The Relationship of A Body Shape Index and Body Mass Index with Health-related Quality of Life among African Americans: A Study from Fit Body and Soul

Jane T. Garvin, PhD, RN, FNP-BC; Lovoria B. Williams, PhD, APRN-BC; Thomas V. Joshua, MS
Georgia Regents University, College of Nursing, Augusta, Georgia

INTRODUCTION
- Type 2 Diabetes is more prevalent among African Americans (13%) than Non-Hispanic Whites (7%).
- Fit Body and Soul (FBAS) is a cluster randomized controlled community trial to test the efficacy of the faith-based adaptation of Group Lifestyle Balance, a modification of the Diabetes Prevention Program, with overweight and obese non-diabetics in 20 Southeastern African-American churches.1
- Both body mass index (BMI) and waist circumference (WC) are associated with developing Type 2 Diabetes.
- A new measure of obesity that includes WC as well as the measures for BMI = A Body Shape Index (ABSI).

AIMS
- This study aimed to determine if these two measures of obesity (ABSI and BMI) were associated with health-related quality of life in this sample of overweight and obese African-American congregants seeking weight reduction.
- Specifically, this study aimed to determine if health-related quality of life explained the variation in ABSI or BMI.

METHODS
- Baseline data from 601 participants in the Fit Body and Soul study
- Measures:
  - Demographics: Age, gender, education, marital status, employment
  - Health-related Quality of Life: SF-12 Physical Component Summary, SF-12 Mental Component Summary, EQ-5D Health Status
  - Obesity: A Body Shape Index (ABSI), Body Mass Index (BMI)

RESULTS
- Table 1. Baseline Characteristics (n = 601)
<table>
<thead>
<tr>
<th>Demographics</th>
<th>Mean ± SD</th>
<th>Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>46 ± 11</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td>84</td>
</tr>
<tr>
<td>College graduates</td>
<td>51</td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>80</td>
<td></td>
</tr>
</tbody>
</table>

ABSI and SF-12
Neither SF-12 Physical nor Mental Component Summary scores significantly added to the variance in ABSI after controlling for demographic variables.

Table 2. Regression for BMI and SF-12

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>Std Error</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-0.108</td>
<td>0.027</td>
<td>-4.039</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Female</td>
<td>1.237</td>
<td>0.768</td>
<td>1.610</td>
<td>.108</td>
</tr>
<tr>
<td>College Grad</td>
<td>-0.525</td>
<td>0.580</td>
<td>-0.904</td>
<td>.366</td>
</tr>
<tr>
<td>Employed</td>
<td>-0.105</td>
<td>0.734</td>
<td>-0.143</td>
<td>.886</td>
</tr>
<tr>
<td>Married</td>
<td>-1.317</td>
<td>0.582</td>
<td>-2.261</td>
<td>.024</td>
</tr>
</tbody>
</table>

CONCLUSIONS
- Health-related quality of life measures did not explain variation in ABSI.
- SF-12 Physical Component Summary explained 6% and EQ-5D Health Status explained < 2% of the variation in BMI beyond the control of demographics.
- While statistically significant in this large sample, the findings may not be clinically significant with such small changes in R².
- Our findings may not hold true with a different sample. The participants in this study were employed, educated, nested in faith-based communities, and seeking weight reduction.
- Future studies should examine the following.
  - Samples with different demographics
  - Changes in ABSI following weight reduction interventions for improvement in health-related quality of life

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- The authors thank the Fit Body and Soul Research Team, Pastors, CHAs, and participants as well as the GRU students and volunteer data collectors for their contribution and support of this project.
- “Fit Body and Soul using the Group Lifestyle Balance Program” is an adaptation of the Group Lifestyle Balance Program materials by the University of Pittsburgh found at www.diabetesprevention.pitt.edu.
- Please contact Dr. Garvin for further information at bgarvin@gru.edu

REFERENCES