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Effectiveness of Nutritional Counseling and VLCD (very low calorie diet) for Weight Loss and Metabolic Syndromeketav.

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Effectiveness of Nutritional Counseling and VLCD (very low calorie diet) for Weight Loss and Metabolic Syndrome

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Introduction

- Obesity and Diabetes are prevalent worldwide with associated conditions that have critical implications on patients.
- A VLCD (very low calorie diet) could be an effective tool in lowering weight and other factors in certain qualified patients.
- The purpose of this study is to determine the efficacy of a VLCD on lowering weight, BMI, blood pressure, HBA1c, lipid levels, and blood glucose.

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Objectives & Hypothesis

- Research Question
  - The purpose of our study will be to determine whether a VLCD could effectively lower HBa1c, along with other variables commonly involved in obesity and Diabetes.
  - Patients enrolled in MNT (medical nutritional therapy) program had vitals tracked during the course of the program, including attendance and length involved. A retrospective chart review was performed and their baseline vitals were recorded 3 months prior to their enrollment and compared to their vitals/outcomes following participation in the program at yearly intervals.
  - The pilot data study population consisted of 29 females and 4 males for a total of 33 patients.
- Hypothesis
  - We predict that a VLCD will be effective in lowering HbA1c, along with other related variables such as weight, lipids levels, BMI, and blood glucose.

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Approach & Results

- Study design: This is a retrospective analysis from a Jefferson Medical Nutritional Therapy program.
- Population: Our pilot study included 29 females (8 African American, 20 Caucasian, and 1 Other) and 4 males (all Caucasian) were examined. Patients who had prior bariatric surgery, hypothyroidism, a malignancy, or specific vitamin deficiencies were excluded to avoid confounding effects.
- Intervention: 33 patients were examined and vitals tracked for analysis
- Outcome: The variables monitored were blood pressure, weight, BMI, HBA1c, blood glucose, lipid levels, and medications patients were on. Variables were recorded 3 months prior to start in the program to date.
- The source of data and collection was medical chart reviews.
- Groups were compared using a Ttest.

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Approach & Results

- Preliminary results from conducting the study showed that patients lost a average of 23 pounds (10% body weight) following one year in the MNT program (p=0.002). Following the close of the program, patients gained back a mean of 9 pounds in the next year (0.04): 6% body weight, for a net loss of 4% body weight loss sustained at 2 years!
- There was a drop in HBA1c (0.193), glucose (10.429), and heart rate (5.208) but given the small sample population and p-value, it was deemed insignificant.
- Total cholesterol went up in the population, likely due to the rise in HDL cholesterol. A drop in triglycerides was also noted but both variables did not yield a significant p-value, again likely to initial small sample size.

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Approach & Results

Variable: A1CDiff

N	Mean	Std Dev	Std Err	Minimum	Maximum
7	0.1929	0.4911	0.1856	-0.4000	1.0500

Mean	95% CL Mean		Std Dev	95% CL Std Dev	
0.1929	-0.2613	0.6471	0.4911	0.3165	1.0815

DF	t Value	Pr > |t|
6	1.04	0.3389

Variable: WTCHANGEYR1

N	Mean	Std Dev	Std Err	Minimum	Maximum
14	23.6250	22.7828	6.0889	-4.6000	67.6700

Mean	95% CL Mean		Std Dev	95% CL Std Dev	
23.6250	10.4706	36.7794	22.7828	16.5165	36.7040

DF	t Value	Pr > |t|
13	3.88	0.0019

Variable: WTCHANGEYR2

N	Mean	Std Dev	Std Err	Minimum	Maximum
15	-8.7547	15.5278	4.0093	-48.0000	18.6700

Mean	95% CL Mean		Std Dev	95% CL Std Dev	
-8.7547	-17.3537	-0.1556	15.5278	11.3683	24.4889

DF	t Value	Pr > |t|
14	-2.18	0.0465

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Conclusions

- A VLCD was effective in lowering weight while in the program, and maintaining a degree of weight loss in the year following.
- Findings revealing a drop in HBA1c, blood glucose, and lipid levels are promising; however, a larger, controlled sample size is required to confirm initial trends discussed here.
- The findings in current literature corroborate the effectiveness of a VLCD on lowering variables associated with obesity and diabetes.
- These findings are useful for clinicians when considering alternative methods to lowering one's risk for unwanted complications stemming from obesity and diabetes, with weight loss achievable without surgery or medications.

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Future Directions

- Future studies could involve examining a larger population involved in the MNT program to yield more soluble results in the effects of a VLCD on HBA1c, lipid levels, blood glucose, and heart rate reduction.
- If time frame permits, a study involving the efficacy of a VLCD diet years after ending program involvement could be examined for long term use and benefits of an intervention.

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