

## Health related quality of life, depression and climacteric symptoms in women from a low-income community\*

*Qualidade de vida relacionada à saúde, sintomas climatéricos e de depressão em mulheres de uma comunidade de baixa renda*

*Calidad de vida relacionada con la salud, síntomas climatéricos y de depresión en mujeres de una comunidad de bajos ingresos*

Anny Caroline Dedicção

Mariana Arias Avila

Maria Elisabete Salina Saldanha

Ana Silvia Moccellini

Tatiana de Oliveira Sato

Patricia Driusso

**ABSTRACT:** Purpose: To evaluate health-related quality of life, depressive and climacteric symptoms in Southeastern low-income community-dwelling climacteric women from Brazil. Methods: A comparative cross-sectional study. Outcome measures were quality of life, depression and climacteric symptoms. Results and conclusion: Participants presented impaired quality of life, and an expressive number of them presented moderate and severe depression and moderate severity climacteric symptoms.

**Keywords:** Unified Health System; Menopause; Developing countries.

**RESUMO:** *O objetivo   avaliar a qualidade de vida relacionada   sade, sintomas climat ricos e de depresso em mulheres de uma comunidade de baixa renda do Sudeste do Brasil. M todos: Um estudo comparativo transversal. Os desfechos foram qualidade de vida, sintomas depressivos e climat ricos. Resultados e concluso: As participantes apresentaram prejuzos na qualidade de vida e um nmero expressivo delas apresentou depresso moderada a severa e sintomas climat ricos de intensidade moderada.*

**Palavras-chave:** *Sistema nico de Sade; Menopausa; Pases em desenvolvimento.*

**RESUMEN:** *El objetivo es evaluar la calidad de vida relacionada con la salud, los sntomas de depresin y el climaterio en mujeres de una comunidad de bajos ingresos en el sureste de Brasil. M todos: estudio comparativo transversal. Los resultados fueron calidad de vida, sntomas depresivos y climat ricos. Resultados y conclusin: Los participantes tenan una calidad de vida deteriorada y un nmero significativo tena depresin moderada a severa y sntomas climat ricos de intensidad moderada.*

**Palabras clave:** *Sistema nico de Salud; Menopausia Pases en desarrollo.*

## Introduction

Climacteric is the period of life starting from the decline in ovarian activity until after the end of ovarian function, including peri-menopause, menopause and post-menopause (Taechakraichana, Jaisamrarn, Panyakhamlerd, Chaikittisilpa, & Limpaphayom, 2002). Even though this period is considered to be a natural change of life (Taechakraichana, *et al.*, 2002), it may be accompanied by changes in physical, psychological and social aspects, which could have meaningful repercussions to the woman's health and wellbeing (Rahman, Zainudin, & Mun, 2010). Increase in life expectancy mean that women live almost one third of their lives in post-menopause period; hence, the accurate understanding of the impact this period causes over quality of life is crucial to *define effective strategies of prevention and treatment of symptoms and their consequences* (Avis, *et al.*, 2009; Sharifi, *et al.*, 2017).

Climacteric comprises symptoms not only due to estrogen deficiency, as vasomotor symptoms, vaginal dryness, urinary loss, insomnia, musculoskeletal pain (Dedicação, *et al.*, 2017; Palacios, Currie, Mikkola, & Dragon, 2015), irritation, anxiety and health condition such as bone degeneration, humor and stress alterations (Ceylan and Özerdoğan, 2014), but above all, involves a wide context that considers the woman inserted into a social environment, in which she keeps relationships of several natures. Thus, her perception of symptoms and feelings unleashed by the climacteric may contribute to determine her quality of life (Avis, *et al.*, 2009).

Aspects related to quality of life of climacteric women must help guiding of healthcare, as to promote a more humanized and evidence-based clinical approach (de Lorenzi, Saciloto, Artico, & Fontana, 2009). In this sense, the use of questionnaires that evaluate depression, health-related quality of life and how specific menopause symptoms affect them may provide healthcare professionals backing for the planning of prevention and treatment actions. Impact on economics and in society is huge, as most women experience significant changes in their general health status during menopause, which negatively affects their quality of life (Sharifi, Jalili, Khazaeian, & Nayebinia, 2017).

