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IDENTIFICATION OF BODY COMPOSITION OF WOMEN IN THE CLIMATE PERIOD

[1]Angélica Silva Rodrigues, [2]Iaggo Raphael David, [2,4]Jennifer Rodrigues Correia, [2,4]Mariane Costa Santos de Tavares, [2]Beatriz Rocha Sousa, [3]Felipe Oliveira Bittencourt, [2]Larissa Alves Guimarães, [3]Victória Silva Midlej Ribeiro, and *[2,5]Stenio Fernando Pimentel Duarte

[1]Physical Education Student at the School of Technology and Sciences - UniFTC
[2]Center for Teaching, Research and Extension in Chronic Diseases – NEPEdc
[3]Pubic Health Research and Extension Institute (INPES)
[4]Studant of Medicine in the St. Augustine School of Health – FASA
[5]St. Augustine School of Health – FASA

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Corresponding author:
Stenio Fernando Pimentel Duarte

ABSTRACT

Introduction: The reproductive period is considered as protective of women's health, compared to the menopausal phase that is related to an increased cardiovascular risk and metabolic diseases. Climacteric is defined by the WHO as a biological phase of the life cycle, not a pathological process, which comprises the transition between the reproductive and non-reproductive periods of women's lives, with decreased production of steroid hormones and progesterone by the ovaries, and consequent increase in pituitary gonadotropins. This period is influenced by biological as well as psychosocial, cultural, affective and professional aspects. **Objective:** The study aims to identify the body composition of women in the climacteric period. **Methodology:** This is a cross-sectional, quantitative and descriptive epidemiological research conducted in the city of Vitória da Conquista-BA. The sample consisted of 147 women in climacteric whose age ranged from 40 to 59 years and for data collection was used the socioeconomic questionnaire and identification of body mass index; total body fat; visceral fat; muscle mass. **Results:** It was observed that 46.26% of postmenopausal women had a mean age of 54 years with a standard deviation of 3,300, and 16 were overweight and 6 had obesity, 44 with very high index. 38 women had this normal profile and only 30 had low indices. In the premenopausal period, 53.74% of the women were 44 years old on average, with a standard deviation of 2,833. In addition, 24 were overweight and 4 were obese, 44 had a very high fat index, 55 had normal muscles and 24 had their indexes decreased. **Conclusion:** Through the results obtained, it was observed that women have a tendency to worsen their health condition throughout aging, with the exacerbation of climacteric symptoms, which may progress to psychological complications, thus, a good intervention in control and combat. As climacteric symptoms are of paramount importance, the maintenance of muscle mass and its preservation will guarantee good health and survival for women, thus avoiding unwanted muscle weaknesses, which can lead to comorbid problems.

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INTRODUCTION

The reproductive period is considered as a protector of women's health, compared to the menopausal phase that is related to an increased cardiovascular risk and metabolic diseases (CUNHA, 2012).With the increase in female life expectancy, this phase is considered a middle age event, which confirms the importance of climacteric women's health care due to disorders that may appear as a result of hormonal changes, usually occurring between 40 and 65 years (SOUSA, 2018). Climacteric is defined by the World Health Organization (WHO) as a biological phase of the life cycle, not a pathological process, which comprises the transition between the reproductive and non-reproductive periods of women's lives (TEIXEIRA, 2015; MORAIS; SCHNEID, 2015), with decreased production of steroid hormones (GONÇALVES, 2016) and progesterone by the ovaries (ALVES, 2015), and consequent increase in pituitary

gonadotropins (TEIXEIRA, 2015). It is confirmed that climacteric is influenced by biological factors as well as psychosocial, cultural, affective and professional aspects, whose knowledge is fundamental for a more qualified and humanized care (GALLON 2012; SILVA, 2017). Thus, in addition to the reduction in hormone levels, some symptoms are characteristic of the syndrome, hot flashes, insomnia, nervousness, depression, high blood pressure and sexual dysfunction (ALVES, 2015).Decreased estrogen production in female ovaries corroborates the prevalence of health complications, such as increased risk factors for cardiovascular disease, tendency to metabolic syndrome, diabetes mellitus, hypertension, osteoporosis, weight gain and abdominal fat (SOUSA, 2018). Menopausal women are 1.58 times more likely to be obese than those who have not yet entered menopause and menstruate (SILVA, 2019). Data that can be directly influenced by the nutritional status and eating habits of this population (GALLON, 2012).Given the risk factors associated with menopause, lifestyle interventions such as eating are mandatory to circumvent these obstacles and to protect women (SILVA, 2019). Thus, in view of the above, the study aims to identify the body composition of women in the climacteric period.

MATERIALS AND METHODS

This is a cross-sectional, quantitative and descriptive epidemiological research. The survey was conducted in Vitória da Conquista - BA, Brazil (latitude 14 ° 51 '58', longitude -40 ° 50 '22) which, according to the IBGE census (2010), has about 320129 inhabitants. The referred city is part of the southwestern economic region and is 509 km away from the capital - Salvador. The present research is a fraction of a project entitled "Epidemiological Profile of Obesity in Vitória da Conquista / BA". The study was conducted with 147 climacteric women whose ages ranged from 40 to 59 years.

