

A clinical audit on Bariatric/Metabolic surgery

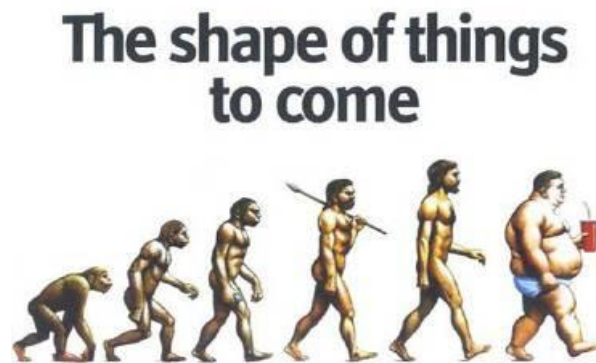
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Background

Bariatric surgery is the umbrella term for all weight-loss surgeries reserved for obese patients. We performed this study on the measures taken for these surgeries and the outcomes.



Burden of Obesity

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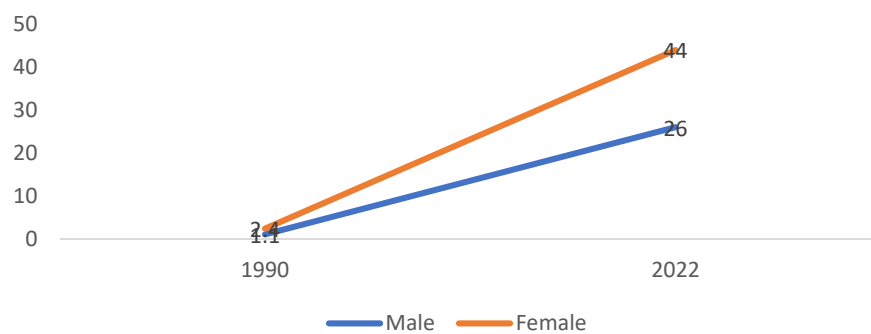
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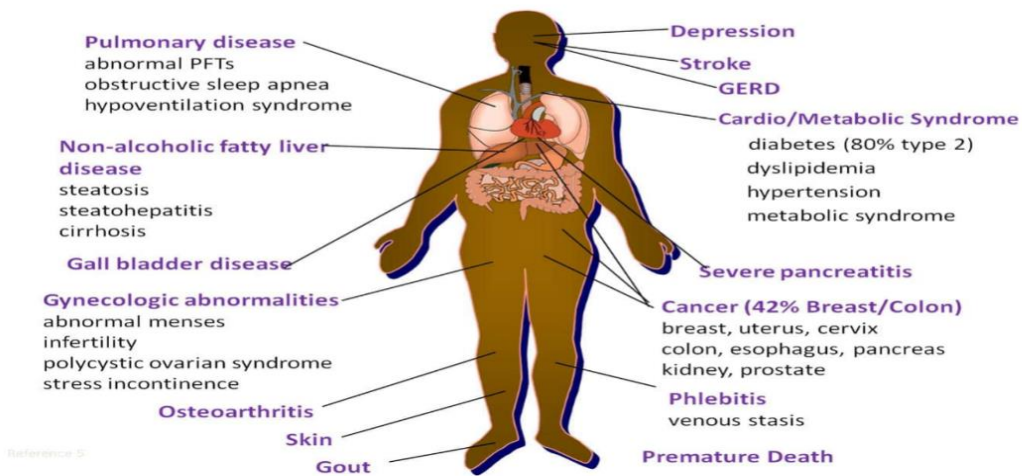
Rising burden (in millions)



