Sexual Medicine Reviews, 2025, 1–18
https://doi.org/10.1093/sxmrev/qeaf024
Review

Sexual function and dysfunction in the LGBTQIA+ community—including before and after gender-affirming surgery: recommendations from the Fifth International Consultation on Sexual Medicine (ICSM 2024)

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Abstract

Introduction: Evidence-based clinical practice guidelines focused on sexual (dys)function for the LGBTQIA+ (ie, lesbian, gay, bisexual, transgender, queer/questioning, intersex, and asexual) community, including before and after gender-affirming surgery, are still scarce.
Objectives: To provide an overview and recommendations for sexual (dys)function among individuals with diverse sexual orientations, transgender and gender-diverse individuals, and intersex individuals/individuals with differences of sexual development (DSD).
Methods: A committee of experts conducted a comprehensive review of the literature, focusing on scientific publications since the last consultation, for the fifth International Consultation on Sexual Medicine.
Results: Researches that considered populations with diverse sexual orientations were reviewed and largely focused on sexual satisfaction/pleasure, sexual functioning, and sexual difficulties. Additional topics included relationship and psychological dimensions, sexual functioning during receptive anal sex, chemsex, minority stress, asexuality, and sexuality in older adulthood. The main challenges are related to small sample sizes and mostly cross-sectional study designs that limit the generalization of findings. Research focused on sexual (dys)function among transgender and gender-diverse individuals tends to focus on a medical perspective of sexual function and is often based on cisgender models or methodology. Research has also focused attention on the relationship between medical interventions for gender-affirming care (eg, hormone therapy, surgery) and has often included cross-sectional designs or short-term follow-up. Current research also highlights the unique facets of sexual (dys)function that appear important to gender-diverse individuals, such as relational and body image factors. Fewer articles focused on individuals with intersex traits/DSD, and these included a diverse approach to the samples studied and methodology used. Much of this research focused on the impact of medical interventions (eg, hormone therapy, surgery) on sexual satisfaction and function. Across populations, there were limited validated measures of sexual (dys)function.
Conclusion: Overall, the main challenges in the field are related to methodological gaps, as acknowledged in this review, and a summary of the literature is provided. Diversity, equity, and inclusion, as well as ethical considerations, are addressed, and clinical recommendations for supporting the sexual well-being of individuals with diverse sexual orientations, transgender and gender-diverse individuals, and intersex individuals/individuals with DSD are presented.

Keywords: gay/lesbian; bisexual; asexual; gender-diverse; transgender; intersex; differences of sexual development; sexual function; sexual dysfunction; clinical recommendations.

Received: October 25, 2024. **Revised:** March 21, 2025. **Accepted:** April 3, 2025

Box 1 Clinical recommendations for supporting the sexual well-being of individuals with diverse sexual orientations.

- Sexual identity, sexual attraction, and sexual behavior are distinct aspects of sexual orientation. (Quality of evidence: high; Strength of recommendation: strong).
- Sexual satisfaction and sexual pleasure are relevant dimensions for sexual health and sexual well-being in individuals with diverse sexual orientations. (Quality of evidence: high; Strength of recommendation: strong).
- Sexual minority men and women may experience pain during sexual interactions and/or intercourse (eg, dyspareunia, anodyspareunia), regardless of sexual identity and/or sexual behaviors. (Quality of evidence: high; Strength of recommendation: strong).
- Lack of sexual behavior or sexual desire/interest (eg, asexuality) is not necessarily problematic if not accompanied by distress. (Quality of evidence: high; Strength of recommendation: strong).
- Some sexual dysfunction may present differently in sexual minority individuals, and some specific problems may not be currently considered as sexual dysfunctions in either DSM or ICD (ie, anodyspareunia, premature orgasm among women). In the specific case of PE in men who have sex with men, potentially longer latency times and lower PE-related distress related to anal sex can be considered. (Quality of evidence: low; Strength of recommendation: moderate).
- Psychological factors play a significant role in sexual function. Promoting and supporting mental health is relevant for enhancing sexual health in individuals with diverse sexual orientations. (Quality of evidence: moderate; Strength of recommendation: strong).
- Safer practices for using substances to enhance sexual pleasure depend on psychoeducation about potential physiological and psychological effects and informed decision-making. (Quality of evidence: moderate; Strength of recommendation: strong).
- Minority stress and (internalized) homo/binegativity can significantly impact sexual health, satisfaction, and function. (Quality of evidence: high; Strength of recommendation: strong).
- Affirmative therapy strategies, ongoing training on specific sexual minority sexual health concerns, and adoption of interventions that are culturally appropriate and consider relationship dynamics, sexual roles, and compatibility enhance sexual health, satisfaction, and function. (Quality of evidence: high; Strength of recommendation: strong).
- Measures for assessing sexually-related dimensions need to have been proven as sensitive to diverse experiences within individuals with diverse sexual orientations to ensure accurate assessments of sexual health and functioning. (Quality of evidence: moderate; Strength of recommendation: strong).
- Chronic health conditions have a potential negative impact on sexual function, and treatments for chronic health conditions may have negative side effects. (Quality of evidence: high; Strength of recommendation: strong).

