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**Women's Health**  
**The Biopsychosocial Impact**  
**of Menopause on Women**

MASTER DISSERTATION

**Catarina Isabel Jardim Freitas**

MASTERS IN CLINICAL HEALTH PSYCHOLOGY AND WELL-BEING



UNIVERSIDADE da MADEIRA

*A Nossa Universidade*

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*“Nós poderíamos ser muito melhores se não quiséssemos ser tão bons.”*

*(Sigmund Freud)*

Aos meus pais e irmã, que ampararam todas as minhas quedas e celebraram todas as minhas vitórias.

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## Resumo

A menopausa é uma fase importante na vida da mulher e faz parte do seu ciclo de vida, provocando alterações tanto físicas (e.g., alterações de peso, queda de cabelo, sintomas vasomotores ou aumento de transpiração), psicológicas, e sociais. É crucial considerar todos estes fatores quando analisamos e avaliamos a saúde reprodutiva e não reprodutiva da mulher nesta fase da sua vida. No entanto, a maioria dos estudos foca-se apenas num destes aspetos não considerando e integrando a complexidade e a interdependência entre todos estes fatores.

O principal objetivo deste estudo é explorar o impacto biopsicossocial da menopausa em mulheres com idades compreendidas entre os 45 e 70 anos ( $N=53$  mulheres,  $M = 53.85$  anos,  $DP = 5.36$ ). Neste sentido, focamo-nos em cinco aspetos diferentes, mas complementares que parecem sofrer alterações durante a menopausa: (1) sintomatologia física, (2) sintomatologia depressiva e ansiosa, (3) autoestima, (4) qualidade relacional percebida e a (5) sexualidade.

Os resultados deste estudo refletiram bons níveis de autoestima, qualidade relacional e satisfação sexual, bem como baixos níveis de sintomas depressivos e ansiosos, contrariamente ao descrito na literatura. Não houve diferenças entre mulheres que estavam na menopausa há mais de cinco anos ou menos de cinco anos em termos das variáveis mencionadas, exceto naquelas que descreveram sintomas físicos, nas variáveis da sintomatologia depressiva e ansiosa. Finalmente, destacam-se relações positivas muito significativas entre depressão e ansiedade e qualidade relacional e sexualidade, e relações negativas muito significativas entre autoestima e depressão.

Palavras-chave: Menopausa; Perimenopausa; Depressão; Ansiedade; Qualidade relacional; Autoestima; Satisfação sexual.

### Abstract

Menopause is an important phase in a woman's life and is part of her life cycle, causing physical (e.g., weight changes, hair loss, vasomotor symptoms, or increased sweating), psychological, and social changes. It is crucial to consider all these factors when analyzing and assessing a woman's reproductive and non-reproductive health during this stage of her life. However, most studies focus on just one of these aspects without considering and integrating the complexity and interdependence among all these factors.

The main objective of this study is to explore the biopsychosocial impact of menopause on women aged between 45 and 70 years (N=53 women, M = 53.85 years, SD = 5.36). In this regard, we focus on five different but complementary aspects that seem to undergo changes during menopause: (1) physical symptoms, (2) depressive and anxious symptoms, (3) self-esteem, (4) perceived relational quality, and (5) sexuality.

The results of this study reflected good levels of self-esteem, relational quality, and sexual satisfaction, as well as low levels of depressive and anxious symptoms, contrary to what is described in the literature. There were no differences between women who had been in menopause for more than five years and those for less than five years in terms of the mentioned variables, except in those who described physical symptoms, depressive, and anxious symptoms. Finally, there are highly significant positive relationships between depression and anxiety and relational quality and sexuality, and highly significant negative relationships between self-esteem and depression.

**Key-words:** Menopause; Perimenopause; Depression; Anxiety; Quality of relationship; Self-esteem; Sexual satisfaction.

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## Introduction

Menopause is a biological phase in woman's life that signalizes the end of her reproductive years. It is caused by the loss of ovarian follicular function and the decline in estrogen levels in the bloodstream (World Health Organization [WHO], 2022). Most women experience this condition between the ages of 45 and 55, lasting 2 to 7 years, as a natural part of their biological aging. The transition to menopause can be gradual, typically starting with changes in the menstrual cycle (WHO, 2022). This process can result in a lasting experience of symptoms with physical, psychological, and relational/emotional consequences. These modifications can affect the physical, and mental health of woman as well as their quality of life, including of those intimately connected to them, such as their spouse and/or their family (Pimenta et al., 2019). Despite this, there is a general lack of knowledge about this vital phase in the woman's life cycle. In particular, the scarcity of studies on the subject, and the limited emphasis on menopause as a factor influencing the broader systemic context of woman's life, underscores the importance of this investigation.

Thus, the primary objective of this research is to explore the biopsychosocial impact of menopause in woman. To assess the biological dimension, we collected information regarding the physical symptoms presented. For the psychological dimension, we measured woman's depressive and anxiogenic symptoms as well as their self-esteem. Finally, to analyze the relational/social component, we measured woman's perceived relational quality and sexual satisfaction.

This dissertation is organized in the following topics: theoretical framework with definitions and characteristics of menopause, the biopsychosocial impact of menopause with specifications on biological, psychological, and social/interpersonal variables; the methodology with procedures and data analysis; discussion of the results with proper theoretical support; conclusion; list of bibliographic references, attachments and/or appendices.

## Theoretical Framework

### The Biology of Menopause: Definition and characteristics?

Middle age, as an integral stage of the life cycle and, consequently, of human development, presents multiple challenges, including not only physical and biological transformations but also social changes in the functions and roles individuals play and in how they relate to their context (Papalia & Feldman, 2013). Over generations and alongside their evolutions, there is no consensus on when middle age begins or ends. In other words, the upper and lower limits can be shaped by certain biological and social events, such as the increase in average life expectancy (Lachman, 2004). Despite this ambiguity, Papalia and Feldman (2013) point to the time range between 40 and 65 years (Papalia & Feldman, 2013).

The basis of the physical transformations that occur at these ages is deeply rooted in what shapes sedentary or active and dynamic behaviors during each individual's youth (Lachman, 2004). Thus, the lifestyle adopted until the beginning of middle adulthood becomes a major predictor of possible occurrences and extensions of physical diseases, with aggravated loss of muscle tone that can lead to difficulties in autonomy and mobility, and mental issues such as the onset of depressive symptoms (Papalia & Feldman, 2013). Physiologically, the brain and its functions also experience a decline from this stage onwards. Tasks such as multitasking, fast reactions, or those involving complex motor skills, such as driving, show significant declines because the ability to focus only on the necessary stimuli for the task also decreases (Papalia & Feldman, 2013).

Freid and Bernstein (2010) found that the current wave of middle-aged people has a higher percentage of physical disabilities than previous generations, leading to an increased use of medical services and of the healthcare system. Taking into account the Portuguese population, it is known that 57.8% of people reported having at least one chronic disease. Some known risk factors are being a woman, having a low level of education, and belonging to the age group of sixty-five to seventy-four years (Inquérito Nacional de Saúde com Exame Físico [INSEF], 2015). In addition, social inequalities also have implications for access to health treatments. Thus, some consequences of having a low socioeconomic status may include (a) more fragile health, (b) limitations in mobility due to chronic diseases, (c) reduced well-being, and (d) decreased life expectancy (Spiro, 2001).

As an adjacent challenge to middle adulthood is menopause. Despite some ambiguity in explaining this concept, menopause can be defined as a biological phase in a woman's life that signals the end of her reproductive years and is caused by the loss of ovarian follicular function and a decline in the estrogen levels in the bloodstream (WHO, 2022). Most women experience this condition between the ages of 45 and 55, lasting 2 to 7 years, as a natural part of biological aging. The transition to menopause can be gradual, usually starting with changes in the menstrual cycle (WHO, 2022).

