



NEBRASKA
METHODIST
COLLEGE
The Josie Harper Campus

Increasing Patient Education on Obesity

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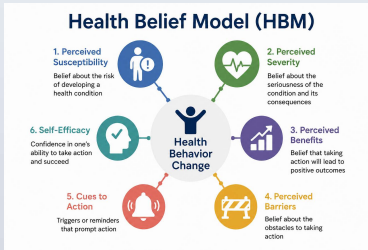
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Problem & PURPOSE

- 2/5 Adults in the United States have obesity (CDC, 2024).
- 1 in 3 adults in Nebraska is obese (DHHS, 2022).
- There were 5 million deaths from non-communicable diseases (NCDs) caused by obesity in 2019, with projections for this number to quadruple globally (WHO, 2020).
- The purpose of this project was to provide evidence-based information to patients with obesity to improve their knowledge about the disease.

Available Knowledge & Rationale

- Obesity remains underdiagnosed and undertreated.
- Health literacy significantly impacts patients' ability to achieve and maintain weight loss, though a standardized assessment of obesity knowledge is lacking (Upton et al., 2025).
- Patient Decision Aids can assist patients in creating personalized treatment plans.



Methods

- **Context**
 - Obesity is a common chronic disease seen in Midwestern
 - This project took place in a Midwestern family practice clinic.
 - Healthcare providers at the clinic were previously interviewed for a project feasibility assessment and confirmed that obesity is the most common chronic disease seen there, thereby endorsing it as a relevant topic for their patient population.
- **Intervention**
 - An educational handout on obesity that details its etiology, risks, and current treatment guidelines.
 - Investigator-created
 - Information from Lilly Medical Education and UpToDate.
- **Study of Intervention**
 - Patients were screened and given an educational packet upon rooming.
 - The packet entailed a pretest, educational handout, and post-test.
 - Pre- and post-tests were matched with the identification number.
- **Measure**
 - 5 objective questions on knowledge
 - 6th question asked whether the patient was a candidate for weight-loss treatment to assess self-awareness
 - 7th question was subjective and asked whether the patient was interested in discussing weight-loss treatment with their provider

Data Analysis

- Data were analyzed using Excel with a paired-case approach.
- Descriptive statistics: number of packets distributed, number completed, participant age, height, and weight.
- Distribution of test scores was analyzed, and a paired t-test was used to examine for a statistically significant change in scores.
- Secondary outcomes addressing questions 6 and 7 were analyzed using a z-test to determine the proportion of participants showing a substantial change between pre- and post-test responses.

Results

Descriptive statistics:

- 28 educational packets were distributed
- 20 participants completed both pre- and post-tests, yielding a completion rate of 71.4%
- Mean age was 45.5 years ($SD = 15.59$)
- Mean BMI of 35.8 kg/m² ($SD = 5.67$).

Question 1-5

• The mean difference in scores was 0.41 ($SD = 0.26$, $SE = 0.06$), indicating that, on average, participants demonstrated a significant improvement in knowledge, with post-test scores increasing by approximately 40% compared to pre-test scores. The distribution of differences was relatively concentrated around the mean, suggesting consistent improvement across participants. Results of the paired-samples t-test indicated that this improvement was statistically significant, $t(19) = 6.962$, $p < .001$.

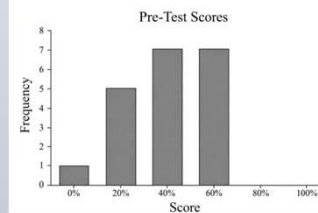
Question 6: "Are you a candidate for weight-loss treatment?"

- Pre-test: 75% of participants correctly identified themselves as candidates, Post-test: 100% of participants correctly identified themselves as candidates.
- A z-test for proportions showed an increase from 75% ($p1 = 0.75$) to 100% ($p2 = 1.00$), which was statistically significant ($z = 2.39$, $p = .017$).

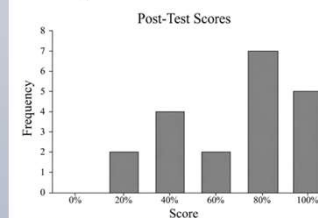
Question 7: "Would you like to discuss weight-loss treatment with your provider?"

- The proportion of participants responding "yes" increased from 60% on the pre-test to 85% on the post-test.
- The increase did not reach statistical significance, $z = -1.77$, $p = .077$.

Distribution of pre-test scores



Distribution of post-test scores



Discussion

- Educational handout significantly improved patients' knowledge and understanding of obesity.
- Relevant to clinical practice.
- Intervention influenced participants' perceptions and readiness to engage in care.

Strengths

Methodological:

- Paired pre- and post-test design & high participant completion rate (71.4%).

Intervention/Design:

- Evidence-based intervention, guided by the Health Belief Model.
- Integrated into the routine primary care workflow.
- Feasible for replication in other primary care settings.

Limitations:

- Inconsistent intervention delivery
- Small sample size
- Did not account for patients already receiving weight loss treatment
- No provider-level outcome.

Conclusions

Project Impact

Practice Implications

Future Directions

• Improved obesity knowledge and treatment awareness, supporting health literacy and shared decision-making.
• Low-cost, evidence-based intervention effectively integrated into routine primary care workflows.

• Sustainable, low-resource intervention with potential for long-term implementation.
• Easily adaptable to other primary care, specialty, and community health settings.
• Flexible for diverse patient populations, literacy levels, and delivery formats.

• Validate standardized obesity health literacy assessment tools.
• Expand to larger, multi-site studies to improve generalizability.
• Evaluate provider- and system-level outcomes (e.g., counseling, referrals, anti-obesity medication prescribing).
• Assess long-term effects on behavior change and clinical outcomes.

References

- Centers for Disease Control. (2024, January 23). *About obesity*. Retrieved August 22, 2025, from <https://www.cdc.gov/obesity/php/about/index.html>
- Department of Health and Human Services. (2022). Obesity fact sheet. In *Department of Health and Human Services*. Retrieved August 22, 2025, from <https://dhhs.ne.gov/CDPC%20Fact%20Sheets/FINAL%20Obesity%20Facts.pdf>
- Gibson, E. M., Geske, J. A., & Khandalavala, B. N. (2024). Temporal trends of obesity among Nebraska adults: EMR data shows a more rapid increase than projected. *Journal of Primary Care & Community Health*, 15. <https://doi.org/10.1177/21501319241301235>
- Upton, A., Sprou, D., Craig, M., Saul, N., Winmill, O., Hay, P., & Raman, J. (2025). Health literacy and obesity: A systematic scoping review. *Obesity Reviews*. <https://doi.org/10.1111/obr.13904>
- World Health Organization: WHO. (2020, February 21). *Obesity*. https://www.who.int/health-topics/obesity#tab=tab_1