Clinical Audit

A clinical audit on Bariatric/Metabolic surgery

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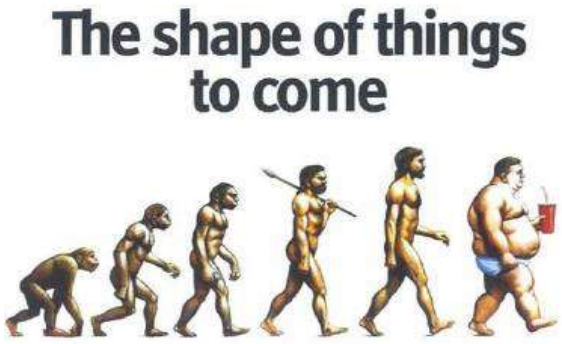
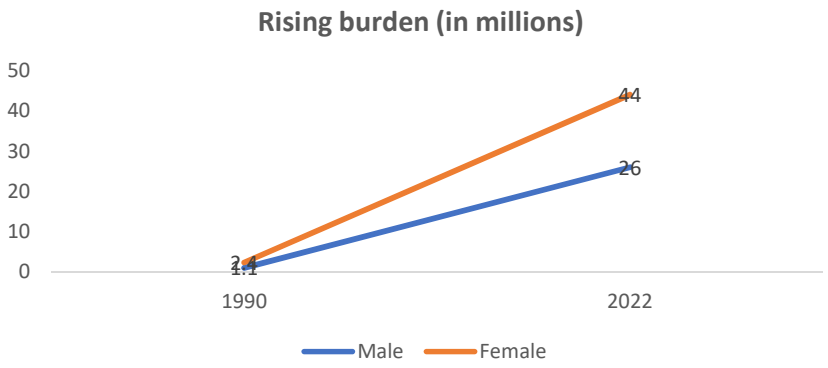
Background

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.

