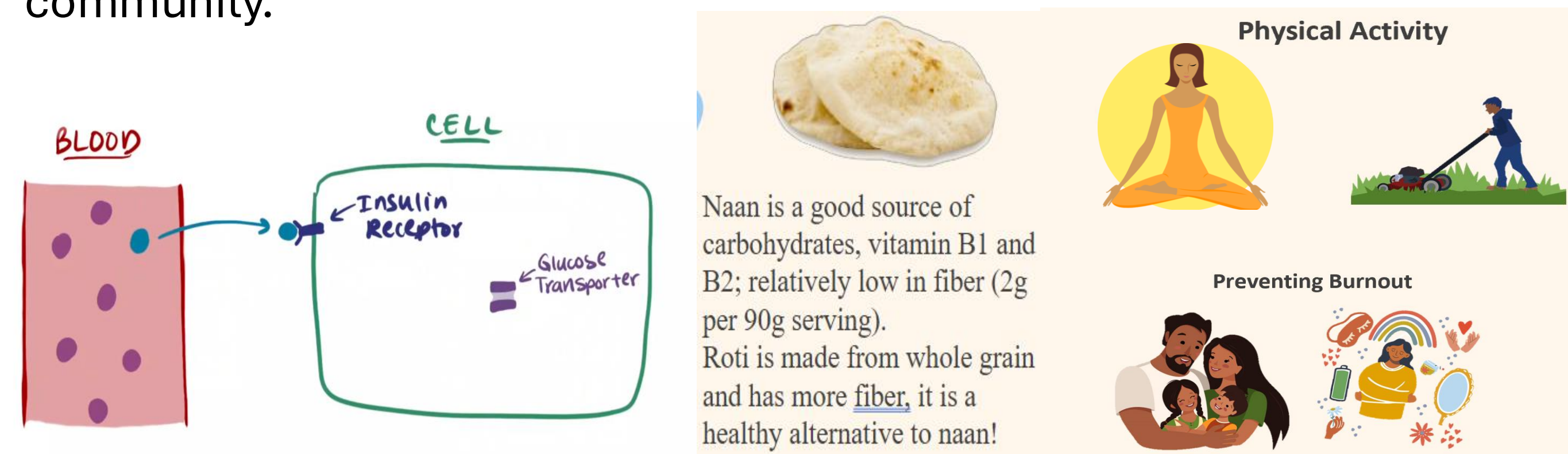
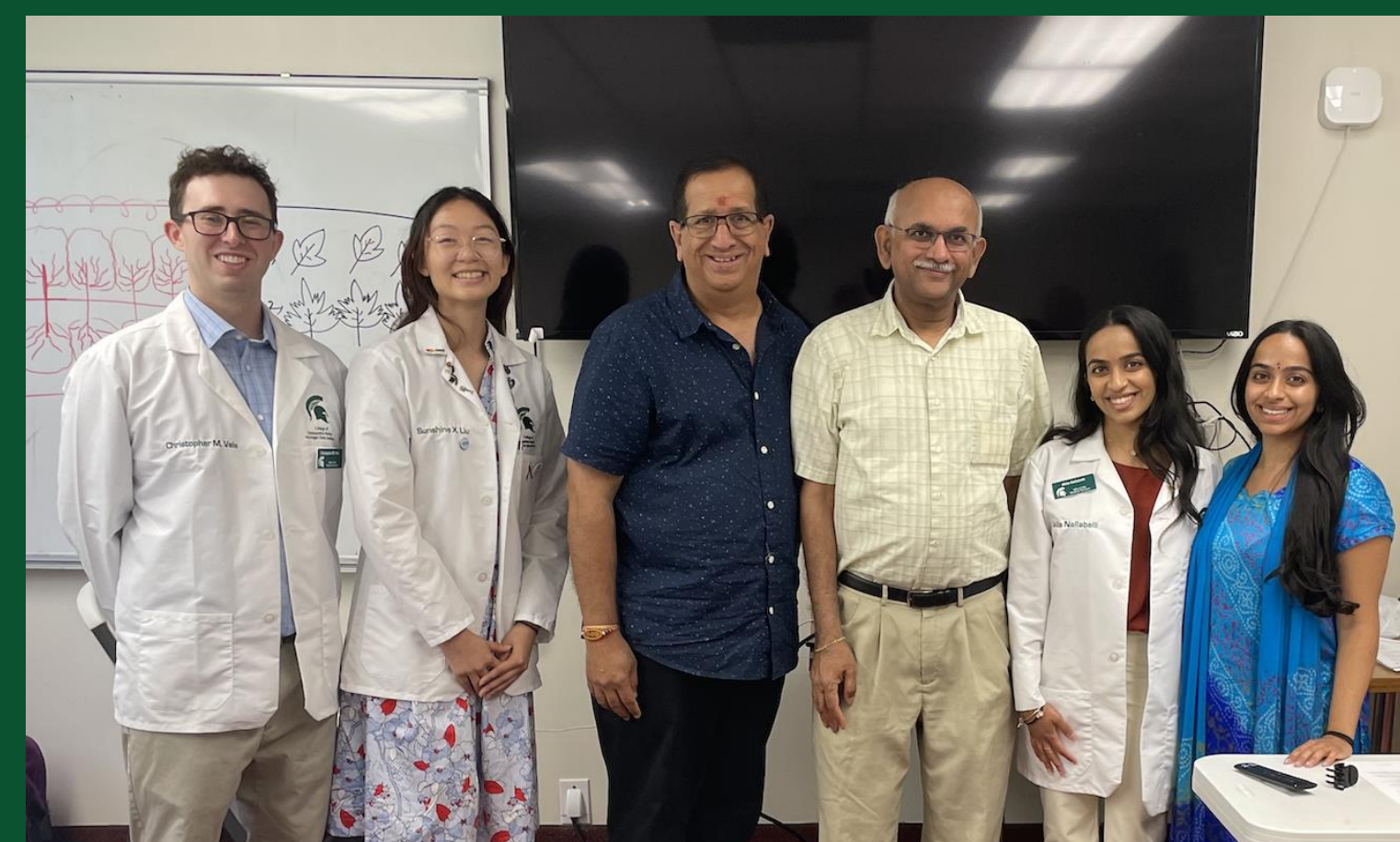


