

Body Composition, Physical Activity and Menopause Symptoms in Women with Visual Impairment during Climacteric and Post Menopause

Composição Corporal, Atividade Física e Sintomas Menopausais em Mulheres com Deficiência Visual Durante o Climatério e Pós Menopausa

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Abstract

The climacteric period is characterized by a series of hormonal changes that can result in the gain of adipose tissue and generate symptoms such as hot flashes, excessive sweating and psychological disorders. However, it is not clear yet how this process occurs in women with visual impairment. Thus, this study evaluated the body composition, physical activity level and climacteric symptoms in women with visual impairment. For this, 19 women answered questionnaires to evaluate the habitual practice of physical activity and the characteristics and symptoms of climacteric and menopause. Anthropometric variables and body composition were also evaluated. The data were treated by means of descriptive statistics, Student's t-test and Pearson's correlation test, adopting a significance level of 5% ($p < 0.05$). As a result, the majority of the participants were classified as active, however, the means of Body mass index, abdominal circumference and fat percentage were above the recommended health parameters. The climacteric symptoms presented by women with visual impairment were similar to the complaints of women without disabilities. Some physical symptoms such as dizziness, headaches, muscle and joint pain may have a greater influence of factors related to visual impairment, such as high muscle tone to maintain posture, and therefore deserve special attention. It reinforces the need for greater dissemination of information for visually impaired women so that they be informed and deal more positively with the climacteric and menopause phases.

Keywords: Climacteric. Disease Prevention. Women's Health.

Resumo

O período do climatério caracteriza-se por uma série de alterações hormonais que podem resultar no ganho de tecido adiposo e gerar sintomas como ondas de calor, sudorese excessiva e distúrbios psicológicos. No entanto, ainda não é claro como este processo acontece nas mulheres com deficiência visual. Assim, esta pesquisa avaliou a composição corporal, o nível de atividade física e os sintomas do climatério em mulheres com deficiência visual. Para isso, 19 mulheres responderam questionários para avaliação da prática habitual de atividade física e das características e sintomas do climatério e menopausa. Foram também avaliadas variáveis antropométricas e composição corporal. Os dados foram tratados por meio de estatística descritiva, teste t-student e teste de correlação de Pearson, adotando-se significância de 5% ($p \leq 0,05$). Como resultados, a maioria das participantes foi classificada como ativa, no entanto, as médias de Índice de Massa Corporal, circunferência abdominal e percentual de gordura estavam acima dos parâmetros recomendados para a saúde. Os sintomas do climatério apresentados pelas mulheres com deficiência visual foram semelhantes às queixas das mulheres sem deficiência. Alguns sintomas físicos como tonturas, dores de cabeça, musculares e articulares podem ter maior influência de fatores relacionados à deficiência visual, como o alto tônus muscular para manutenção da postura, e por isso merecem atenção especial. Reforça-se a necessidade de maior divulgação de informações para mulheres com deficiência visual para que estas consigam conhecer e lidar de maneira mais positiva com a fase do climatério e menopausa.

Palavras-chave: Climatério. Prevenção de Doenças. Saúde da Mulher.

1 Introduction

Women from 40 years usually are in the climacteric period, in which a series of hormonal changes occurs that may result in a gain of adipose tissue and in the alteration of body fat distribution, among other symptoms¹. During the climacteric a series of symptoms affects a large part of women. The main symptom of these hormonal changes during menopause is the irregularity and change in menstrual cycles^{1,2}. In addition, the most common symptoms are heat waves - called hot flashes - night sweats, decreased libido, increase of facial hair, emotional and psychological disorders, such as depression

and anxiety - especially changes in menstrual cycle^{3,4}.

After the menopause, bone mass and lean mass tend to decrease and the body fat tends to increase, particularly in the abdominal region^{2,5,6}. Added to the hormonal changes, the socio-cultural environment and the woman's personality may influence the manifestation of psychological symptoms, which can negatively impact the quality of life and the social setting^{3,7,8}. In the same way, the insecurity with physical problems can cause psychological problems that interfere with the women's emotional well-being and consequently in their family relationships, sexual adaptation and social integration⁹.

