A Multicomponent Tailored Intervention Program Protocol for Weight Loss in an Underserved Adult Patient Population with Obesity

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Significance
Obesity is a global health risk (WHO, 2018). The risks can be life threatening and impact quality of life as seen in poorer health; increased exacerbations of diseases; decreased mobility, quality of life, productivity and financial resources (Bomberg et al., 2017; Kroes, Osei-Assibey, Baker-Searle & Haung, 2016; Kushner & Ryan, 2014; WHO, 2018).

PICOT Question
Will the use of an evidenced based protocol for the assessment and treatment of obese patients assist adult patients with obesity to achieve better weight loss outcomes over a three month period compared to usual care as measured by primary outcomes of a reduction in BMI, waist circumference and waist-to-hip ratio; and will the implementation improve secondary outcomes measured of BP, HbA1c, total cholesterol, HDL, LDL, triglycerides and the PHQ-9 and the GAD-7 scores?

Evidence Appraisal:

- **Levels of Evidence:**
  - I 11: High
  - I 1: Good
  - II 3: High
  - II 1: Good

- **Design:**
  - SR (1): SR with MA (2)
  - RCT (1):
  - Quasi-exp. (1)

- **Evidence Appraisal Tool:** The Johns Hopkins Nursing Research Evidence Appraisal Tool (Jiang & Deverall, 2017)

- **Data bases searched:** The Cochrane Library, CINAHL, JBI, MEDLINE via EBSCO and PubMed, in addition to citation chasing
- **Key words:** obesity, AND intervent* OR treat* AND “weight loss” OR BMI OR “waist circumference” OR “body fat” AND “primary care” OR “primary health care” OR “primary healthcare”
- **Articles:** A total of 561 articles presented; 331 were duplicates; 100 were reviewed; 16 provided evidentiary support and were included.
- **Inclusion criteria:** Published < 5 years; adult population; English; tested obesity treatment in primary care; evidence level I or II high or good quality.
- **Exclusion criteria:** study focus other than obesity; study included, pediatrics, or OB; or intervention irrelevant to primary care.
- **Evidence Appraisal:** The Johns Hopkins Nursing Research Evidence Appraisal Tool (Jiang & Deverall, 2017)

Synthesis of Evidence

<table>
<thead>
<tr>
<th>Levels of Evidence:</th>
<th>Included</th>
<th>Quality</th>
<th>Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>11</td>
<td>High</td>
<td>SR (1)</td>
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<td>SR with MA (2) RCT (8)</td>
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<tr>
<td>I</td>
<td>1</td>
<td>Good</td>
<td>RCT (1)</td>
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<td>II</td>
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<td>High</td>
<td>SR (2)</td>
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<td>Quasi-exp. (1)</td>
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<tr>
<td>II</td>
<td>1</td>
<td>Good</td>
<td>SR (1)</td>
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Decision to Change Practice

**Identified Best Practice:** The literature review identified an individualized multicomponent intervention as the best practice for the treatment of obesity in adults. **Interventions:** “NEWER ME” Nutrition, Exercise, Weight loss support and motivation, Emotional support, Referrals for added support and care, Medications, and Expanded accountability and goal setting

**Evaluation**

Prospective group, (n=26):
Analysis: Continuous outcome variables and dichotomous data were analyzed using the Wilcoxon signed-rank test. A weight or BMI reduction of ≥3% from baseline is considered clinically significant.

**Primary and Secondary Measures:**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Baseline</th>
<th>Week 4 (2,3,4)</th>
<th>Week 12</th>
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</thead>
<tbody>
<tr>
<td>Weight Lbs. mean (SD, p=)</td>
<td>228.96 (47.16)</td>
<td>214.87 (44.68, p=.026)</td>
<td>221.57 (52.20, p=.088)</td>
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<tr>
<td>BMI kg/m² mean (SD, p=)</td>
<td>39.87 (6.19)</td>
<td>38.27 (6.57, p=.028)</td>
<td>38.64 (6.93, p=.023)</td>
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<tr>
<td>Secondary</td>
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<td>SBP mean (SD, p=)</td>
<td>127.96 (15.81)</td>
<td>132.33 (19.79, p=.754)</td>
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<tr>
<td>DBP mean (SD, p=)</td>
<td>77.96 (12.30)</td>
<td>70.08 (8.03, p=.754)</td>
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<tr>
<td>PHQ-9 mean (SD, p=)</td>
<td>9.37 (5.50)</td>
<td>5.87 (5.82, p=.014)</td>
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</table>

Attainment of a 3% weight loss goal was 27% in the prospective group (n=26) versus 16% (p=.034) in the comparison group (n=25).

**Limitations:** sample size, clinic requirement to be uninsured, staff resources, attrition, fear, language barrier

**Strengths:** clear need, patient supported, EBP, clinic staff oriented and consistency, JHNEBP Model

Conclusions
Based on results, a tailored multicomponent weight loss program should be used to manage obesity in the primary care setting.

**Recommendations**

Future research using this EBP in an expanded timeline of ≥12 months; high attrition among the underserved population; cultural impact of obesity; multiple cause and genetic and hormone link

**Education** to address patient uniqueness and obesity bias.

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