Medication or Therapy: Evaluating Depression Treatment Plans for Women with Obesity

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Context

- In America, 62.4% of women with depression ate an inadequately nutritious diet based on the Healthy Eating Index (HEI) scale, thus contributing to their higher BMI.[1]
- Approximately 1 in 10 women in the U.S. experience depressive symptoms measured by a **Patient Health Questionnaire-9** score over 5, reflecting the 16% of Hall County citizens reporting frequent mental distress.[2,3]
- 42.1% of women in the U.S. were **obese**, with Hall County having 34% of the adult population also having a BMI >30.[2,3]
- There is a positive correlation between PHQ-9 score and **Body Mass Index** (BMI).[4]
- **Obesity** causes inflammation, which contributes to the development of **depression symptoms**, including anhedonia, fatigue, and psychomotor retardation.[5]
- Current medical management includes first line medication of **Selective Serotonin Reuptake Inhibitors** (SSRIs), a class of drugs used commonly for depression, and **talk therapy** which focuses on lifestyle changes and health education.[6]
- Common side effects of **SSRIs** include nearly half of participants reporting weight gain and fatigue.[7]
- Most studies regarding the relationship between **obesity** and **depression** in women exclude those prescribed SSRIs due to the potential side effects of the medication.

Evidence Based Practices

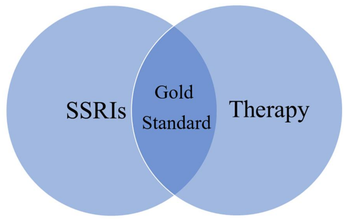

Figure 1. Venn diagram of current clinical practices.

A combination of SSRI medication and talk therapy are the gold standard for treatment in patients with depression and obesity.

Purpose

To compare the role of therapeutic interventions (SSRIs, therapy, or a combination of both) in the treatment of women at North Georgia Medical Center (NGMC) with obesity and depression by observing PHQ-9 score and BMI between January 2018 and June 2022.

RQ 1) Is there a difference between patients who are in therapy, prescribed SSRIs, and a combination in their level of depression severity as measured by PHQ-9?
RQ 2) Is there a difference between patients who are in therapy, prescribed SSRIs, and a combination in their obesity as measured by BMI?

Methods

- Rigorous research design was guided using the 7-step NGMC GME protocol process.
- Exempted from IRB approval due to using secondary data via retrospective chart review.
- Inclusion and exclusion factors were established for the population demographic using PICOT parameters. (Figure 2)
- Data was collected using de-identified clinical research data platform from NGHS (QLIK).
- A retrospective chart review was performed to evaluate PHQ-9 and BMI amongst the three groups.
- IBM SPSS 23 was used to analyze the deidentified data to respond to the questions including descriptive and inferential (parametric and nonparametric) tests.

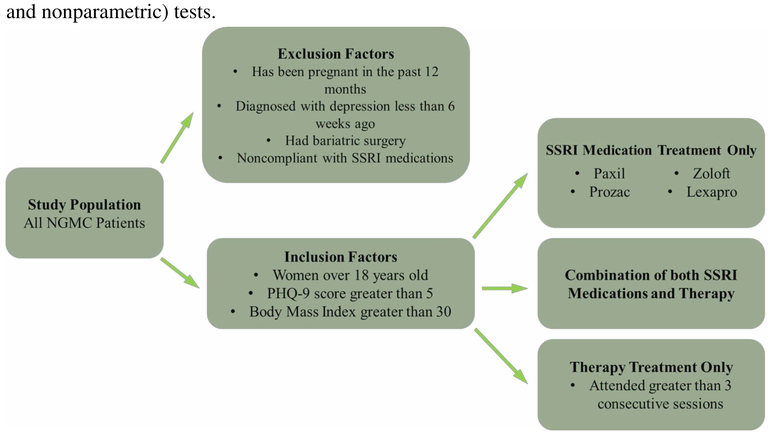

Figure 2. Flow chart of demographic inclusion and exclusion factors

Findings

	Mean	Population	Std. Deviation	Std. Error Mean	p-value
BMI Pre-SSRI	30.57	883	8.487	0.286	0.787
BMI Post-SSRI	30.56	883	8.485	0.286	
PHQ-9 Pre-SSRI	13.98	1142	5.299	0.157	0.000
PHQ-9 Post SSRI	11.08	1142	5.059	0.150	

Table 1. Sample t-test results for SSRI only treatment.