With the improvement of the conditions of health care,

there was a large increase in life expectancy of people with disabilities, as well as in the number of women with disabilities who will pass through the climacteric and menopause¹⁰. Studies suggest an early menopause in women with certain types of disabilities in relation to their peers without disabilities, as women with intellectual disability, Down syndrome and visual disabilities¹¹⁻¹⁴. However, the causes for this event are not still well established¹⁵. Associated to this fact, it is known that women with disabilities tend to manifest more sedentary life-style and to have greater difficulties in access to basic health services, such as preventive examinations, for example, which may expose them to greater risk of chronic-degenerative diseases¹⁶.

Another important point in relation to menopause in women with disabilities is how this affects them psychologically. As an aggravating factor, women with disabilities often receive poor information about their sexuality, reproduction and perception index¹⁷. Therefore, the understanding of the menopause process by these women becomes more complicated and this fact hinders the administration and the care with the symptoms¹⁸. Individuals with visual impairment, by receiving limited external information, have the greatest difficulty of formation of their body image¹⁹, which may be a factor that influences the women's perception of bodily changes in the menopause.

For the control and prevention of diseases that can be related to the hormonal changes of menopause and also for the reconstruction of the person's body image with visual impairment, it is known that physical activity acts in a positive way^{16,19}. People with visual disabilities may have sedentary behavior due to a series of economic, social, educational and cultural factors that interfere in their activities. Still some limitations imposed by the disability, as the form of locomotion and motor associated problems, constitute a barrier to adherence to physical activity programs^{18,19,20}. This fact should be seen with attention by health professionals, because, specifically in the phase of climacteric and menopause, physical inactivity can accentuate the period discomforts, generating greater accumulation of body fat and accentuation of depressive symptoms²¹.

Despite the known importance of routine physical activities, as well as the understanding of the symptoms of perimenopause and menopause, few studies proposed to investigate these aspects in women with disabilities. From what has been stated above, this study aimed to evaluate the health status, body composition, physical activity level, and aspects related to the climacteric women with visual disability at the time of menopause and post menopause.

2 Material and Methods

The was a descriptive correlational study with transversal design and counted with a sample of 19 women with visual impairment, being 12 blind and seven with low vision,

with ages between 40 and 65 years. They were recruited by convenience in institutions that provide care for people with visual disabilities in the metropolitan region of Londrina - PR. Only women who did not present other motor or intellectual disabilities that affected the understanding or performing of the tests. All study participants received the free and informed consent in enlarged uppercase or Braille, with detailed explanations. The study was approved by the Human Research Ethics Committee of the State University of Londrina, under legal opinion number 348.421.

2.1 Instrument

The interviews were applied individually by means of four forms, with the reading by the researcher of the questions and answer alternatives and the record of the answers obtained. At the end of the forms, anthropometric assessments and analysis with the bioimpedance were performed.

It was first applied an anamnesis page, in which information was raised such as date of birth, level, cause and duration of disability, date of last menstruation and presence of chronic diseases.

2.2 Physical Activity

The short version of the International Physical Activity Questionnaire (IPAQ) was applied, which is a record of the last seven days of activities performed²². Each participant answered in how many days of the week and for how long it took at least 10 minutes of walking, moderate or vigorous physical activity. Women who reached the minimum time of 150 minutes of physical activity per week were classified as active. Those who had not reached this time of practice of weekly physical activity were classified as insufficiently active.

2.3 Symptoms of climacteric

The third questionnaire was related to the severity of the menopause symptoms. The Greene²³ Climacteric Scale divides the symptoms in three categories: physical, psychological and vasomotor. The woman answers the intensity with which perceives these symptoms (never, mild, moderate or severe). The higher the score and the scores obtained in the test, the classification of severity of the symptoms of menopause worsens. For this questionnaire 4 cut-off points and 4 categories were established: 1 to 16 points - very mild symptoms; 16 to 32 points - mild symptoms; 32 to 48 points - moderate symptoms; and 48 to 63 points - accented symptoms. Also, the results of this questionnaire were subdivided by type of symptoms and compared with the mean scores of women without disabilities in the climacteric and menopause

The fourth questionnaire was the Kupperman Index²⁴. It consists of the classification of the menopause symptoms in a general manner by the woman as mild, moderate or accented. Each symptom receives a score according to the intensity

with which it was classified. Women who totaled up to 19 points were classified in the category of women affected by mild symptoms, 20 to 35 moderate and above 35 accented characters.

