

A Global Survey of Skin Concerns and Treatment Interests in Perimenopausal and Menopausal Patients

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OBJECTIVE To explore factors affecting women undergoing menopause transition, focusing on lifestyle, facial-skin changes, and current aesthetic treatment interests for this.

METHODS Quantitative research (online questionnaire) was undertaken by women aged 45 to 60 years from 9 countries to understand their menopause experiences, determine their level of knowledge and perceptions of menopause, and to gain further insights into their current skin care, as well as understand menopause-related skin changes and skin concerns.

RESULTS Across 4,303 respondents, perimenopause and menopause affected facial wrinkles/fine lines (59%), loss of firmness/elasticity (58%), increased dryness (56%), and duller skin tone (40%), which negatively impacted perceived attractiveness (60% agreed/strongly agreed), creating anxiety or low mood (57% agreed/strongly agreed) and impacting self-confidence (55%). The most common treatments to reduce effects of perimenopause and menopause were food supplements (51%), everyday skincare (47%), and dietary changes (46%). Only 15% of the women used specialist aesthetic treatments for menopause, but 88% of them were satisfied/very satisfied with these treatments reducing the effects of menopause. The main triggers that encouraged the respondents to seek aesthetic treatments were health care professionals' (HCPs) recommendation (46%), cost-related affordability (40%), and information/education (40%).

CONCLUSION This international survey demonstrated that changes to facial skin during perimenopause and menopause negatively affect perceived facial attractiveness, creating anxiety and reducing self-confidence. Specialist aesthetic treatments might play a key role in reducing the effects of menopause on the skin, with health care professionals aiding understanding.

Although it is well established that aging leads to predictable changes in the skin, including gradual loss of collagen, elastin, and subcutaneous fat tissue, driven by both intrinsic and extrinsic factors, there is a need to understand skin and aesthetic changes related to female aging, including hormonal alterations, as part of women's health.

Menopause is said to occur when there is no period for 12 consecutive months, and it is associated with characteristic systemic symptoms that include hot flashes (40%), night sweats (17%), insomnia (16%), and mood changes (12%; including irritability, mood swings, and depression).¹ In addition, changes in the skin of the face and body are experienced by all persons over time; these changes

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contribute to the appearance of aging and can negatively affect self-esteem, as skin appearance strongly impacts emotional well-being, self-image, life satisfaction, and social interactions.²⁻⁵ Despite women experiencing skin changes more than hot flashes, hot flashes are more widely associated with the hormonal transition than skin changes. This highlights that the focus on skin changes has been underserved in the past.

In 2025, it was estimated that over 1 billion women globally experienced perimenopause, which later transitions into menopausal and postmenopausal stages as part of normal aging. During perimenopause and menopause, there are decreased secretions of estrogens, androgens, and progesterone⁶; a decrease in oxytocin secretion; and increase in cortisol secretion, all of which play key roles in skin health.⁷⁻⁹ Estrogen supports the extracellular matrix, collagen production, and blood supply.¹⁰ A decrease in estrogen is associated with slower skin renewal, reduced skin repair capacity, reduced blood supply, reduced elasticity, increased dryness, skin-barrier disruption, and dermal thinning.^{11,12} In addition, declining estrogen levels affect the fat tissues by reducing essential fat deposits¹³; this preferential loss of deep facial fat compartments, combined with increased superficial and subcutaneous fat volume due to menopause-related weight redistribution, can lead to fat pad displacement and altered facial contour. Progesterone promotes the formation of the extracellular matrix, blood supply to the skin, and dermal water retention.¹⁴ A decrease in progesterone levels leads to reduced sebum production, which contributes to skin dryness,¹⁴ increased collagen breakdown and skin thinning, reduced firmness and elasticity, and increases in wrinkles and pigmentation.¹⁵⁻¹⁸ Oxytocin blocks free radical production and decreases inflammation and cellular senescence of fibroblasts.⁸ A decrease in oxytocin secretion during menopause also leads to uninhibited cortisol levels in the skin, which can accelerate skin aging by breaking down collagen and elastin, and lead to an increase in senescent cells and inflammation.^{7,9}

