**How to** approach Obesity ?

**classify the degree of obesity**

**1-BMI (Metric ) (Imperial)**

* **-1Metric** weight (kg) ÷ height2 (m2)
* **-2Imperial** weight (lb) ÷ height2 (in2) × 703

2- **Waist circumference** is an indicator of health risk associated with excess fat around the waist.

**3- Waist to Hip ratio** This is calculated as waist measurement divided by hip measurement (W/H). For example, a person with a 25" waist and 38" hips has a waist-hip ratio of about 0.66.

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**The prevalence in KSA**

* **According to WHO , the prevalence of obesity in KSA population is 28.7%. Which equal to 24% of male , 33% of female.**

**Causes of obesity**

* **family history**
* **Diet or food style either for individual or families**
* **Sedentary life style.**
* **some diseases like:** Cushing's syndrome, hypothyroidism and other medical conditions which leads difficulties in daily activities like osteoarthritis.
* **Some medications such as: TCAs.**
* **Sleep disturbance**
* **Low education**
* **Aging or being older**
* **Marital status**
* **Pregnancy**
* **•Lack of sleep:** Sleep restriction, when compared to sleep extension, was associated with a decrease in serum leptin , an increase in serum ghrelin and increased hunger and appetite. Inadequate sleep could result in excessive eating, obesity, and altered response to dietary therapy**.**
* **Drugs:** some medications lead the
body to gain more weight, these drugs
include, diabetes medications, steroids
and beta blockers, anti-seizure
medications, antipsychotic medications
and antidepressants drugs.

**Antipsychotics:**

* Conventional (first generation) antipsychotics, like thioridazine.
* Atypical (second generation) antipsychotics, clozapine and olanzapine.

**Antidepressants :**

* **Tricyclic antidepressants,**  in particular, clomipramine, doxepin,and imipramine are associated with significant weight gain.
* Short-term use of fluoxetine and sertraline has been associated with weight loss

 **Diabetes drugs:**

* Insulin stimulates weight gain, possibly through hypoglycemia, and the sulfonylureas that increase insulin release also increase weight.

**Obesity co-morbidities**

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* + Colon CA.
	+ Gallstones.
	+ Sleep apnea.
	+ Gout and gouty arthritis.
	+ Osteoarthritis “Knee”
	+ Psychological complications “suicide”.

**How can we prevent obesity in our community ?**

**1-Primary Prevention**

* **Breastfeeding**: the likelihood to become overweight is 20 to 40 percent less in babies breastfed for six months or longer
* **Be a role model**. Parents who eat healthy foods and are physically active set an example that increases the likelihood their children will do the same.
* **Encourage physical activity**. Children should have an hour of moderate physical activity most days of the week.
* **Reduce time in front of the TV** and computer to less than two hours a day.
* Encourage children to **eat only when hungry**, and to **eat slowly**.
* **Avoid** using food as a reward or withholding food as a punishment
* **Avoid** foods that are high in "energy density" or that have a lot of calories in a small amount of food.
* Create **community environments** that promote and support healthy food and beverage choices and physical activity.
* Prevent childhood obesity through **early child-care and schools**.
* **Expand the role of health care** and health service providers and insurers in obesity prevention.
* **Expand the role of public and private employers** in obesity prevention.

2- **Secondary prevention**

* **Exercise:**
* Weight loss is greater in diet plus exercise regimens than in diet-only regimens. Exercise regimens alone, without reduced-calorie diets, are not effective for weight loss.
* Moderate physical exercise is introduced with 3 sessions per week, 30 minutes per session, then later increased, as tolerated.
* Ex:
* walking at 3 miles per hour (350 kcal/hour).
* bicycling on level ground at 10 to 12 miles per hour (600 kcal/hour).