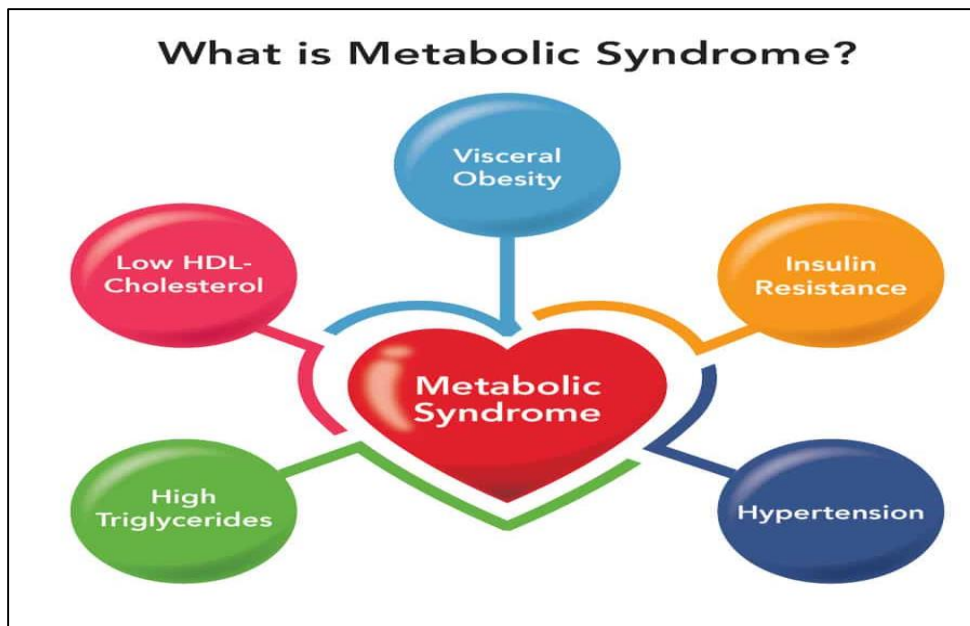
WHO classification

Status	BMI
Normal	18.5–22.9
Pre-obese	25–29.9
Obese	30
Morbid obese	>40
Super obese	>50

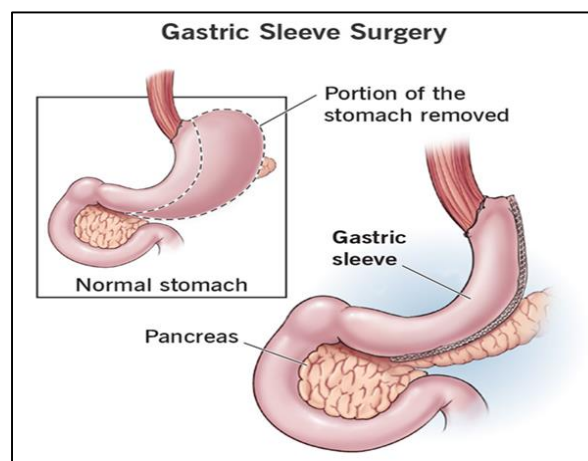
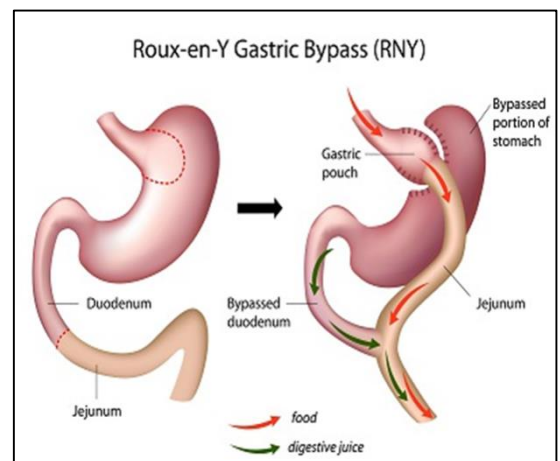
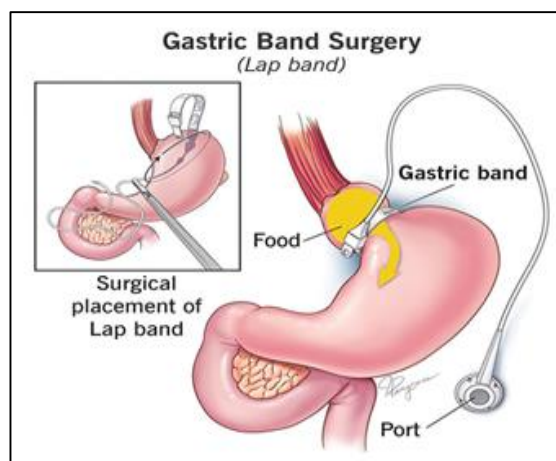
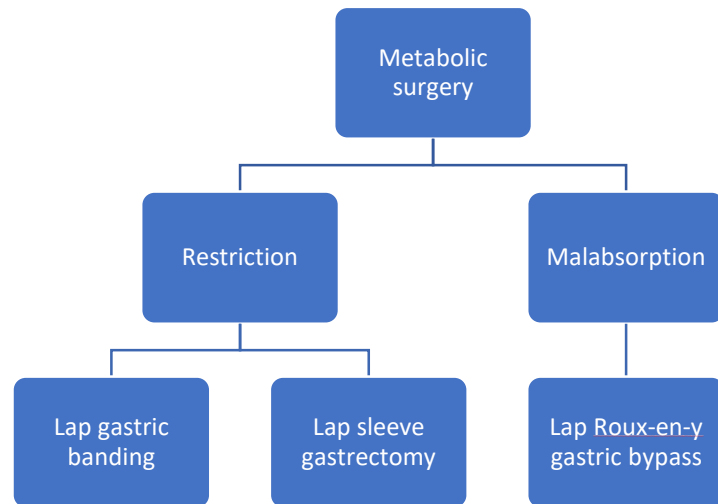
Obesity Impacts Nearly Every Organ System



