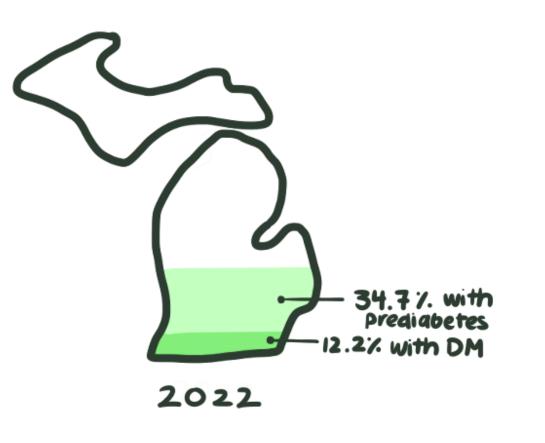


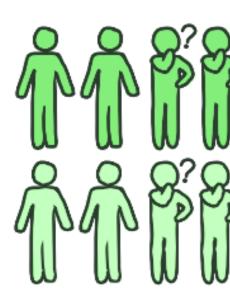
Biomedical-Based Diabetes Education for Community Health Literacy by Osteopathic Medical Students <u>Akila Nallabelli OMS-III¹,</u> Carolina Restini, PharmD, PhD, FAAPE^{1,2,3}, Chris Vela OMS-III¹, Sunshine Liu OMS-III² Michigan State University College of Osteopathic Medicine, East Lansing, Ml², Michigan State University College of Osteopathic Medicine, MUC, Ml³

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

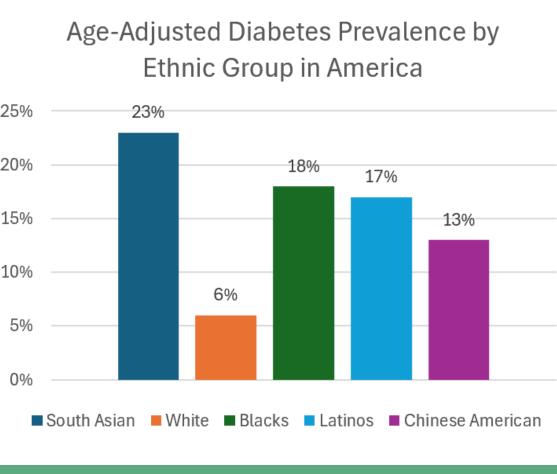




60% reported no formal DM education

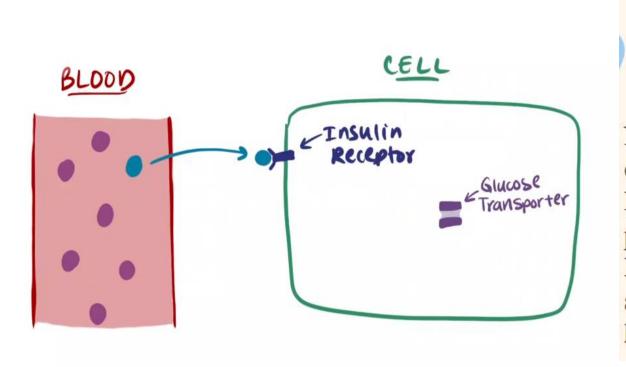
Population

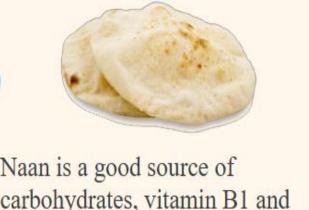
- South Asians (SA) have higher age adjusted prevalence of DM (23%) than Whites, Blacks, Latinos, and Chinese Americans nationally.⁵
- Unique risk factors include:
- Adapting to sedentary western lifestyle.⁶ 10%
- Diet high in carbohydrates, saturated fats, trans fats.⁶
- Increased risk for insulin resistance.⁷



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.







carbohydrates, vitamin B1 and B2; relatively low in fiber (2g per 90g serving). Roti is made from whole grain and has more fiber, it is a healthy alternative to naan!



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



Physical Activity



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.







