Obesity

OBJECTIVES
-Definition; calculate the BMI; Causes of obesity in children
-Health side-effects that include serious diseases and psychological effect.
-Lines of management and prevention.

Overweight and obesity
are defined as abnormal or excessive fat accumulation that presents a risk to health (WHO, 2010).

Obesity in children is a complex disorder
Its prevalence has increased so significantly in recent years that many consider it a major health concern of the developed world.
The National Health and Nutrition Examination Survey (NHANES) indicates that the prevalence of obesity is increasing in all pediatric age groups, in both sexes, and in various ethnic and racial groups.

Causes
Many factors, including genetics, environment, metabolism, lifestyle, and eating habits, are believed to play a role in the development of obesity.
However, more than 90% of cases are idiopathic; less than 10% are associated with hormonal or genetic causes.

Dietary
1. Soft drink
2. fast food restaurants has become prevalent among young people with 75% of 7 to 12 grade students consuming fast food in a given week.
3. Whole milk had no effect on weight, height, or body fat percentage. Therefore whole milk continues to be recommended for this age group.

Sedentary lifestyle
1. Physical inactivity of children has also shown to be a serious cause, and children who fail to engage in regular physical activity are at greater risk of obesity.
2. Many children fail to exercise because they are spending time doing stationary activities such as playing video games or watching TV.
3. Technological activities are not the only household influences of childhood obesity.

Genetics
Childhood obesity is often the result of an interplay between many genetic and environmental factors.
-Prader-Willi syndrome is characterized by hyperphagia which leads to rapid weight gain in those affected.
The percentage of obesity that can be attributed to genetics varies from 6% to 85% depending on the population examined.

- Medications that may cause weight gain in children and adolescents include e.g.Cortisol and other glucocorticoids

Sulfonylureas ,Tricyclic antidepressants (TCAs)
Monoamine oxidase inhibitors (MAOIs), such as phenelzine
Oral contraceptives ,Insulin (in excessive doses)

- **Energy imbalance**

During childhood and adolescence, excess fat accumulates when total energy intake exceeds total energy expenditure.
This is particularly associated with excessive television viewing, excessive computer use, and insufficient physical activity.

Home environment

Children's food choices are also influenced by family meals. Studies revealed that four out of five parents let their children make their own food decisions.

Developmental factors

Various developmental factors may affects rates of obesity.
Breast-feeding for example may protect against obesity in later life with the duration of breast-feeding inversely associated with the risk of being overweight later on.

Medical illness

Cushing's syndrome may influence childhood obesity as well.
Hypothyroidism is a hormonal cause of obesity.

Psychological factors

Researchers discovered a positive correlation between obesity and low self esteem in the four year follow up. They also discovered that decreased self esteem led to feeling sad, feeling bored, and feeling nervous.
Stress can influence a child's eating habits.

DIAGNOSIS:

Body mass index (BMI) is acceptable for determining obesity for children two years of age and older. The normal range for BMI in children vary with age and sex.

$$BMI = \frac{\text{Weight in kg}}{(\text{Height in m})2}$$

-Obese children defined to have a BMI ≥ 95percentile.
-Overweight children defined to have a BMI ≥ 85-<95 percentile

Signs and symptoms

· Feeling of tight clothes
· Excessive weight gain
· Shortness of breath
· High blood and cholesterol levels
· Heartburn

Evaluation

1) growth chart for weight, height, and BMI
2)consideration of possible medical causes of obesity
3)Detailed exploration of family eating, nutritional, and activity patterns.
4) A complete pediatric history is used to uncover co morbid disorders.
5)The family history focuses on the adiposity of other family members and the family history of obesity-associated disorders.

6) The physical examination adds data that can lead to important diagnoses.
7) Laboratory testing is guided by the need to identify comorbid conditions.

Messages to parents and patients:

Obesity is due to an imbalance between energy consumption and energy expenditure.

1. Obese children have high energy needs to support their high body weight.
2. An obese child tends to become an obese adult.
3. There is no evidence that any drug is effective in treating childhood obesity.
4. Obesity in children may be prevented and treated by: Increasing physical activity/Decreasing physical inactivity such as watching TV, and encouraging a well balanced healthy diet.
5. A medical cause of obesity is more likely in the child who is obese and short.
6. Most children are not obese because of medical cause, but as a result of their lifestyle.

Management

1. Lifestyle
2. Exclusive breast-feeding is recommended in all newborn infants for its nutritional and other beneficial effects.
3. Medications
4. There are no medications currently approved for the treatment of obesity in children.
5. Orlistat a pancreatic lipase inhibitor, is approved for long-term obesity management in adult patients in the United States
6. sibutramine may be helpful in managing moderate obesity in adolescence.

Psychosocial contributors to obesity

1. Stressors that trigger emotional eating
2. Chronic stress can also compound poor sleeping habits fatigue and a reluctance to engage in regular PA at school and at home.
3. Inadequate sleep
4. “Weight bias”—defined as the tendency to make unfair judgments based on a person’s weight—is a significant social problem

5. Overweight individuals are often teased and have difficulty making friends.
6. Overweight/obese children are more prone to being bullied, humiliated or ostracized, and they are also more likely to engage in bullying behavior

Dietetic Assessment

1. Find out what the person has already tried
2. Find out how successful this has been
3. Best weight loss
4. How this was achieved
5. Reason for weight regain
6. Explore eating patterns and physical activity levels.
7. Diet history
8. Food types
9. Food frequency
10. Cooking methods
11. Meal pattern
12. Assess the person's readiness to adopt changes.
13. Assess the person's confidence in making changes
14. Portion sizes
15. Plate size

Cycle of Change -

1. Offer people who are not yet ready to change the chance to return for further consultations when they are ready to discuss:
2. Their weight again and willing or able to make lifestyle changes.
3. Give them information on the benefits of losing weight, healthy
4. Eating and increased physical activity

Expectations

1. How much weight do you need to lose?
2. How much weight do you want to lose?
3. How long do you think it will take to lose this weight?
4. Aim to lose 0.5 - 1kg (1-2lb) per week.
5. It is important that patients have realistic goals so they are able to achieve and maintain them.
6. Offer regular, non-discriminatory long-term follow-up by a trained professional.
7. Ensure continuity of care in the multidisciplinary team through
8. good record keeping

Take Home Message

1. Offer regular, non-discriminatory long-term follow-up by a trained professional
2. Ensure continuity of care in the multidisciplinary team
3. Good record keeping