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

Rita R. Arnold MBA, BSM, BSN, RN, DNP Student

## 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?

## • Review of Literature

- **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 (Dang & Dearholt, 2017)

## Synthesis of Evidence

**Levels of Evidence:**

| Level | Included | Quality | Design |
|---|---|---|---|
| I | 11 | High | SR (1)<br>SR with MA (2)<br>RCT (8) |
| I | 1 | Good | RCT (1) |
| II | 3 | High | SR (2)<br>Quasi-exp. (1) |
| II | 1 | Good | SR (1) |

## 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" N**utrition, **E**xercise, **W**eight loss support and motivation, **E**motional support, **R**eferrals for added support and care, **M**edications, and **E**xpanded accountability and goal setting.

(Kushner & Ryan, 2014; Kroes et al., 2016; Ma et al., 2019; Perreault, 2019; Rodriguez-Cristobal et al., 2017; Samdal et al., 2017; Szczekala et al., 2018; Tang et al., 2016; Tapsell et al., 2017 ; Thalbault et al., 2016; Welbourn et al., 2018

## Implementation

**Matthew 25 Health and Dental Clinic**

- Johns Hopkins Nursing Evidence-Based Practice Model (The Johns Hopkins Nursing Evidence-Based Practice Model, 2017)
- Free clinic: 50% Hispanic/Latino; 100% poverty; 100% uninsured; 27% Spanish speaking only
- Multicomponent individualized weight loss program: 'NEWER ME'
- Initial visit dates: Sept. 20 through Dec.10, 2019
- Followed weekly for 4 weeks, then weeks 8 and 12
- Measures: anthropomorphic and biometric, depression screening
- Key stakeholders: meetings and education
- Succession planning

## 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:**

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

**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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