Some classification systems have been developed with one of the most theoretically relevant being the Stages of Reproductive Aging Workshop (STRAW; Soules et al., 2001). This system was built by clinicians and researchers in female reproductive aging at a meeting held in 2001, in partnership with societies such as the American Society for Reproductive Medicine, the National Institute on Aging, and the North American Menopause Society. It's relevant to mention that this specific system sets only on biological statements. The main objective of this meeting of 2001 (Soules et al., 2001) was to address the lack of a system that was relevant to this field of research in women's health (Ambikairajah et al., 2022). There was a need to respond to more specific goals such as (a) developing this system in a useful and practical way, (b) reviewing the nomenclature, and (c) identifying knowledge gaps that should be addressed by the research community (Soules et al., 2001). In 2011, this system underwent through some changes with its reconstruction, eventually leading to STRAW+10 containing new conceptualizations and updates. These standards were outlined to offer recommendations regarding the limitations of each stage of the system, specifying and refining the respective criteria (Ambikairajah et al., 2022).

Considering the most updated version of the system described above, menopause is divided into 3 phases: pre-menopause, perimenopause, and post-menopause (Ambikairajah et al., 2022; Soules et al., 2001). Thus, pre-menopause (or reproductive phase) is represented as the phase in which a woman presents, for the most part of the stage - variable in duration - regularity in the menstrual cycle with possible subtle changes in its duration and intensity. It is still possible to conceive during this stage (Ambikairajah et al., 2022; Pimenta & Costa, 2021). Following the above comes perimenopause (also called the transition to menopause) is subdivided into early perimenopause and late perimenopause. The first is characterized by a variation of seven or more days in the usual duration of the menstrual cycle. In this phase, there is also a - although variable - elevation of follicle-stimulating hormone (FSH) and a

reduction in estrogen production. The duration of this stage is also variable (Ambikairajah et al., 2022; Islam et al., 2018; Monteleone et al., 2018; Pimenta et al., 2012 cited in Pimenta & Costa, 2021; Papalia & Feldman, 2013). Late perimenopause will be marked by the emergence of periods of amenorrhea (absence of menstruation) equal to or greater than sixty days. In this stage, there is some probability of experiencing and enduring vasomotor symptoms such as hot flashes and night sweats and weight gain. The duration of the stage will be between one and three years (Ambikairajah et al., 2022; Pimenta & Costa, 2021). Perimenopause can last several years and can affect physical, emotional, mental, and social well-being. A variety of non-hormonal and hormonal interventions can help alleviate symptoms during this phase (World Health Organization, 2022). Finally, post-menopause is the phase that begins after the late peri-menopause period, which is also divided into early and late stages. Ambikairajah and colleagues (2022) subdivide this early phase into two levels: the first two years where FSH will continue to be elevated with some fluctuations, and vasomotor symptoms will likely appear, and conversely, in a period of three to six years after the above, characterized by the stabilization of FSH and the reduction of experienced vasomotor symptoms (Ambikairajah et al., 2022). Finally, the late stage of post-menopause extends until the end of a woman's life, where symptoms of possible vaginal atrophy (changes in the tissues of the vagina and vulva due to the interruption or decrease in estrogen production) begin to manifest (Ambikairajah et al., 2022; Pimenta & Costa, 2021).

Although this is the usual biological progression cycle of menopause, it can occur prematurely, also referred to as premature or early ovarian failure. This event occurs when irregular menstruation with very long or nonexistent periods is observed, resulting in a lack of ovarian follicles before the age of 40. The ovaries' ability to produce estrogen, for example, is highly damaged (Cruz et al., 2022). This absence may result from: (a) genetic anomalies or autoimmune ovarian damage; (b) iatrogenic effects (effects and complications caused as a result of medical treatment); or (c) oophorectomy (surgical removal of one or both ovaries), mainly indicated due to treatments such as chemotherapy or radiotherapy; or (d) environmental factors, according to the authors (Pimenta & Costa, 2021).

#### *Biological Variables: Physiological and Hormonal Changes*

In terms of hormonal changes, the transition to menopause is theoretically composed of two concepts: ovarian aging and follicular atresia (i.e., degeneration of ovarian follicles), resulting in apoptosis of oocytes (or programmed cell death). The ovarian aging is

characterized by a reduction in the ovaries' ability to develop and strengthen healthy oocytes, which will subsequently have negative implications for female fertility (Fraser et al., 2020). With the continued decrease in the quality and quantity of follicles, menstrual cycles begin to become irregular until they finally cease (Fraser et al., 2020).

Thus, genetics proves to be substantially dependent on contexts, environments, and rates of senescence (the natural aging process at the cellular level), following a dynamic system. There are certain phenotypes (interaction between gene expression and the influence of environmental factors) that are conducive to a long life, such as metabolic profiles with lactose tolerance and insulin sensitivity, but there is no gene that codes for this longevity in humans. These can then delay the onset of menopause, making it appear later, promoting somatic and reproductive longevity (Giuliani et al., 2018 cited in Fraser et al., 2020). Thus, the way hormonal changes and the transition to menopause occur is individual and very unpredictable (Gordon et al., 2022).

Women going through menopause have significant changes in brain biomarkers, such as white matter hyperintensities, small but visible consequences of uncontrolled blood pressure (Dhanabalan & Raj, 2023). Therefore, the endocrine aging that occurs along with menopause has the capacity to compensate for the losses of estrogen receptor activity. In this way, symptoms such as intense heat decreasing 2 to 7 years after first appearing can be justified through a brain redefinition (Dhanabalan & Raj, 2023).

There is a set of physical symptoms resulting from all these biological or physiological changes. During the climacteric (the transition period between the reproductive and non-reproductive phase of a woman), symptoms such as (a) hot flashes; (b) sweating; (c) insomnia; (d) breast tenderness; (e) dry skin; (f) vaginal dryness; (g) irregular periods in intensity and duration; (h) headaches and/or joint pain; (i) hair loss; and (j) weight gain are likely to occur (Ameratunga et al., 2012; Monteleone et al., 2018; Nateri et al. 2017 cited in Dhanabalan & Raj, 2023).

### **Beyond Biology: The psychosocial impact of menopause**

All physical changes resulting from menopause not only have a biological impact but also a psychological/emotional and social/relational impact. In this way, the biopsychosocial model offers a useful theoretical lens for understanding the impact of this event on the lives of women and their families (George & Engel, 1980). The biopsychosocial model is

inherently a systemic model that requires a multidimensional assessment of the individual at various levels (George & Engel, 1980). The aspects of the illness itself, the patient's behavior, the social, family, and cultural context of the patient, and finally, the healthcare system itself need to be considered in the intervention (Smith & Nicassio, 1995 cited in Pereira, 2002).

George Engel, the founder of the biopsychosocial model built between the 1970s and 1980s, created this model to complement dimensions absent in the biomedical model, which dominated Western knowledge for centuries (Engel, 1977; George & Engel, 1980). Objectives were outlined to plan educational tasks in the field of medicine and, specifically, to define the roles and functions of psychiatrists in training the new generations of doctors. Thus, the knowledge and experiences derived from their own conceptual models deeply influence how doctors understand and approach their patients (George & Engel, 1980).

Engel, over the years, mainly due to pressure from some of his closest research colleagues, came to realize the strong shortcomings of the biomedical model and became dissatisfied with its reductionist and dualistic nature (Cormack et al., 2022). He observed that psychological, social, and behavioral components were undervalued and understudied, limiting the scope and practicality of this model. The importance of developing communication, support, complementarity, and collaboration within the multidisciplinary team were ideas advocated by this psychiatrist (Cormack et al., 2022).

Therefore, currently, updated versions of the biopsychosocial model increasingly focus on maintaining humanistic and causality foundations to consider personalized and adapted treatment for each patient, as well as individual-environment interactions, and, more internally, mind-body connections (Cormack et al., 2022). There is indeed a better understanding of the inherent connections between the patient and their contexts, how they react, and how they process changes considering the normative changes in the environment (Cormack et al., 2022). In this sense, the biological aspect, once considered the most essential when providing healthcare, has been equated with the psychological and social dimensions due to their importance and influence on clinical assessments and treatments provided (Bolton, 2023).

In a practical manner, as female aging becomes more apparent, women increasingly feel the need to redefine their lives and adapt to activities that make sense to them, considering the physical, psychological, and social implications characteristic of this phase. Consequently, it is insufficient and ineffective to opt for any treatment that does not address

all these components (Gusmão De Lima et al., 2016). Hormone Replacement Therapy, for example, cannot be the sole aspect to consider since it is time-limited and focuses on relieving physical symptoms, diminishing the importance of addressing psychological and social aspects. In summary, the biopsychosocial model provides guidance for a more modern and integrative treatment approach, combined with other areas of health such as nutrition, sports, and medicine, aiming to respond to the new physical and psychosocial situations that will inevitably arise in a woman's menopausal life (Gusmão De Lima et al., 2016).

