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THE ROLE OF OBESITY IN THE DEVELOPMENT OF REPRODUCTIVE SYSTEM DISORDERS IN WOMEN

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ABSTRACT

Obesity is a growing global health problem that significantly affects women's reproductive health. It is associated with hormonal imbalance, chronic inflammation, and metabolic dysfunction, all of which contribute to the development of reproductive system disorders. This article examines the role of obesity in the pathogenesis of various gynecological conditions, including polycystic ovary syndrome (PCOS), infertility, menstrual irregularities, endometrial hyperplasia, and gynecological cancers. The study highlights the underlying mechanisms linking obesity with reproductive dysfunction and emphasizes the importance of early intervention and lifestyle modification. Evidence suggests that obesity not only worsens existing reproductive disorders but also acts as an independent risk factor for their development.

Keywords: obesity, reproductive health, infertility, PCOS, endometrial hyperplasia, hormonal imbalance

INTRODUCTION

Obesity has become a major public health concern worldwide. According to the World Health Organization, global obesity rates have nearly tripled since 1975, with a significant rise among women of reproductive age.

Obesity is defined as a body mass index (BMI) ≥ 30 kg/m² and is associated with numerous metabolic and endocrine abnormalities. In women, excess adipose tissue acts as an endocrine organ, producing hormones and cytokines that disrupt normal reproductive function.

Reproductive disorders linked to obesity include:

- Polycystic ovary syndrome (PCOS)
- Infertility
- Menstrual irregularities
- Endometrial hyperplasia and cancer

Understanding the relationship between obesity and reproductive system disorders is essential for improving women's health outcomes.

MATERIALS AND METHODS

This article is based on a narrative review of scientific literature from PubMed, Scopus, and Web of Science.

Inclusion Criteria:

- Studies published between 2010 and 2024
- Women of reproductive age (15–49 years)
- Studies addressing obesity and reproductive disorders

Diagnostic Definitions:

