Beyond the Scale: Long-Term Outcomes in Bariatric Surgery by Socioeconomic Status

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INTRODUCTION

- Bariatric surgery effectively treats obesity, improving long term weight-loss and comorbidities
- Socioeconomic status (SES) may influence access and outcomes, but its overall impact remains unclear
- **Distressed Community Index (DCI):** composite SES score that evaluates community economic well-being
  - Scores range from 0 (most prosperous) to 100 (most distressed)
  - Has less frequently been applied to bariatric surgery

In Georgia, ~17% of the population lives in distressed zip codes, compared to 15% nationally

- **Objective:** To evaluate impact of patient demographics, comorbidities, weight loss results, postoperative complications, and socioeconomic status (SES) on long-term postoperative bariatric surgery outcomes at a single tertiary medical center

METHODS

Study Population:
- Retrospective chart review of patients aged ≥ 13 years who underwent sleeve gastrectomy (SG) or Roux-en-Y gastric bypass (RYGB) at a tertiary care center in Southeast Georgia between 2019 and 2022

Data Collection:
- Patient demographics, pre-operative weight, comorbidities, surgery type, hospital length of stay, postoperative complications, and weight loss outcomes at different post-op intervals (3 months, 6 months, 12 months, and 3 years)
- DCI score and category determined for patients as well.

Statistical Analysis:
- Performed using SAS version 9.4 (SAS Institute, Cary, NA, USA).
- Paired t-tests compared preoperative and postoperative means
- Analysis of Variance (ANOVA) assessed differences in mean body mass index (BMI), total body weight (TBW), and excess body weight (EBWL)

RESULTS

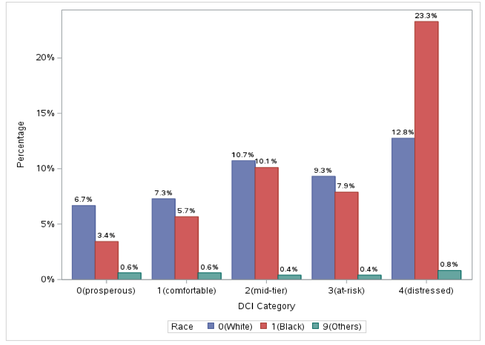

Figure 1. Distribution of DCI categories by race

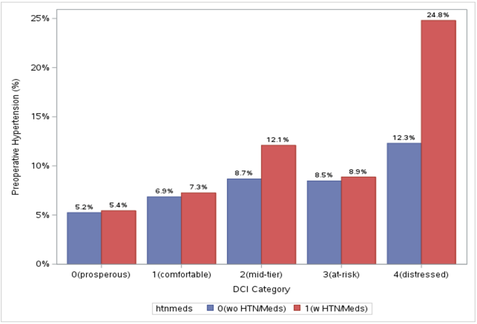

Figure 2. Distribution of DCI categories by preoperative hypertension

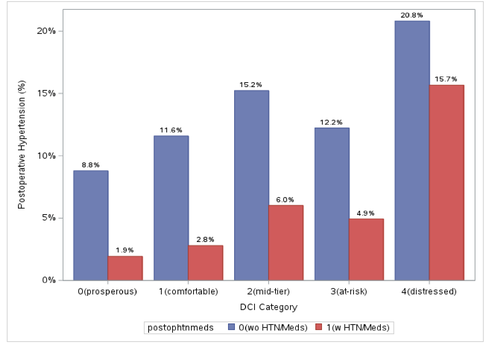

Figure 3. Distribution of DCI categories by postoperative hypertension

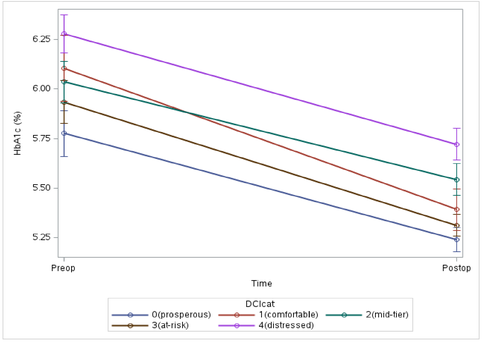

Figure 4. Change in HbA1C from pre to postoperative periods across DCI categories, showing improvement in all groups

- 585 patients met inclusion criteria -> 502 included for analysis
- 89% female, 11% male. Mean age was 44yrs. 52% black, 44% white
- Black patients were disproportionately represented in higher DCI categories compared to White patients (Figure 1)
- Preoperative (p=0.0360), and postoperative hypertension (p=0.0037) measurements were significant (Figure 2, 3)
- There was statistically significant relationships observed with insurance (p=0.0204), preoperative HbA1c (p=0.04) and postoperative HbA1c (p=0.0003) across DCI status (Figure 4)

RESULTS CONTINUED

- Male representation was highest in the comfortable group (33.3%) and lowest in the at-risk group (6.9%), whereas female representation was highest in the prosperous group (93.7%) and lowest in the comfortable group (66.7%)
- Preoperative and postoperative differences in BMI, TBW, EBWL across DCI categories were not statistically significant

CONCLUSIONS

- This study population included a disproportionally high proportion of patients from lower-tier DCI classifications
- **DCI score was predictive of preoperative and postoperative comorbidities, particularly hypertension**
- However, the results of our study suggest that **SES is not predictive of weight loss outcomes following bariatric surgery**

CLINICAL IMPLICATIONS

- These findings suggest that low SES should not be a barrier to bariatric surgery and demonstrate bariatric surgery's ability to overcome low SES status in patients
- Challenges biases that may prevent low SES patients from being referred to bariatric surgery
- Supports bariatric surgery as a powerful health equalizer across socioeconomic and racial groups
- Highlights need for ongoing research into how race and SES influence perioperative factors and long-term outcomes

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