Definition of Metabolic syndrome



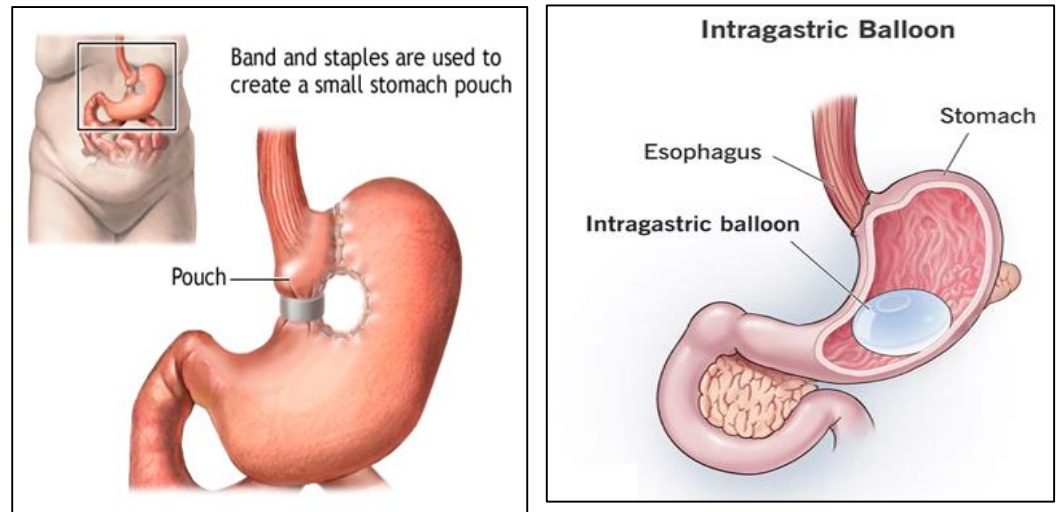
Classification of metabolic surgery



Criteria's for the Surgery

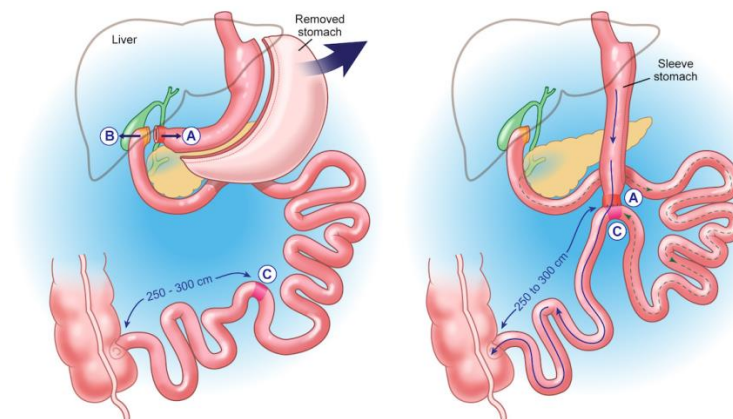
- 1) BMI > 37.5
- 2) BMI > 32.5 with associated co morbidities
- 3) No endocrine cause of obesity
- 4) Acceptable operative risk
- 5) Understands surgery and risks
- 6) Absence of substance abuse
- 7) No uncontrollable psychological conditions

