TexMed 2017 Quality Research Abstract

Please complete all of the following sections and include supporting charts and graphs in this document. Submit a total of two documents - this document and the Biographical Data and Disclosure Form to posters@texmed.org by midnight March 17, 2017.

Description and Selection Criteria

- Applicants should demonstrate an understanding of systematic investigation through research development, testing and evaluation designed to develop or contribute to generalizable knowledge. Judges will use the scoring described in this matrix to identify projects to be presented at the conference, as well as, projects to be considered for the awards.
- The focus for Quality Research abstracts is any project that is conducted with an intent to answer a research question or test a hypothesis related to quality improvement (QI). It is also intended to develop or contribute to generalizable knowledge. Projects in Quality Research need to have approval from an Institutional Review Board or have a formal letter of exemption. Traditional QI activities, on the other hand, cover the gamut of projects that are:
  - aimed at improving local systems of care, or improving the performance of institutional practice;
  - designed to bring about immediate improvements in health care delivery; or
  - intended to compare a program/process/system to an established set of standards such as standard of care, recommended practice guidelines, or other benchmarks.

  If you have a question about whether your project is Quality Research or a QI project, please contact us.
- These submissions should provide general information related to the one of the following categories: patient safety, patient centered care, equity, timeliness, efficiency, or effectiveness.
- Maximum points delineated with a brief explanation of the content that should be included under each section. Applicants may describe the problem and results in narrative or graphic format.

PROJECT NAME:

Binge Eating Behaviors among Obese Patients and Readiness to Lose Weight in a Low SES Population

Institution or Practice Name: Midwestern State University, Wichita Falls Family Practice Residency Program

Setting of Care: Primary care outpatient setting

Primary Author: Adil Ahmed, MD, MHI, MSc

Secondary Author: Johnathan Williams MD

Other Members of Project Team: Machael Cortez, M.A., Amar Alsadoon, M.D, Anas Alhomsi, M.D, David Carlston PhD

Is the Primary Author, Secondary Author or Member of Project Team a TMA member (required)? ☒ Yes ☐ No

Please provide name(s): Adil Ahmed, MD, MSc, and Johnathan Williams MD

Project Category: *(Choose all categories)*

☐ Patient Safety ☒ Patient Centered Care ☐ Timeliness ☐ Enhanced Perioperative Recovery

☒ Efficiency ☐ Effectiveness ☐ Equity ☐ Disaster Medicine & Emergency Preparedness

For this poster session, TMA is looking for research projects that demonstrate the six aspects of Quality Care as defined by the Institute of Medicine.

- Safe - avoids injuries to patients from care that is intended to help them
- Timely - reduces waits and delays for both those who receive care and those who give care
- Effective - based on scientific knowledge, extended to all likely to benefit, while avoiding underuse and overuse
- Equitable - provides consistent quality, without regard to personal characteristics such as gender, ethnicity, geographic location, and socioeconomic status

- Efficient - avoids waste, including waste of equipment, supplies, ideas, and energy
- Patient centered - respects and responds to individual patient preferences, needs, and values, ensuring that patient values guide all clinical decisions

Introduction (15 points max): *Describe 1) where the work was completed; 2) what faculty/staff/patient groups were involved, and 3) sufficient background information provided to establish the significance of the problem.*

Obesity is a significant and growing health concern with multiple physiological, psychological, behavioral, and social drivers. The purpose of the current study was to evaluate three specific factors associated obesity: motivation orientation, binge-eating behavior, and SES.

Research regarding self-determination theory (SDT) suggests that different types of motivation underlie people's behavior. *Autonomous regulation* refers to intrinsic motivation, suggesting that individual's behaviors are motivated by a sense of choice and volition. On the other hand, *controlled regulation* refers to extrinsic motivation, suggesting that motivation is more externally controlled. Individuals with this type of motivation often feel the need to comply or feel pressured to engage in specific behaviors. Research has consistently found that autonomous regulation is associated with positive health, behavioral, and psychological outcomes, such as adherence to weight-loss programs. Further, controlled regulation has been linked to treatment non-adherence, poorer overall health, and poorer well-being.