2.4 Physical Assessments

The assessment of body composition (% fat mass) was performed using the tetrapolar bioimpedance analysis with Biodynamics brand (310, USA). For the test the participants were instructed to stay at least two hours fasting, do not use drugs or diuretic substances, do not ingest caffeine and not to practice vigorous physical exercises on the previous day. The four electrodes were placed (in the wrist, the dorsum hand, ankle and foot dorsum) and the analysis was performed. Values were considered appropriate within the values for the woman’s health in this age range of up to 27% measures²⁵.

In all the participants the abdominal circumference (using flexible tape measure 2 meters) and body mass index were verified, by means of the division of body mass measured in kilograms (by means of a digital scale with a precision of 100 grams) by height in meters squared (measured in a stadiometer with a precision of 0.1 cm). The data were evaluated by the criteria of the World Health Organization²⁶, which consider among positive values for health measurement of abdominal circumference (AC) up to 88 cm, and body mass index (BMI) eutrophic values up to 24.9 Kg/m², overweight of 25 Kg/m² to 29.9 Kg/m² and obesity values above 30 kg/m².

2.5 Statistical analysis

The data were analyzed using the software SPSS 20.0. Initially the distribution and homogeneity were analyzed using the Shapiro-Wilk and Levene’s tests, respectively. In the sequence independent Student’s t-test was applied to verify the differences among the results obtained in body composition and the symptoms of menopause among active women and insufficiently active, as well as differences between women already menopausal women from the climacteric and blind women from those with low vision. In order to correlate the values of the time of physical activity on body composition, the Pearson’s correlation coefficient was calculated. The level of significance adopted was p<0.05.

3 Results and Discussion

Of the 19 participants, 21.1% (N=4) were in the climacteric period and 78.9% (N=15) were already menopausal women. Regarding the visual impairment, 63.2% (N=12) were blind, and 36.8% (N=7) had low vision. The most frequent causes of visual impairment were diabetes and unknown causes. Descriptive data of the body composition of the study participants are shown in Table 1.

Table 1- Descriptive data of the participants’ body composition

	Mean	Standard Deviation
Age (years)	54.58	6.23
Mass (kg)	77.02	13.75
Height (m)	1.58	0.06
BMI (Kg/m ²)	30.32	5.55
CA* (cm)	96.87	10.99
Fat (%)	39.23	7.72

*CA = abdominal circumference.

Source: Research Data.

In accordance with standards of the World Health Organization, the average BMI of participants falls into a classification of obesity. Concerning the CA and the fat percentage, the mean values found are above those recommended for women with this age (CA <88cm and percentage of fat < 27%)^{25,26}.

The results of the IPAQ questionnaire indicated that 84.2% (N=16) of the participants practiced a minimum of 150 minutes of physical activity per week recommended by the American College of Sports Medicine²⁷, either walking for locomotion, chores or physical exercises. The average number of minutes of total physical activities of participants was 256.8 min (± 132.1), with a predominance of physical activities of moderate intensity (158.4 ± 140.4 min) at the expense of the activities of vigorous intensity (38.6 ± 73.4 min).

Table 2 shows the values of Pearson’s correlation coefficients of the total time of physical activity and the variables of body composition, showing a strong association among BMI, the percentage of fat and the CA.

Table 2 - Results of the Pearson correlation between the time of physical activity and body composition

	Weight	% Fat	BMI	CA
% Fat	0.484*			
BMI	0.718**	0.812**		
CA	0.721**	0.800**	0.843**	
IPAQ	0.093	-0.005	-0.015	-0.081

*P<0.05; **P<0.001.

Source: Research Data.

Regarding the evaluations related to the climacteric symptoms, the analyzes of the questionnaire Kupperman²⁴ showed that 10.5% (N=2) of the women perceive their symptoms with a light intensity, 84.2% (N=16) as moderate and only 5.3% (N=1) perceive these symptoms more pronounced. Whereas the results of the Climate Scale of Greene indicated that, when the symptoms categories were divided and the averages of the scores obtained from the results of the women in the same period without disabilities were compared, considered as the standard of normality by the scale authors²³, 15.8% (N=3) of women surveyed had higher anxiety scores, 5.3% (N=1) depression, 26.3% (N=5) presented results more negative in relation to the psychological symptoms, 47.3% (N=9) to physical symptoms and 15.8% (N=3) presented more pronounced vasomotor symptoms. Still, upon being created categories of intensity, 57.9% (N=11) fall into a category of

light symptoms (16 points), 36.8% (N=7) moderate symptoms (17 to 32 points), and 5.3% (N=1) intense symptoms (33 to 48 points). No woman has identified her symptoms as very intense (49 to 63 points).

