

FOOD AND NUTRITION SCIENCE EXERCISE'S REPORT

Dietary assessment status

1. Calculation of BMR and TMR

Calculate both of the rates for yourself

- a) BMR based on the skin's surface (S)

$$S = 1 + \frac{W \pm \Delta H}{100}$$

$\Delta H > 0$, if height > 160 cm; $\Delta H < 0$, if height < 160 cm

W- weight [kg] m.c.= body mass; ΔH = height [cm]-160 cm

BMR=

Kcal/m² of skin

Age	Woman		
	Mean	Minimum	Maximum
20	38,4	32,6	44,3
30	36,4	31,4	41,4

- b) Calculation of TMR using physical activity level PAL

$$TMR = BMR \times PAL$$

PAL rate and physical activity level

PAL	Physical activity level
1,4	Very low
1,6	Low
1,75	Moderate
2,0	Moderately high
2,2	High
2,4	Very high

c) Calculation of BMR and TMR by Nix's method

Parameter	Woman
BMR	$m.c [kg] \cdot 24h \times 0,9 \left[\frac{kcal}{kg} \right]$
Physical activity	Increasing of TMR over the BMR (x)
Sedentary lifestyle	+20% BMR
Low activity	+ 30% BMR
Moderate activity	+40% BMR
High activity	+50% BMR

$$TMR = BMR + x\% BMR$$

2. Calculation of BMI and WHR

According to formulas below and informations from Tables 1 and 2 and data from analysis of body mass composition fill the table 3.

$$BMI = W[kg] / H^2[m^2]$$

Table 1 Categories of body weight depends of BMI

BMI	Interpretation
<18,5	Underweight
18,5-24,9	Normal weight
25-29,9	Overweight
30-34,9	I class obesity
35-39,9	II class obesity
≥40	III class obesity

$$WHR = \text{waist's circuit} / \text{hip's circui}$$

Table 2 Types of the obesity based on the WHR

W	Sex	WHR	Type of obesity
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Women	≥0,8	„Apple - shaped”
	<0,8	„Pear-shaped”

Table 3 Parameters, calculations and interpretations of student's results

Parameter	Calculations/results	Interpretation
BMI		
WHR		
Body fat [kg and %]		
Body muscle tissue (kg i %)		
Body water content (kg i %)		
Lean body mass (kg and %)		
Bone mass (kg)		

3. Based on the instructions of the assistant calculate your intake norms of enregy and some nutrients.

4. Dietary assessment status

Based on the data from your diet analysis and assistant's instructions and standards for your sex and age make a short dietary assessment for yourself and write down (in a proper column of the table) 3-5 of the products that intake you should increase or decrease to achieve the norm for every single nutrient, please. You should also summarise in 3-5 sentences your dietary assessment.

Nutrient	unit	Intake	Standard	% of norm achievement	Modification
Energy	kcal				
Protein	g				
Carbohydrates	g				
Dietary fiber	g				
Fats	g				
Saturated FA	g				
Monounsaturated FA	g				
Polyunsaturated FA	g				
Vit. D	µg				
Vit. A	µg				
Folates	µg				
Iron	mg				
Magnesium	mg				
Calcium	mg				
Phosphorus	mg				
Sodium	mg				
Potassium	mg				
Iodine	µg				