Box 2 Clinical recommendations for supporting sexual well-being of transgender or gender diverse (TGD) individuals.

- Addressing sexual health for TGD individuals may include medical procedures, hormone therapy, surgeries, and psychosocial interventions. (Quality of evidence: high; Strength of recommendation: strong).
- Body dissatisfaction has a potential role in gender identity distress. (Quality of evidence: moderate; Strength of recommendation: strong).
- Contextual and cultural factors, and an individual's social environment, impact social affirmation. (Quality of evidence: moderate; Strength of recommendation: strong).
- Gender-affirming medical interventions are not a one-size-fits-all approach, given that not all individuals desire genital surgeries or medical interventions related to gender identity. (Quality of evidence: moderate; Strength of recommendation: strong).
- Inclusive language and affirming gender identity and sexual orientation, respecting nonbinary and genderfluid identities, enhance sexual health, and increase gender affirmation. (Quality of evidence: moderate; Strength of recommendation: strong).
- Supportive networks and community resources that affirm gender identity and sexuality enhance sexual health and increase gender affirmation. (Quality of evidence: moderate; Strength of recommendation: strong).
- Continual professional development focusing on recent research highlighting the importance of non-medical factors in sexual health promotes healthcare for TGD. (Quality of evidence: moderate; Strength of recommendation: strong).
- Gender expectations on sexual interaction heteronormative scripts interfere with gender affirmation. (Quality of evidence: moderate; Strength of recommendation: moderate).
- Sexual identity and gender identity are distinct aspects of sexual orientation. (Quality of evidence: moderate; Strength of recommendation: strong).

Box 3 Clinical recommendations for supporting sexual well-being of intersex individuals/individuals with differences of sexual development (DSD).

- For individuals with intersex/DSD conditions, it is important to consider sexual desires, expectations, difficulties, gender identity, genital self-image, values, and goals. (Quality of evidence: low; Strength of recommendation: strong).
- Medical and health interventions for individuals with intersex/DSD conditions have an impact on sexual function, however, some of that impact may not yet be well-understood. (Quality of evidence: low; Strength of recommendation: moderate).

- Multidisciplinary teams are required to address individuals with intersex/DSD conditions, including endocrinologists, urologists, gynecologists, psychologists, and sex therapists. (Quality of evidence: moderate; Strength of recommendation: strong).
- Not every individual with an intersex/DSD condition desires to perform medical and health interventions to fit binary gender norms, and desires and intentions may change over time. (Quality of evidence: moderate; Strength of recommendation: strong).
- Continuous psychological support offered to navigate sexual development and dysfunctions enhances sexual health for individuals with intersex/DSD conditions. (Quality of evidence: moderate; Strength of recommendation: strong).
- Sociocultural context and stigma impact distress for individuals with intersex/DSD conditions. (Quality of evidence: moderate; Strength of recommendation: strong).
- Intersex/DSD conditions are distinct aspects of sexual orientation (Quality of evidence: high; Strength of recommendation: strong).

Introduction

For the Fifth International Consultation on Sexual Medicine, recommendations and guidelines for clinical care of LGBTQIA+ (ie, lesbian, gay, bisexual, transgender, queer/questioning, intersex, and asexual) individuals have been proposed. Gender and sexual diversity is an umbrella term for members of the LGBTQIA+ community and has been proposed by the Committee as a less stigmatizing term, including sexual orientation and trans and gender diversity (see Supplementary Files - Glossary). When considering sexual (dys)function, it is of the utmost importance to consider dimensions such as sexual orientation and gender identity, which are often overlooked but are known to be associated with sexual experiences, including function. For this manuscript, we focus on (1) individuals with minority sexual orientations (eg, gay, lesbian, bisexual, and asexual), (2) individuals who are transgender or gender diverse (TGD), before and after gender-affirming treatments such as hormones and/or surgery, when relevant, and (3) intersex individuals or people with differences of sexual development (DSD). Based on a comprehensive literature review, we provide guidelines for clinicians who work with sexual dysfunction or other distress associated with sexual function and behavior in gender and sexually diverse populations.

Methods

A systematic review of the literature was not feasible, owing to significant changes in terminology and clinical definitions used relating to our subject groups. Instead, we conducted a comprehensive review of the literature, and in an effort to avoid confounding by widely divergent and often overlapping and/or conflicting terminology, we began our review at the most recent point in time when the present terminology for LGB, transgender, and gender diverse people became more standardized and in alignment with the terminology used today. Our comprehensive review was conducted using the following research databases: PsycINFO, Web of Science, and PubMed. We included empirical studies that focused on adults and were published within the previous five years (October 2018-2023). We excluded study protocols, review papers, and studies focused on children or adolescents younger than age 18. To identify the publications for review, we used search terms for the following domains: sexual and gender minority

A.