Primary Health Care needs to pay attention especially to low-income women, as they are more likely to develop malnutrition (Krzymińska-Siemaszko, *et al.*, 2015), hip fractures (Guilley, *et al.*, 2011) and climacteric symptoms (de Medeiros, SF, de Medeiros, MMWY, & de Oliveira, 2006). In Brazil, the public Primary Health Care system that usually takes care of those women is part of the public health system, known as Brazilian Unified Health System (Sistema Único de Saúde, SUS) (Paim, Travassos, Almeida, Bahia, & Macinko, 2011). SUS is based on the principle of health as a citizen's right and the state's duty (Paim, *et al.*, 2011) and is especially important as it has increased access to health care services for Brazilian population in general, and particularly to the low-income population. This was achieved with the decentralization of Healthcare by the Family Health Strategy, a Primary Health Care mechanism that is a crucial entry point to care for users into the health system. In this model, Family Health Strategy teams work in specific geographic areas and are responsible for implementing actions for health promotion, disease prevention, treatment of common health conditions and rehabilitation (Malta, Morais Neto, & Silva Junior, 2011); Paim, *et al.*, 2011; Ramos, *et al.*, 2014).

Given the above, the present study aimed to evaluate quality of life, depression and climacteric related symptoms in this population, with the hypothesis that the lower the income, the greater chance of presenting more severe climacteric symptoms.

## Methods

The present study was approved by the Research Ethics Committee of City Health Secretary of the city of So Paulo (protocol number 292/11). Women were recruited and those who voluntarily manifested desire to take part in this study signed a Consent Term, according to the National Health Council's resolution number 466/12. All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the Helsinki declaration and its later amendments or comparable ethical standards.

This is a cross-sectional observational study. The reporting of this paper is in accordance with the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) recommendations.

Women living in the Paraispolis community (Vila Andrade district, South Region, So Paulo, SP, Brazil) took part in this study. This community has about 80,000 inhabitants (IBGE, 2013), with about 4,200 women with ages from 40 to 64 years old<sup>1</sup>. To be part of the study, women of this age range (40-64 years old) should be inserted in the Health Family Strategy from the Mixed Health Unit from Paraispolis I. Exclusion criteria were restriction to bed, wheelchair use, neurological diseases and presence of cognitive impairments that would prevent volunteers from understanding the questionnaires.

Sample size was calculated with G\*Power software (version 3.1, Dsseldorf, Germany), considering an estimated prevalence of climacteric women of 6% and an estimated population of 4,200 women, for an alpha error of 0.05 and 80% test power. Sample should have, at least, ninety women. A randomization list was generated by a healthcare professional unrelated to the study. Women who were selected to take part in this study were invited, and seven did not accept invitation (4 due to lack of time because of work and 3 were not interested).

All participants underwent the same evaluation protocol. The evaluation was performed in a single day and lasted about 60 minutes. Those evaluations occurred from September to October, 2011. Evaluation comprised anamnesis and the questionnaires Medical Outcomes Study 36 – Item Short Form Health Survey (SF-36), Beck Depression Inventory (BDI) and Menopause Rating Scale (MRS).

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<sup>1</sup> According to SEADE. Retrieved on Jun 26, 2018, from: [www.seade.gov.br](http://www.seade.gov.br).

Anamnesis comprised questions referring to personal data (age, schooling, profession, marital status, ethnic group, living arrangement), lifestyle habits (physical activity, smoking, drinking) and gynecological background (menarche, menstrual cycles, date of last menstruation, sexual activity, gestational history, menopause age and duration, gynecological surgery, previous hormone use, hormonal reposition, associated diseases and medications in use). An anthropometrical scale (Welmy, model R-110 CH, maximum capacity 150kg) to measure bodily mass and height. From those, the Body Mass Index (BMI) was calculated, and the World Health Organization classification was used (WHO, 2000).

Quality of life was evaluated with the SF-36 questionnaire, which is multidimensional and evaluates 8 different domains: physical functioning, role limitations due to physical health, emotional problems, energy/fatigue, emotional well-being, social functioning, pain and general health. For each of the eight domains the scores range from 0 (lowest or worst possible level of functioning) to 100 (highest or best possible level of functioning) (Ciconelli, Ferraz, Santos, Meinão, & Quaresma, 1999). A previous study (Ware, *et al.*, 1995) has suggested minimum changes of 5 points in the scores for all domains to be considered clinically relevant.

The BDI (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) is a 21-item self-report measure that assesses the cognitive, affective, and neurovegetative symptoms of depression (Furlanetto, Mendlowicz, & Romildo Bueno, 2005). A single summated score can range from 0 to 63, with the higher score indicating greater depression. The cut-off scores are none or minimal depression is < 10; mild to moderate depression is 10-18; moderate to severe depression is 19-29; and severe depression is 30-63 (Beck, *et al.*, 1988). There is substantial evidence for the BDI's reliability and validity in various populations (Beck, *et al.*, 1988; Morley, Williams, & Black, 2002).