8) Dedicated to lifestyle change and follow up



Other Bariatric Surgeries

Duodenal switch



Preoperative evaluation

- 1) Laboratory investigations including serum ferritin, sr. calcium, vitamin levels
- 2) Consideration of co-morbidities
- 3) Coagulation profile
- 4) Cardiovascular factors–ECG, ECHO
- 5) Pulmonary function - Spirometry
- 6) Hepatic function–LFT, USG
- 7) Gastrointestinal function–OGD scopy
- 8) Sleep study
- 9) Endocrine
- 10) Psychological evaluation
- 11) Anaesthetic fitness

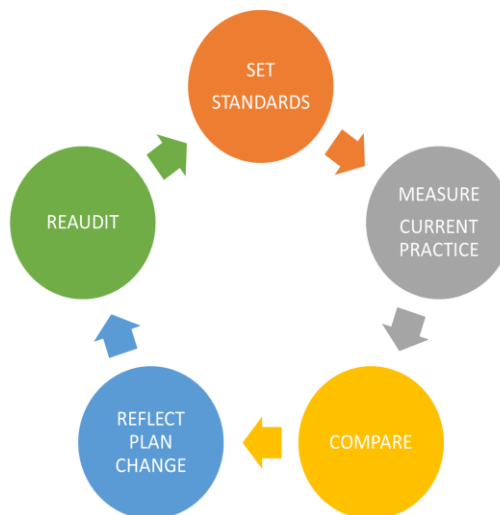
What we do?

Laparoscopic sleeve gastrectomy

Post op follow up

- 1) 2, 4, 6 weeks

- 2) 3 monthly till 2 years
- 3) Biannually
- 4) Investigations: Sr. ferritin, vitamin D, folate, vit.B12, CBC
- 5) Medication: Multivitamin and calcium supplements



Set Standards

Success for a weight loss surgery usually defined as %TWL>10% or %EWL>50%
 Metabolic remission of diabetes mellitus - >60% by the end of second year or decreased requirement of insulin/OHA
 Remission of Hypertension, dyslipidemia and near complete normalization of menstrual disturbances

Materials and Methods

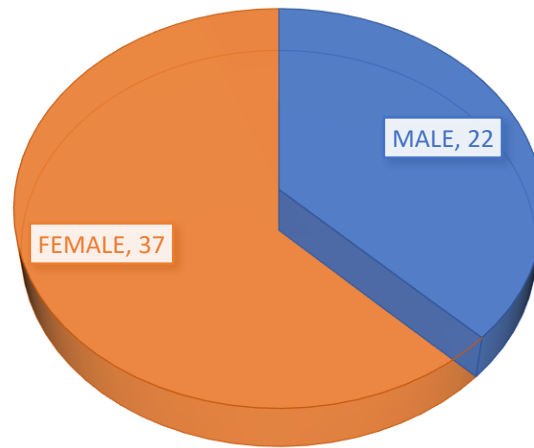
- 1) Study area: Kauvery hospitals, Trichy
- 2) Study population: All patients who underwent laparoscopic sleeve gastrectomy
- 3) Duration:2011- Till date
- 4) Sample size:59

Results and Discussion

Demographic details

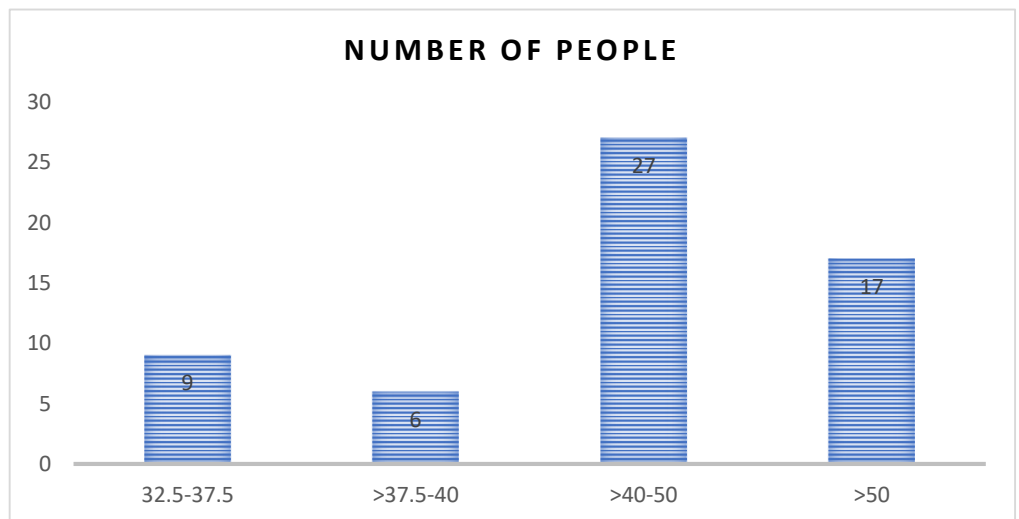
Age	
Range	Mean
22-64	40
Gender	
Male	Female
22	37