Upon applying the student's "t" test for independent samples to check for differences between women sufficiently and insufficiently active, differences were observed only in the sexual and physical symptoms evaluated by the Climacteric Scale of Greene, showing that women who usually do physical activities have these types of symptoms more pronounced. The results are presented in Table 3.

Table 3 - Results of the Student's t test between active and insufficiently active women

	Insufficiently Active		Active		P
	Mean	SD	Mean	SD	
Age (years)	52.33	11.24	55.00	5.35	0.513
Height (meters)	1.50	0.03	1.60	0.06	0.024*
BMI (Kg/m ²)	30.40	5.94	30.31	5.69	0.980
CA (cm)	97.33	13.51	96.79	10.99	0.940
Fat (%)	37.77	4.39	39.51	8.28	0.730
IPAQ (min/week)	63.33	55.08	293.13	110.56	0.003*
Kupperman	21.33	1.53	26.13	7.00	0.264
Greene	17.00	10.44	17.00	9.88	1.000
Depression	6.67	5.51	3.19	2.51	0.085
Sexual	0.00	0.00	0.69	1.14	0.029*
Psychological	12.00	11.79	7.69	5.39	0.594
Physical	3.67	1.16	6.38	3.34	0.030*
Vasomotor	1.00	1.00	2.50	1.97	0.099

* Statistically significant difference.

Source: Research Data.

Another point analyzed were the differences of the studied variables among women with blindness and low vision. The results are presented in Table 4. It was possible to verify differences in BMI, waist circumference and body fat percentage among these participants, being the blind women those with negative results for their health. In the same way, the already menopausal women were compared with the participants who were still in the climacteric period, but differences were not seen in variables among the groups.

Table 4 - Results of the Student's t test between blind and with low vision women

	Blindness		Low Vision		P
	Mean	SD	Mean	SD	
Age	53.92	6.93	55.71	5.12	0.560
Weight	79.18	13.56	73.31	14.32	0.385
Height	1.56	0.07	1.62	0.06	0.067
BMI	32.79	5.21	26.09	3.10	0.003*
CA	102.42	8.10	87.37	8.71	0.001*
% Fat	42.88	6.94	32.99	4.29	0.003*
Kupperman_n	25.75	5.85	24.71	8.34	0.096
Anxiety	5.67	4.29	2.86	2.61	0.137
Depression	4.17	3.51	3.00	2.71	0.461
Sexual	0.42	1.00	0.86	1.21	0.402

To be continued...

	Blindness		Low Vision		P
	Mean	SD	Mean	SD	
Psychological	9.83	6.98	5.86	5.08	0.207
Physical	6.42	2.68	5.14	4.14	0.424
Vasomotor	2.25	2.01	2.29	1.89	0.970
Walking (min)	41.25	57.21	91.43	104.59	0.190
Moderate (min)	175.00	159.57	130.00	110.00	0.520
Vigorous (min)	30.00	70.06	53.57	78.35	0.507
Total (min)	246.25	155.61	275.00	93.81	0.665

* Statistically significant difference.

Source: Research Data.

The progressive population aging, with a consequent increase in the number of women who reach menopause, although is a sign of improvement in living conditions, also requires attention, since it can be associated with an increased risk of cardiovascular diseases, metabolic diseases, muscle, bone and hormonal changes. When it comes to women with disabilities, these characteristics may be exacerbated, since these are major barriers to obtaining information about health care, as well as greater difficulties of access to physical activity programs^{23-25,28}.

It is known that the excess fat, especially in the abdominal region, is a risk factor for the onset of chronic pathologies related to aging^{4,5}. In addition, aspects related to the hormonal changes arising from the climacteric and menopause favor the accumulation of visceral fat, particularly in the abdominal region¹⁻³. When analyzing the means of the measurements of BMI, CA and fat percentage of the study participants, all results put women at higher risk to health.

In relation to BMI, the mean obtained was 30.32 Kg/m²±5.55kg/m², placing the sample in a classification of obesity, according to standards of the World Health Organization²⁶. Women also in the climacteric period and post-menopausal women with motor disabilities caused by poliomyelitis presented mean BMI of 27.5 Kg/m², being that 33% of these women had an eutrophic BMI, 33% were overweight and 33% obese²⁹. Whereas among the participants in the present study, 15.7% had eutrophic BMI, 36.8% were overweight and 47.3% obese.