An overall decline in all these hormone levels during perimenopause leads to changes within the skin of the face and body which, over time, become notable. It has been reported that women lose approximately 30% of the collagen in their skin during the first 5 years of menopause and about 2% of collagen every year thereafter,¹² affecting skin thickness and facial attractiveness.¹⁹

These hormone-driven changes represent macroscopic processes within the skin that visibly alter skin structure and function. At a cellular level, aging is further coordinated by fundamental molecular mechanisms that impair cellular integrity and resilience. These molecular events, together with other factors such as genetics and ultraviolet exposure,²⁰ contribute to the progressive decline in skin health during menopause, which is observed as increased dullness, dryness, and laxity, as well as more lines and wrinkles. Hence, treating the symptoms of hormone-deficient skin can improve skin health and quality of life for both perimenopausal and menopausal women. In addition, mitigating the

structural changes associated with aging within the skin of the face and body should improve patient outcomes.

The objective of this study was to explore various factors affecting women undergoing menopausal transition, focusing on lifestyle and facial aesthetic skin changes, as well as current aesthetic treatment interests for perimenopause-related and menopause-related skin concerns.

Methods

Quantitative research was conducted with women from 9 countries to understand the potential cultural differences around their menopausal experiences, determine their level of knowledge and perceptions of menopause, and to gain further insights into their current skin care, as well as understand menopause-related lifestyle factors, skin changes, and general treatments of menopause for their skin concerns.

Sample

Women aged 45 to 60 years, who were perimenopausal or menopausal and not from a low-income household, were eligible; annual income minimum varied by region and served to target a patient population most likely to engage in treatments of menopause and ongoing aesthetic management. Contact quotas were set for groups aged 45 to 49, 50 to 54, and 55 to 60 years.

Survey

A bespoke 20 to 25-minutes online questionnaire was undertaken by the respondents on their skin, skin care routine, and the impact of menopause. Between 14th and 30th October, 2025, 600 respondents in each of the following markets were recruited: the United States, Brazil, the United Kingdom, Germany, China, Thailand, Egypt, Saudi Arabia, and United Arab Emirates.

Results

Demographics

Out of 4,303 respondents, 39% were aged 45 to 49 years, 33% were aged 50 to 54 years, and 28% were aged 55 to 60 years. Overall, 54% of the women were perimenopausal (irregular menses, without 12 consecutive months of amenorrhea) and 46% were menopausal, while 70% and 15% of the women were in full-time (>35 h/wk) and part-time (<34 h/wk) employment, respectively. The remaining 15% did not work or had retired. A similar distribution of respondents were from the United States (14%), Brazil (14%), the United Kingdom (15%), Germany (14%), China (14%), Thailand (14%), and Egypt/Saudi Arabia/United Arab Emirates (14%). Regarding Fitzpatrick skin type, 15.2% of the respondents had Type 1, 30.8% Type 2, 33.3% Type 3, 14.9% Type 4, 4.4% Type 5, and 1.5% Type 6.

Impact on the Skin

Based on the respondents' personal experiences, perimenopause and menopause affected facial wrinkles/fine lines (59%), loss of firmness/elasticity (58%), increased dryness

(56%), and contributed to a duller skin tone (40%) (Figure 1). Although the impact on most measures was similar in both perimenopausal and menopausal groups, menopausal women experienced a slightly greater impact on wrinkles/fine lines, loss of firmness/elasticity, and increased age spots/hyperpigmentation, whereas perimenopausal women experienced drier, duller, and more sensitive skin, which is corroborated by the different hormonal fluctuations experienced in the respective hormonal stages (Figure 1).