The MRS scale (Heinemann, Potthoff, & Schneider, 2003) was used to evaluate the presence of climacteric syndrome symptoms. This scale has 11 symptoms that may be present during climacteric, and they are evaluated into three domains: - psychological domain: 0 to 16 scoring points (four symptoms: depressed, irritable, anxious, exhausted), somato-vegetative domain: 0 to 16 points (four symptoms: sweating/flush, cardiac complaints, sleeping disorders, joint and muscle complaints) and - urogenital domain: 0 to 12 points (three symptoms: sexual problems, urinary complaints, vaginal dryness). Each domain has questions that should be answered by a Likert scale from 0 to 4, the highest meaningful of a worst condition. The total score of the MRS ranges between 0 (asymptomatic) and 44 (highest degree of complaints) (Heinemann, *et al.*, 2004).

The composite scores for each of the dimensions (sub-scales) is based on adding up the scores of the items of the respective dimensions. The composite score (total score) is the sum of the dimension scores (Heinemann, Potthoff, & Schneider, 2003).

Statistical analysis was performed with the Statistica software v. 7.0 (Statsoft, Tulsa, OK, USA). Data are expressed as mean, standard deviation (SD) and percentage.

## Results

Table 1 brings demographical and clinical data from all volunteers (n=93). Obese women corresponded to 30% of the sample. Most women declared to be Caucasian (59%) and to have a conjugal life (69%); 61% completed elementary school and 40% did not perform paid labor activities. Table 2 shows scores for SF-36, BDI and MRS. The quality of life domains most impacted were role limitations due to physical health, role limitations due to emotional problems, pain and general health perception.

Table 1 – Sample’s clinical and demographical characteristics (n=93)

Variable	Results
Age (years)	49.1 ± 6.1
BMI (kg/cm <sup>2</sup> )	27.7 ± 6.7
Presence of musculoskeletal pain (yes/no)	87/6
Age of menarche (years)	13.1 ± 1.6
Number of pregnancies	3.8 ± 2.3
Menopause (yes/no)	39/54
Menopause age	50.8 ± 4.9
Regular cycles (yes/no)	14/40
Sexual Activity (yes/no)	60/33
Physical Activity (yes/no)	16/77
Smoking (yes/no)	22/71
Systemic Hypertension (yes/no)	37/56
Diabetes Mellitus (yes/no)	13/80
Cardiopathy (yes/no)	7/86

Table 2 – Scores for SF-36, BDI and MRS (n=93)

Variable	Results
<b>SF-36</b>	
Physical Functioning	62.3 ± 28.2
Role limitations due to physical health	28.5 ± 43.2
Bodily pain	40.6 ± 23.8
General health perception	47.1 ± 26.5
Vitality	54.8 ± 25.1
Social functioning	68.7 ± 29.0
Role limitations due to emotional problems	49.8 ± 48.1
Mental health	60.3 ± 23.1
<b>BDI</b>	
BDI	15.0 ± 9.9
No depression (score <10)	51 (54.8%)
Mild depression (score 10-18)	20 (21.5%)
Moderate depression (score 19-29)	12 (12.9%)
Severe depression (score ≥ 30)	10 (10.8%)
<b>MRS</b>	
MRS	18.7 ± 8.8
Somato-vegetative symptoms (score 0-16)	6.7 ± 3.4
Psychological symptoms (score 0-16)	7.3 ± 4.3
Urogenital symptoms (score 0-12)	4.8 ± 3.1

## Discussion

Results from the present study show that quality of life is impaired for low-income community-dwelling climacteric women. Domains most affected were physical functioning, pain, general health perception and role limitations due to emotional problems. BDI scores indicated mild to moderate depression and MRS scores indicated moderate climacteric symptoms' severity. In general, the impact on quality of life was considerable in all domains, probably as a consequence of a more deprived population. Low education level also represents a significant factor for lower quality of life (Cheng, Lee, Wang, S.-J., Wang, P.-H., & Fuh, 2007). This period represents the beginning of aging phase, which may cause suffering and psychological instability (Elavsky, 2009) along with functional decrease expected from the aging factor.

SF-36 can be summarized into Physical Component Summary (PCS) and Mental Component Summary (MCS) (Ware, *et al.*, 1994). Even though an algorithm is needed to calculate PCS and MCS, PCS is composed by the domains of physical functioning, role limitations due to physical health, general health perception and bodily pain, while the other domains compose MSC (Simon, Revicki, Grothaus, & Vonkorff, 1998). In the present study, the greatest impact was on the PCS, which agrees with (Silva Filho and Costa, 2008), who relate findings from SF-36 to natural aging, and not only estrogen deficiency. Climacteric impacts quality of life of American women, and this is not only due to the climacteric period per se, but also to health problems deriving from climacteric and aging (Avis, *et al.*, 2009; Mishra, Brown, & Dobson, 2003). A previous study with more than 16,000 women with ages between 40 and 55 has shown that climacteric is related to a decrease of the SF-36 physical component (Avis, *et al.*, 2001). Most women from the present study were not physically active, which may be related to present findings (de Lorenzi, *et al.*, 2009; Elavsky, 2009; Silva Filho and Costa, 2008), as physical activity is related to increased quality of life scores (Elavsky, 2009).

