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Research Article

**PREOPERATIVE LIFESTYLE INTERVENTION IN
BARIATRIC SURGERY: A RANDOMIZED CLINICAL TRIAL.**¹Dr Rabia Iftkhar, ²Dr Umer Ilyas, ³Dr Bakhtiar Ahmad Khan¹WMO, BHU 115/12L Chichawatni, Sahiwal.²MO, BHU Chak Ramdas, Gujranwala.³MO, RHC 45/12L Chichawatni, Sahiwal.**Article Received:** May 2020**Accepted:** June 2020**Published:** July 2020**Abstract:**

A study conducted on the impact of pre surgery weight loss on post-surgery weight loss. The results indicated that people who had advised weight loss before surgery had experience enormous weight loss after three months of rouyer-en-Y gastric bypass as compared to those who had not received weight loss instruction. But the difference was not statistically significant in both groups at 6 month or 1 year after surgery. Meanwhile the study has some limitation, there was no intervention related to lifestyle modification and only one method of surgery was introduced hence it minimized the specificity of findings. Among extremely obese patients non-surgical interventions such as behavioral lifestyle was administered to them and they had loss 5-10% of initial body weight recommended it potential utility as a pre-surgery intervention. Some initial results indicated that behavioral lifestyle intervention has positive relation with greater weight loss than those who did not had special care before surgery. The intervention group had reported more weight loss and was ore prone to lose at least 5% as compared to regular care group.

This study has concluded that pre-operative lifestyle interventions improves weight loss following bariatric surgery. Opposite to this statement the intervention group lost significantly less weight at 2 years after operation, although the difference between groups was modest. Due to study inclusion criteria, the results may not generalize to individuals with more severe obesity, medically compromised patients, or other subgroups who could potentially achieve health benefits from pre-surgery lifestyle change. For post-surgery weight loss and health benefits of bariatric surgery there must be some behavioral, surgical or pharmacological interventions initiated in this period.

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INTRODUCTION:

Pre-surgery diet plans and lifestyle modification programs are still under debate whether it should be mandatory before bariatric surgery or not. Some perioperative complications are linked with bariatric surgery such as shorter hospital stay, less blood loss, shorter operative time whereas weight loss is common in pre-bariatric surgery. But the main concern is post-operative benefits. Some literature is in favor of pre-operative weight loss because it has positive relation with post-operative surgery outcomes. Mandatory supervised dieting become a barrier in surgery for those who did not experience weight loss before surgery and having less post-surgery outcomes. However, if pre-surgery weight loss is associated with improved post-surgery outcomes, implementation and additional evaluation of pre-surgical diet and lifestyle modification programs is indicated. A study conducted on the impact of pre surgery weight loss on post-surgery weight loss. The results indicated that people who had advised weight loss before surgery had experience enormous weight loss after three months of rouyer-en-Y gastric bypass as compared to those who had not received weight loss instruction. But the difference was not statistically significant in both groups at 6 month or 1 year after surgery. Meanwhile the study has some limitation, there was no intervention related to lifestyle modification and only one method of surgery was introduced hence it minimized the specificity of findings. Among extremely obese patients non-surgical interventions such as behavioral lifestyle was administered to them and they had loss 5-10% of initial body weight recommended it potential utility as a pre-surgery intervention. Some initial results indicated that behavioral lifestyle intervention has positive relation with greater weight loss than those who did not had special care before surgery. The intervention group had reported more weight loss and was ore prone to lose at least 5% as compared to regular care group.

MATERIALS AND METHODS:**Design, participants, and setting**

It was a randomized controlled trial. Participants age was at least 18 years old. Exclusion criteria contains; any history of previous surgery, following any weight management program, previously diagnosed obesity, any disability or psychosis, pregnant or lactation in the previous 6 months, and any other chronic illness. An informed consent was signed before recruiting the participants in the study.

Behavioral lifestyle intervention and assessments

A behavioral lifestyle intervention was made based upon diet intervention, physical activity and bariatric surgery. The intervention consisted of

weekly contacts. This intervention had weekly contacts with the participants in form of face to face communication and telephonic communication.

Intervention group had contact even after the surgery to fulfil the assessment part whereas usual care group had no any further contact.

An a priori power calculation based on a two-sample t-test for the difference in outcome measures from pre- to post intervention and across the two groups was computed. The computations assumed a two-sided significance level of 0.05 and an initial sample size of 100 subjects in each of the two groups with 80% retention.