Impact on Emotion and Life

Most respondents agreed or strongly agreed that perimenopause and menopause negatively affected their perceived attractiveness (60% strongly agree/agree), creating anxiety or low mood (57% strongly agree/agree) and impacting their self-confidence (55% strongly agree/agree) (Figure 2).

Most women found that perimenopause and menopause had a negative impact on their physical well-being, but more positive than negative impact on social life and relationships (See **Supplemental Digital Content**, Figure S1, <https://links.lww.com/DSS/C18>). Even then, 50% of the women agreed or strongly agreed that menopause made them more resilient in handling life's challenges (Figure 2).

Overall, going through menopause itself was the biggest learning journey for most respondents (55%), while health care professionals (HCPs) were reported to be the most influential (33%) in providing understanding of its effects on the skin (See **Supplemental Digital Content**, Figure S2, <https://links.lww.com/DSS/C18>). Indeed, when analyzed by countries, it was noted that 62% of respondents from Brazil learned about the effects of menopause on the skin from HCPs, compared with 45% from China, 41% from Thailand, 35% from the United States, 35% from Egypt/Saudi Arabia/United Arab Emirates, 24% from the United Kingdom, and 21% from Germany.

Treatments

Respondents used a variety of treatments (an average of 3 treatments per respondent) to reduce the effects of perimenopause and menopause. The most common treatment was food supplements (51%), despite the lack of robust clinical evidence to support it, followed by everyday skincare (47%), and dietary changes (46%), with hormone replacement therapy/menopausal hormone therapy (HRT/MHT) treatment being used to a lesser extent (17%) (Figure 3A).

Of the 17% of women who have used HRT/MHT for menopause, 94% reported either an improvement or no worsening impact on the skin on their face. Fear of side effects, reported by 47% of women, was the main reason for not taking HRT/MHT, despite wanting to.

Although only 15% of women had used specialist aesthetic treatments for menopause (Figure 3A), this group had the highest level of satisfaction (88% satisfied/very satisfied), with treatments reducing the effects of menopause (Figure 3B).

Evaluation of the respondents' treatment-seeking behavior to help with menopause-related skin changes on the face found that a small proportion of patients (5%–10%) had previously received treatment, and a larger proportion (30%–47%) would consider treatment with dermal hyaluronic acid injectables, skin-quality hyaluronic acid injectables, biostimulators, antiwrinkle injections, energy-based devices, and skin resurfacing (See **Supplemental Digital Content**, Figure S3, <https://links.lww.com/DSS/C18>). The results indicated a logical shift in patient behavior with aging, from a focus on younger patients in preventative care to ongoing maintenance in older patients.

HCP recommendation (46%), cost-related affordability (40%), and information/education (40%) were the main triggers that would encourage respondents to seek aesthetic treatment, while cost (47%), concern about health risks (42%), and worries about not looking natural (41%) were

