

# Patient-reported outcomes in contraceptive use

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## Introduction

Contraceptive decision-making is a deeply personal and culturally mediated process shaped by the availability of methods, access to healthcare, and structural inequalities on the one hand, and individual preferences as well as social values on the other hand.

While efficacy, safety and availability are universal priorities, the values and expectations surrounding contraception vary significantly across countries and populations. From the importance of discreet use in parts of sub-Saharan Africa to the prioritisation of sexual well-being and improvement of quality of life in high-income countries, understanding what matters to users is essential for delivering person-centred care. This section explores how women in culturally diverse settings experience and evaluate contraceptive methods, with particular attention to preferences, service experiences, and the potential role of natural estrogens in improving satisfaction and health-related quality of life.

## Preferences and satisfaction in Sub-Saharan Africa

In sub-Saharan Africa, particularly Nigeria and South Africa, women's preferences regarding contraception are informed not only by clinical efficacy, but by service-related experiences and sociocultural expectations. In Nigeria, a discrete choice experiment (DCE) study revealed that women significantly preferred long-acting reversible contraceptives (LARCs) that minimised side effects such as weight gain and frequent bleeding [1]. Infrequent bleeding emerged as the most valued attribute, increasing women's willingness to pay, while frequent bleeding was associated with negative preferences. High effectiveness (defined as fewer than 1 in 1,000 women becoming pregnant per year) was also prioritised, reflecting a pragmatic orientation towards avoiding unintended pregnancies.

Among Nigerian adolescents, another DCE showed that preferences extended beyond the method itself to encompass the service environment [2,3]. Adolescents valued confidential and friendly healthcare providers, a comfortable physical setting, low cost, and short waiting times. These preferences highlight how stigma and trust in the provider-patient relationship play a pivotal role in contraceptive uptake [2,3]. A similar DCE conducted in South Africa among adolescents revealed a desire for youth-friendly and confidential services, enhanced by modifiable amenities like Wi-Fi and the availability of food [4]. While these service enhancements may not individually drive choice, their combination significantly improves acceptability. These findings stress the need for integrated adolescent health services that combine contraceptive counselling with digital connectivity, stigma reduction efforts, and community-level engagement.



## Contraception, empowerment, and cultural norms in ASEAN countries

In Southeast Asia, contraceptive decision-making is intertwined with broader questions of women's empowerment. Economic roles of women, household dynamics, and sociocultural expectations shape contraceptive decisions. A study using Demographic and Health Survey data from five countries of the Association of Southeast Asian Nations (ASEAN) found that labour force participation was significantly associated with contraceptive use across all settings [5]. Empowerment indicators, such as decision-making power within the household and knowledge levels, were also linked to contraceptive uptake, although the relationship was inconsistent across countries.

Cultural attitudes toward fertility, gender roles, and marital expectations further influence how women navigate contraceptive decisions. In some ASEAN settings, the preference for short-acting methods may reflect societal expectations around fertility timing and the desire for reversibility. Partner attitudes toward contraception also affect method continuation and satisfaction, especially when partner communication is limited or power imbalances exist. Understanding these dynamics is critical for designing programs that align with local values while promoting reproductive autonomy.

## Preferences and method loyalty in high-income settings

In Australia, preferences for new contraceptive methods suggest that women are generally reluctant to switch from familiar options like the pill, even when presented with potentially more convenient alternatives such as the hormonal patch. A DCE study found that ease of use and effectiveness were important factors influencing preference, but deeply ingrained habits and satisfaction with current methods limited the usage of new technologies [6].

Satisfaction in high-income countries also appears linked to quality of life. In Spain, a cross-sectional study using the Sexual and Emotional Quality of Life (SEC-QoL) instrument showed that young women using hormonal contraceptives reported better scores across most health-related quality of life (HRQoL) domains, social, sexual, menstrual, and breast, compared to those using non-hormonal methods or no contraception [7]. Psychological well-being was the only domain where non-hormonal users sometimes reported higher scores.

In the United States, analysis from the HER Salt Lake Contraceptive Initiative demonstrated that contraceptive satisfaction is closely tied to sexual experiences [8]. Women whose chosen method improved their sexual satisfaction were significantly more likely to report high satisfaction with their contraceptive choice. Side effects such as bleeding irregularities and mood changes were also relevant but less predictive of overall satisfaction than sexual acceptability. Unlike earlier generations who prioritised safety and convenience, younger users increasingly view contraception through the lens of sexual enhancement, body harmony, and lifestyle compatibility [9].