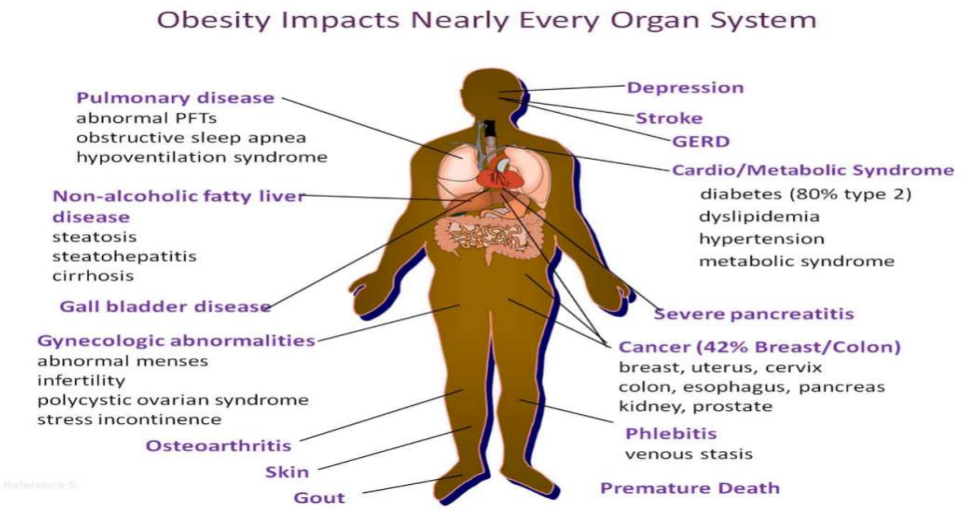


Burden of Obesity

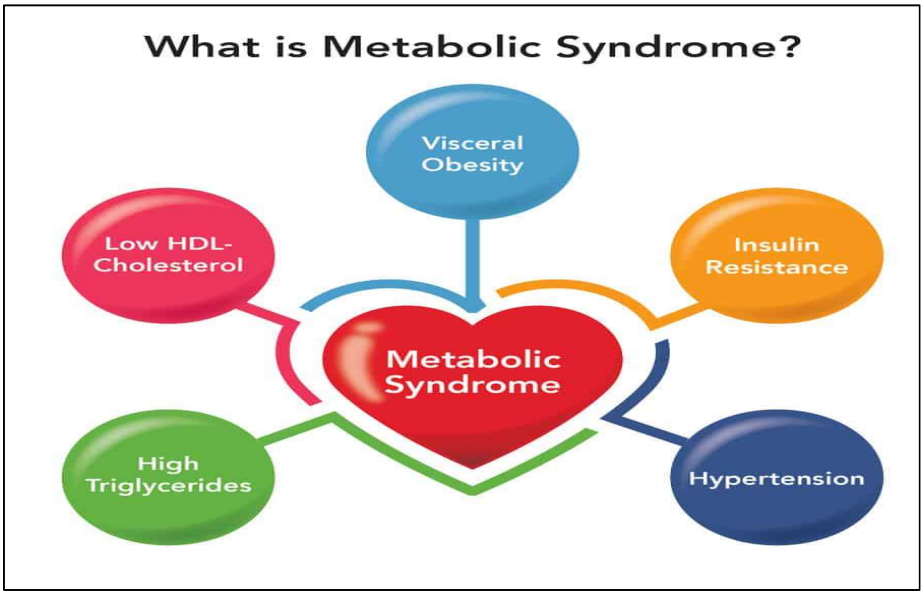


WHO classification

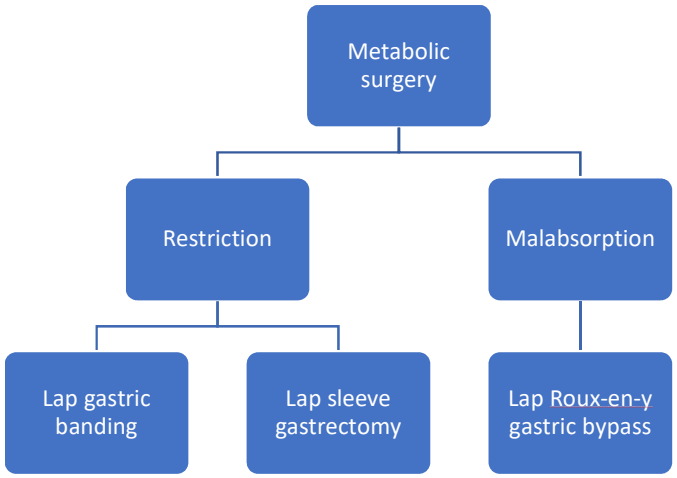
Status	BMI
Normal	18.5–22.9
Pre-obese	25–29.9
Obese	30
Morbid obese	>40
Super obese	>50