SEX

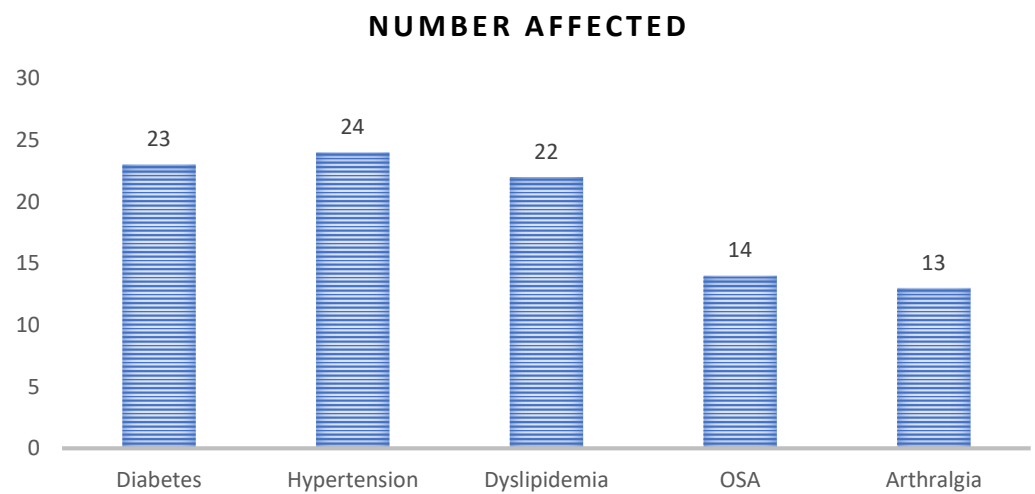


BMI

Range: 33.3–85
Mean BMI: 46.6



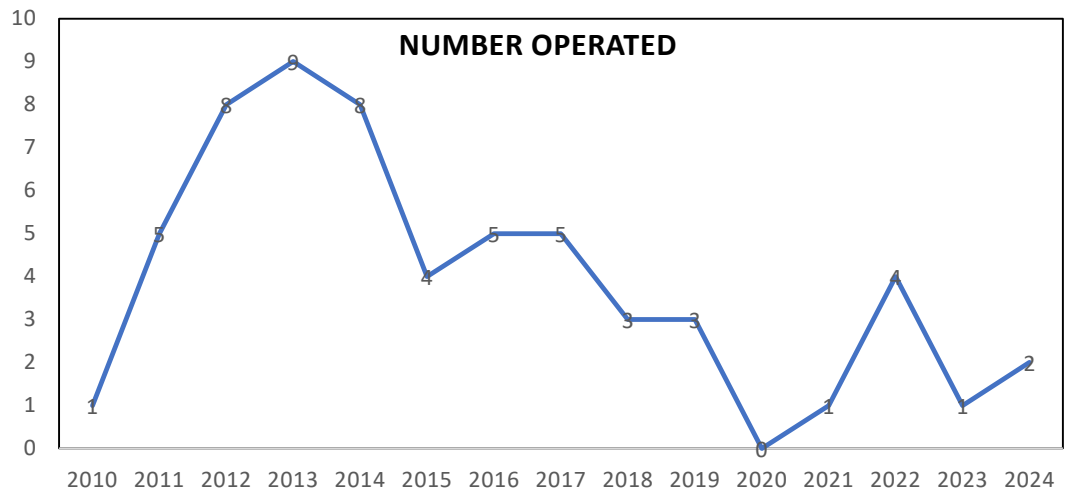
Comorbidities



Other comorbidities

- 1) Cardiac issue - 1
- 2) Menstrual disturbance -4 (2 had primary infertility)
- 3) 50% - feeling low because of their weight
- 4) Hypothyroid - 8