*Psychological Variables: Depressive and anxious symptomatology and woman's self-esteem*

Anxiety and depression appear as recurring issues in clinical practice (American Psychological Association [APA], 2022). Anxiety can be defined as an abstract threat with projections into the future and characterized by feelings of tension and worry that can result in visible or invisible physical changes, such as sweating or changes in blood pressure (APA, 2022). Depression, on the other hand, is classified as extreme distress and despair, encompassing feelings of worthlessness and guilt. It can be observed that this symptomatology has many repercussions in daily life, like disrupting sleep patterns, eating, and energy (APA, 2021).

From the psychological/emotional impact perspective, several studies reveal that the prevalence of depression is higher among women and according to neuroendocrine theories, estrogens (which decrease during middle age, in the menopausal phase) influence the development of this symptomatology (Pimenta et al., 2016). It can be verified that in middle age, adults, in general, are indeed more likely to experience feelings such as extreme sadness, nervousness, and hopelessness, characteristic of a possible diagnosis of depression (Papalia & Feldman, 2013). However, despite indications of higher rates of depression and anxiety during the perimenopausal stages, their interpretation is dubious since these symptoms could also result from the typical aging process (Sagsöz et al., 2001).

Therefore, the study by Ku and colleagues (2006) also suggests that there is a relationship between depressive symptoms and menopausal women from more disadvantaged socioeconomic backgrounds and without perceived social support (Pimenta et al., 2016). Thus, women with difficulties in meeting their basic needs, or those with a lower level of education, were more likely to develop depressive symptoms. Their elevated stress levels were also a consequence of this lack of social support (Papalia & Feldman, 2013).

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Additionally, an Asian study reported that psychological complaints such as depression and anxiety create negative feelings in menopausal women that can negatively influence intimacy and/or relational quality (Zaman et al., 2022). The changes that accompany women during the perimenopausal period are the cause of many health and psychological problems (Banaczek & Saracen, 2016). These also affect their quality of life and self-esteem (Banaczek & Saracen, 2016). Self-esteem is perceived through the skills and competencies that each person recognizes and reviews in themselves. The more positive the perception of self-image and self-concept, the higher the self-esteem. Consistent self-esteem is a great protective factor for good and healthy mental functioning (APA, 2023). In another study, women who experienced more frequent and intense somatic symptoms characteristic of the perimenopausal period proved to have lower life satisfaction, and those who experienced frequent psychological symptoms associated with this period had lower self-esteem (Banaczek & Saracen, 2016). Women with high-intensity psychological and somatic symptoms of menopause also demonstrate worse body function and lower self-esteem (Włodarczyk & Dolińska-Zygmunt, 2017). On a more practical level, it has been shown that women are more dissatisfied with their body image, appearance, and attractiveness during the perimenopausal phase than in the pre- and post-menopausal phase. It can be seen that women accept their bodily changes better at a stage where their symptoms are not so intense at a physical level (Deeks & McCabe., 2001; Séjourné et al., 2019). The perception of their self-efficacy and self-control also aligns as an important and integral dimension of self-esteem, so women who have high levels of self-esteem feel more and better able to cope with simultaneous tasks (Cohen & Lazarus., 1983 cited in Deeks., 2003). The link between biological and psychological factors is also highlighted, with women who had a lower level of self-esteem or who were not satisfied with their physical appearance having more perimenopausal symptoms (Bloch, 2002). The processes of oophorectomy, hysterectomy and early menopause also have a significant impact on their lives because their satisfaction with their body image is markedly reduced, consequently lowering the woman's self-esteem (Bellerose & Binik, 1993).

Regarding a Portuguese population sample, it was reported that there was an increase in depressive symptoms among women in the perimenopausal group compared to the premenopausal group (Gonçalves et al., 2013). Thus, a positive correlation was established between perimenopause as a critical period and the likelihood of experiencing depressive disorders, whether or not specific menopausal symptoms were present (Gonçalves et al.,

2013). Gonçalves and colleagues (2013) also found that sociodemographic variables such as education and culture could influence menopausal symptoms, specifically psychological ones. Additionally, an interesting stress factor to consider, as proposed by the authors, may be the presence of small or dependent children/grandchildren, impacting in a negative way this depressive symptomatology. It is crucial that, despite menopause being a natural transitional process, the biopsychosocial adaptations that need to be implemented and lead to adaptive reactions in these women are not underestimated (Gonçalves et al., 2013).

In summary, these emotional symptoms can be disruptive and negatively affect the quality of life of women, emphasizing frequent mood changes, being a normative component of the menopausal transition (Dhanabalan & Raj, 2023). It is relevant to find a support network, whether from healthcare professionals, friends, or family, so that these women feel accompanied and satisfied in terms of their personal and emotional needs (Dhanabalan & Raj, 2023).

#### *Social Variables: Perceived Relational Quality and Sexual Satisfaction*

This first concept (*Perceived Relational Quality*) consists of the experience of feeling happy and loved, considering all aspects of the relationship in which one is inserted. Therefore, it is a long process of joint learning, establishment of routines and deep knowledge between the two people involved (Tavakol et al., 2017). On the other hand, sexual satisfaction is not well defined in the literature, as it is a very comprehensive concept. In most cases, this term is also trivialized because the community think that its definition is intuitional without having to describe it (Schwartz & Young, 2009). However, it can be said that sexual satisfaction is an affective response that develops between the negative and positive poles according to the perceptions of their sexual relationships (Lawrance & Byers, 1995).

At the social/relational level, authors suggest that relational quality depends on various factors, the most important of which is having a healthy sexual relationship (Davidson et al., 2008). Psychological changes during menopause, such as depression and anxiety, and urogenital problems, with pain during sexual intercourse – resulting from vaginal tissue thinning – or urinary discomfort, transform women's sexual lives. Those who experienced more physiological symptoms of menopause generally had lower sexual health (Zarei et al., 2016 cited in Rouhbakhsh et al., 2018). In this regard, the studies by Yazdkhashti et al (2012) and Foruhari et al (2009) suggested that educational interventions aimed at

improving the quality of life also improved the sexual dimension of quality of life in woman (Rouhbakhsh et al., 2018).

Therefore, sexuality does not stagnate in youth, although both sexes, during middle age, begin to have some deficits in their reproductive capacities, making women unable to conceive. Sexual pleasure persists throughout life, and thus, all kinds of care and concerns that these individuals have about their reproductive functioning are appropriate (Papalia & Feldman, 2013). Women in middle adulthood continue to want to maintain a robust sexual life, even with estrogen levels declining, leading to a possible decrease in sexual desire (Papalia & Feldman, 2013). Thus, it is also possible that there will be more chances of developing some comorbidity negatively affecting these satisfaction systems (Thornton et al., 2015). Quality of life is significantly affected by these declines in the sexual domain, driven by the increasing age of women (Papalia & Feldman, 2013; Thornton et al., 2015).

It is crucial to remember that sexual symptoms, such as estrogen deprivation during menopause, play a decisive role in the psycho-relational dimension. In other words, they affect how a woman perceives and responds to these symptoms and the degree of distress they cause, both directly to herself and indirectly to her spouse. Thus, these symptoms have much more power and impact on the quality of life at a psychological and relational level than at a biological level (Nappi & Lachowsky, 2009). Regarding marital satisfaction, it can be stated that the greater and more intense the psychological symptomatology presented by the woman, the more negatively affected her marital satisfaction will be (Zaman et al., 2022). Some predictors of low marital satisfaction may be the rigid roles that the couple performs considering more traditional gender roles, high levels of depressive symptomatology in both individuals of the couple, and the perception of a lack of justice or equality with an emphasis on decision-making within the relationship (Faulkner et al., 2005). Interestingly, when a woman lost her job, regardless of its cause, levels of marital satisfaction increased significantly (Faulkner et al., 2005).

