Adipose Tissue, Appetite, and Obesity
INTEGRATED PHYSIOLOGY OF OBESITY AND METABOLIC DISEASE

Misperception of Weight Is Greater in Healthy Asian Indian Urban Men Than Women

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Background: Recognizing being overweight is one step towards implementing weight-management behaviors and appropriate interventions **Objective:** This observational study was designed to study whether the self-perceived body mass index (BMI) status matched the calculated BMI status. Weight loss measures undertaken by overweight or obese participants in real life were also investigated **Methods:** Healthy men (M) and women (W) (18–65 years old) attending a health check-up at Fortis Hiranandani Hospital, Navi Mumbai, India from 1 August 2019 to 30 November 2019 were systematically included. Information on participants' perception about their weight, intention of weight management and actual weight-management behavior were collected through simple structured questionnaire. Anthropometric measurements were obtained from all participants to compute their current BMI. **Results:** Overall, 148 (68%) of 218 (M=158; W=60; median [range] age: 36 [21–44] years) participants were overweight/obese (BMI>25 kg/m^2). Majority of the participants were graduate and above (93%). A significant association was seen between increasing age and overweight/obesity (p=0.006). Although similar number of M and W were overweight/obese (70% vs 63%), fewer M perceived themselves to be overweight/obese than W (58% vs 77%, p=0.049). Both M and W attributed their overweight/obese status to lack of exercise (44% vs 46%) and poor dietary habits (38% vs 28%). Additionally, W also attributed their overweight/obese status to hormonal imbalance (hypothyroidism, polycystic ovarian syndrome, post pregnancy, menopause; 28%). Most common (>20% incidence) reasons stated to lose weight were to be healthier and disease-free (82 [55%], M=51; W=31) and look better (36 [24%], M=13; W=23). Majority of the participants attempted to lose weight by exercise (60 [73%], M=43; W=25) and dietary interventions (55 [67%], M=29, W=26). The most common (>40%) exercise regimen used to lose weight was cardio/aerobic activity (31 [52%], M=19; W=12) followed by morning walks (29 [48%], M=20; W=9). Most common dietary intervention practiced was healthy eating based on general knowledge (34 [62%], M=17, W=17) and guidance from family and friends (10 [18%], M=6; W=4); only 1 woman consulted professional dietician. **Conclusion:** Discrepancy exists between self-perceived and actual calculated BMI status, especially so in men. Though women better perceived weight, they were less likely to participate in scientifically proven methods or professional guidance to lose weight.

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Morbid Obesity Is Associated With Worse Outcomes and Increased Inpatient Mortality in Patients With Alcohol Induced Acute Pancreatitis

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Introduction: The prevalence of obesity in the United States is rising. Obesity is a known comorbidity with various health impacts. Alcohol is a common etiology for acute pancreatitis. Obesity is known to be associated with liver dysfunction. It is unclear to what extent the degree of obesity affects patients with alcohol induced acute pancreatitis (AAP), as nationally representative data are lacking. This study aimed to ascertain the impact of morbid obesity on outcomes of patients with alcohol induced pancreatitis.
Methods: Data was obtained from the Nationwide Inpatient Sample database for 2016 and 2017. Hospital discharges of patients 18 years and over with a principal diagnosis of AAP were included. This cohort was divided based on presence of comorbid obesity into nonobese patients, mild-moderately obese patients (MMO) (BMI: 30.0 - 39.9) and morbidly obese patients (MO) (BMI >/=40.0). Primary outcome was inpatient mortality. Secondary outcomes included length of hospital stay (LOS), total hospital charges (THC), discharge diagnoses of hypocalcemia, sepsis, acute renal failure (AKI) and acute respiratory failure (ARF). Multivariate regression analysis was used to adjust for patients' sociodemographic factors, Charlson comorbidity index as well as hospital characteristics as confounders.
Results: A total of 143650 hospitalizations were principally for AAP, with 5.5% and 2.7% of these patients classified as having MMO and MO, respectively.
In MO patients, there was increased odds of mortality (aOR=2.99, 95% CI: 1.509 - 5.917, p=0.002) when compared with patients who were nonobese. There was no difference in mortality in patients with MMO (aOR 0.88 95% CI: 0.383 - 2.026, p=0.765) when compared with the nonobese group. MO patients had increased mean LOS of 1.1 days (95% CI: 0.7 - 1.6, p<0.001) as well as THC of $14481 (95% CI: 7894 - 21068, p<0.001), increased odds of hypocalcemia (aOR=1.77, 95% CI: 1.302 - 2.392, p<0.001), sepsis (aOR=1.84, 95% CI: 1.183 - 2.873, p=0.007), AKI (aOR=1.55, 95% CI: 1.257 - 1.912, p<0.001).
Conclusion: Morbid obesity has a negative impact on outcomes of patients with AAP. Efforts should be channeled towards promoting alcohol cessation in at-risk patients as a preventative measure, as well as closer monitoring of hospitalized patients with morbid obesity to mitigated these adverse events.