Binge eating behaviors have been found to be more prevalent among obese individuals relative to healthy weight individuals. As such, binge eating behavior appears to be negatively associated with weight loss management. In other words, individuals who engage in binge eating behaviors are hypothesized to be less successful in weight loss efforts.

Moreover, studies have also shown that there is a relationship between SES, gender, and obesity prevalence. A recent study conducted by the Centers for Disease Control and Prevention, for example, found that obesity prevalence among men is generally similar at all income levels. However, obesity levels in men tend to be slightly higher at higher income

levels. Among women, on the other hand, obesity prevalence increases as income decreases.

Altogether, socioeconomic status, binge eating behaviors, and motivation to lose weight have been explored separately in relation to obesity. However, there is limited research addressing binge eating as a predictor for weight loss alone, and there have been no studies examining these three factors together. Therefore, the overall purpose of the current study was to examine the relationship between two different forms of motivation (autonomous regulation and controlled regulation) within self-determination theory (SDT) and binge eating behaviors among obese individuals in low economic status. Specifically, we want to determine if obese individuals, in lower SES, reporting more autonomous regulation would be less likely to engage in binge eating behaviors. Further, we also wanted to determine if obese individuals in lower SES who reported more controlled regulation will be more likely to engage in binge eating behavior.

To this end, a sample of patients was recruited from the Family Health Center, an outpatient family practice clinic run by the Wichita Falls Family Practice Residency Program.

Hypothesis (15 points max): *State the pertinent research or change hypothesis. Using if/then format, describe the 1) assumption; 2) condition; and 3) prediction(s).*

For the current study, in low socioeconomic adults coming to an outpatient community based primary care clinic, we hypothesize that obese individuals who reported higher autonomous regulation would be less likely to engage in binge eating behaviors. Further, we hypothesize that obese individual who report more controlled regulation will be more likely to engage in binge eating behavior.

Methods (25 points max): *Describe the specific methods, resources, procedures, models and/or programs used to study and test the subject of the investigation. Note charts, graphs and tables here and send as addendum with abstract form.*

Study Design
A cross-sectional design was utilized to examine risk factors associated with obesity in a low SES population,

Patients were recruited for participation at the Family Health Center (an outpatient family practice clinic run by the Wichita Falls Family Practice Residency Program). Patients met the inclusion criteria to participate in the study. Individuals were 18 years or older, overweight or obese (BMI 25.0-40.0 kg/m2), and willing to participate in the weight loss program. Exclusion criteria included children, women who are pregnant, individuals who have a severe mental illness, and the presence of and unstable medical condition: uncontrolled hypertension or diabetes, angina pectoris, myocardial infarction, transient ischemic attack, cancer undergoing active treatment, or cerebrovascular accident within the past 6 months.

Procedure

From September 2016 to March 2017 patients were recruited for participation in the current project. Qualified adults who are able to provide informed consent were included in the study. All eligible patients were asked to fill out a short questionnaire consisting of demographics, binge eating behaviors, and the treatment self-regulation questionnaire. These eligible patients were compensated as part of the weight loss study program with a $25 gift card.

Variables

1. Treatment Self-Regulation Questionnaire (TSRQ) - a validated and reliable instrumented used to measure two types of behavioral regulation in terms of the degrees to which they represent autonomous or controlled functioning

2. Binge Eating Scale (BES) - a validated and reliable instrument used to measure binge eating severity (8)

3. Demographic information (i.e., age, gender, etc.) was obtained from the electronic medical record.

Results (25 points max): *Specifically explain what was discovered, accomplished, collected and/or produced; supports hypothesis and conclusions with adequate evidence and includes quantitative data. Note charts, graphs and tables here and send as addendum with abstract form.*