In addition, it has been found that sexual myths do not have significant correlations with women's attitudes towards menopause, but, in contrast, the quality of a sexual life is interconnected with positive attitudes towards this phase of a woman's hormonal and reproductive life (Ekrem & Özsoy, 2023).

## **The Present Study**

It is important to emphasize that throughout life, women must deal with numerous challenges resulting from hormonal events/changes such as menstrual pain, pregnancy, childbirth, and menopause. Therefore, in some way, it is within this framework that women adapt to yet another evolutionary biological event. It is important to look at women and their pains, which are distinct from those of men purely due to biological and hormonal factors.

Given the above, the present investigation aims to comprehensively understand the biopsychosocial impact that perception's menopause has on women's and its implications, including variables such as the physical symptoms that comes from the hormonal changes, the depressive and anxious symptoms and self-esteem, perception of the quality of couple's relationship and sexual satisfaction. The relevance of this study is aligned with (a) the lack of general knowledge about women's health, with a focus on this phase of a woman's life cycle; (b) the scarcity of global studies, with Portuguese samples being subject to less investigation in its various aspects; (c) the limited consideration and emphasis on menopause as an influencer of an entire systemic context that will likely, subsequently, impact both psychological and medical evaluation processes, and finally (d) most of the theoretical or explanatory frameworks that emerge in the literature on this theme focus mostly on biological concepts, disregarding psychosocial challenges. Therefore, the existing categorizations are mainly medical, not contemplating a biopsychosocial approach to women who are experiencing menopause (Ambikairajah et al., 2022; Dhanabalan & Raj, 2023; Freeman, 2010; Gusmão De Lima et al., 2016; Nappi & Lachowsky, 2009; Newhart, 2013; Séjourné et al., 2019; Zaman et al., 2022).

## **Method**

This research is quantitative, cross-sectional, and non-experimental with correlational and comparative analyses.

## **Objectives**

The main objective of this research is to understand the biopsychosocial impact of menopause in woman, deconstructing into four specific objectives: (a) describe and characterize the sample based on depressive and anxiety symptoms, self-esteem, relationship quality and sexual satisfaction; (b) analyze the differences between women who have been in menopause for less than five years and for more than five years; (c) analyze, differences

between women who have and do not have menopause symptoms; and (d) explore the relationship between the variables under study.

## Participants

The sample consists of 53 women (N=53) who have the perception that entered the menopausal phase. Exclusion criteria in this study included women who are (a) single, (b) in a relationship for less than one year and (c) in invasive chemical treatments such as chemotherapy or radiotherapy. Thirty-eight of the 53 women in this survey reported experiencing physical symptoms resulting from this stage of a woman's life.

Age of the participants ranged from a minimum of 45 years to a maximum of 70 years ( $M = 53.85$ ,  $SD = 5.359$ ). Regarding educational qualifications, most women have a bachelor's degree (41.5%) or completed secondary studies (39.6%) followed by a master's degree in third place (9.4%). In relation to their marital status, 44 out of 53 women (83.0%) are married and 47 of them (88.7%) have children. Twenty-nine women live in Madeira Island (54.7%), and 9 women (17%) live in Lisbon. To confirm their hormonal situation and determine if they were effectively in the menopausal phase, 38 women (71.7%) of our sample conducted specific clinical analysis. Regarding the symptoms reported, 38 women (71.7%) confirmed the presence of symptoms related to their menopause, and when asked from 0 to 7 to rate how intense these symptoms were, 9 (17%) answered "1", 5 (9.4%) answered "2", 3 (5.7%) answered "3", 5 (9.4%) answered "4", 12 (22.6%) answered "5", 9 (17%) answered "6" and 10 (18.9%) answered "7". Note that "0" corresponds to nothing intense and "7" to very intense. Finally, 39 women (73.6%) reported that they are properly informed about menopause, but 49 (92.5%) of them would find it useful to have more information available about menopause.

**Table 1.**

*Descriptive Statistics of Participants and Clinical Data.*

Variables	N	%
Age		
[45, 50[	13	24.5
[50, 55[	14	26.5
[55, 60[	18	34
[60, 65[	4	7.5

[65, 70[	3	5.7
<b>Education</b>		
Elementary School	1	1.9
Middle School	1	1.9
High School	1	1.9
Secondary School	21	39.6
University Degree	22	41.5
Master's Degree	5	9.4
Doctorate	2	3.8
<b>Marital Status</b>		
Single	2	3.8
Married	44	83
Divorced	3	5.7
Common-law marriage	4	7.5
<b>Residence Area</b>		
Madeira Island	29	54.7
Aveiro	1	1.9
Beja	1	1.9
Coimbra	2	3.8
Évora	1	1.9
Leiria	2	3.8
Lisbon	9	17
Porto	3	5.7
Viseu	3	5.7
France	1	1.9
United Kingdom	1	1.9
<b>Hormonal Confirmation</b>		
Yes	38	71.7
No	15	28.3
<b>Symptomatology Scale (physical intensity)</b>		
1	9	17
2	5	9.4
3	3	5.7
4	5	9.4

5	12	22.6
6	9	17
7	10	18.9
<b>Clinical Data</b>		
Weight variation	5	9.4
Forgetfulness	4	7.5
Mood Swings	9	17
Headaches	7	13.2
Joint/bone Pains	5	9.4
Vasomotor Symptoms	33	62.3
Sleep Disruption	13	24.5
Vaginal Dryness	2	3.8
Discomfort/Fatigue	12	22.6
<b>Enough information about menopause</b>		
Yes	39	73.6
No	14	26.4
<b>Want more information about menopause</b>		
Yes	49	92.5
No	4	7.5

## Instruments and Questionnaires

All participants responded to 5 questionnaires: (a) Sociodemographic Questionnaire, (b) Depression Anxiety Stress Scale-21, (c) Rosenberg Self-Esteem Scale, (d) Perceived Relationship Quality Components Inventory, and (e) Scale for assessing satisfaction in areas of marital life, in that order. Each of these questionnaires are described next.

### *Sociodemographic Questionnaire*

The sociodemographic questionnaire was designed to characterize sample and screen it against exclusion criteria. It was organized with questions about (a) age, (b) educational qualifications, (c) profession, (d) nationality, (e) district of residence, and (f) available information about menopause.

*Depression Anxiety Stress Scale-21 (DASS-21, Original version by Lovibond & Lovibond, 1995; Adapted version by J.L. Pais-Ribeiro, A. Honrado, & I. Leal, 2004).*

This scale consists of 42 items distributed in 3 dimensions: depression, anxiety and stress. However, in this study, only the dimensions of depression and anxiety were used. The depression scale is organized around the following themes: dysphoria, dejection, devaluation of life, self-deprecation, lack of interest or involvement, anhedonia, and inertia. In the anxiety scale, some of the themes include autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experiences of anxiety. Each item consists of a statement referring to negative emotional symptom. Participants are asked to respond whether the statement applied to them "last week." For each statement, there are four response possibilities, presented on a Likert-type scale. Subjects evaluate the extent to which they experienced each symptom during the past week on a 4-point severity or frequency scale: 0 = did not apply to me at all, 1 = applied to me sometimes, 2 = applied to me often, 3 = applied to me most of the time. The DASS is directed at individuals over 17 years old. The results for each scale are determined by the sum of the scores for the seven items. The scale provides three scores, one per subscale, ranging from a minimum of "0" to a maximum of "21." Higher scores in each scale correspond to more negative affective states. In the original study, the Cronbach alpha of the depression subscale ranged from 0.55 to 0.72, and the anxiety subscale ranged from 0.34 to 0.57 for the 7-item version. In this study, the alpha was 0.94 for depression and 0.73 for anxiety.

*Rosenberg Self-Esteem Scale (RSES; Original version by M. Rosenberg, 1965; Adapted version by P. J. Santos & J. Maia, 2003)*

This scale consists of 10 items that measure the subject's perception of their self-esteem (e.g., asking if the person feels useful, if they are satisfied with themselves, or if they have some qualities). The positively worded items (items 1, 3, 4, 7, and 10), totaling 5 items, are scored as follows: strongly agree = 4; agree = 3; disagree = 2; strongly disagree = 1. The negatively worded items (items 2, 5, 6, 8, and 9), totaling 5 items, are scored as follows: strongly agree = 1; agree = 2; disagree = 3; strongly disagree = 4. Cronbach's alpha in the original study was 0.86, and in this study, it increased to .92.