Performance



Complication

- 1) 1 patient had delayed staple line leak on POD-10
- 2) Managed with drainage and feeding jejunostomy
- 3) Healed after 6 weeks
- 4) Doing well on 12 years follow up
- 5) No Mortality

Weight loss estimation

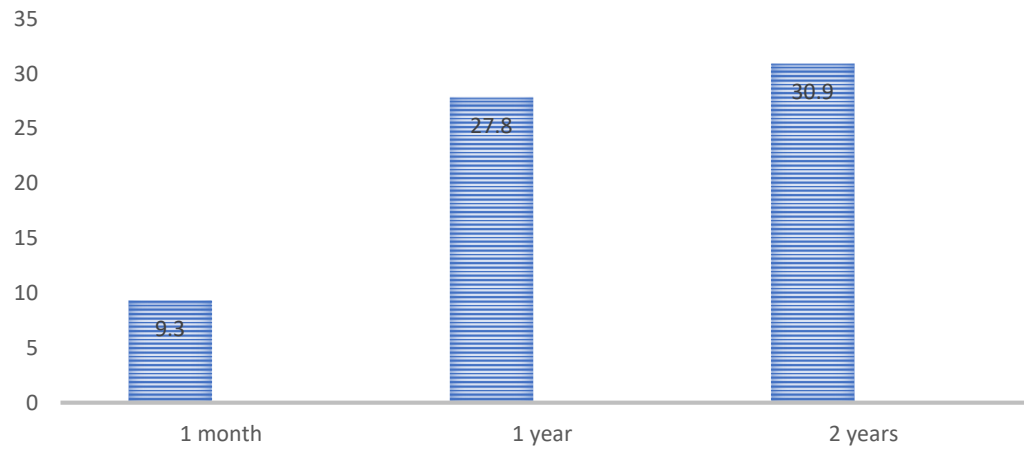
- 1) Percentage of total weight loss

$$TWL\% = \frac{[(\text{Initial weight} - \text{post-op weight})]}{[(\text{Initial weight})]} \times 100$$
- 2) Percentage of excess weight loss

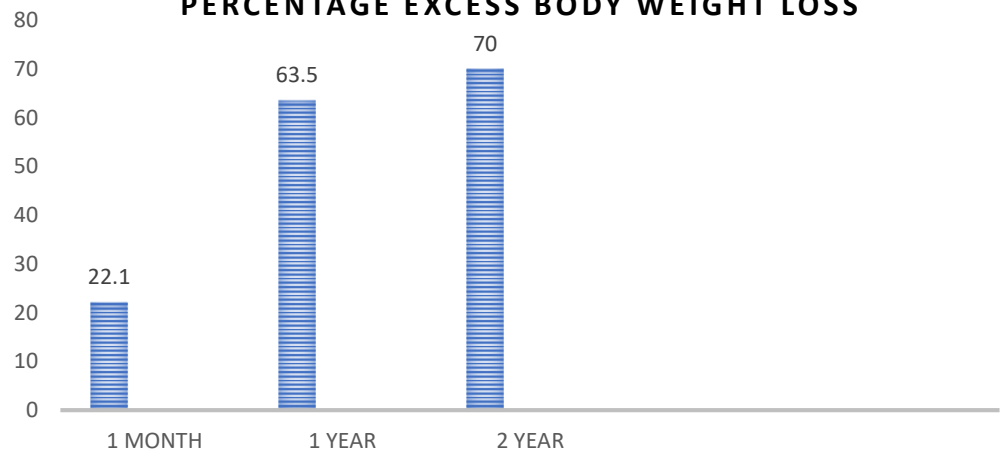
$$EWL\% = \frac{[(\text{Initial weight} - \text{post-op weight})]}{[(\text{Initial weight}) - (\text{ideal weight})]} \times 100$$