* **Dieting:**
* At 6-month follow-up, the low-carbohydrate/high-protein diet has been found to produce greater weight loss than the low-fat diet, and patients seemed to prefer the low-carbohydrate/high-protein diet.
* Adherence to the diet (i.e., compliance) and the reliability of patient reporting of caloric intake have been problematic in studies on dietary intervention.
* Reduce consumption of junk food
* Eat 500 to 1,000 fewer calories each day.

**Psychological/behavioral interventions**

1- Self-monitoring: such as maintaining food diaries.

2-Reinforcement of successful outcomes or rewarding good behaviors is important.

3- Goal setting: Setting realistic goals.

4- Slower eating

5- Nutritional education

6- Increasing physical activity

7- Social support: by including spouses and family members

**Treatment when to use ?**

* Failure of diet and exercise
* BMI > 30
* BMI > 27 and associated with medical problems related to obesity

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**Types of Bariatric surgical intervention:**

**1-Adjustable Gastric Band**

* **Often called *the band* – involves an inflatable band that is placed around the upper portion of the stomach, creating a small stomach pouch above the band, and the rest of the stomach below the band.**

**Advantages**

* **Reduces the amount of food the stomach can hold**
* **Induces excess weight loss of approximately 40 – 50 percent**

**Disadvantages**

* **Slower and less early weight loss than other surgical procedures**
* **Greater percentage of patients failing to lose at least 50 percent of excess body weight compared to the other surgeries commonly performed**

2-**Gastric Bypass**

* The Roux-en-Y Gastric Bypass – often called gastric bypass – is considered the ‘gold standard’ of weight loss surgery.

**Advantages**

* Produces significant long-term weight loss (60 to 80 percent excess weight loss)
* Restricts the amount of food that can be consumed

**Disadvantages**

* Is technically a more complex operation than the AGB or LSG and potentially could result in greater complication rates
* Can lead to long-term vitamin/mineral deficiencies particularly deficits in vitamin B12, iron, calcium, and folate

**3-Sleeve Gastrectomy**

* is performed by removing approximately 80 percent of the stomach. The remaining stomach is a tubular pouch that resembles a banana.

**Advantages**

* Restricts the amount of food the stomach can hold
* Induces rapid and significant weight loss that comparative studies find similar to that of the Roux-en-Y gastric bypass

**Disadvantages**

* Is a non-reversible procedure
* Has the potential for long-term vitamin deficiencies

**Biliopancreatic Diversion with Duodenal Switch (BPD/DS) Gastric Bypass**

* is also a combination procedure that involves removing the lower part of the stomach, and bypassing the duodenum and jejunum to produce significant malabsorption. This procedure tends to be performed in subspecialty centres.
* Advantages
* Results in greater weight loss than RYGB, LSG, or AGB, i.e. 60 – 70%
* Allows patients to eventually eat near “normal” meals

**Disadvantages**

* Has higher complication rates and risk for mortality than the AGB, LSG, and RYGB

**Bariatric surgical intervention:**

* Patients with BMI ≥40 kg/m^2 (i.e., morbidly obese category), or ≥35 kg/m^2 with obesity-related comorbidity (e.g., hypertension, diabetes, sleep apnea, GORD) may be candidates for most bariatric procedures

**The Health Team and medical students**

* Health professionals have an important role in promoting preventive measures and encouraging positive lifestyle Behaviors “ awareness of the population” ..
* Also have a role in counseling patients about safe and effective weight loss and weight maintenance programs.

**Schools**

* Schools cannot solve the obesity epidemic on their own as well .
* School can also help address obesity by providing:
* Screening
* Health information
* Referrals to students
* The Role of Schools in Obesity Prevention :
* More nutritious food
* Physical activity
* Health services.
* Health education

**Take home massage**

* One of the best measure of obesity is body mass index (BMI).
* The prevalence in KSA is high among both genders (F>M).
* Obesity is a multifactorial condition “ Genetic, environment and behavior”.
* Obesity is associated with comorbidities “ DM,HTN..etc”.
* Obesity should be managed initially with diet and life style modification followed by pharmacotherapy and surgery as a last option.