	Mean	Population	Std. Deviation	Std. Error Mean	p-value
BMI Pre-Therapy	34.43	234	9.694	0.634	0.689
BMI Post-Therapy	34.37	234	9.676	0.633	
PHQ-9 Pre-Therapy	13.53	358	5.490	0.290	0.000
PHQ-9 Post-Therapy	11.68	358	5.394	0.285	

Table 2. Sample t-test results for therapy only treatment.

	Mean	Population	Std. Deviation	Std. Error Mean	p-value
BMI Pre-Gold Standard	32.71	757	8.985	0.327	0.787
BMI Post-Gold Standard	32.73	757	9.037	0.328	
PHQ-9 Pre-Gold Standard	13.90	791	5.393	0.192	0.000
PHQ-9 Post-Gold Standard	11.98	791	5.468	0.194	

Table 3. Sample t-test results for combined therapy and medication treatment.

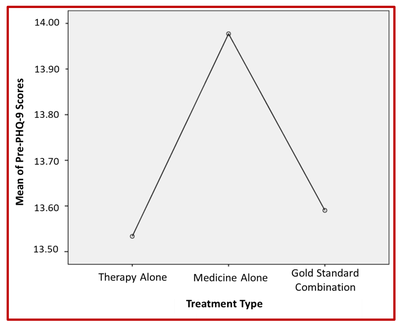

Figure 3a. Mean difference in PHQ-9 score pre- treatment from January 2018 to June 2022.

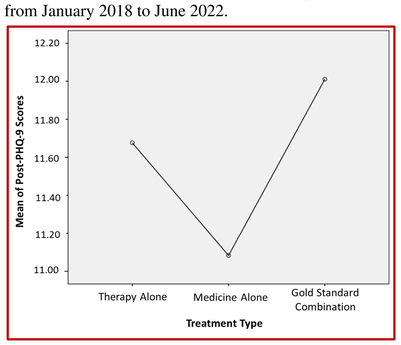

Figure 3b. Mean difference in PHQ-9 score post- treatment from January 2018 to June 2022.

There was a significant difference in change of PHQ-9 score in each of the three groups and no significant difference in change of BMI amongst any of the three groups from January 2018 to June 2022.

Discussion

- Unlike prior research which displayed a correlation between PHQ-9 and BMI within treatment intervention groups, no correlation was found in the change of PHQ-9 score and BMI in patients under selected treatment interventions, as witnessed by a change in PHQ-9 score and no change in BMI.[4]
- Despite reported side effects of weight gain and fatigue of SSRIs, no increase in BMI occurred in either the gold standard or SSRI only treatment groups.[7]
- While a difference in BMI exists between all groups, the difference was consistent in both pre- and post- treatment evaluation, therefore, any change in BMI within each was likely not a result of treatment type.
- Given that time frame of treatment was not consistent between groups, where therapy criteria was 3+ sessions and medication was 6+ weeks, it is difficult to draw representative conclusions.

Limitations

- The 30 day time frame for completing this study
- Data is not generalizable to the U.S. population due to the lack of randomization, as well as the inclusion of only NGHS patients
- Only one behavioral health consult provider at NGMC
- Neither researcher was a part of the studied demographic and have potential for bias due to lack of lived experience

Conclusion

- At NGMC, using solely SSRIs and/or therapy as treatment for women with obesity and depression is inadequate in decreasing both BMI and PHQ-9 score to below criteria levels for obesity and depression.
- Use of therapy and SSRIs were effective in reducing depressive symptoms, but other treatments could be used to lower BMI.
- Ongoing research of various treatment methods for occuring obesity and depression in women is needed to improve all areas of health and quality of life for this large population demographic.
- Future research should consider different treatment interventions across consistent periods of time for each group examined.
- Other recommendations include:
  - Evaluating the role of BMI/PHQ-9 moderators, such as socioeconomic status and race, in context to each treatment intervention
  - Hiring more behavioral health consult providers at NGMC to expand access to talk therapy
  - Examine how the time periods actively engaged in various treatments affect BMI and PHQ-9

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