Where ideal weight is defined by the weight corresponding to a BMI of 25 kg/m²

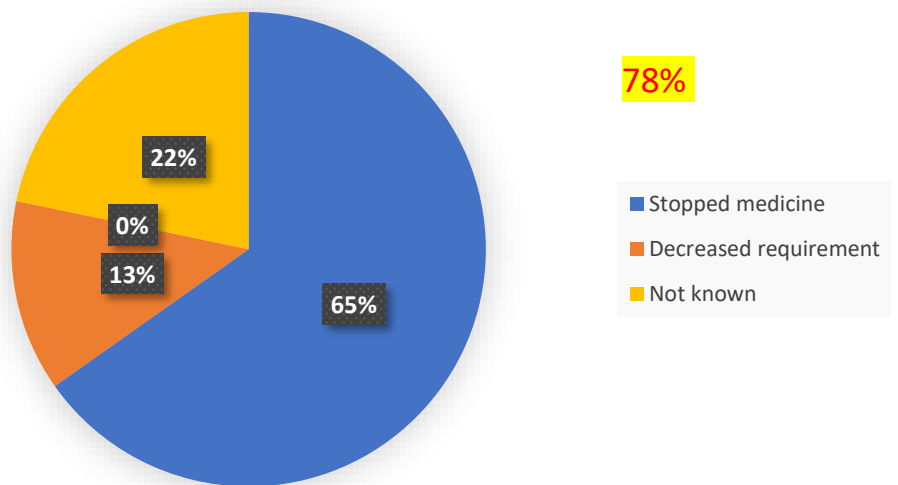
PERCENTAGE TOTAL BODY WEIGHT LOSS



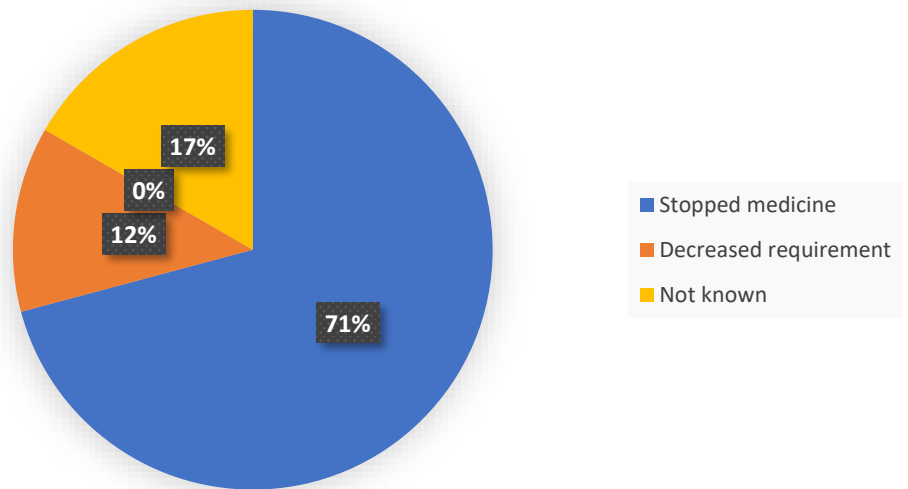
PERCENTAGE EXCESS BODY WEIGHT LOSS



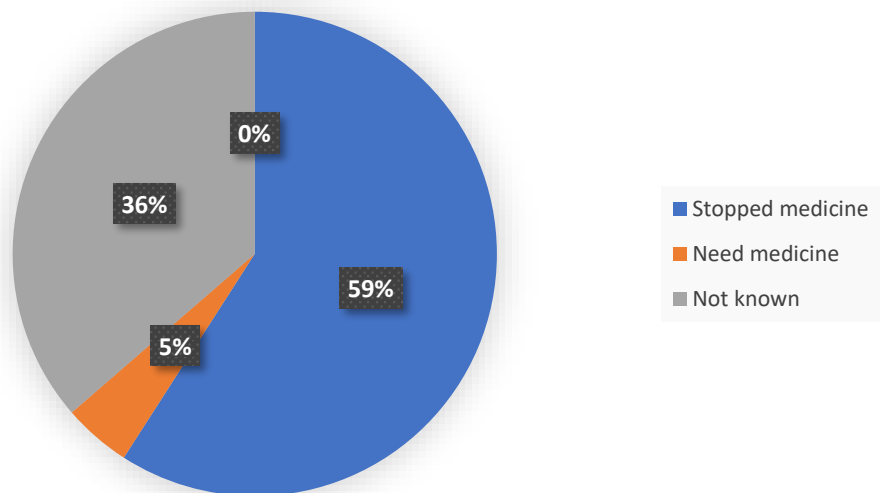
Metabolic remissions - Diabetes



Hypertension



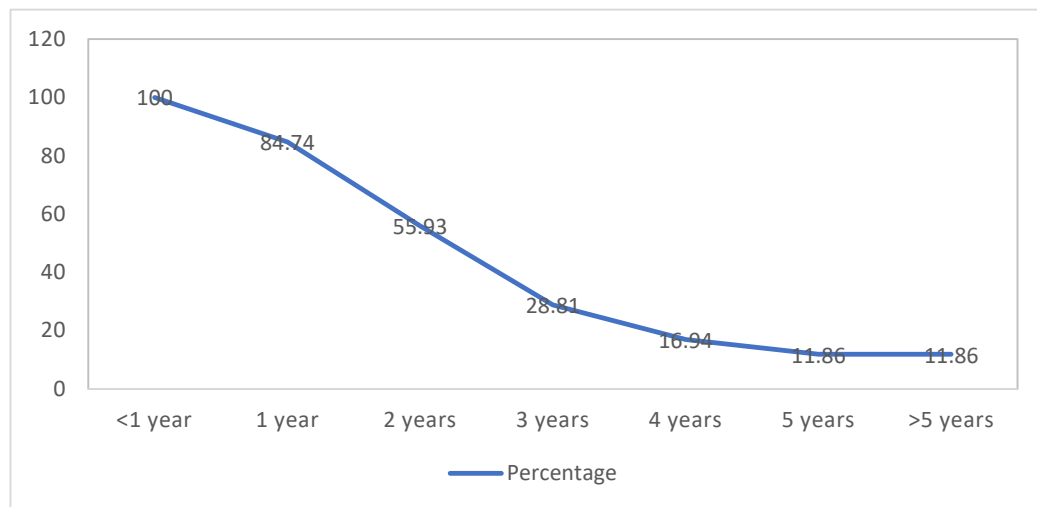
Dyslipidemia



Discussion

- 1) A 78.57% of patients with OSA felt better after surgery
- 2) In 8/13 people with arthralgia required less analgesic and 2 patients underwent knee replacement surgery and doing well
- 3) Among the 4 patients with menstrual irregularity- cycles became regular
- 4) Among the two with infertility, 1 patient got conceived and delivered and other one is in follow up
- 5) A >60% of people feel positive and confident following surgery

Follow up chart



Comparison with other Studies

Variables	Our study	Saeed et al	Lee et al
Total body weight loss	30.9%	-	20.7–64.7%
Excess body weight loss	70%	15.3–86.4%	43.1–94.4%
DM remission	65%	56.5–88.9%	-
HTN remission	71%	46.6–75%	-