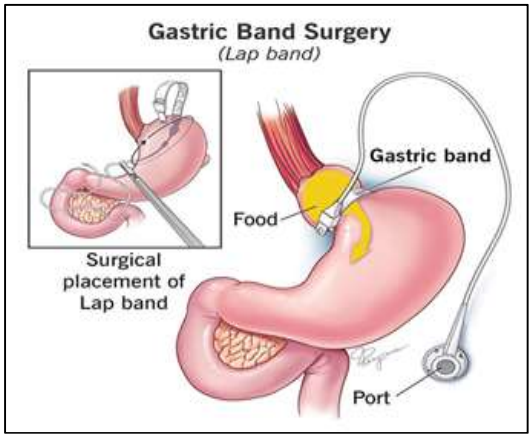


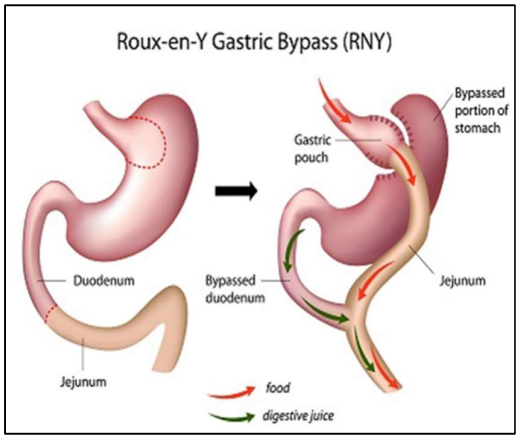
Definition of Metabolic syndrome

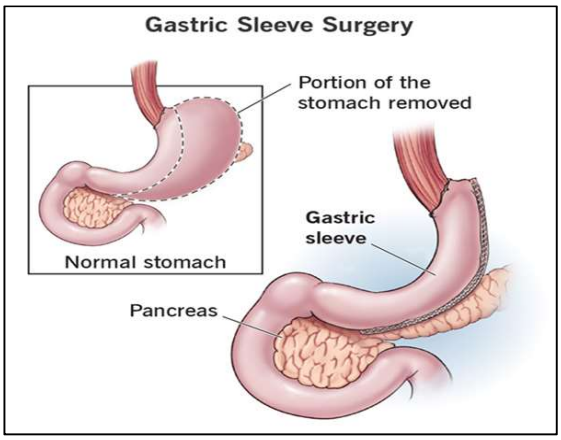


Classification of metabolic surgery





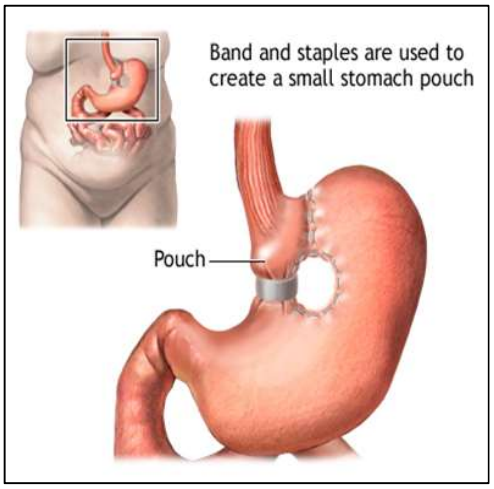


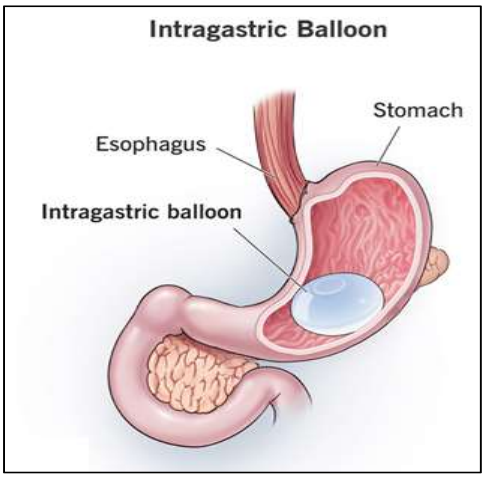


Criteria's for the Surgery

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

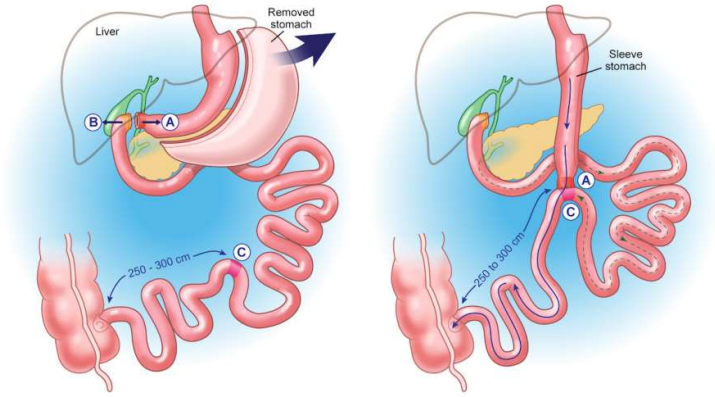
8) Dedicated to lifestyle change and follow up





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

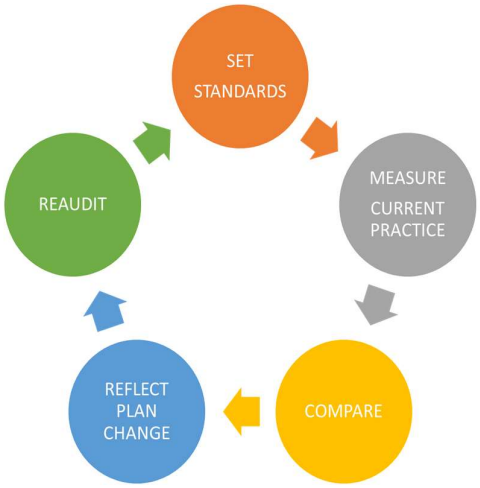
What we do?