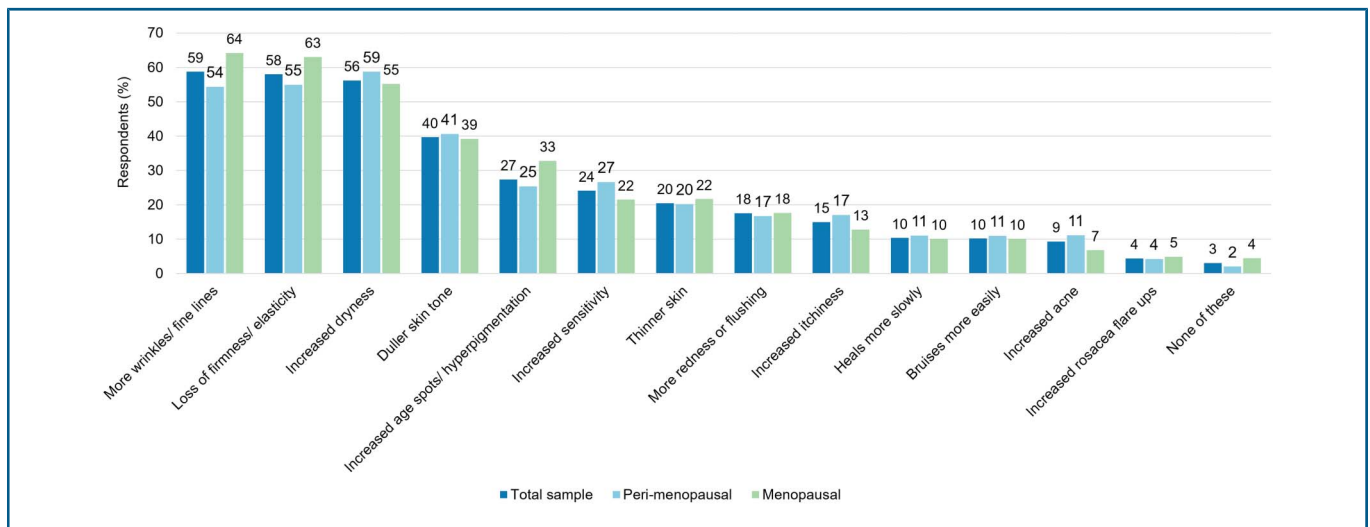


Figure 1. Actual impacts of perimenopause and menopause on the skin by groups.

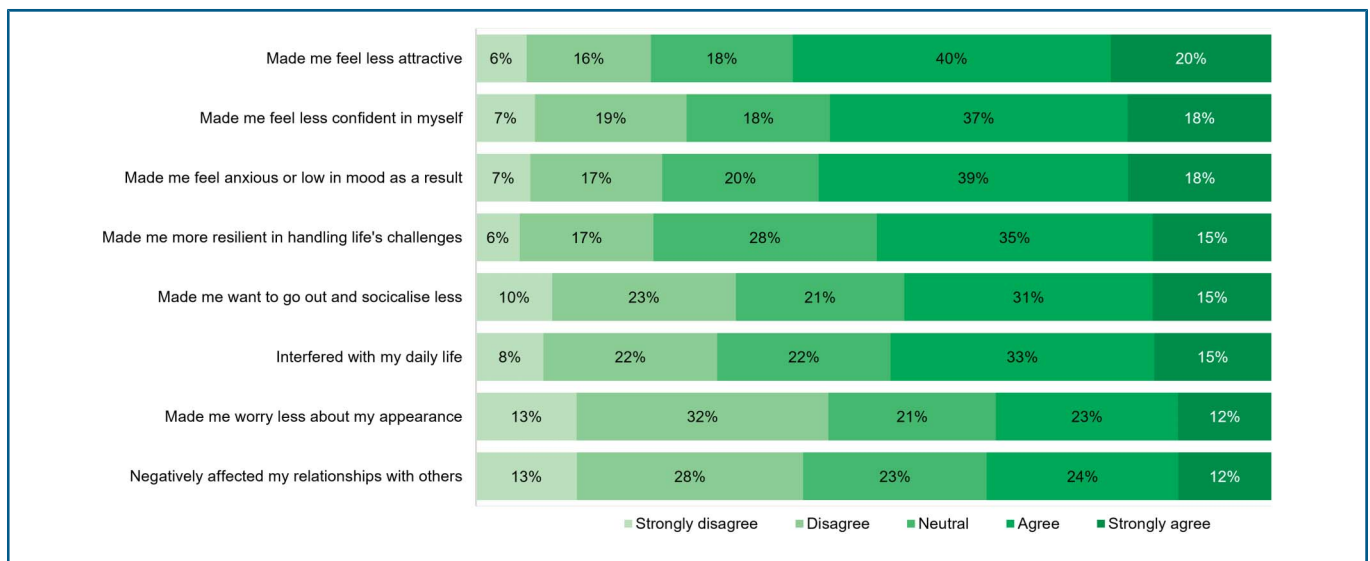


Figure 2. Emotional impacts of perimenopause-related and menopause-related skin changes.

the main barriers to treatment (See **Supplemental Digital Content**, Figure S4, <https://links.lww.com/DSS/C18>).