*Perceived Relationship Quality Components Inventory (Fletcher, Simpson, Thomas & Giles, 2000; Portuguese version by Crespo, Narciso & Costa, 2004)*

The PRQC assesses the quality of the marital relationship through six dimensions: marital satisfaction, commitment, trust, intimacy, passion, and love (Fletcher et al., 2000). We used the normal version of this instrument, evaluated using a Likert scale, where 1 = not at all, and 7 = extremely. Higher scores on the total score composed of the six items indicate higher levels of perceived relational quality. The alpha was presented in the original study with .88, and in this one is .98.

*Scale of Evaluation of the Satisfaction on the Marital Areas of Life (Escala de Avaliação da Satisfação em Áreas da Vida Conjugal [EASAVIC] original version by I. Narciso & M. E. Costa, 1996)*

This scale consists of 44 items in which subjects assess their satisfaction regarding dimensions of marital life such as emotional intimacy, sexuality, communication/conflict, family functions, social network, autonomy and leisure time, being sexuality the chosen dimension. Responses to this instrument are on a Likert-type scale, with points 1 = Not Satisfied at All, 2 = Slightly Satisfied, 3 = Reasonably Satisfied, 4 = Satisfied, 5 = Very Satisfied, and 6 = Completely Satisfied. Only the 6 items related to the dimension of sexuality were used, with alpha = .93. and .91 for this study.

## **Procedures**

The procedure commenced with seeking authorization from the authors for the assessment instruments used, and the sociodemographic questionnaire was developed specifically for the purposes of the present study. Subsequently, approval was sought from the data protection commission and ethics committee of the University of Madeira to formalize and regulate the project (Nº75/CEUMA/2023, 28<sup>th</sup> of September, Ethics Council of the University of Madeira). Following this, the questionnaires were disseminated online on google forms, and the sample was collected through convenience sampling using the snowball method online. Subjects signed the informed consent prior to filling out the questionnaires. This study adheres to the ethical principles advocated by the Portuguese Order of Psychologists (OPP) regarding confidentiality, anonymity, and voluntary participation in the study.

## Data Analysis Plan

The data analysis plan involved descriptive and frequency analyses, along with correlational analyses using regression.

To describe and characterize the sample based on their overall depressive and anxiety symptoms, their self-esteem scores, their perception of relationship quality and sexual satisfaction (1<sup>st</sup> objective), we compared the means of both the original studies of the scales (and all samples had both male and female subjects) and those of the present study. Regarding the second objective (analyzing differences between women who have been in menopause for less than five years and those for more than five years) and the third objective (analyzing differences between women with and without symptoms), we used non-parametric tests due to the non-normal distribution of the sample. Specifically, we used the Mann-Whitney U test to determine if there were significant differences between the two groups in terms of depressive and anxious symptoms, self-esteem, relational quality, and sexuality. The two groups of women that we have divided to achieve objectives two and three were divided based on the theoretical framework presented (Ambikairajah et al., 2022). Normality tests were performed for depression (*DASS-21*),  $D(53)=.189$ ,  $p<.001$ , for anxiety,  $D(53)=.186$ ,  $p<.001$ , self-esteem,  $D(53)=.085$ ,  $p=.200^*$ , relational quality,  $D(53)=.122$ ,  $p=.049$  and for sexuality,  $D(53)=.129$ ,  $p=.028$ . Because our results demonstrated significant differences from normality in the depression (*DASS-21*), anxiety (*DASS-21*), relational quality (*PRQCI*), and sexuality (*Scale for assessing satisfaction in areas of marital life*) scores, we decided to use non-parametric tests. Finally, to address the 4<sup>th</sup> objective (explore the relationship between the variables under study) we used Spearman's correlations to understand of the correlational relationship between the variables.

During the data transfer by mistake, two items of the anxiety subscale and one item of the perceived relational quality scale were not considered. To overcome this flaw, the totals of the scale were calculated without these items.

## Results

### 1<sup>st</sup> Objective: comparing means

Means and standard errors were as follows: for perceived relational quality scale  $M = 5.48$  and  $SD = 1.30$ , for sexual satisfaction scale  $M = 4.17$  and  $SE = 1.23$ , for self-esteem

scale  $M = 3.14$  and  $SD = .57$ , for depression subscale  $M = .84$  and  $SD = .88$  and for anxiety scale  $M = .62$  and  $SD = .61$ .

It is possible to verify (Table 2) that, regarding the depression subscale, the average of the scale's original study is lower than the present study. In contrast, the anxiety mean in its original is higher compared to the average of present study. Plus, concerning the relational quality scale and the sexuality subscale, the averages of their original studies are slightly higher than in the present study. On the other hand, the mean of the self-esteem scale is very similar in the two studies.

**Table 2.**

*Description of the means of the study variables.*

<b>Instruments</b>	<b>Original study N</b>	<b>Mean of the original study</b>	<b>Mean of the present study</b>
Depression	200	.79	.84*
Anxiety	200	.73	.62*
Self-Esteem	345	3.14	3.14*
Perceived Relational Quality	150	6.08	5.48*
Sexual Satisfaction	428	4.96	4.17*

## **2<sup>nd</sup> Objective: comparing woman with short vs. long menopause duration**

We found no significant differences between woman with short (i.e., less than 5 years) vs. long (i.e., more than 5 years) menopause duration in all scales (see Table 3).

We found no significant difference in the depression subscale between women who have been menopausal for less than five years ( $Md=.71$ ,  $n=29$ ) and for more than five years ( $Md=.57$ ,  $n=23$ ),  $U=297.50$ ,  $Z=-.67$ ,  $p=.503$ ,  $r=-0.013$ .

In anxiety subscale there is no significant difference as well between women who have been menopausal for less than five years ( $Md=.40$ ,  $n=29$ ) and for more than five years ( $Md=.40$ ,  $n=23$ ),  $U=306.00$ ,  $Z= -.514$ ,  $p=.503$ ,  $r=-0,010$ .

As for the self-esteem scale, among women who have had menopause for less than five years ( $Md=3.10$ ,  $n=29$ ) and for more than five years ( $Md=3.20$ ,  $n=23$ ),  $U=326.50$ ,  $Z=.129$ ,  $p=.827$ ,  $r=-0.002$ , there are no significant differences.

On the relational quality scale, there are no significant differences between women who have been menopausal for less than five years ( $Md=5.47$ ,  $n=29$ ) and for more than five years ( $Md=6.12$ ,  $n=23$ ),  $U=271.00$ ,  $Z= 1.152$ ,  $p=.249$ ,  $r=-0.022$ .

Finally, there were also no significant differences between women who have been menopausal for less than five years ( $Md=4.17$ ,  $n=29$ ) and for more than five years ( $Md=4.67$ ,  $n=23$ ),  $U=284.00$ ,  $Z= .914$ ,  $p=.361$ ,  $r=-0.017$  in their sexual satisfaction (Table 3).

**Table 3.**

*Mann-Whitney Test between the variables under study and the length of time the woman is in menopause.*

Variable	Mean Rank		U	Z	p*
	<5	>5			
Depression	27.74	24.93	297.500	-.670	.503
Anxiety	27.45	25.30	306.000	-.514	.608
Self-Esteem	26.26	26.80	326.500	.129	.827
Perceived Relational Quality	24.34	29.22	271.000	1.152	.249
Sexual Satisfaction	24.79	28.65	284.000	.914	.361

### 3<sup>rd</sup> Objective: comparing woman with vs. without menopause symptoms

We found a significant difference in the depression subscale between women with symptoms ( $Md=.86$ ,  $n=38$ ) and without menopause symptoms ( $Md=.00$ ,  $n=15$ ),  $U=135.00$ ,  $Z=2.994$ ,  $p=.003$ ,  $r=-0.056$  (see Table 4).

In anxiety subscale, we also found a significant difference between women with symptoms ( $Md=.60$ ,  $n=38$ ) and without symptoms ( $Md=.20$ ,  $n=15$ ),  $U=166.00$ ,  $Z=2.381$ ,  $p=.017$ ,  $r=-0.007$ .