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

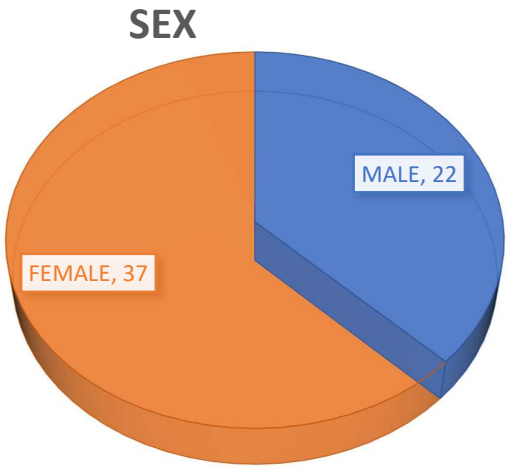
Materials and Methods

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

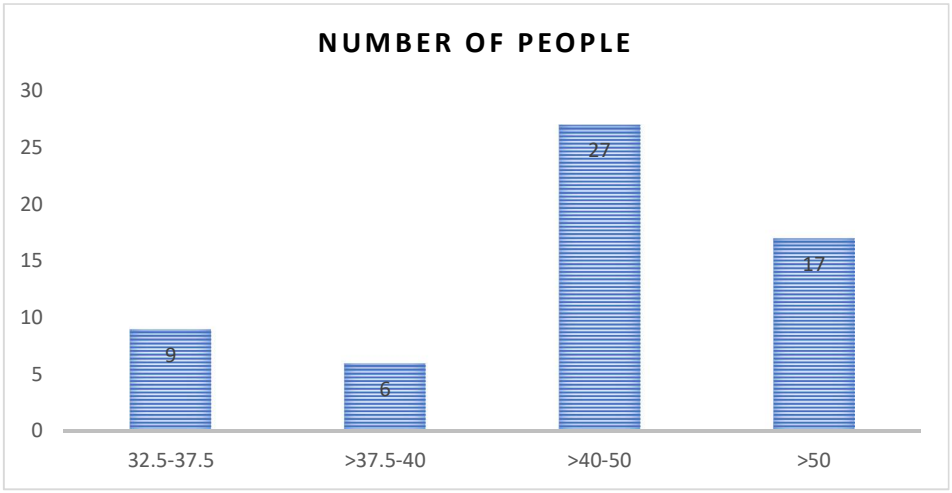
Demographic details

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

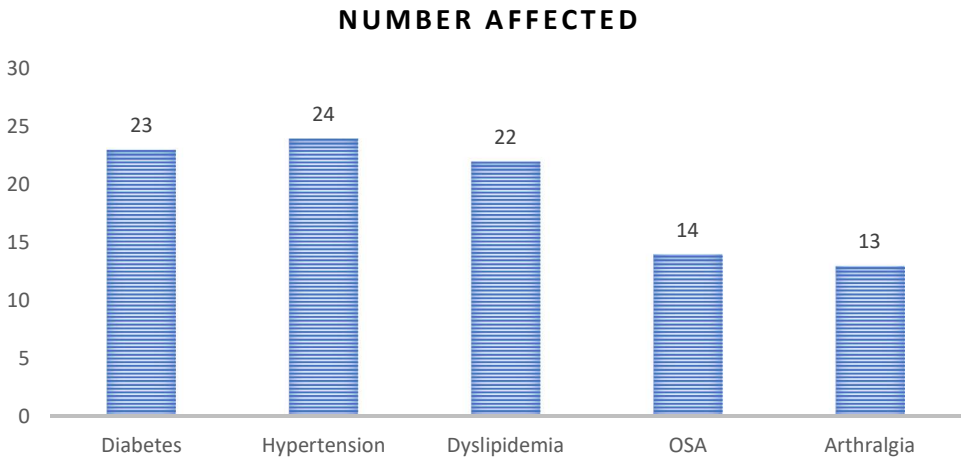


BMI

Range: 33.3–85
Mean BMI: 46.6



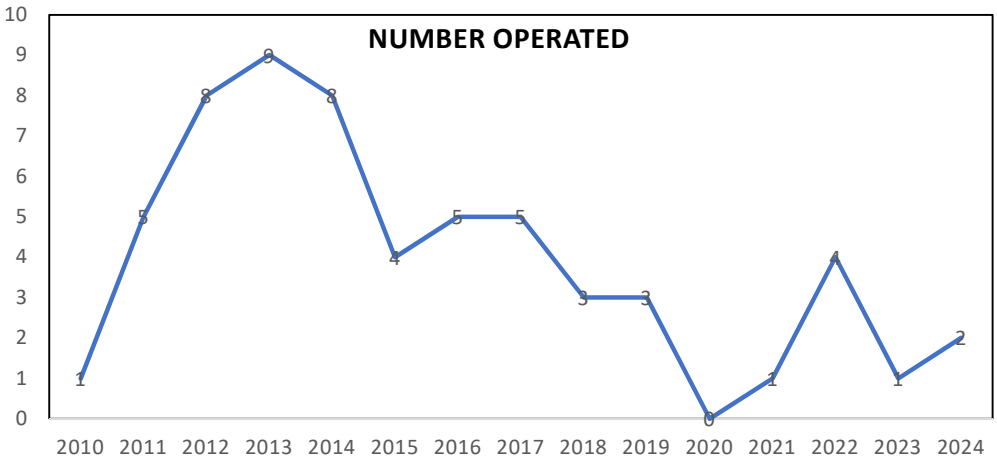
Comorbidities



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