Discussion

This large international survey demonstrated that perimenopause and menopause affect multiple aspects of skin health and appearance. Reported aesthetic changes included wrinkles and fine lines, reduced firmness and elasticity, increased dryness, duller skin tone, increased age spots/hyperpigmentation, increased sensitivity, thinner skin, more redness or flushing, and increased itchiness.

Such aesthetic changes negatively affected the respondents' perceived attractiveness, creating anxiety and reducing the individuals' self-confidence. These findings are in line with the negative impact that the appearance of aging can have on self-esteem regarding skin changes to the face and body.²⁻⁵

The findings from this global survey indicate that HCPs provide a key role in aiding the understanding of the impact of perimenopause and menopause on the skin.

Approximately 40% of the respondents overall reported learning about the impact of menopause on the skin from HCPs. Country-specific differences were observed, with 62% of the respondents from Brazil identifying HCPs as a source of information regarding menopause-related skin changes. These findings may reflect regional variations in patient education practices and extent to which menopause-associated skin concerns are discussed in clinical settings. The educational and advisory role of HCPs may also be reflected in the finding that physician recommendation was the primary factor motivating respondents to seek aesthetic treatment for menopause-related skin changes.

The global survey also revealed that the respondents used a variety of treatments to reduce the effects of menopause and may consider the use of aesthetic treatments to address these changes. Although only 15% of the women had used

specialist aesthetic treatments, this group had the highest level of satisfaction (88% satisfied/very satisfied) with treatments reducing the effects of menopause. Poly L-lactic acid biostimulator (PLLA-SCA/Sculptra), dermal hyaluronic acid injectables (Restylane hyaluronic acid gels), antiwrinkle injectables (such as neuromodulators), skin-quality hyaluronic acid injectables, and skincare that improve hydration, texture, and elasticity were the most frequently considered treatments to address menopause-related facial and skin changes.

Within the dermis itself, the dermal white adipose tissue (dWAT) is now recognized as a crucial regenerative compartment that supports skin health through paracrine signaling and interaction among multiple cell types and structural proteins.²¹⁻²³ Loss of dWAT and fibrotic replacement are likely factors causally linked to the decrease in estrogen observed during menopause; reduced dWAT produces fewer adipokines such as adiponectin, which is directly involved in skin health and is a potential contributing factor to menopausal skin changes.^{22,24}

This study has several potential limitations, including the likelihood of self-selection bias, given there were no biochemical or standardized criteria (e.g., STRAW+10) used to define menopause and perimenopause. In addition, there was an aspect of socioeconomic exclusion in the sample criteria, which was intentional to limit this as a confounder in this study. Furthermore, this study is potentially limited by attribution bias, which might also be affected by the self-selection of respondents (e.g., attempting to differentiate between wrinkles that are secondary to menopause or caused by natural photoaging).

Perimenopause and menopause are natural phases in the aging process of most individuals with ovaries and are associated with numerous changes, including undesirable effects involving the skin and underlying structures. This large international survey demonstrated that changes such