- **Obesity:** BMI ≥ 30 kg/m²

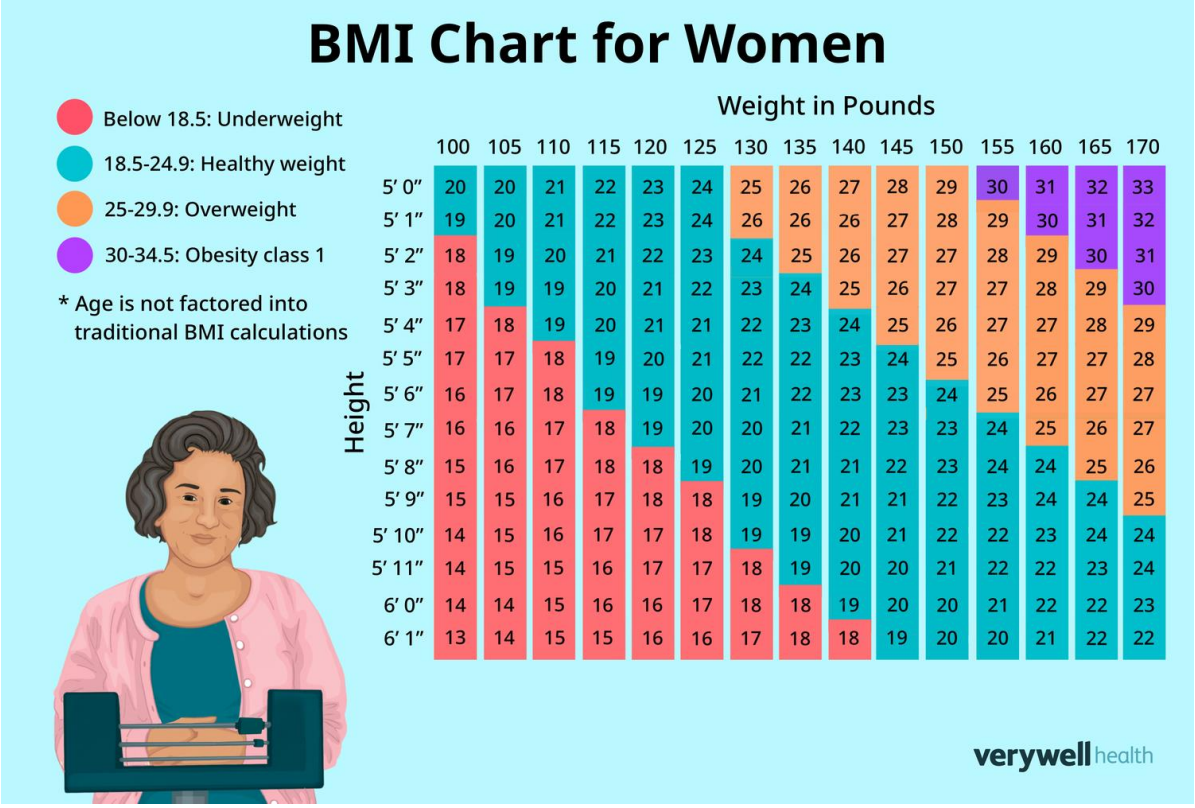
- **Overweight:** BMI 25–29.9 kg/m²

RESULTS

1. Prevalence of Obesity in Women

Obesity prevalence among women is increasing globally:

- Worldwide: ~15–20%
- In some regions: up to 35%



2. Pathophysiological Mechanisms

Obesity affects reproductive health through multiple mechanisms:

a. Hormonal Imbalance

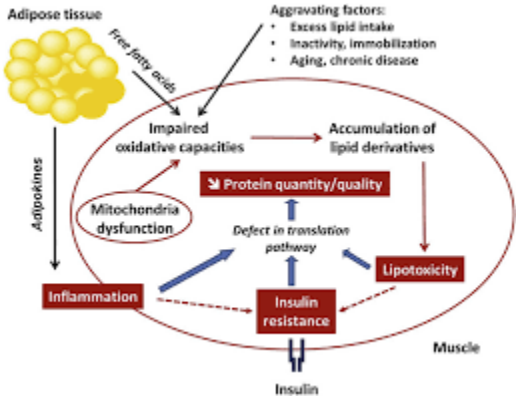
Adipose tissue increases estrogen production via aromatization, leading to hormonal disruption.

b. Insulin Resistance

Obesity is strongly linked with insulin resistance, which contributes to hyperandrogenism.

c. Chronic Inflammation

Adipose tissue releases inflammatory cytokines, affecting ovarian and endometrial function.



3. Obesity and Specific Reproductive Disorders

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a. Polycystic Ovary Syndrome (PCOS)

Obesity exacerbates PCOS symptoms by increasing insulin resistance and androgen levels. About 50–80% of women with Polycystic Ovary Syndrome are overweight or obese.

