

BACKGROUND

- The incidence and prevalence of breast cancer and obesity continue to rise.
- Although patient reported outcomes can play a key role in the surgical decision making process, we do not know how BMI affects patient satisfaction in women who have all types of breast cancer procedures, namely; breast conservation surgery, mastectomy without reconstruction, or mastectomy with reconstruction.
- It is also unclear how BMI may affect procedure selection.
- The purpose of this study is to evaluate and compare the effects of BMI on procedure selection and patient satisfaction with all breast cancer procedures.

METHODS

- Women with a history of breast cancer were recruited from the Dr. Susan Love Army of Women (AOW) program to take electronically administered surveys.
- The AOW program comprises over 360,000 members who volunteer to participate in breast cancer research.
- Surveys were administered and included; the Breast Q[®] and a demographic survey evaluating disease, treatment, complications, and procedure specific and socioeconomic status.
- Using Centers for Disease Control and Prevention criteria, patients were classified as underweight, normal, overweight, obese, and morbidly obese.
- Descriptive statistics were used to determine if associations between BMI category and procedure type existed.
- Analysis of variance was used to assess differences in satisfaction mean scores between procedure groups.
- Linear regression for BMI category was performed to evaluate the effects of procedure type on satisfaction while controlling for potential confounding variables.

TABLES

Table 1:
Procedure Type by BMI category (n= 7,568; p<0.0001)

	Breast Conservation Surgery (n=3477)	Mastectomy (n=1259)	Breast Reconstruction (n=2307)	Complex (n=509)	Total (% of entire cohort)
Low BMI (108) < 18.5 kg/m ²	37.04%	12.04%	45.37%	5.56%	1.43%
Normal BMI (3407) 18.5-24.99	44.09%	15.23%	33.87%	6.81%	45.02%
Overweight BMI (2309) 25-29.99	47.12%	16.59%	29.62%	6.67%	30.51%
Obese (1098) 30-34.99	49.73%	18.03%	26.32%	5.92%	14.51%
Morbid Obesity (646) > 35	47.52%	24.15%	28.33%	8.36%	8.54%

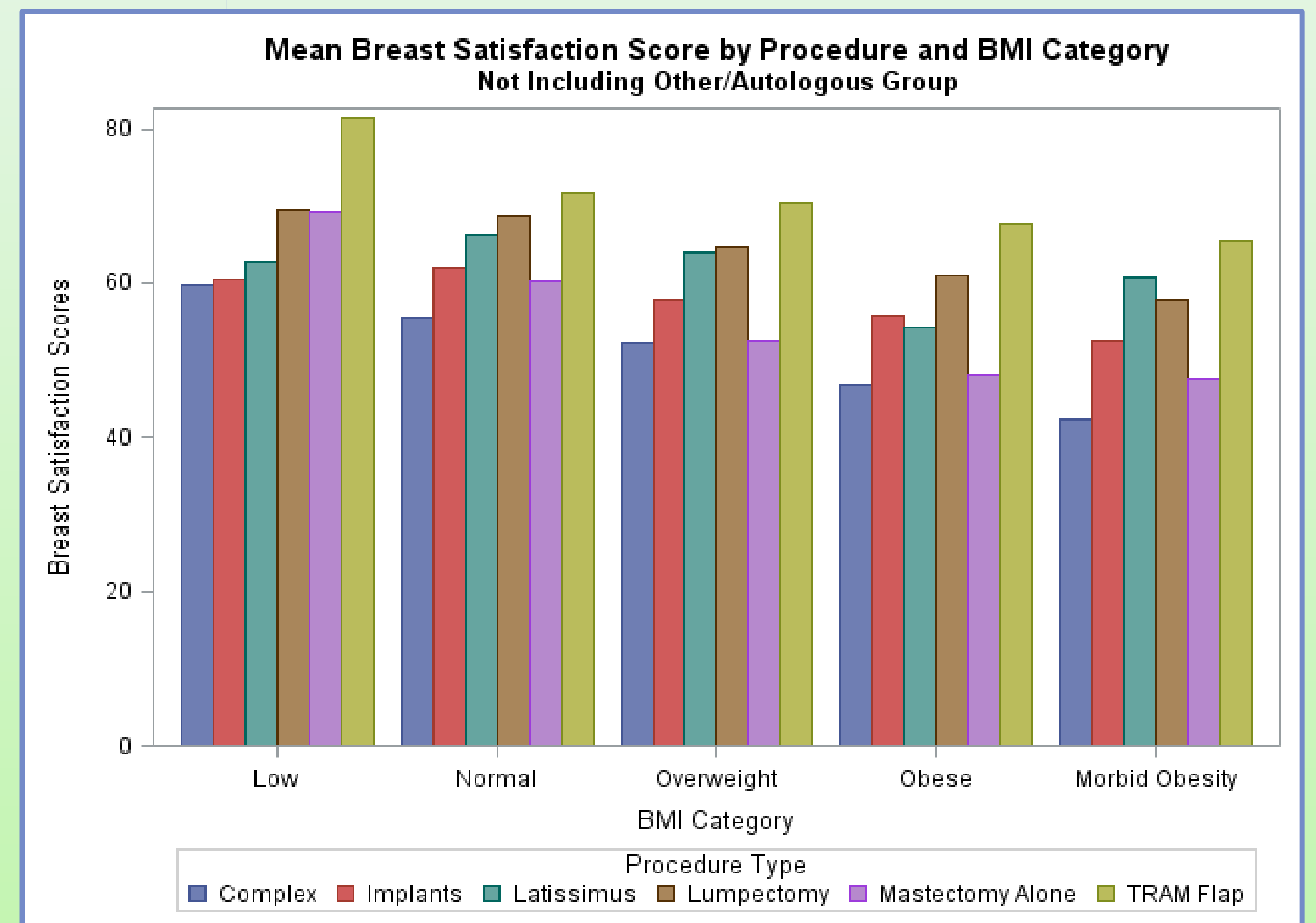
Table 2:
Mean Breast Satisfaction Score (0-100) Mean (sd):
P-values range from 0.0095 to < 0.000. Scores for low BMI group were not significant.

