

RELATIONSHIP OF BODY COMPOSITION AND URINARY INCONTINENCE IN BRAZILIAN WOMEN

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Hypothesis/ aims of study

Based on the knowledge that obesity is a risk factor for Urinary Incontinence (UI) and with the hypothesis that the non-egalitarian distribution of fat rate in different body segments has a relation with urinary loss, the objective of this study is to outline the profile of body composition segmentation of continent and incontinent women through electrical bioimpedance (BIA) and to verify the relation of body composition with UI.

Materials and methods

It is a cross-sectional study with adult women with and without urinary loss. Data collection was performed between April and October 2017 with women invited by digital means or in person, through the snowball sampling technique. Women aged 20 to 65 years were included. To determine the presence of UI, the International Consultation on Incontinence Questionnaire Short-Form (ICIQ-SF) was used. For the segmental body composition, BIA was used.

With the objective of characterizing the body composition of each participant, its evaluation was measured through the InBody model S570 electric bioimpedance device. All measurements were evaluated in fasting, wearing light clothing, without any metal near the body, with the empty bladder, positioned in orthostasis on the platform, arms straight, away from the body and hands on gauntlets, legs apart and bare feet. Each collection lasted approximately 48 seconds

and the result was recorded and stored in the equipment memory. The evaluation through electric bioimpedance enabled the quantification of the following variables: skeletal muscle mass, body fat mass, trunk / upper limb body fat and body weight (kg), and percentage of body fat (%). The 1-9 range of the visceral fat level was considered normal and for the waist - hip ratio of 0.75 - 0.85 cm.¹⁴ For BMI classification (kg / m²), it was considered: low <18.5 kg / m²; normal 18.5-25.0 kg / m², high > 25.0 kg / m².¹⁵ In the analysis of the degree of obesity according to the percentage of fat mass it was considered: low 90%, normal 90-110%, high > 110% For the statistical analysis, a comparison of the means of the body composition between the groups with application of the Independent Student T-test and a multivariate logistic regression was used.

Results

The sample consisted of 62 women with a mean age of 34.4 ± 11.6 , of whom 27 (44.4%) had urinary incontinence. In the comparison of sociodemographic and obstetric data among women with and without urinary loss, a homogeneity was verified in all variables analyzed. Of these, 55.6 were nulliparous and had a BMI of 25.1 ± 4.2 kg / m² similar to the group of women without urinary loss who presented a BMI of 23.6 ± 3.9 kg / m² ($p = 0.16$). Sociodemographic and obstetric data are similar among the groups of women with and without loss. In the parameters of body fat, segmental and the C-Q ratio, higher indices were found in the group with urinary loss ($p < 0.05$). In incontinent women the percentage of body fat was 33.9 ± 8.1 , the level of visceral fat corresponded at 10.5 ± 5.4 and waist-hip ratio at 0.91 ± 0.07 . In the final model of multivariate analysis, the sum of change and upper limb rates was the only independent variable in the influence of urinary loss with Odds ratio = 1.101 and $p = 0.032$

Interpretation of results

We have shown that women complaining of urinary loss have a predominant segmental body composition of fat in the trunk and upper limbs. To our knowledge, this was the first study that used the segmental body evaluation and its relation with female urinary incontinence using Bioimpedance electrical analyze (BIA). It is known that obesity is a risk factor for urinary incontinence and it is believed that the action that the excess weight exerts on the pelvic floor is the cause due to an increase of the abdominal pressure with consequent action in the bladder and urethral mobility, in addition to exacerbating the detrusor instability. The result of our study strengthens the hypothesis that a concentration of structures in the upper limbs and trunk exerts an overload on the pelvic floor and is considered a risk factor for urinary incontinence in women.

Concluding message

Prevalence of upper limb and trunk fat, evaluated by the BIA method, in young adult women with complaints of urinary loss, being more evident in overweight or obese participant

References

- Bernard T. Haylen et al. An International Urogynecological Association (IUGA)/International Continence Society (ICS) Joint Report on the Terminology for Female Pelvic Floor Dysfunction Neurourology and Urodynamics 29:4-20 (2010)
- Sania Almousa, Alda B van Loon, The prevalence of urinary incontinence in nulliparous adolescent and middle-aged women and the associated risk factors: A systematic review. Maturitas 107 2018; 78-83