Depressive symptoms of moderate to high level were identified in 24% of our sample. A review has shown an association between menopause and increase in depressive symptoms (Vivian-Taylor and Hickey, 2014). Several risk factors have been identified and could be related to the sample of the present study. For example, lower education level, low physical functioning, stressful life events and marital stress and family violence are known risk factors for depression development during menopause transition (Vivian-Taylor and Hickey, 2014). Women living in low-income communities in Brazil are more likely to undergo stressful life events, and low education level, poor sanitation, and depressive symptomatology are associated with this (Surkan, O'Donnell, Berkman, & Peterson, 2009). Also, poor health and unemployment, both situations lived by several people in the Brazilian low-income communities, have detrimental effects on happiness and life satisfaction (Sujarwoto, Tampubolon, & Pierewan, 2018), impacting on the perceived health-related quality of life. Biological issues may also play a role in the presence of depressive symptoms in climacteric and postmenopausal women. For example, the decrease in estradiol secretion characterizes this phase, decreasing endorphins and interfering in humor; also, high levels of testosterone may contribute to the beginning of depressive symptoms, independently of climacteric phase (Hartman, *et al.*, 2006; Vivian-Taylor and Hickey, 2014).

The climacteric symptoms were evaluated with a largely used scale, the MRS (Rahman, Zainudin, & Mun, 2010), whose scores in Latin America ( $10.4 \pm 8.8$ ) are slightly higher than in United States ( $10.4 \pm 8.8$ ), Europe ( $10.4 \pm 8.8$ ) or Asia ( $10.4 \pm 8.8$ ) (Potthoff, *et al.*, 2000).



The present study, however, found scores even higher than those expected ( $18.7 \pm 8.8$ ), closer to the values found by (del Prado *et al.*, 2008) in Chilean women. Climacteric symptoms may be more intense in low-income and low-education level women compared to European women (Sierra, Hidalgo, & Chedraui, 2005), a common situation in Latin America and developing countries (Chedraui, *et al.*, 2008). The MRS subscale with greater scores was the psychological symptoms scale, similar to studies developed in Latin America (Chedraui, *et al.*, 2008) and India (Kakkar, Kaur, Chopra, Kaur, A., & Kaur, IP, 2007) found correlation between the psychological MRS subscale and the execution of some kind of labor activity by Indian women; this fact could also be observed in the present study. Biological and physical issues expected in this phase are involved, and so are aspects such as the concern about family, occupational status, family dynamics, socioeconomic environment, lifestyle, body image and personal relationships. Psychological symptoms are common during climacteric period and can be associated to vasomotor symptoms and socioeconomic status, that contributes to the worsening of the symptoms (Chedraui, Aguirre, Hidalgo, & Fayad, 2007). Sedentarism is also related to the increase of vasomotor symptoms' impact (Kakkar, *et al.*, 2007).

The present study has some limitations: evaluations were performed in only one São Paulo district, turning generalization of results a little compromised. Nonetheless, results from the present study are in accordance with other studies performed in similar populations in different countries. Given that the study was performed in a real setting of the public health system in Brazil according to the most common way of evaluating pain in the Basic Health Units, no objective measures could be performed.

## Conclusion

Low-income climacteric women present impairments in health-related quality of life, with physical aspects, bodily pain and general health status as the most affected domains. Climacteric symptoms were classified as moderate and about 24% presented depressive symptoms. Those data can help develop and implement climacteric women targeted healthcare strategic actions, as a way of reassurance of a humanized and integral healthcare assistance.

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**Anny Caroline Dedicaco** – Tutor, Gerontology Multiprofessional Residency Program, Hospital Albert Einstein

E-mail: [anny.dedicacao@einstein.br](mailto:anny.dedicacao@einstein.br)

**Mariana Arias Avila** – Professor, Physical Therapy Department, Universidade Federal de So Carlos, UFSCar.

E-mail: [maafisio01@gmail.com](mailto:maafisio01@gmail.com)

**Maria Elisabete Salina Saldanha** – Professor, Physical Therapy Course, Universidade de So Paulo, UNICID.

E-mail: [maria.saldanha@unicid.edu.br](mailto:maria.saldanha@unicid.edu.br)

**Ana Silvia Moccellini** – Professor, Physical Therapy Course, Federal University of Sergipe, UFS.

E-mail: anamoc33@yahoo.com.br

**Tatiana de Oliveira Sato** – Professor, Physical Therapy Department, Universidade Federal de So Carlos, UFSCar.

E-mail: tatisato@gmail.com

**Patricia Driusso Nome** - Professor, Physical Therapy Department, Universidade Federal de So Carlos, UFSCar.

E-mail: pdriusso@ufscar.br

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