As for the self-esteem scale, among women with symptoms ( $Md=3.00$ ,  $n=38$ ) and without symptoms ( $Md=3.20$ ,  $n=15$ ),  $U=235.50$ ,  $Z= -.980$ ,  $p=.327$ ,  $r=-0.018$  showed no significant differences.

On the relational quality scale, there are no significant differences as well between women with symptoms ( $Md=5.50$ ,  $n=38$ ) and without symptoms ( $Md=6.18$ ,  $n=15$ ),  $U=228.50$ ,  $Z=-1.116$ ,  $p=.264$ ,  $r=-0.021$ .

Finally, there were also no significant differences between women with symptoms ( $Md=4.08$ ,  $n=38$ ) and without symptoms ( $Md=4.83$ ,  $n=15$ ),  $U=237.00$ ,  $Z=-.949$ ,  $p=.342$ ,  $r=-0.018$  in their sexual satisfaction (Table 4).

**Table 4.**

*Mann-Whitney Test between the variables under study and symptomatology.*

Variable	Mean Rank		U	Z	p*
	With symptoms	Without symptoms			
Depression	30.95	17	135.000	2.994	.003
Anxiety	30.13	19.07	166.000	2.381	.017
Self-Esteem	25.70	30.30	235.500	-.980	.327
Perceived Relational Quality	25.51	30.77	228.500	-1.116	.264
Sexual Satisfaction	25.74	30.20	237.000	-.949	.342

\*p-value < .05

#### **4<sup>th</sup> Objective: correlational analysis**

We found several significant relationships in our study.

Firstly, there is a very strong positive correlation between depression and anxiety ( $r = .780$ ,  $n = 38$ ,  $p < .001$   $r=.780$ ,  $n=38$ ,  $p<.001$ ). This indicates that higher levels of depression are strongly associated with higher levels of anxiety.

Similarly, there is a very strong positive correlation between sexuality and relational quality ( $r = .622$ ,  $n = 38$ ,  $p < .001$   $r= .622$ ,  $n=38$ ,  $p<.001$ ), suggesting that better relational quality is strongly associated with better sexual satisfaction.

On the other hand, self-esteem shows strong negative correlations with both depression ( $r = -.678, n = 38, p < .001$ ) and anxiety ( $r = -.398, n = 38, p = .013$ ), indicating that higher self-esteem is associated with lower levels of depression and anxiety.

Additionally, relational quality has strong negative correlations with both depression ( $r = -.377, n = 38, p = .019$ ) and anxiety ( $r = -.369, n = 38, p = .023$ ), implying that better relational quality is associated with lower levels of these psychological issues.

Finally, there is a smaller positive correlation between relational quality and self-esteem ( $r = .277, n = 38, p = .093$ ). While this relationship is not as strong as the others, it suggests that better relational quality is somewhat associated with higher self-esteem (for more detailed information see Table 5).

**Table 5.**

*Spearman's Correlation Matrices between the variables under study and women with symptomatology.*

	1.	2.	3.	4.	5.
<b>1. Depression</b>	1				
<b>2. Anxiety</b>	.780**	1			
<b>3. Self-Esteem</b>	-.678**	-.398*	1		
<b>4. Perceived Relational Quality</b>	-.377*	-.369*	.277	1	
<b>5. Sexual Satisfaction</b>	-.054	-.154	.015	.622**	1

## Discussion

The main goal of this dissertation is to understand the biopsychosocial impact of menopause on women's perception. For that, we have decomposed this main goal into four specific objectives that we discuss next.

**1<sup>st</sup> Objective: comparing means**

Considering the first specific objective, our results indicate that there are some mild symptoms of depression in the collected sample. As for the mean of the anxiety subscale, it remained normal and lower than that of the original study. According to the cut-off points defined by the authors of the instrument (Lovibond & Lovibond, 1995), the values found in our sample fall within the normal range, indicating no significant prevalence of depression and anxiety. However, the values for depression might be slightly higher, while those for anxiety are slightly lower compared to the norms. This variation can be attributed to multiple factors, particularly the sociodemographic characteristics of the participants. Several sociodemographic variables could influence these results. Understanding these nuances requires a deeper exploration of the sociodemographic background of the participants, which could be explored on future studies. Therefore, these variables are not seen as a risk factor for the possible development of psychopathology. It is important to note that the comparisons mentioned were made by approximation and without the use of any statistical test.

The literature tells us that there seems to be no established direct relationship between the onset and increase of depressive symptoms and menopause (Freeman, 2010). Despite this, depression is the most common symptom reported by perimenopausal women (Freeman, 2010). Therefore, the more physical symptoms resulting from this stage of menopause, the higher the levels of depression experienced (Freeman, 2010). In our sample, 38 women reported that they experienced physical symptoms, which should increase anxiety levels, according to the literature. It is also known from literature that women with a previous history of depressive symptoms tend to enter the perimenopause phase 20% faster than women who have never had these symptoms. Thus, there may be a relationship between depression and the decline in ovarian function (Harlow et al., 2003).

As with depression, unexpectedly there is also no significant correlation between anxiety symptoms and the hormonal dimension of the menopausal woman (Deeks, 2003). Following the literature, between the periods of late perimenopause and early postmenopause, several groups of women report that they feel more anxious and that this is reflected in obvious physical symptoms such as: (a) sweating hands, (b) insomnia, (c) tachycardia and (d) wheezing (Deeks, 2003). It's possible that the side effects of menopause, rather than the event itself, have more of an impact on how women live and experience anxiety during menopause (Deeks, 2003). In this study and relating to the means obtained, it was not possible to know

at which stage of menopause the women were inserted, nor if HRT was used as a treatment, which may explain the fact that the depression and anxiety rates were normal.

The means of self-esteem in our study were very positive and similar to the norms, i.e., woman showed high levels of self-esteem in both the original study and our study. These results were not expected because in most women, self-esteem is one of the most affected dimensions during menopause (Dhanabalan & Raj, 2023). The creation of self-esteem and how the menopausal woman evaluates and perspectives herself is very much related to the relational experiences and roles she has previously played (Deeks, 2003). Body image is very much rooted in what is the evaluation of the self (Deeks, 2003). One hypothesis for this result is that women who have acquired better coping strategies throughout their lives to cope with bodily changes, the cessation of the menstrual cycle and its biological changes, have high levels of self-esteem (Bloch, 2002). These coping strategies may be related to the cohesive and clear information that the women who are part of this sample show in relation to menopause: 73.6% state that they are sufficiently informed about this phase, which makes them better prepared psychologically and more attentive to physical reactions (see Table 1).

Both the averages of relational quality and sexuality are at normal levels but a little below compared to original studies. This result, however, would not be expected since most women in our study have frank physical symptoms, a major contributor to unhealthy sexual health – a factor of great dependence on good relational quality (Rouhbakhsh et al., 2018). On the other hand, the fact that women no longer have certain concerns associated with the risk of pregnancy and parental responsibility helps them to focus more on themselves and enjoy their marital relationship and consequent sexuality in a lighter and more positive way (Rouhbakhsh et al., 2018). In this way, it is important that partners are aware and informed about menopause and that there is clear and open communication so that marital and sexual satisfaction is stabilized or increased. These actions will not only be reflected in the couple, but also individually (Rouhbakhsh et al., 2018).

The good overall averages (of depression, anxiety, self-esteem, perceived relational quality and sexual satisfaction) of our sample can characterize an insular facilitating environment/context through clear and perceptible information about menopause from health care units, excellent and more extensive quality of life with access to more green spaces, better quality agricultural products and a more active physical life as a protective factor (National Council on Aging, 2020; The North American Menopause Society, 2024).

**2<sup>nd</sup> Objective: comparing woman with short vs. long menopause duration**

For the second objective, and based on the theoretical grids studied, we divided our sample in two groups: women who had been menopausal for more than five years, and those who had been in menopause for less than five years. It was not expected that there would not be significant differences in any of the variables at study between the two groups, because, according to the literature, there are more physiological and biological changes such as vasomotor symptoms with the development of menopause between the final perimenopause and the early postmenopausal period (Ambikairajah et al., 2022). These changes are expected to be more pronounced in the second group, encompassing women in the early postmenopausal stage. Once again, the fact that the sociodemographic questionnaire did not ask whether these women had undergone any type of hormonal treatment such as HRT may have altered the outputs and diverged them from what is portrayed in the literature. Hypotheticalizing, chronic diseases increasingly affect our middle-aged population (INSEF, 2015) and therefore, comorbidities with various pathologies may also be covering up these typical and consequent symptoms of menopausal hormonal changes, being attributed to other reasons.

