

BODY FAT MASS AND THE RISK OF COLORECTAL POLYPS IN MEN AND WOMEN

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OBJECTIVES

Obesity is an important risk factor for colorectal polyps, the lesions that may potentially undergo malignant transformation. The aim of this study was to analyse an association between the incidence of colorectal polyps in men and women and their selected parameters of body composition determined by means of bioelectrical impedance analysis (BIA).

METHODS

The study included 256 individuals (146 women and 110 men) aged between 27 and 87 years. Based on the results of colonoscopy and histopathological examination of colorectal biopsy specimens, this sample was divided into the group of 139 subjects with colorectal polyps (67 women and 72 men) and control group of 117 polyp-free individuals (79 women and 38 men). Anthropometric measurements were taken in all the participants and their body composition was determined with an aid of a Tanita analyser. The results were subjected to statistical analysis, separately for men and women.

RESULTS

Compared to female polyp-free controls, women with colorectal polyps presented with significantly higher mean percentage of body fat ($37.7\% \pm 6.9$ vs. $35.1\% \pm 8.5$, $p=0.046$).

The mean percentage of body fat in men with polyps was also higher than in the controls ($27.5\% \pm 11.0$ vs. $24.6\% \pm 8.1$), but this difference did not reach the threshold of statistical significance ($p=0.152$).

Table 1. Statistical characteristics (mean \pm standard deviation) of analysed parameters in females, stratified according to the prevalence of colorectal polyps

BODY COMPOSITION	FEMALE (n=146)		
	colorectal polyps (+) (n=67)	colorectal polyps (-) (n=79)	p
Body weight [kg]	71,1 \pm 13,3	69,1 \pm 13,8	0,382
Body mass index [kg/m ²]	28,0 \pm 5,0	26,9 \pm 4,9	0,161
Basal metabolic rate [kcal]	1495,1 \pm 139,5	1326,8 \pm 153,1	0,289
Body fat [%]	37,7 \pm 6,9	35,1 \pm 8,5	0,046
Body fat [kg]	27,6 \pm 9,6	25,2 \pm 10,0	0,151
Fat-free body mass [kg]	43,5 \pm 4,8	43,9 \pm 5,0	0,640
Total body water [kg]	31,8 \pm 3,5	32,1 \pm 3,6	0,625

Table 2. Statistical characteristics (mean \pm standard deviation) of analysed parameters in males, stratified according to the prevalence of colorectal polyps

BODY COMPOSITION	MALE (n=110)		
	colorectal polyps (+) (n=72)	colorectal polyps (-) (n=38)	p
Body weight [kg]	82,4 \pm 13,8	80,5 \pm 16,6	0,525
Body mass index [kg/m ²]	27,5 \pm 3,9	26,6 \pm 5,0	0,307
Basal metabolic rate [kcal]	1620,1 \pm 248,2	1666,9 \pm 293,5	0,379
Body fat [%]	27,5 \pm 11,0	24,6 \pm 8,1	0,152
Body fat [kg]	22,4 \pm 8,5	20,8 \pm 10,7	0,391
Fat-free body mass [kg]	60,0 \pm 7,7	59,7 \pm 8,3	0,859
Total body water [kg]	43,9 \pm 5,6	43,7 \pm 6,1	0,863

No significant associations were found between the incidence of polyps and the remaining analysed parameters (body weight, body mass index, basal metabolic rate, fat-free body mass and total body water), both in men and in women.

CONCLUSIONS

The fact that individuals with polyps present with higher body fat mass may imply the role of obesity in the pathogenesis of these colorectal lesions.