When it comes to abdominal circumference, the average number of participants was 96.87cm±10.99 cm. Again, women present measurements above the recommended values, since it is considered a risk factor for metabolic complications the measurement of abdominal circumference exceeding 88 cm²⁶. On the percentage of body fat, the mean found in the sample was 39.23%±7.72%, being that 89.4% of the women were above the 27.7% desirable to maintain the health of middle-aged women²⁵. These indices may be a reflection of the lack of information on the adoption of a proper nutrition and about a lifestyle that promotes the health maintenance, as well as the representation of a poor body image.

When compared to women with low vision, those with

blindness showed worse results in the three analyzed variables of body composition: BMI, CA and fat percentage. Although no difference was found at the time of practice of physical activity among women are the blind and low vision women, the literature points out that the blindness can result in lower mobility and movement³⁰ and this may be reflected in a lower energy expenditure, which favors the fat accumulation. Thus, women with more pronounced visual disabilities deserve attention in relation to health care, since they constitute a group apparently more vulnerable and needy of information and access to basic health services.

It is known that when practiced in a regular way physical activity is considered a protective factor against the development and progression of a variety of chronic diseases such as hypertension, type II diabetes, osteoporosis, obesity, some types of cancer, anxiety and depression^{27,31}. Upon analyzing the women's level of physical activity, evaluated by questionnaire IPAQ short version, 84.2% of the participants reached the goal of 150 minutes of physical activity per week and were classified as insufficiently active²⁷. These are positive values for this population, since it is frequent the sedentary lifestyle among people with visual disabilities, aggravated by the difficulties faced in locomotion, overall motor coordination and balance²⁸. The high prevalence of women sufficiently active in this study may be due to the fact that these were recruited within institutions specialized in care for people with visual disabilities, these placed generally offer physical activity programs for the member. Thus, maybe if the usual levels of physical activity in women who do not attend such institutions had been analyzed, the results possibly would be lower. In addition, the instrument used to quantify the practiced physical activity possibly constitutes a limitation of this study, since it is a record and the data obtained may present some imprecision.

From the assumption that the regular practice of physical activity can be beneficial to the physical and mental health of women in the climacteric and menopause^{21,32,33}, the results of active women and insufficiently active in the studied variables were compared. However, no differences were found in the main health indicative (BMI, CA and % fat) among the participants. Additionally, when analyzing the results of Pearson's correlation, it is realized that the total time of physical activity measured by questionnaire IPAQ was not related to the body composition variables. However, the fact that the greatest part of the evaluated women was classified as physically active may have interfered in the data statistical analysis. In addition, the instrument used considers the recommendations of 150 minutes of physical activity per week, whether walking, chores and other physical activities that promote energy expenditure in any intensity, and this causes a large part of the participants to be classified as active. Perhaps a greater time of physical activity is necessary for improvements in body composition, once that reaching

this stipulated time as goal of health does not seem to be sufficient for the maintenance of "healthy" standards of body composition for women with visual impairment in the climacteric and post-menopausal women. Studies already indicate and recommend that in order to achieve positive results such as weight reduction, improvement in cardiorespiratory and musculoskeletal condition, it is necessary to exceed the recommended time and exercise at higher intensities²⁷. Therefore, this type of exercise must be encouraged also to the studied population as a possible strategy for the control of the body composition variables.

In addition, differences were found in the intensity of physical and sexual intensity evaluated by the Greene Climacteric Scale. Women who do more physical activities, even if domestic, may present a greater perception of levels of fatigue and physical stress than those who do not perform physical activities. This tiredness can reverberate into muscle pain and joint pain, which are also classified within the category of physical symptoms of menopause, as well as in libido, enclosed in the sexual symptoms. Another aspect that could be related to the fact that the active women realize more physical and sexual symptoms is the idea that people with disabilities who practice physical activities have more awareness about their body and body image and therefore they can realize more the pains and the body changes, as well as symptoms related to menopause¹⁹.

The Greene Climacteric Scale, just as the index of Kupperman, assesses the severity of the symptoms of menopause realized by the women. Thorough this scale it is possible to divide the assessment and analysis of symptoms into categories. When the means of the scores obtained by category are compared to the values proposed as reference for women without disabilities, the physical symptoms were the ones that aggravate and accentuate the most with the presence of visual impairment (47.3% of the participants have this perception). These symptoms are manifested by behaviors such as dizziness, headache or pressure in the head, tingling in parts of the body, muscle pain and joint pain, difficulty breathing, among others.