Fig 1a, 1b. Materials from the *Understanding Diabetes* presentation. **1a** shows a screenshot from an animated video, which emphasizes the biomechanics of DM. **1b** shows additional culturally-specific holistic recommendations to support participant well-being.

Assessment:

- Cross-sectional study design (IRB STUDY00010026)
- Data collection: Pre- and post-session questionnaires adapted from validated surveys^{9,10}
- Analysis: Chi-squared tests (CI95) GraphPad Prism 10.3

By integrating a **biomedical approach**
with **multifactorial** and **culturally**
tailored management strategies
targeting food as medicine,



Osteopathic Medical Students
successfully engaged and
empowered participants in managing
Diabetes, ultimately enhancing **health**
outcomes and fostering **meaningful**
relationships within the community.



Please scan the QR code to view an example of the animations shown during the presentation.

Results

Key Gaps Identified

- 69% of participants have never received DM education from their health care provider.
- 33% did recognize how insulin functions in the body.
- 28% recognized how much exercise they needed to obtain weekly.

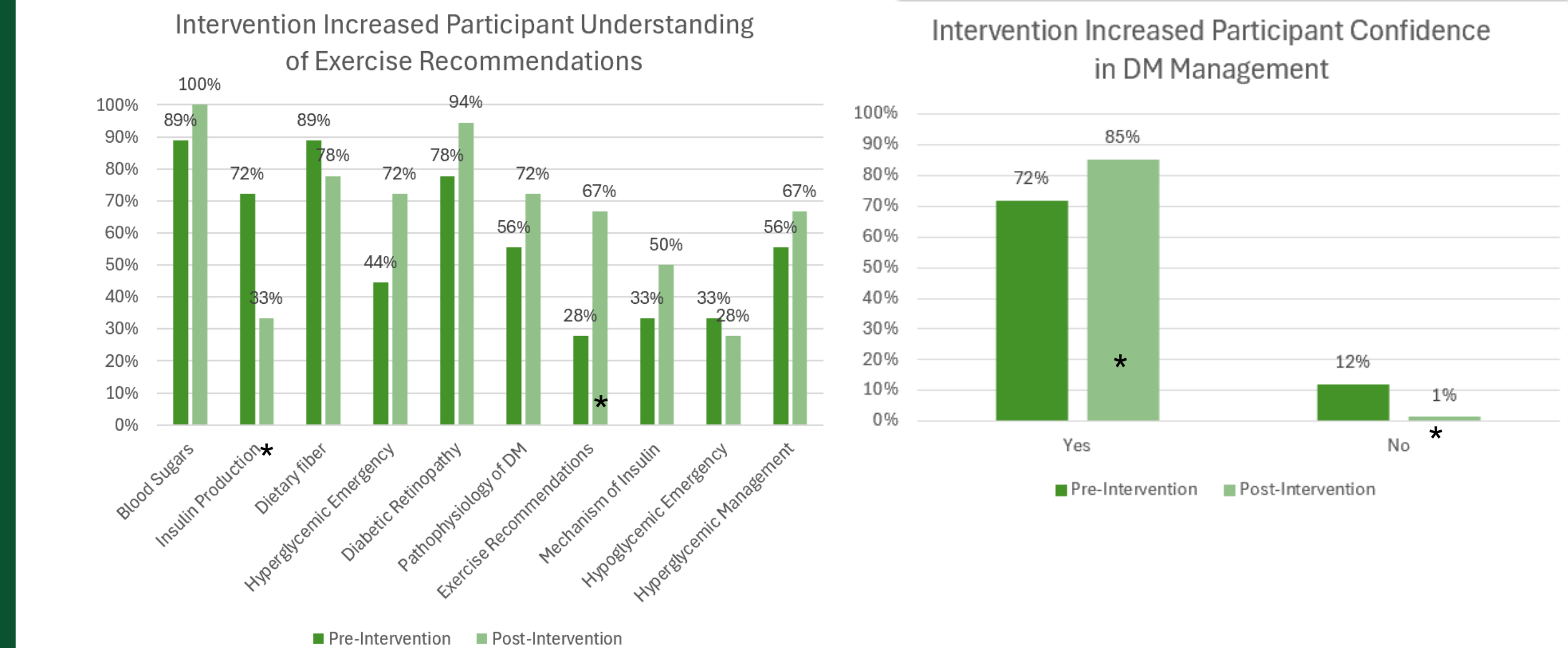
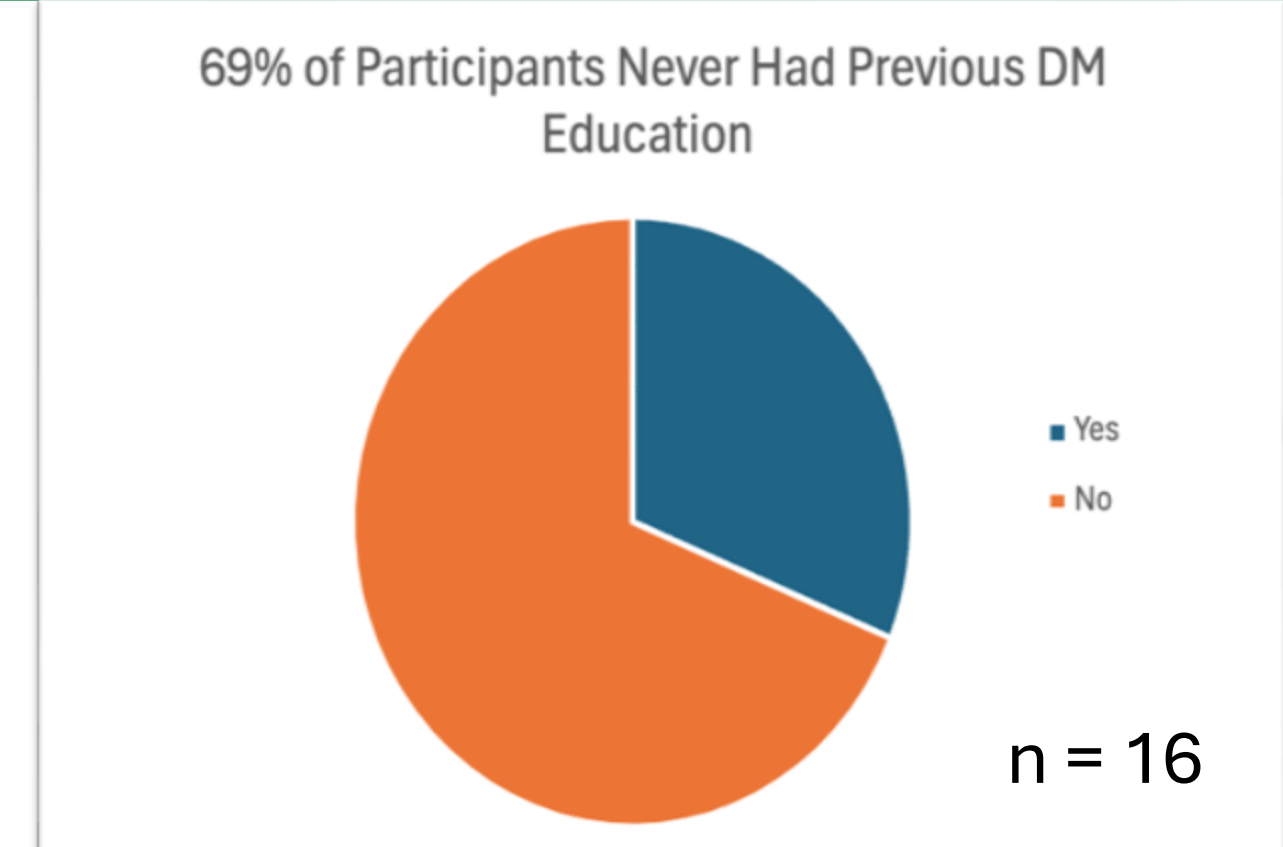