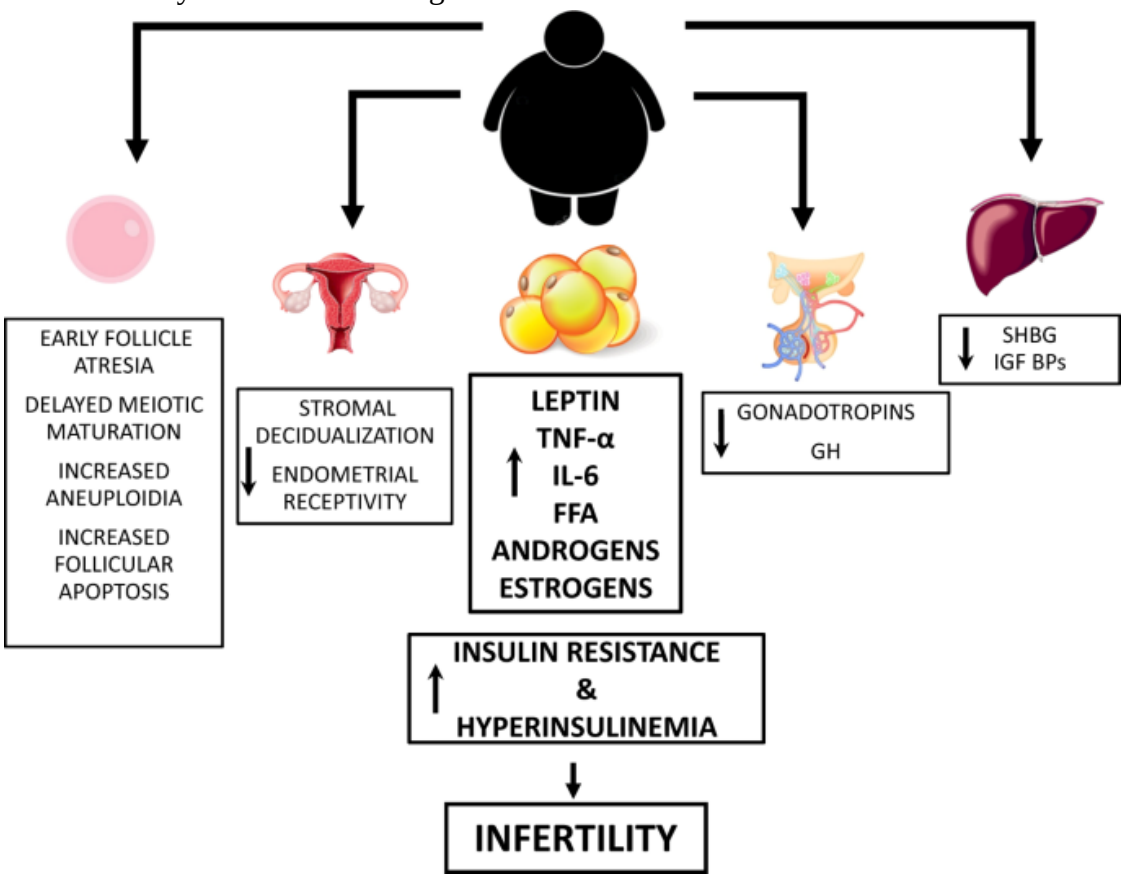
b. Infertility

Obesity negatively affects ovulation, oocyte quality, and implantation. It also reduces the success rate of assisted reproductive technologies (ART).

c. Menstrual Disorders

Obese women frequently experience:

- Oligomenorrhea
- Amenorrhea
- Heavy menstrual bleeding



d. Endometrial Hyperplasia and Cancer

Excess estrogen exposure without progesterone balance increases the risk of endometrial hyperplasia and carcinoma.

e. Pregnancy Complications

Obesity is associated with:

- Gestational diabetes
- Preeclampsia
- Cesarean delivery

4. Clinical Manifestations

Common findings in obese women include:

- Irregular menstrual cycles
- Hirsutism
- Acne

- Infertility

Long-term risks:

- Type 2 diabetes mellitus
- Cardiovascular diseases
- Gynecological malignancies

DISCUSSION

Obesity plays a central role in the development of reproductive system disorders. It acts through hormonal, metabolic, and inflammatory pathways. The bidirectional relationship between obesity and reproductive dysfunction complicates clinical management.

Diagnostic Approach:

- BMI measurement
- Hormonal profile
- Ultrasound examination
- Glucose tolerance test

Management Strategies:

- Lifestyle modification (diet and exercise)
- Weight loss (5–10% improves fertility outcomes)
- Pharmacotherapy (e.g., Metformin)
- Bariatric surgery (in severe cases)

A multidisciplinary approach is essential.

CONCLUSION

Obesity significantly contributes to the development and progression of reproductive system disorders in women. It disrupts hormonal balance, promotes insulin resistance, and induces chronic inflammation. Early intervention through lifestyle changes and medical management is critical to improving reproductive health outcomes.

REFERENCES

1. World Health Organization (2021). *Obesity and reproductive health report*.
2. Pasquali R et al. (2011). Obesity and reproductive disorders. *Endocrine Reviews*.
3. Legro RS et al. (2013). Obesity and PCOS. *Journal of Clinical Endocrinology & Metabolism*.
4. Brewer CJ, Balen AH. (2010). The impact of obesity on female reproductive function. *Human Reproduction Update*.
5. Norman RJ et al. (2004). Obesity and reproductive outcomes. *Lancet*.
6. Catalano PM, Shankar K. (2017). Obesity and pregnancy. *American Journal of Obstetrics and Gynecology*.
7. ACOG (2020). Obesity in pregnancy guidelines.
8. Gambineri A et al. (2002). Obesity and endocrine disorders.
9. Fauser BCJM et al. (2012). PCOS pathophysiology. *Lancet*
10. Teede HJ et al. (2018). PCOS management guideline