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Neurobiology of Avoidant/Restrictive Food Intake Disorder in Youth With Overweight/Obesity Versus Healthy Weight

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Objective: Avoidant/restrictive food intake disorder (ARFID) occurs across the weight spectrum, however research addressing the coexistence of ARFID with overweight/obesity (OV/OB) is lacking. We aimed to establish co-occurrence of OV/OB and ARFID and to characterize divergent neurobiological features of ARFID by weight.
Method: Youth with full/subthreshold ARFID (11 with healthy weight [HW], 12 with OV/OB) underwent fasting brain fMRI scan while viewing food/non-food images (M age = 16.92 years, 65% female, 87% white). We compared groups on BOLD response to high-calorie foods (HCF) (vs. objects) in food cue processing regions of interest. Following fMRI scanning, we evaluated subjective hunger pre- vs. post-meal. We used a mediation model to explore the association between BMI, brain activation and hunger.
Results: Participants with ARFID and OV/OB demonstrated significant hyperactivation in response to HCF (vs. objects) in the orbitofrontal cortex (OFC) and anterior insula compared with HW subjects with ARFID. Mediation analysis yielded a significant indirect effect of group (HW vs. OV/OB) on hunger via OFC activation (effect=18.39, SE=11.27, 95% CI [-45.09, -3.00]), suggesting that OFC activation mediates differences in hunger between ARFID participants with HW and OV/OB.
Conclusions: Compared to youth with ARFID and HW, those with OV/OB demonstrate hyperactivation of brain areas critical for reward value of food cues. Postprandial changes in subjective hunger depend on BMI and are mediated by OFC activation to food cues. Whether these neurobiological differences contribute to selective hyperphagia in ARFID presenting with OV/OB and represent potential treatment targets is an important area for future investigation.

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No Differences in Metabolic Parameters Between Roux-en-Y Gastric Bypass and Sleeve Gastrectomy, Regardless of Achieved Weight Loss

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Background: Roux-en-y (RYGB) is considered a procedure with more malabsorptive impact than sleeve Gastrectomy (SG), so the risk of chronic complications seems greater. **Aim:** To describe the metabolic profile and weight regain of patients who underwent bariatric surgery, according to each procedure. **Method:** A retrospective cohort with patients who underwent bariatric surgery (2003–2018). The sample was divided into SG group and RYGB group. Comparisons were made to analyze the relationship between the procedure itself and metabolic improvements, weight loss and weight regain. **Results:** We included 117 eligible participants (91.5 % female, 51.2% RYGB surgery), mean follow-up was 4.4± 3.3 years. Mean age was 41.8±6.8 years, without significant difference between the groups. Before the surgery, the groups were similar according metabolic profile (fasting glucose, Hba1c, total cholesterol, LDLc, triglycerides and HOMA IR), except by non-HDLc (RYGB 108.8±26.3 vs SG 127.2±33.2 mg/dl, p=0,002) and 25OHD (RYGB 28.9±4,7 vs SG 34.3±9,5 ng/ml, p=0.044). The RYGB group had greater weight than the SG group (mean 114.1±13.5 kg vs 122.7±20.5 Kg, p<0.0001) and almost 23.3% of the participants had T2DM and 36.2% of them had systemic arterial hypertension, without significant difference between the groups. The RYGB group had a greater postoperative time than the SG group (mean 5.0±4.0 vs 3.6± 2.9 years, respectively). After the surgery, although weight loss was greater in the RYGB group than the SG group (mean 39%±10.2 *vs* 34.1%±9.8, p<0.0001, respectively), both groups were similar regarding BMI, body fat percentage (BFP) and abdominal circumference. Also, there were no differences in the metabolic profile (fasting glucose, Hba1c, HOMA IR, leptin, triglycerides and HDLc), according to the type of surgery, except in the total cholesterol and LDLc levels (RYGB 167.9±28.2 vs SG 187.9±35.1 and RYGB 92.6±25.6 vs SG 109.5±30.8). Nearly the whole sample (95%) has reached > 20% weight loss. Despite that, 37.6% of the patients have regained > 20% of weight loss, with no relation regarding the type of surgery. Only 7% of the patients remained with some degree of glucose intolerance, with no difference between the groups. **Conclusion:** We found similar benefits among metabolic markers and weight regain after SG, compared to RYGB.

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Obesity, Body Fat Distribution, and Circulating Glutamate Concentrations, A BI-Directional Mendelian Randomization Study

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Background: Various observational studies have reported that circulating levels of the amino acid glutamate was significantly associated with central fat accumulation in men and women. This is the case in the Framingham Heart Study Generation 3 for waist circumference, in the TwinsUK cohort for trunk fat and in a cohort of 1449 Japanese for visceral adipose tissue area measured by computed tomography. However, whether the association between