BMI	BCS n=3477	Mastectomy n=1259	Breast Reconstruction n=2307	Complex n=509	Total for BMI category
Low n=108	69.4(21.1)	69.2(28.8)	62.3(18.5)	59.8(24.9)	65.6(21.2)
Normal n=3404	68.7(20.9)	60.3(20.2)	63.9(17.5)	55.4(21.0)	64.9(20.1)
Overweight n=2301	64.7(21.9)	52.3(19.1)	63.1(19.3)	52.4(21.9)	61.4(21.3)
Obese n=1094	60.9(21.8)	48.0(17.4)	60.2(21.6)	46.7(22.0)	57.6(21.7)
Morbid Obesity n=645	57.8(22.7)	47.1(21.1)	57.6(19.3)	42.4(24.3)	54.0(22.5)

RESULTS

- 7,622 women completed surveys; BMI data were available for 7,568 (99%).
- The distribution of procedure type by BMI differed significantly (p<0.0001; table 1).
- As BMI category increased, the rate of mastectomy increased (p<0.0001).
- Those with higher BMI, had lower rates of breast reconstruction (BR) and higher rates of breast conservation surgery (BCS) than those in the lower weight categories (p<0.0001).
- Overweight, obese, and morbidly obese women reported similar satisfaction with BR and BCS (table 2). These women also had significantly increased breast satisfaction with BR compared to mastectomy.
- Regression analysis revealed that all women experienced higher satisfaction with BR using abdominal flaps, even when compared to BCS (p<0.0001, figure 1).
- Women with mastectomy alone, and no reconstruction experienced the lowest satisfaction when compared to BCS (p<0.0001).

FIGURE 1



CONCLUSION

- To date, this study marks the largest national snapshot reflecting the proportions of women undergoing differing types of breast cancer surgery directly related to their personal experience and satisfaction with outcome.
- Women with larger BMI experience significantly higher rates of mastectomy alone without reconstruction despite having higher satisfaction with reconstruction and similar satisfaction with breast conservation surgery.
- This supports the notion that all women being considered for mastectomy should have the opportunity to discuss their reconstructive options with a plastic surgeon, regardless of BMI.
- Additionally, surgeons should not shy away from performing reconstruction in larger women, especially since abdominal flap reconstruction resulted in even higher satisfaction scores than women that were able to keep their breast with breast conservation surgery.

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