**3<sup>rd</sup> Objective: comparing woman with vs. without menopause symptoms**

Considering the third objective, both in the depression and anxiety subscales, there were significant differences between the groups of women with symptoms and those without symptoms. This was already predicted to happen by literature, as the increase in depression and anxiety is related in some way to the biological changes felt and multiple other sources of social stress during the transition from perimenopause to postmenopause (Pimenta et al., 2016). This happens through the weight that women give to the typical events of this new phase experienced, emphasizing mood swings, felt aging, accumulated stress and emotional instability (Pimenta et al., 2016). Proving the results obtained, through the study by Mulhall and colleagues (2018) we can conclude that there is indeed a positive relationship between the physical symptoms of menopause and depressive and anxiogenic symptoms.

On top of this, it was also expected that there would be significant differences in the other variables, considering the literature, which ended up not being evidenced. Self-esteem and self-image and sexual satisfaction reach their lowest peak in the perimenopausal period, coinciding with greater physical symptoms (Séjourné et al., 2019). The relational quality is also impaired, ending up affecting important dimensions such as communication and sexual

relations, because of the malaise and discomfort experienced at this stage (Rouhbakhsh et al., 2018; Tavakol et al., 2017).

Having regard to the results obtained, one hypothesis for good levels of self-esteem, sexual satisfaction, and perceived relational quality may be associated with strong bonds between the couple, given the averages presented in the two scales in Table 1. Some authors argue that the more informed the spouses are about the change's characteristic of menopause, the more they will help the woman to better adapt to them, through the search for information and communication between the couple about what strategies can be used to enhance their intimacy and relationship (Zhang et al., 2020). The dyadic coping strategies benefit dimensions as well, such as open communication, validation and recognition, and conflict resolution (Landolt et al., 2023).

#### **4<sup>th</sup> Objective: correlational analysis**

Finally, the fourth objective, we analyzed the relationship between the different variables in our study. In this sense, depression and anxiety have a very strong positive relationship, as well as relational quality and sexuality, since these are areas that are interconnected and develop together, expectedly. According to the literature, depression and anxiety commonly appear together during periods of hormonal changes in women's health (Mulhall et al., 2018), with menopause being no exception. Perceived relational quality and sexual satisfaction can show roles of cause as well as consequence (Lawrance & Byers, 1995), and this relationship is also very evident in the literature.

Our results showed that there are very strong negative relationships between self-esteem and depression and strong negative ones between self-esteem and anxiety. It is proven by the literature that women who have lower self-esteem and a worse perception of themselves easily trigger depressive and anxiogenic symptoms, causing other future psychological problems (Deeks, 2003). Women's perception of themselves and their body image and attractiveness influence possible patterns of more depressive and anxious behaviors. Therefore, if a woman perceives herself and her appearance negatively, she may also lose self-care habits. In the same way that this happens with self-esteem, it is replicated in the relational quality, also establishing strong negative relationships between depression and anxiety. Deeks (2003) states that regardless of the stage of menopause a woman is going through, marital problems, leading to a low perceived relational quality, can be a cause of depressive and anxiogenic symptoms in the short term.

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Finally, and through literature, it was also expected that sexuality would also establish some kind of negative relationship with depression and anxiety, since it is a concept that is very intertwined with perceived relational quality, what doesn't report in our results. Thus, we can think about whether sexual satisfaction may not be, in the case of this sample, a protective factor since it had a positive average and was not a negative target of any of the other variables.

### **Limitations and practical implications**

As limitations of this study, we can point out the small sample of women collected, lack of control over HRT and the fact that we did not have women with characteristics homogeneous to those who participated in this study, but without menopause to be able to make some kind of statistical comparison. Some gaps in recent theoretical knowledge on the subject and small errors in the anxiety sub-scale and relational quality scale, missing 2 and 1 items by mistake, respectively, also compromised the rigor of this study. Despite this, with this work I hope to increase theoretical and empirical knowledge about women's reproductive and non-reproductive health and draw attention to psychological and social issues and how pertinent they are in evaluation processes.

In future studies, the comparison of groups could be used: in early menopause, with chronic, autoimmune and oncological diseases, for example, and the creation of instruments aimed at this phase of the woman's life cycle as a complement to the psychological assessment process. It would also be important to understand how women deal with this whole stage in an adaptive way, evaluating the coping strategies used and conduct mediation and moderation studies to understand the impact of the sexual dimension as a protective or non-protective variable.

### **Conclusion**

Menopause is in fact an extensive stage in a woman's life, filled with various dimensions and concepts, some of them still little deconstructed and clarified. It is important to give a voice to those who go through this inevitable stage and to study, understand and clarify more all the variables included here, whether physical, psychological or social. It is evident and crucial how the environment in which this sample was collected determined both its results and differentiated them from what was already exposed in the literature, realizing that living on an island or in environments conducive to good food products, large green

spaces, good air quality and easy access to health care are essential criteria for optimal female health when it comes to menopause. Good social support and a strong marital relationship based on good principles and values with understanding, validation, recognition and good communication strategies are also essential in relieving the discomfort and discomfort characteristic of this event. Thus, it reflects on the importance that the psychological and social dimensions have in an area that is evaluated mainly at the biological and physiological level based on hormonal changes.

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## Attachments

### I. STRAW +10

MENARCHE					MENOPAUSE (final menstrual period)					
STAGES	-5	-4	-3b	-3a	-2	-1	+1a	+1b	+1c	+2
TERMINOLOGY	REPRODUCTIVE				MENOPAUSAL TRANSITION		POSTMENOPAUSE			
	EARLY	PEAK	LATE		EARLY	LATE	EARLY		LATE	
					PERIMENOPAUSE					
<b>PRINCIPAL CRITERIA</b>	variable to regular	regular	regular	subtle changes in flow or length	variable length ‡	60 or more days of amenorrhea				
<b>SUPPORTIVE CRITERIA</b>										
Endocrine	FSH		low	variable*	variable* †	>25 IU/L †	variable †	stabilizes		
	AMH		low	low	low	low	low	very low		
	Inhibin B			low	low	low	low	very low		
	Antral Follicle		low	low	low	low	very low	very low		
<b>DESCRIPTIVE CHARACTERISTICS</b>										
Vasomotor symptoms						likely	most likely			
Urogenital atrophy									symptoms increasing	
<b>STAGE DURATION</b>	variable				variable	1-3 years	2 years	3-6 years	until demise	

‡ variable length persistent, seven or more day difference in length of consecutive cycles

**Fig. 4** STRAW + 10 staging system. \*, blood drawn on cycle days 2-5; FSH, follicle stimulating hormone; AMH, anti-mullerian hormone; †, elevated. Figure is a modification of work found in Harlow et al. [11]

## II. Dissertation delivery statement



### DECLARAÇÃO

Alda Patrícia Marques Portugal, Professora Auxiliar da Faculdade de Artes e Humanidades da Universidade da Madeira, na qualidade de orientadora científica da dissertação de mestrado em Psicologia Clínica, da Saúde e Bem-estar de Catarina Isabel Jardim Freitas, intitulada “Women's Health: The Biopsychosocial Impact of Menopause on Women”, declara para os devidos efeitos que a dissertação em questão apresenta consistência e rigor científicos na componente conceptual e no estudo empírico, encontrando-se em condições de ser defendida publicamente para obtenção do grau de Mestre em Psicologia Clínica, da Saúde e Bem-estar na Universidade da Madeira, de acordo com a lei vigente.

Assinado por: **ALDA PATRÍCIA MARQUES**  
**PORTUGAL**  
Num. de Identificação: 12804494  
Data: 2024.06.25 12:54:42 +0100



Funchal, 25 de Junho de 2024

### III. Authorization from the CEUMa



#### PARECER Nº 75/CEUMA/2023, DE 28 DE SETEMBRO

Sobre o pedido de apreciação pela Comissão de Ética da UMA do projeto de investigação "Saúde no feminino: O Impacto Biopsicossocial da Menopausa na Mulher", pedido nº 75 de 2023.

