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Beliefs regarding menopausal hot flushes among climacteric women as assessed with the Hot Flush Beliefs Scale

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ABSTRACT

Background: Hot flushes (HFs) and night sweats are frequent complaints among both peri- and postmenopausal women. Beliefs regarding these complaints may vary from one population to another.
Objective: To assess HF beliefs and factors related to negative beliefs in a climacteric Hispanic population using the Hot Flush Beliefs Scale (HFBS).
Methods: A total of 1154 healthy women (40–59 years) were assessed with the Menopause Rating Scale (MRS), those presenting HFs were requested to fill out the HFBS and a questionnaire containing socio-demographic data (female and partner).
Results: A total of 646 presented HFs (56%) graded according to the first item of the MRS as mild (28.6%), moderate (33.2%), severe (29.1%) and very severe (9.1%). Mean age of these women was 49.5 ± 5.2 years, with 51.9% having 12 or less years of education, 61.5% being postmenopausal and 47.2% living in high altitude. At the moment of the survey 13.9% were on HT, 12.8% on phytoestrogens and 7.1% on psychotropic drugs. Women strongly disagreed in more negatively oriented items of those contained in *subscale one* (beliefs about self in social context). Contrary to this, women strongly agreed in more negative oriented items contained in *subscale two* which assesses beliefs about coping with HFs. Women presenting with severe–very severe HFs displayed higher HFBS total and subscale scores indicating a more negative belief regarding HFs. Logistic regression analysis determined that HF severity was related to higher HFBS scores for the total and subscales one and two. Current smoking, higher parity, lower female education, female psychiatric consultation, time since menopause and partner unhealthiness and alcohol consumption were also related to higher HFBS scorings. Postmenopausal status and church attendance were related to lower scores.
Conclusion: In this mid-aged Ecuadorian female series negative beliefs regarding HFs were related to the severity of HFs and individual female or partner characteristics. Data provided from clinical research using this tool, alone or in combination with other tests, is warranted.

1. Introduction

The climacteric is a wide physiological period related to various risks and symptoms. Among the most frequent are hot flushes (HFs), night sweats and body weight increase which have been associated to certain risks such as sleep disorders, osteoporosis, cardiovascular disease, obesity and type 2 diabetes mellitus. HFs were among the most troublesome symptoms reported by women according to a recent Canadian survey performed after the Women's Health Initiative (WHI) publication [1]. Core body temperature elevation initiates endogenously and usually precedes the majority of HFs. However they may be exacerbated by stress, anxiety, alcohol and spiced foods [2,3]. They serve as a heat-loss system producing psychological discomfort, tachycardia, sleep interruption, daytime sleepiness and nervousness. During the last decades there have been attempts to objectively measure HFs under different conditions [4–7], and assess their psychological repercussions [8–12]. It has been postulated that emotional components and psychological distress seen during the menopausal transition express a personal vulnerability rather than a specific reaction to menopausal symptoms [13,14].

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Perceived personal control can affect the experience of symptoms. Women with lower perceived personal control of symptoms were associated to more negative experiences and more coping difficulties, especially in those who do not receive hormone treatment [15–17]. In many instances, the menopause is perceived as a time of poor emotional and physical health, especially due to the fact that research is based on those attending clinical consultations for health problems than those who do not. Despite this, and independent of the medical perspective, the menopausal transition has several interpretations, one is to consider it as normal stereotyped status and not a disease [18–24].

Beliefs, negative attitudes, low self-esteem, family dysfunction, social support, and stressful life events, can modify menopausal symptom severity [25]. Since HFs are among the most common symptoms seen during the menopause transition and may be increased by a negative psycho-social environment, it may seem plausible that the cited factors affect women's experience and beliefs regarding HFs [13,26]. The purpose of the present research was to assess HF beliefs in a climacteric Hispanic population using the Hot Flush Beliefs Scale (HFBS) originally described by Rendall et al. [11], in its Spanish version.