## Health-related quality of life and hormonal methods

Studies across Europe and the United States have shown that hormonal contraceptives often enhance health-related quality of life. In Spain, users of combined oral contraceptives (COCs) based on natural estrogens reported significant improvements in SEC-QoL scores after six months, particularly those switching from non-hormonal or ethinylestradiol-based methods [10]. Improvements were noted in menstrual regulation, psychosocial well-being, and the low rate of treatment-related adverse events, as well as continuation rates, which reached 91.4%. Another cross-sectional study conducted in the United States found that women using any form of contraception reported better mental HRQoL compared to non-users, with injectable contraceptive users scoring lower in both physical and mental HRQoL domains [11].

## Patient-centred communication and shared decision-making

The quality of provider-client interaction has a significant impact on satisfaction with contraception. In a United States based study of Latinas, shared decision-making (SDM) and effective provider communication were strongly associated with consistent contraceptive use [12,13]. For Latinas aged 21 and older, good communication was predictive of continued use, while younger participants valued SDM elements, such as non-judgmental discussion and acknowledgement of personal preferences.

Globally, a systematic review of 423 studies from 93 countries affirmed that user preferences are shaped by a core set of concerns: side effects, contraceptive effectiveness, ease of use, impact on menstrual patterns, personal autonomy, and interaction with healthcare providers [14]. Despite the global consist-

ency of these themes, their relative importance varied significantly across contexts due to cultural, systemic, and socioeconomic factors. For instance, discreet use emerged as a dominant concern in communities where discussing sexual health is taboo or where women face social penalties for seeking contraception. In some sub-Saharan African and South Asian contexts, the ability to use contraception covertly, without partner or family knowledge, was key to method selection [15,16]. In contrast, in high-income countries such as the United States, the United Kingdom, and Australia, interference with sexual activity or partner dynamics was more commonly reported as a critical issue [17,18]. Additionally, in settings with stronger health infrastructure and education systems, users prioritised nuanced factors such as mood changes or hormonal profiles, reflecting both greater access to information and more personalised healthcare expectations [14].

## Natural estrogens and the contraceptive experience

Preferences, adherence, satisfaction, and HRQoL in contraceptive use are strongly influenced by the type of estrogen in COCs, with growing evidence supporting the benefits of natural estrogens. Natural and body-identical estrogens, such as estradiol and estetrol, closely mimic endogenous hormones, offering improved menstrual flow, fewer side effects, and enhanced tolerability compared to synthetic estrogens like ethinylestradiol [19-22]. These advantages contribute to greater satisfaction and higher continuation rates, particularly in women who have previously discontinued hormonal contraceptives due to side effects [19]. In adolescents, natural estrogens may be particularly well-suited given their minimal impact on bone mineral density, lighter withdrawal bleeds, and potentially more stable mood profiles, factors that can improve long-term satisfaction and adherence [23].

Cultural context further shapes contraceptive preferences. In Western settings, where autonomy and shared decision-making are prioritised, natural estrogens are often viewed as more acceptable due to their “natural” origin and favourable safety profile in older women and those with higher body mass index [24]. In contrast, in low- and middle-income countries, where side effects are a leading cause of discontinuation, natural estrogens may improve adherence by addressing concerns that are often under-reported due to stigma or limited access to counselling [25].

Moreover, natural estrogens may have a more neutral effect on mood and libido, positively influencing HRQoL and relationships, [26] though more research is needed to confirm these effects. In culturally sensitive or age-specific contexts, such as among adolescents or perimenopausal women, the lower hormonal burden and improved menstrual flow associated with natural estrogens make them a compelling option.

## Toward a culturally informed, person-centred approach

Contraceptive satisfaction, health-related quality of life, and user preferences are deeply embedded in cultural, social, and economic contexts (Table 1). Across diverse regions, from sub-Saharan Africa to Southeast Asia, Latin America to high-income countries, women consistently prioritise effectiveness, autonomy, and minimal side effects. Yet, their preferences are also shaped by healthcare interactions, structural inequalities, and sociocultural norms. These findings highlight the need to move beyond a method-centric paradigm toward a holistic, woman-centred model of contraceptive care. Such an approach must integrate shared decision-making, culturally responsive communication, and respect for each woman’s unique life context [27].

Evidence shows that contraceptive methods affect not only physical health but also emotional comfort, trust, and perceived well-being. In this landscape, natural estrogen-based COCs offer a valuable option. Their improved tolerability, fewer side effects, and perceived “naturalness” enhance acceptability and continuation rates, particularly in culturally sensitive and age-specific settings. When combined with respectful, tailored counselling, these methods align more closely with women’s health profiles, lifestyles, and personal values, supporting greater agency and satisfaction.

Ultimately, placing quality of life, including sexual and emotional well-being, at the centre of contraceptive counselling contributes to more equitable, person-centred care. Recognising that no single method suits all, and that each woman’s priorities are valid and context-dependent, is essential to advancing reproductive justice and health equity on a global scale.