Considering the characteristics of the own visual disabilities, such as the high muscular tonus mainly in the muscle responsible for the posture maintenance, stimulated by an uncertainty provided by the lack of vision and also by constant disturbances on cerebellar balance control²⁸, the greater intensity of symptoms such as muscle pain and dizziness can be explained or justified. Again, it should be emphasized that women classified as insufficiently active had a higher prevalence of such physical symptoms.

The psychological symptoms also were more pronounced in 26.3% of women with visual impairment. They are also reported in women with different types of disabilities, as sequelae of poliomyelitis, spinal cord injury, intellectual disabilities and Down Syndrome^{17,34-37}. The most frequently

reported symptoms are the sudden changes of mood, feelings of tension and irritability.

Regarding the Index of Kupperman, most women realize their symptoms with a moderate intensity (84.2%). This result is similar to the Brazilian women without disabilities, among which 69.3% classify their symptoms also with moderate intensity when evaluated by the same instrument³⁸. The results may suggest that, despite the influence of characteristics related to the deficiency in certain symptoms, the reflexes of the hormonal changes of perimenopause and menopause are quite similar to those of women without disabilities. This implies the need to adopt behaviors of health maintenance proposed for women without disabilities also for those women with visual impairment, with disclosure of information about the body changes related to menopause. Therefore, is it possible that they know better their body, the transformations that are occurring and all behaviors necessary for the health maintenance, such as the practice of exercises, proper nutrition, emotional control, among others, all of which can be adopted considering the changes resulting from the menopause.

Thus, the need for the insertion of women with visual impairment in guided physical exercise programs are emphasized. These must be tailored to meet their needs and develop important points specifically for people with visual disabilities, such as the balance and muscle strength, as well as the aspect of social participation. In addition, the practice of physical exercises can act positively on the symptoms of perimenopause and menopause^{4,5}. Also when practiced at adequate intensities and volumes, it is a predictor of less accumulation of visceral fat³¹.

Considering = the hormonal changes that occur in women in this stage, the participants already menopausal women were subdivided from those still in the climacteric and their results were compared. Only age showed a significant difference, being that the menopausal women were significantly older. The other variables showed no differences. This may demonstrate that the hormonal changes and the consequent symptoms perception have already started in the climacteric, manifesting during the period. It is known that the knowledge and management of symptoms during this period are fundamental for all women, and that the support of multidisciplinary teams can be of great importance for the relief of physical and psychological discomfort, in addition to the prevention of chronic diseases^{21,39}. Thus, the importance that information and specific care be offered for the woman's health with visual disability right at the beginning of the menopause, so that the symptoms of this phase can be alleviated, and the feeling of discomfort reduced.

This study had some limitations, as the small number of participants, as well as the characteristic "addicted" of the sample, since women were recruited in health care institutions for people with visual disabilities. Another limitation is the form of the questionnaires application, which were made by forms and this enables greater risk of bias. Despite this,

the data here raised can offer relevant information about the climacteric and menopause process in women with visual impairment, offering subsidies for possible interventions in health care during this period of so many changes.

4 Conclusion

From the conducted study it is possible to have an overview of how the climacteric and menopause process in women with visual disability participants of the study occurred. Concerning the symptoms of perimenopause and menopause, many similarities were perceived with women without disabilities, indicating that the care and behavior related to these symptoms may be similar. Some aspects, such as physical symptoms (dizziness, headaches, muscle and joint pain, among others), may have a greater influence of factors related to visual impairment, such as high muscle tone to maintain posture, and therefore deserve special attention.

Already thinking in health status, some results are worrying. Women showed high indexes of general and abdominal obesity, as well as a high percentage of fat, a situation exacerbated for women with blindness. For the control of these variables, the regular practice of physical activity may act positively. Therefore, even with the vast majority of women physically active, these activities need to be reviewed, since the intensity and amount of practice seem to be insufficient for maintaining positive health standards. In addition, it might also be necessary the intervention of a multiprofessional team, offering nutritional counseling and psychological support for women with visual impairment in this phase.

There are many factors that affect the health of the woman with a visual disability in the climacteric and post-menopausal. The symptoms administration is very important and can act positively on women's health in this period. Greater dissemination of information for women with visual impairment in the climacteric and menopause, as well as behavioral changes in relation to health, may constitute fundamental factors so that the experience of climacteric and menopause be more positive and seen as a natural aging process.

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