2. Methods

2.1. Participants

From February 15th to June 15th 2009 a cross-sectional study was carried out at healthcare centers of eight main cities of Ecuador with more than 100,000 inhabitants aimed to assess risk factors related to the presence and severity of HFs (The National Ecuadorian Study regarding HFs). For this, healthy women (40–59 years) accompanying those accessing the centers were requested to fill out a general questionnaire containing personal and partner data and assessed for the presence and severity of HFs with the first item of the Menopause Rating Scale (MRS). Women excluded from the study were those refusing participation or were incapable of understanding the items included in the questionnaire. Findings of the National Ecuadorian Study (Primary Research Branch) are presented elsewhere [27]; this document only provides information of women who presented HFs and additionally filled out the HFBS. Research protocol (primary and secondary branches) of the study was reviewed and approved by the Bioethics Committee of the Medical Faculty of the Universidad Católica, Guayaquil, Ecuador. All participants were informed about the research and its purposes and written consent obtained.

2.2. General questionnaire

2.2.1. Personal data

Female data included: age, parity, menopausal status (pre-, peri- or postmenopausal), marital status, educational level, accessed health system (free or paid), smoking status, partner status, church attendance, geographical altitude location, history of sexual abuse, psychiatric consultation, and the use of drugs (psychotropic, hormone therapy [HT] or phytoestrogens). High altitude was defined if women lived at or above 2000 m. Women were asked about how they perceived their health status and that of their partners. Those (men or women) capable of performing daily routine activities were defined as healthy. Sedentarism was defined if subjects carried out less than 15 min of physical activity twice a week [28].

2.2.2. Partner data

Partner data was explored in the present research based on our previous reports indicating significant correlations between male issues and mid-aged female sexual function [29] and menopausal symptom severity [30,31]. This information was provided by women and included: age, educational level, health status, faithfulness, presence of alcoholism and sexual dysfunction (erectile dysfunction or premature ejaculation). Criteria used to define male sexual dysfunction (erectile and ejaculatory) have been previously reported [30,31]. For surveyed women and their partners 12 or less years of schooling was defined as low [32].

2.3. The Menopause Rating Scale (MRS): Hot flush intensity assessment

This instrument was used to assess HF presence and severity. The MRS is a menopause specific health related quality of life instrument composed of 11 items divided into three subscales: somatic, psychological and urogenital. For this research item #1 of the somatic subscale was used, which was graded by the subject from 0 (not present) to 4 (1 = mild; 2 = moderate; 3 = severe; 4 = very severe) [33].

2.4. The Hot Flush Beliefs Scale: assessment of HF beliefs

Assessment of HF beliefs, among women presenting the symptom, was performed with the HFBS which consists of 27 items grouped as 3 subscales: Beliefs about self in social context (13 items); Beliefs about coping with HFs (10 items); and beliefs about coping with night sweats/sleep (4 items). Each item could be graded by the subject using a six-point response scale: strongly disagree, moderately disagree, mildly disagree, mildly agree, moderately agree, and strongly agree (coded as 0–5). Obtained scores for each item within a subscale were summed providing a total score for the subscale, and the sum of all three subscales provided a total.

For the purpose of this research a Spanish version of the original HFBS was used. Translation was performed by the authors (FRPL and PCH) using the forward/backward procedure and checked for cultural issues. Validation of this version was performed in a group of mid-aged Spanish women ($n = 57$), rendering a good internal consistency for the 27 items (alpha Cronbach 0.86) [34].

2.5. Menopausal status definition

Women having regular menses were defined as premenopausal, those presenting irregularities >7 days from their normal cycle perimenopausal, and postmenopausal if no more menses in the last 12 months [35]. Those with bilateral oophorectomy were defined as postmenopausal. For statistical purposes hysterectomized women were considered as a separate group.

2.6. Statistical analysis

Statistical analysis was performed using EPI-INFO 2000 (Centers for Disease Control, Atlanta, GA, USA; World Health Organization, Geneva, Switzerland). Data are presented as means, standard deviations, medians, percentages, odds ratios (ORs) and confidence intervals. Group comparisons for means were assessed with ANOVA or the Mann–Whitney test, according to homogeneity of the measured variance with the Bartlett test.

2.6.1. Internal consistency of the HFBS and its subscales

Internal consistency of the HFBS was assessed computing Cronbach coefficient alphas for the total 27-item scale and for each separate subscale.