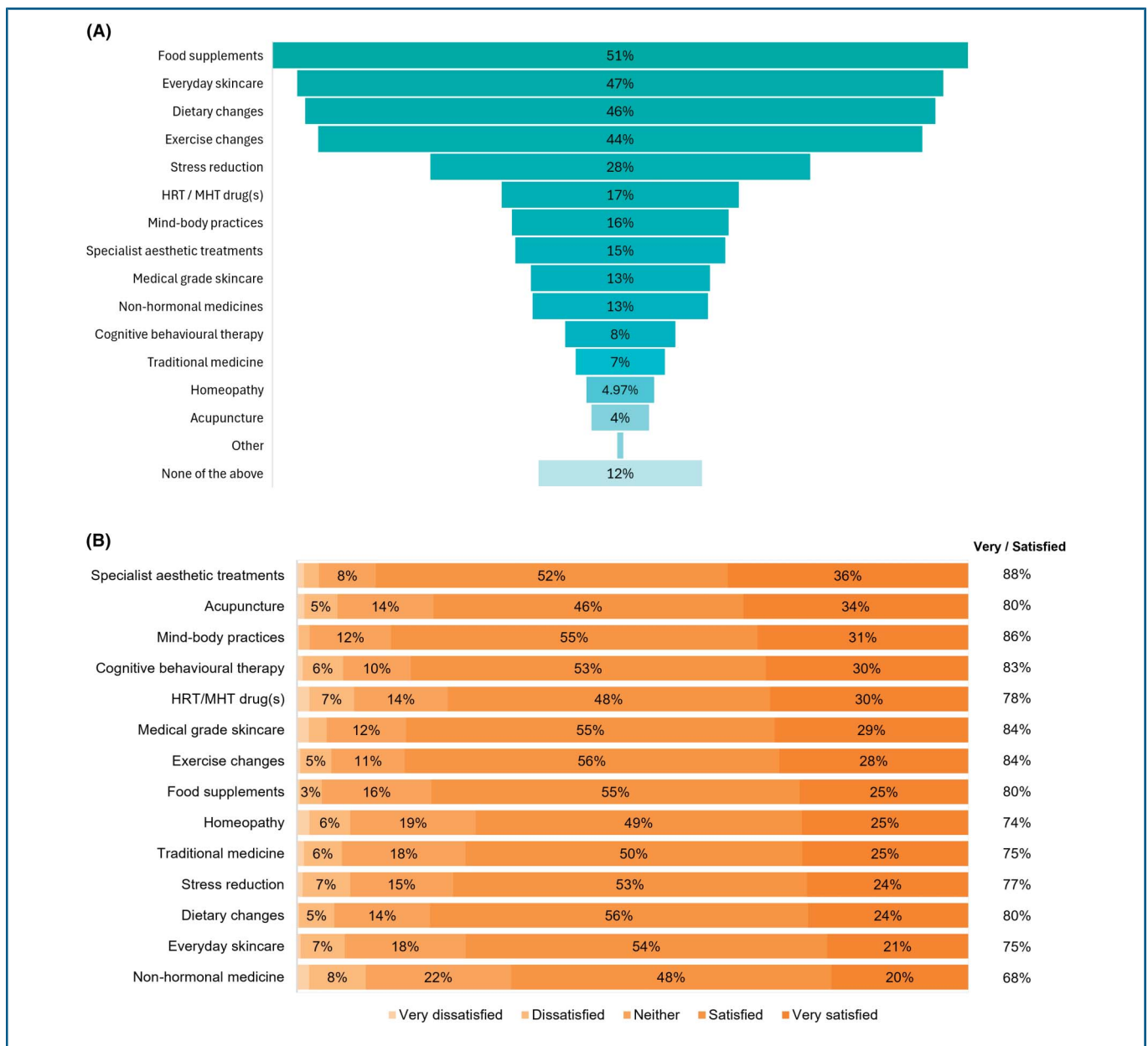


Figure 3. (A) Treatments used and (B) levels of satisfaction with treatments used to reduce the effects of perimenopause and menopause.

as wrinkles/fine lines, loss of firmness/elasticity, increased dryness, duller skin tone, and hyperpigmentation all negatively affected perceived facial attractiveness, creating anxiety and reducing self-confidence of the respondents. While only a small proportion of women had used specialist aesthetic treatments for menopause, this group had the highest level of satisfaction with treatments reducing the effects of menopause. The survey also indicates that HCPs provide a key role in aiding the understanding of the impacts of perimenopause and menopause on the skin, and while it is apparent that we are now seeing considerably more discussion about menopause and its impact on the skin, there is still some way to go.

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