Table 1. Regional preferences, patient-reported outcomes, and implications for natural estrogen use in hormonal contraception

| Region                                                      | Key preferences & cultural considerations                                                                                                                                                                                               | Patient-Reported Outcomes                                                                                                                            | Implications for natural oestrogen use in hormonal contraception                                                                                                            |
|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sub-Saharan Africa (Nigeria, South Africa)                  | Preference for LARCs with minimal side effects; high value placed on infrequent bleeding and service environment (confidentiality, friendly staff, short waiting times). Covert use is significant in settings where stigma is present. | Improved willingness to pay for methods with fewer menstrual side effects. Adolescents prioritise respectful, youth-friendly services.               | Natural estrogens may be preferred if they reduce menstrual irregularities and side effects, potentially enhancing uptake in culturally sensitive contexts.                 |
| High-income countries (Australia, Spain, the United States) | Loyalty to known methods (e.g. the pill); preferences shaped by ease of use, familiarity, and sexual compatibility. Concerns about interference with sex and mood changes are prominent.                                                | Hormonal methods linked to better HRQoL in social, menstrual, and sexual domains. Sexual satisfaction is a strong predictor of overall satisfaction. | Natural estrogens may improve continuation rates and satisfaction, particularly among users dissatisfied with the side effects of synthetic hormones like ethinylestradiol. |
| Latin America and the Caribbean                             | Varied access across countries; lower LARC use among rural, indigenous, and low-income groups. Service inequities remain significant.                                                                                                   | Underuse among marginalised groups reflects structural and cultural barriers. Satisfaction depends on respectful, tailored counselling.              | Offering natural estrogen-based options through equitable services may help overcome mistrust and increase method acceptability.                                            |
| Southeast Asia (ASEAN Countries)                            | Contraceptive use is closely tied to women's empowerment, labour force participation, and educational attainment. Cultural norms around marriage and fertility influence method choice.                                                 | Empowered women are more likely to use contraception. Short-acting methods are preferred where reversibility is culturally important.                | Natural estrogens could be integrated into empowerment-focused programmes, offering culturally acceptable alternatives with minimal side effects.                           |
| Global findings (systematic review)                         | Universal concerns include side effects, effectiveness, autonomy, and interactions with providers. Prioritisation differs by culture and system context (e.g. discretion vs. sexual impact).                                            | Patient preferences are context-dependent; satisfaction is higher with personalised and respectful counselling.                                      | Natural estrogens may address both physiological and cultural concerns, particularly where hormonal composition and perceived naturalness influence trust.                  |

## Conclusions

Placing women's lived experiences at the centre of contraceptive care requires a shift from method-focused outcomes to a broader vision of reproductive justice. Patient-reported outcomes emphasise that autonomy, dignity, and quality of life are inseparable from contraceptive choice and use. Natural estrogen-based options demonstrate how innovation can respond to these priorities, offering methods that better align with diverse needs across cultures and life stages. Incorporating PROs into counselling, service delivery, and health policy is not only a matter of evidence-based practice but also of equity, ensuring that every woman has access to contraception that supports her health, relationships, and agency.

## Current knowledge gaps

PRO data are largely absent for marginalised populations, including rural, low-income, and indigenous women, where structural barriers, stigma, and covert use powerfully shape contraceptive experiences.

Although shared decision-making is associated with greater satisfaction, the impact of systematically integrating PROs into contraceptive counselling on continuation and clinical outcomes remains underexplored.

Youth-friendly interventions such as digital access, privacy safeguards, and reduced waiting times are valued by adolescents. Still, rigorous trials isolating which service features drive improved satisfaction and uptake are missing.

Long-term PRO data directly comparing natural estrogen-based COCs with ethinylestradiol formulations are lacking, particularly regarding persistence, discontinuation reasons, and health-related quality of life.

Few cost-effectiveness analyses incorporate PROs when comparing natural estrogen-based COCs to ethinylestradiol formulations, limiting the evidence base for reimbursement and health policy decisions.

## Key messages

Patient-reported outcomes (PROs) emphasise satisfaction, autonomy, and quality of life as central to contraceptive care.

Minimal side effects, particularly around bleeding, mood, and weight, are consistently valued across settings.

Sexual and emotional well-being strongly influence contraceptive satisfaction and continuation.

Cultural and life-stage contexts shape experiences: adolescents prioritise privacy and agency, while discretion remains vital in some low- and middle-income settings.

Natural estrogen-based COCs are associated with better tolerability, menstrual comfort, and overall well-being, supporting higher continuation rates.

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