A total of 17 participants agreed and singed informed consent to participate, mostly females with median age and BMI of 47 and 38 respectively. The dominant comorbidities are depression and hypertension, baseline characteristics shown in (Table1). To examine the relationship between the two types of motivation (autonomous and controlled regulation) and binge eating behaviors,

a Person's correlation was conducted. Results found no significant relationship between autonomous regulation and binge eating behavior (r = -.301, p = .295). Although results were not significant, this could be due to our small sample size. Additionally, even though results were not significant, the directionality of the correlation is promising meaning that the direction of the correlation was consistent with the hypothesis. When examining the relationship between controlled regulation and binge eating behavior, a Pearson's correlation revealed a marginally significant relationship (r = .478, p = .084). Specifically, individuals who are more extrinsically motivated to lose weight are more likely to engage in binge eating behaviors.

Conclusions (20 points max): *Provide a succinct interpretation of the results and evaluate what the results mean to the investigation, OR evaluate the relevance or uniqueness of what was accomplished in the immediate context of the project's purpose and describe how the investigation fits within a larger field.*

In the current study, we hypothesized that obese individuals in lower SES who were more intrinsically motivated (autonomous regulation) would be less likely to engage in binge eating behavior compared to individuals who were more extrinsically motivated. Results showed no statistically significant relationship between autonomous regulation and binge eating behavior. However, the direction of the correlation was consistent with hypothesis. Furthermore, there was a marginally significant relationship between controlled regulation and binge eating behavior, indicating that individuals who are more extrinsically motivated were more likely to engage in binge eating behavior. It is important to further examine the relationship between motivation, binge eating behavior, and SES so that weight loss management and factors contributing to weight loss management can be better understood. Specifically, it may be important for treatment providers to evaluate a patient's binge eating behavior in order to establish a holistic and successful weight loss intervention. Our analysis of other domains are evolving and will present additional data during the presentation.

Table 1: Baseline characteristics of the study participants

Variable		Summary N (17)
Age (Median, IQR)		47 (34,58)
BMI (Median, IQR)		38 (35,46)
Gender n (%)		
	Female	12 (71)
	Male	5 (29)
Race		
	White / Caucasian	9 (53)
	Black / African American	4 (24)
	Hispanics/ Latino	2 (12)
	Others	2 (12)
Comorbidities n (%)		
	Diabetes	4(24)
	Hypertension	10 (59)
	Heart disease	2 (12)
	Hyperlipidemia	9 (53)
	Arthritis	7 (41)
	Anxiety/ Depression	10 (59)
	OSA	3 (18)

References:

1. Logue, E., Sutton, K., Jarjoura, D., & Smucker, W. (2000). Obesity management in primary care: assessment of readiness to change among 284 family practice patients. The Journal of the American Board of Family Practice, 13(3), 164-171.

2. McLaren, L. (2007). Socioeconomic status and obesity. Epidemiologic reviews, 29(1), 29-48.

3. Sobal, J., & Stunkard, A. J. (1989). Socioeconomic status and obesity: a review of the literature. Psychological bulletin, 105(2), 260.

4. Ogden CL, Lamb MM, Carroll MD, Flegal KM. Obesity and socioeconomic status in adults: United States 1988–1994 and 2005–2008. NCHS data brief no 50. Hyattsville, MD: National Center for Health Statistics. 2010.

5. Gormally, J., Black, S., Daston, S., & Rardin, D. (1982). The assessment of binge eating severity among obese persons. Addictive behaviors, 7(1), 47-55.

6. Pacanowski, C. R., Senso, M. M., Oriogun, K., Crain, A. L., & Sherwood, N. E. (2014). Binge eating behavior and weight loss maintenance over a 2-year period. Journal of obesity, 2014.

7. Ghannadiasl, F., Mahdavi, R., & AsghariJafarabadi, M. (2014). Assessing Readiness to Lose Weight among Obese Women Attending the Nutrition Clinic. Health promotion perspectives, 4(1), 27.