



BSC SEM-1 CND FACTORS AFFECTING BASAL METABOLIC RATE (BMR)

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INTRODUCTION TO BMR

Content:

- Definition of BMR: The rate at which the body uses energy while at rest to maintain vital functions (e.g., breathing, circulation, cell production).
- Importance of BMR in energy balance and metabolism.
- Brief mention of its measurement.



SIGNIFICANCE OF BMR

- Role in determining daily calorie needs.
- Connection with weight management, health, and physical fitness.
- Importance in nutrition and metabolic studies.



OVERVIEW OF FACTORS AFFECTING BMR

- Biological Factors (age, gender, body composition).
- Environmental and lifestyle factors (temperature, activity level).
- Hormonal influences.

BIOLOGICAL FACTORS

1. Age:

- BMR decreases with age due to loss of lean muscle mass.

2. Gender:

- Males typically have higher BMR due to greater muscle mass.

3. Body Composition:

- Muscle tissue requires more energy than fat tissue, leading to higher BMR in muscular individuals.



HORMONAL FACTORS

Thyroid Hormones:

- Hyperthyroidism increases BMR; hypothyroidism decreases it.

Growth Hormones:

- Higher during growth phases, increasing BMR.

Stress Hormones:

- Cortisol and adrenaline can temporarily increase BMR.

ENVIRONMENTAL FACTORS

Climate:

- Colder climates may increase BMR as the body generates heat.
- Hot climates can also slightly increase BMR.

Altitude:

- High altitude increases BMR due to increased oxygen demand.



LIFESTYLE FACTORS

Physical Activity:

- Active individuals generally have a higher BMR.

Dietary Habits:

- Fasting and severe calorie restriction lower BMR.
- Thermic effect of food (TEF): Digesting proteins increases BMR slightly.

Sleep Patterns:

- Poor sleep quality or duration can lower BMR.



MEDICAL AND GENETIC FACTORS

Genetics:

- Some individuals naturally have a higher or lower BMR.

Medical Conditions:

- Diseases like cancer or fever increase BMR; others like hypothyroidism decrease it.

Medications:

- Some drugs (e.g., stimulants) can raise BMR, while others can lower it.

CONCLUSION

- Summary of key factors affecting BMR.
- Emphasis on its relevance in health, nutrition, and weight management.
- Encouragement to adopt healthy habits to maintain optimal BMR.



THANK YOU

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