Fig 2. Educational intervention positively impacted participants' understanding of DM-related exercise recommendations (* $P < 0.05$, Chi-squared test).

Fig 3. Educational intervention positively impacted participants' subjective confidence of DM management (* $P < 0.05$, Chi-squared test).

Discussion

- Culturally tailored dietary & lifestyle recommendations → increased knowledge and confidence in managing DM
- Biomedical understanding of disease processes → increased knowledge and confidence in managing DM
- This comprehensive, patient-centered approach reflects the core values of osteopathic medicine, focusing on the whole person and addressing multiple factors in care.

Limitations/Future Direction

- Survey non-compliance
 - Difficulties in understanding survey questions and frustration with the length of the surveys
- Small sample size → skewed analysis of data
- Selection bias
 - Higher motivation and more prior knowledge about health care than the general population

Future Direction

- Broaden participant recruitment to include different cultural communities affected by DM
- Expand to different platforms.
- Collaborate with the Dietetics Program at MSU

References

1. American Diabetes Association. (2021) The Burden of Diabetes in Michigan. https://diabetes.org/sites/default/files/2021-11/ADV_2021_State_Facts_Sheets_Michigan.pdf
2. CDC. (2022, September 15). Michigan Diabetes Profile | Diabetes | CDC. <https://www.cdc.gov/diabetes/prevention/stateandlocal/state-diabetes-profile-michigan.html>
3. Michigan Department of Health and Human Services (MDHHS). (2020) BEHAVIORAL RISK FACTOR SURVEY 34th ANNUAL REPORT HEALTH RISK BEHAVIORS WITHIN THE STATE OF MICHIGAN (p. 28).

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