Two-sample t tests (or Wilcoxon tests) and chi-square analyses (or Fisher's exact tests) were performed to test for differences in demographics and baseline variables between groups as well as between participants who were and were not lost at 6- 12- and 24-month post-surgery follow-up.

RESULTS:

Total 110 participants were included in the study. The mean age was 43.43 ± 12 years and the BMI were 44 ± 5.3 .

Participants who were in the lifestyle intervention group lost a greater percentage of weight from enrollment to post-intervention percent weight loss was comparable at 6-month and 12-month follow-up. The lifestyle group lost less than the usual care group at 24-month follow-up. There was significant association of type of surgery and procedure of surgery. Participants who had RYGB lost more weight as compared to those who had LAGB.

All study participants in both groups were discharged within 30 days after surgery. Time and pre surgery weight loss have shown significant association.

At 6 months after surgery, participants with $\geq 5\%$ pre-surgery weight loss lost significantly more weight as compared to those with $< 5\%$ pre-surgery weight loss, However, post surgery weight loss did not differ as a function of 5% pre-surgery weight loss at 12-months or 24-months, independent of group and surgery type. Similar results were observed in the RYGB and LAGB subgroups, where at 6 months post-surgery, participants with $\geq 5\%$ pre-surgery weight loss lost significantly more weight than those with $< 5\%$ pre-surgery weight loss for RYGB, the same pattern was observed in LAGB, but the differences were not significant. The two pre-surgery weight loss groups did not differ in post-surgery weight loss at 12- or 24-months for either surgical subgroup.

DISCUSSION:

The question to current study arises that whether a lifestyle preparation program delivered during the pre-surgery period improves longer-term weight loss after surgery. A study has demonstrated that patients randomized to an evidence-based pre-surgery lifestyle intervention lost significantly more body weight prior to surgery and were more likely to achieve at least 5% weight loss than those receiving usual care. This follow up has reported that pre-surgery intervention did not favorably impact weight loss over the first two years following surgery or rates of major 30-day post-operative complications. However, these reports suggest that the benefits of pre-surgery lifestyle intervention do not extend to the post-surgery period. In contrast to this theory the lifestyle intervention group had significantly lower percent weight loss at 24 months than the comparison group, but the overall between-group difference was modest.

It is challenging to speculate why completion of a 6-month physician-supervised diet and activity program as required for approval for surgery in usual care would slightly improve weight loss at 24 months among banding patients. Moreover, it is important to keep in mind that patients were not randomized to surgical procedure, and self-selection of procedure may introduce bias, complicating interpretation of results. Nonetheless, this study provides no evidence that the study intervention improved weight loss following gastric bypass or adjustable gastric banding.

The groups in the present study did not differ in 30-day major adverse events. This finding also must be interpreted with caution, as only one patient out of 143 experienced an event (.006%). By comparison, a rate of 4.3% was documented in the LABS study, an observational cohort study which included a much larger sample of 3,412 patients. The difference in rates between studies may be related to characteristics of patients enrolled in this university-based clinical trial, such as the exclusion of patients with a BMI over 70 kg/m² or high-risk surgical profiles. It is also possible that the low rate of adverse events could be an artifact of the small sample size. Thus, this investigation did not detect any benefits of pre-surgery intervention on 30-day adverse events. The results of this study have indicated that sociodemographic characteristics are not significant association with surgical procedure for which pre-surgery lifestyle intervention improves post-surgical weight loss.

Weight loss of >5% is achievable even among extremely obese individuals and has been associated with cardiometabolic health benefits.

In the current study participants who had > 5% weight loss was not associated with post-surgery weight loss overall, nor for the RYGB and LAGB subgroups. It indicates that weight loss before surgery has positive impact on the outcomes.

This study has concluded that pre-operative lifestyle interventions improves weight loss following bariatric surgery. Opposite to this statement the intervention group lost significantly less weight at 2 years after operation, although the difference between groups was modest. Due to study inclusion criteria, the results may not generalize to individuals with more severe obesity, medically compromised patients, or other subgroups who could potentially achieve health benefits from pre-surgery lifestyle change. For post-surgery weight loss and health benefits of bariatric surgery there must be some behavioral, surgical or pharmacological interventions initiated in this period.

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