To collect the variables, the socioeconomic questionnaire used by the IBGE was used, which verified: age; genre; marital status; schooling; type of education you had access to; social class; who do you live with; work (DAVID *et al*., 2019). For identification, weight and height were first measured and the values were entered in a tetrapolar bioimpedance scale, being measured: index m and body mass; total body fat; visceral fat; muscle mass (DAVID *et al*., 2019). To collect the information, the staff was trained and qualified so that there were no distinctions in measurement values between the evaluators.

Statistical analysis was performed considering a significance level of $p < 0.05$. In addition, it is noteworthy that the data were processed and tabulated in the Excel program and then, with the help of the SPSS® 25.0 statistical program, a descriptive analysis of the sociodemographic data and body composition data of climacteric women was performed. Participants were explained about the methods to be used for collection according to Resolution 466/12 (National Health Council), which consists of international research documents involving human beings. Noteworthy is the approval by the Research Ethics Committee of the Independent Faculty of the Northeast (Opinion No. 1,859,545).

RESULTS AND DISCUSSION

According to the results obtained, the sample consisted of 147 women, 46.26% were postmenopausal and 53.74% premenopausal. Regarding social class, class D was higher (56.46%) than C and E. Of this total of women only 34.01% did not work, 31.29% had not completed elementary school, 38.10% had completed high school and only 19.05% with completed higher education. In addition, 61.90% were married and 90.48% came from a public school (Table 1).

Table 1. Description of the socioeconomic profile

Variables	n	(%)
postmenopausal	68	46.26
premenopausal	79	53.74
classes		
C	24	16.33
D	83	56.46
E	40	27.21
Work		
No	50	34.01
Yes	97	65.99
Education		
Fund . Comp.	11	7.48
Fund. Incom.	46	31.29
Med. Comp	56	38.10
Med. IncomMarital	6	4.08
Sup. Comp	28	19.05
Status		
Married	91	61.90
Single	56	38.10
Type ofEducation		
Private	14	9.52
Public	133	90.48

Source: Survey data, 2019.

It was observed that 80 women were in the premenopausal period with a mean age of 44 years, minimum of 40 and maximum of 49 years, presenting a standard deviation of 2,833. In relation to the postmenopausal period, 68 postmenopausal women with an average of 54 years old, with a minimum of 50 and a maximum of 59 years of age were confirmed, highlighting a standard deviation of 3,300.It can be seen from graph 1 that of the 45 women who were in the postmenopausal period had ideal weight, but this value is lower when compared to the premenopausal period, being quantified 51 women. In addition, pre-menopausal overweight has a higher rate (n = 24) than postmenopausal (n = 16). However, postmenopausal obesity has a higher incidence (n = 6) than pre-obesity (n = 4). Behavioral and physiological changes resulting from the climacteric period, which modifies the female body structures, as well as the symptoms that can generate eating disorders (IDALENCIO *et al*., 2018) can be justified. Body composition can be altered, and women who were previously only overweight are now classified as obese by hormonal dysregulation (SAVUKOSKI *et al*., 2019; ZHOU *et al*., 2018).

The present study corroborates the findings of Mota *et al*. (2018) who in their results showed that postmenopausal women had higher risk factors for the onset of cardiovascular disease (SANTOS MOTA *et al*., 2018). This makes it evident that hormonal changes are responsible for the exacerbations of risk factors for the onset of cardiovascular disease (BRANDÃO, 2018). Especially estrogen which is an important protective factor (MORGAN-MARTINS, 2018). Regarding fat assessment, it is observed that in the postmenopausal period 20 women have a high body fat level, 44 have a very high fat index and only 4 are classified as normal. Unlike the premenopausal period, since 28 had a high fat profile, 42 very high and 9 women had the ideal amount, ie normal. Women have a pear-shaped gynoid body fat

distribution, which increases the amount of fat they locate in the pelvic and gluteal region (PEREIRA and LIMA, 2015). However, with the hormonal variations of the climacteric, as well as the cessation of these hormones in menopause, the body fat distribution process can be much more random and the fat accumulation may be in the central (abdominal) region which is considered the most dangerous to human health, being the viscera close (AGUIAR *et al*., 2019; DIAS *et al*., 2018; SILVA *et al*., 2019).When analyzing the muscular profile it was observed that in the postmenopausal period 38 women had this normal profile and only 30 had low indices. In the premenopausal period, it was found that 55 had normal muscles and 24 had their rates decreased. Muscle mass in women is extremely important, especially in the pelvic floor, as many develop urinary incontinence throughout aging and the main cause is muscle weakness and sagging (MARINHO *et al*., 2006). Maintaining good muscle condition not only prevents mortality from all things, but also gives autonomy and independence throughout aging (PADILHA *et al*., 2018; PERREIRA *et al*., 2019).

Final Considerations

The study of body composition of climacteric women is extremely important, especially regarding the harmful effects on health arising from this troubled period, which has as its main problem hormonal changes. Women have a tendency to worsen their health condition with aging, with the exacerbation of climacteric symptoms, which may progress to psychological complications. A good intervention in controlling and combating climacteric symptoms is of paramount importance. Maintaining muscle mass and preserving it will ensure good health and survival for women, thus avoiding unwanted muscle weakness, which can lead to comorbid problems.

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