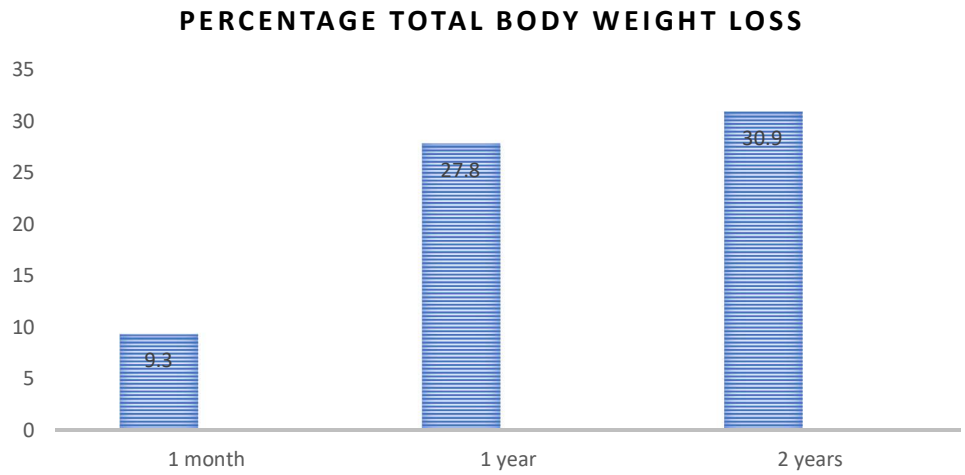


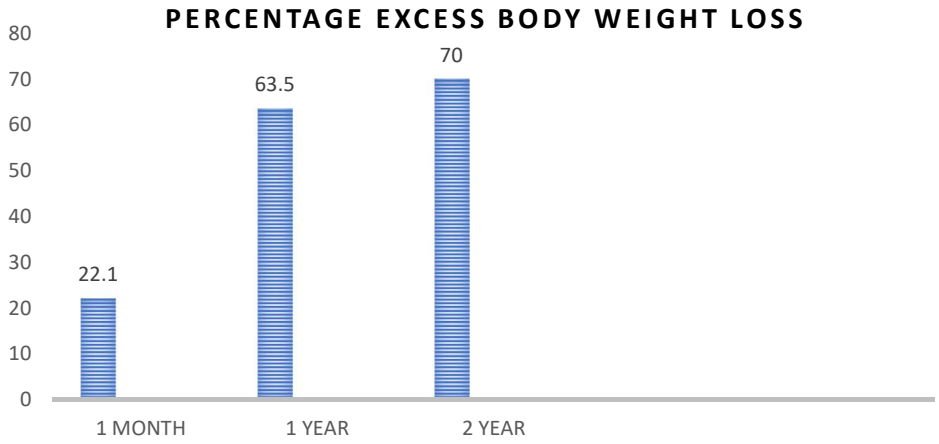
Complication

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

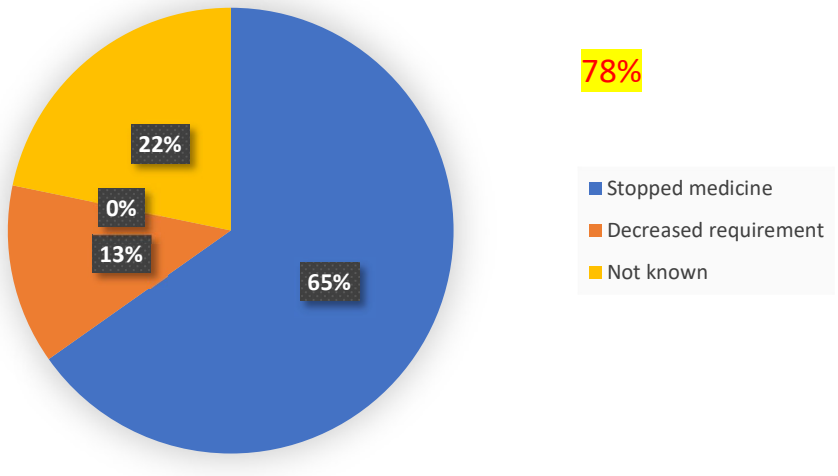
Weight loss estimation

1) Percentage of total weight loss
   TWL% = [(Initial weight-post-op weight)]/[(Initial weight)] × 100
2) Percentage of excess weight loss
   EWL% = [(Initial weight-post-op weight)]/[(Initial weight)- (ideal weight)] × 100
   Where ideal weight is defined by the weight corresponding to a BMI of 25 kg/m2