Key Gaps Identified

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

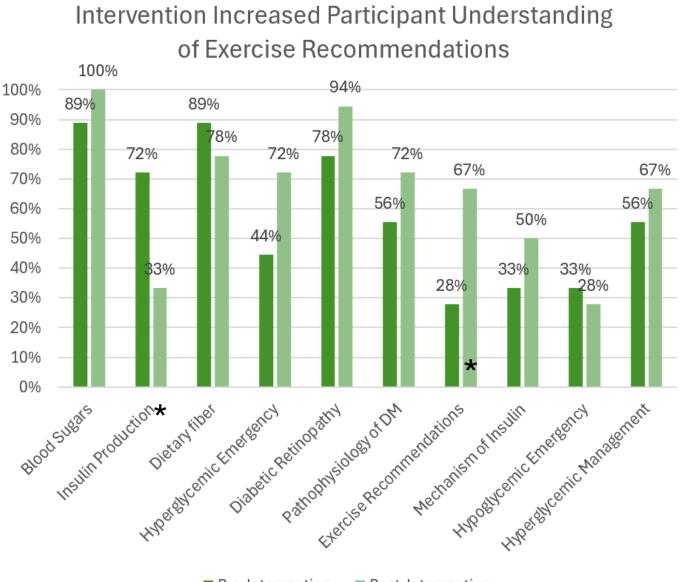


Fig 2. Educational intervention positively impacted participants' understanding of DM-related exercise recommendations (* P<0.05, Chi-squared test).

- knowledge and confidence in managing DM
- and confidence in managing DM
- multiple factors in care.

Limitations/Future Direction

- Survey non-compliance length of the surveys
- Small sample size \rightarrow skewed analysis of data
- Selection bias general population

Future Direction

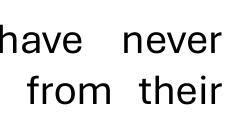
- affected by DM
- Expand to different platforms.
- Collaborate with the Dietetics Program at MSU

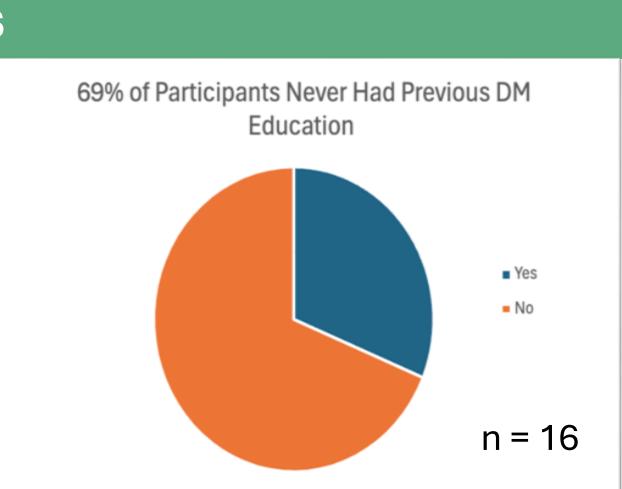
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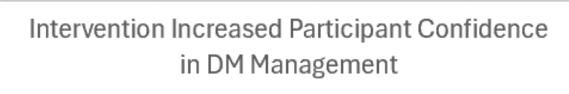
Acknowledgements: We would like to thank the Foundry for Innovative Research and Education (FIRE) program at MSUCOM, the MSU Department of Pharmacology & Toxicology, and the community leaders at Bharatiya Temple and Shiridi Sai Society Trust for their guidance and support.



Results







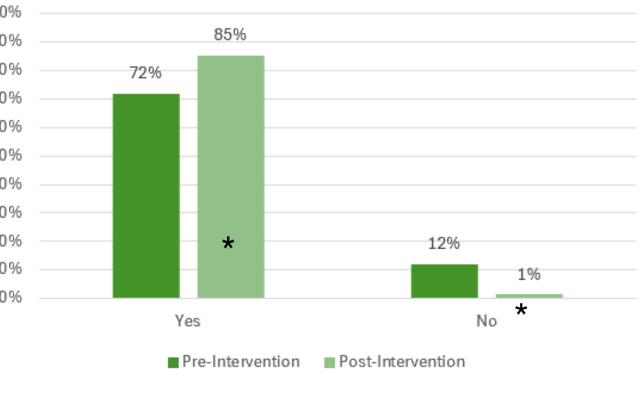


Fig 3. Educational intervention positively impacted participants' subjective confidence of DM management (* P<0.05, Chi-squared test).

Discussion

Culturally tailored dietary & lifestyle recommendations → increased

Biomedical understanding of disease processes \rightarrow increased knowledge

This comprehensive, patient-centered approach reflects the core values of osteopathic medicine, focusing on the whole person and addressing

• Difficulties in understanding survey questions and frustration with the

• Higher motivation and more prior knowledge about health care than the

Broaden participant recruitment to include different cultural communities

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