#### A – RELATÓRIO

A apreciação do processo referente ao Pedido nº75 de 2023, respeita ao estudo intitulado: "Saúde no feminino: O Impacto Biopsicossocial da Menopausa na Mulher", proposto por Catarina Isabel Jardim Freitas, estudante do Mestrado em Psicologia Clínica, da Saúde e Bem-estar, da Universidade Madeira, orientado por Alda Patrícia Marques Portugal, Professora Auxiliar da Faculdade de Artes e Humanidades da Universidade da Madeira.

O pedido em análise é constituído pelos seguintes documentos:

- a) Formulário de Pedido de Parecer à CEUMa;
- b) Documento de informação ao participante e consentimento informado, livre e esclarecido para participação em estudos de investigação, seguindo a minuta da Universidade da Madeira;
- c) Questionário a ser utilizado para a recolha de dados;
- d) Curriculum vitae do investigador principal e da orientadora;
- e) Compromisso de honra assinado pelo principal investigador e pela orientadora;
- f) Parecer favorável emitido pelo Encarregado da Proteção de Dados da Universidade da Madeira;

O estudo tem data de início prevista para 09/10/2023 e de conclusão para 18/05/2024. Além da principal investigadora e sua orientadora, faz parte da equipa de investigação, Isabel Lisboa, Investigadora da NOVA School of Science and Technology, UNINOVA-CTS & LASI, NOVA Universidade de Lisboa.

Respeita a um estudo quantitativo, transversal, que tem como objetivo perceber como o impacto biopsicossocial da menopausa influencia a percepção que a mulher tem de si própria, com recurso a questionário de dados sociodemográficos e clínicos e três escalas - *Depression Anxiety Stress Scale 21*; *Rosenberg Self-Esteem Scale* e *Escala de Avaliação da Satisfação em Áreas da Vida Conjugal*. A população-alvo é constituída por mulheres que tenham iniciado a fase da menopausa e que estejam no estágio da peri-menopausa inicial ou nos estádios seguintes, numa amostra igual ou superior a 150. São critérios de exclusão as mulheres que estejam em tratamentos médicos intensivos como a quimioterapia e a radioterapia, solteiras e numa relação há menos de um ano.

As participantes serão recrutadas através da divulgação nas redes pessoais e sociais das investigadoras, participando apenas mulheres que se voluntariem para o efeito, após consentimento informado.

### III. Authorization from the CEUMa (cont.)



É declarado não existirem riscos associados à participação neste estudo e que ao responder aos questionários, as participantes serão conduzidas a refletir sobre alguns aspetos das suas vidas, porém, isso não acarreta risco direto no seu bem-estar.

São asseguradas medidas de confidencialidade dos dados e procedimentos de anonimização. Prevê as formas de divulgação.

O documento de informação ao participante e consentimento informado, livre e esclarecido para participação em estudos de investigação, segue a minuta da Universidade da Madeira.

#### B-IDENTIFICAÇÃO DE QUESTÕES COM IMPLICAÇÕES ÉTICAS

Reconhece-se a pertinência do estudo, a aptidão dos investigadores indicados e o interesse prático dos resultados. No entanto, os seguintes aspetos deverão ser revistos de forma a salvaguardar todas as questões éticas e legais, nomeadamente:

- Sugestão para adequação do termo dor por desconfortos;
- Clarificação os critérios de exclusão designam as solteiras (como estado civil) ou se refere a "sem vida sexual ativa".
- Referência a tempo de guarda e a forma de destruição dos dados recolhidos.
- No documento de consentimento informado, esclarecido e livre para participação em estudos de investigação, deve:
  - Informar a previsão de formas de divulgação de resultados;
  - Mencionar a destruição dos dados;
  - Indicar o tipo de redação de parecer emitido pela Comissão de Ética (ex- parecer favorável) e não "aprovado".

#### C – CONCLUSÃO

A CEUMa deliberou emitir **parecer Favorável** à realização do estudo, tendo em conta os pressupostos indicados pelo principal investigador, **condicionado a**:

- Clarificação dos critérios de exclusão (solteiras ou sem vida sexual ativa);
- Referência a tempo de guarda e a forma de destruição dos dados recolhidos; -
- Revisão da redação do documento de consentimento informado, esclarecido e livre para participação em estudos de investigação: adequação do termo "dor" por "desconfortos"; indicação da previsão de formas de divulgação de resultados; informação sobre a destruição dos dados e designação adequada de parecer emitido pela Comissão de Ética (ex- parecer favorável) e não "aprovado".

Aprovado por unanimidade, em reunião do dia 28 de setembro de 2023.

A Presidente da CEUMa

Professora Doutora Liliana Maria Gonçalves Rodrigues de Góis

Assinado por: **Liliana Maria Gonçalves Rodrigues de Góis**  
 Num. de Identificação: 10084399  
 Data: 2023.10.11 09:56:06+01'00'

#### IV. Data Protection Consent



#### PARECER

Na qualidade de Encarregado de Proteção de Dados da Universidade da Madeira, e após análise pela equipa de proteção de dados desta instituição, do Projeto de Investigação **“Saúde no Feminino: O impacto biopsicossocial da menopausa na mulher”** é nosso parecer que o mesmo cumpre com o Regulamento Geral da Proteção de Dados.

Funchal, 08 de agosto de 2023

Encarregado de Proteção de Dados

Assinado por: **Filipa Isabel Sousa Mota**  
Num. de identificação: 10993715  
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## V. Email-s with authorizations of the instruments by the authors

**De:** Isabel Santa Barbara Narciso <[inarciso@psicologia.ulisboa.pt](mailto:inarciso@psicologia.ulisboa.pt)>  
**Enviado:** Sunday, September 3, 2023 7:23:00 PM  
**Para:** Catarina Isabel Jardim Freitas <[2071919@student.uma.pt](mailto:2071919@student.uma.pt)>  
**Cc:** Alda Patrícia Marques Portugal <[alda.portugal@staff.uma.pt](mailto:alda.portugal@staff.uma.pt)>  
**Assunto:** RE: Pedido de autorização para instrumento "EASAVIC"

Cara Catarina

As minhas desculpas por não ter respondido. O seu mail deve ter ficado perdido...  
Calro que está autorizada.  
Os meus cumprimentos  
Isabel Narciso

**De:** José Pais Ribeiro <[jlpr@fpce.up.pt](mailto:jlpr@fpce.up.pt)>  
**Enviado:** Wednesday, June 28, 2023 9:52:25 AM  
**Para:** Catarina Isabel Jardim Freitas <[2071919@student.uma.pt](mailto:2071919@student.uma.pt)>  
**Assunto:** RE: Pedido de autorização para instrumento "Depression Anxiety Stress Scale 21 (DASS-21)"

Olá, Catarina  
Continuação de bom trabalho.  
Cordialmente

José Luís Pais Ribeiro

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<https://scholar.google.pt/citations?user=8OnOW5MAAAAJ&hl=en>

## V. Email-s with authorizations of the instruments by the authors (cont.)

**De:** Paulo Jorge Santos <[psantos@letras.up.pt](mailto:psantos@letras.up.pt)>

**Enviado:** Thursday, June 22, 2023 3:22:44 PM

**Para:** Catarina Isabel Jardim Freitas <[2071919@student.uma.pt](mailto:2071919@student.uma.pt)>

**Cc:** Alda Patrícia Marques Portugal <[alda.portugal@staff.uma.pt](mailto:alda.portugal@staff.uma.pt)>; [isabel.lisbo@gmail.com](mailto:isabel.lisbo@gmail.com) <[isabel.lisbo@gmail.com](mailto:isabel.lisbo@gmail.com)>

**Assunto:** Re: Pedido de autorização para instrumento "Rosenberg Self-Esteem Scale"

Cara Catarina Freitas,

Envio em anexo um formulário que lhe pedia para preencher e devolver para o meu email pessoal: [pjsantos@sapo.pt](mailto:pjsantos@sapo.pt). Após a sua receção tratarei de lhe enviar o instrumento solicitado.

Cumprimentos

Paulo Santos