Dyslipidemia remission	59%	41.8–86.7%	-

Variable	Shivansu Misra et al	Our data
%TWL (1 year)	31.3	27.8
%EWL	76.3	63.5
%TWL (3 years)	30.9	30.9
%EWL	73.1	70
DM Remission	71.4%	65%

Setbacks

- 1) 22 patients – mean EWL% - 60.2+/-23.2
- 2) (Mean years of follow up – 9.1)
- 3) Lack of follow up
- 4) Patient education

Recommendations

- 1) Dedicated nurse/paramedical practitioner for obesity
- 2) Follow up by regular calls/app to track patients
- 3) Regular camps to create awareness every 6 months

Reference

- [1]. Shoar S, Saber AA. Long-term and midterm outcomes of laparoscopic sleeve gastrectomy versus Roux-en-Y gastric bypass: a systematic review and meta-analysis of comparative studies. *Surgery for Obesity and Related Diseases*. 2017 Feb 1;13(2):170-80.
- [2]. Lee Y, Doumouras AG, Yu J, Aditya I, Gmora S, Anvari M, Hong D. Laparoscopic sleeve gastrectomy versus laparoscopic Roux-en-Y gastric bypass: a systematic review and meta-analysis of weight loss, comorbidities, and biochemical outcomes from randomized controlled trials. *Annals of surgery*. 2021 Jan 1;273(1):66-74.