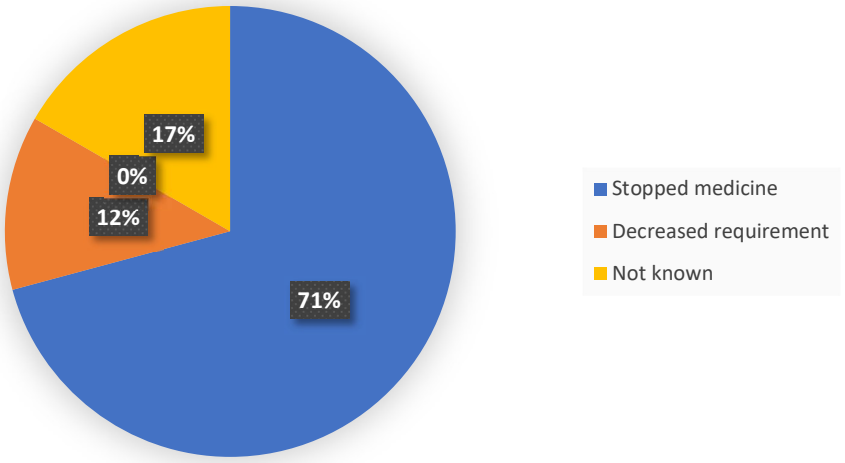




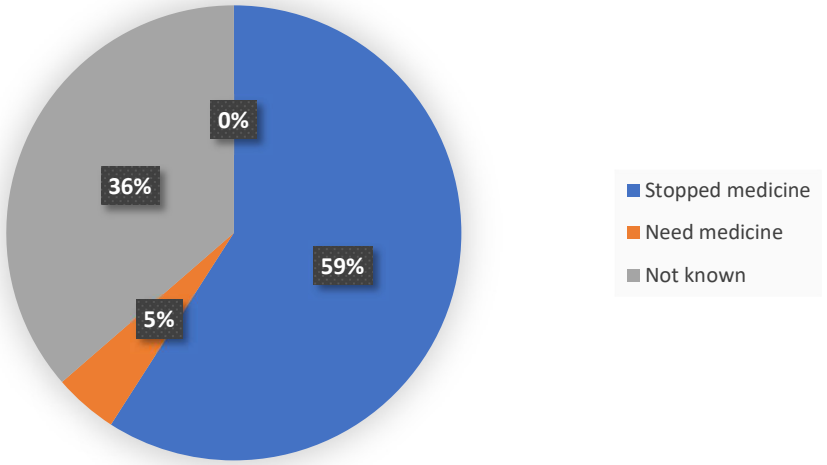
Metabolic remissions - Diabetes



Hypertension



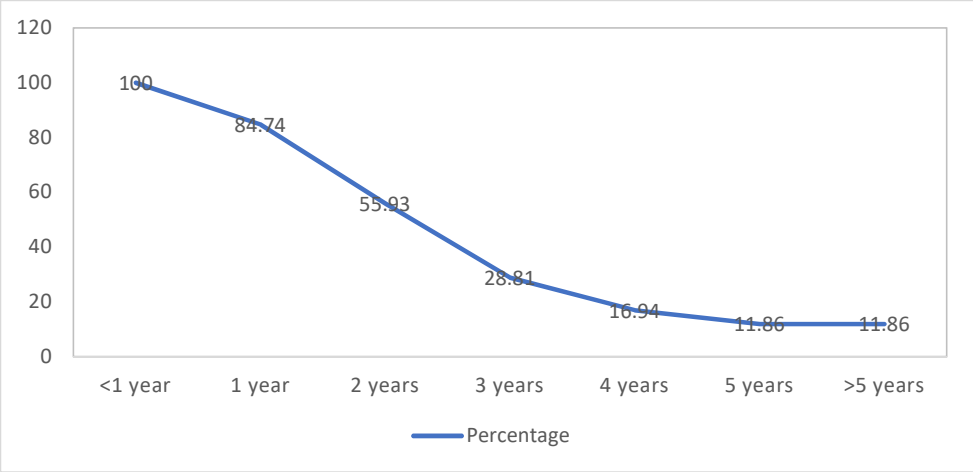
Dyslipidemia



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.