Topics Queried:

I. Sexual function & dysfunction in the following populations: (1) LGBA; (2) Transgender and Gender Diverse* [before *and* after gender affirming surgery]; and (3) Intersex and Individuals with differences in sex development (DSD).

I. Generated exhaustive lists of search terms within the following categories:
   1. Sexual function
   2. Sexual dysfunctions
   3. LGBTQ+ populations
   4. Gender affirming therapies & surgeries
   5. DSD & Intersex populations

II. Search terms used to query 3 large clinical databases:
   1. PubMed
   2. APA PsychInfo
   3. Web of Science

III. Article inclusion criteria:
   a. English language
   b. Relates to groups of interest: LGBA, TGD, DSD/Intersex
   c. Sexual medicine focus: sexual function/dysfunction, sexual pleasure/satisfaction
   d. Adult subjects, age ≥18 (or average age was ≥18)
   e. Study publication in last 5.75 years (1/2018 – 10/2023)

IV. Article exclusion criteria: Wrong publication type:
   a. Meta-analyses
   b. Case studies
   c. Conference abstracts
   d. Dissertations

V. Publications reviewed by two groups (LGBA & TGD/DSD) each comprised of 3 Committee Members with clinical and research expertise for their group's population(s).

VI. Individual blinded review: "Accept", "Maybe", or "Reject"

VII. Any "disagreement" on an article was reviewed by entire group and re-reviewed until unanimous decision

B.

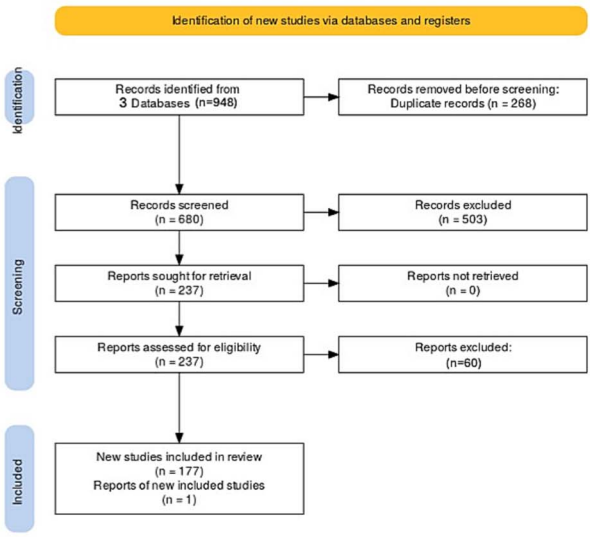

Figure 1. Comprehensive Literature Review Approach (A) & Workflow (B). A. Outline of our approach for review of literature databases, article section criteria, and, organization of expert article-review teams. B. Workflow. From an initial number of 680 articles retrieved, three successive stages of review yielded a total of 178 articles for final review and inclusion.

populations, sexual function/dysfunction, sexual orientation, gender-affirming surgery (GAS), and intersex/atypical sexual differentiation. Rayyan, a team-based systematic review software package, was used to conduct the review. We started with duplicative title/abstract reviews so that at least two team members reviewed each paper. Group meetings were used to discuss and resolve conflicts. We also used Rayyan to organize the full-text reviews, which resulted in our final article dataset. A standardized abstraction table was used to ensure consistency in the information described across articles. Results were organized thematically and reported separately for (1) individuals with diverse sexual orientations (eg, lesbian, gay, bisexual, asexual), (2) TGD individuals, and (3) intersex individuals or those with DSD.

We created exhaustive lists of search terms for our subject and its subgroups, searched three large databases, and utilized inclusion and exclusion criteria (Figure 1A) to yield a list of articles which we reviewed as a group (Figure 1B). Review was blinded, and iterative. Our process ultimately yielded 178 articles which we reviewed as context for the proposed guidelines.

1. Individuals with diverse sexual orientations

Sexual orientation, as defined by the American Psychological Association,[1] refers to an individual's pattern of romantic, emotional, and/or sexual attraction to others. In research and practice, sexual orientation is often operationalized through three main dimensions: identity (how individuals self-identify, including identities such as gay, bisexual, or straight), attraction (to whom one is drawn sexually), and behavior (having the same or other-sex partners, or both). Additionally, contemporary understandings also recognize identities like pansexual and queer, which extend beyond the binary categorization of "male" and "female". A further sexual orientation, asexuality, is characterized by self-identification and an absence of sexual attraction. This broad perspective reflects the complexity and diversity of human sexual orientation, which does not always fit into discrete or static categories but rather exists along continuums. Moreover, studies have shown that sexual orientation can be fluid, changing over time.[2] This fluidity challenges traditional views and suggests a more dynamic understanding of sexual orientation, acknowledging its potential variability across the lifespan.

Moreover, according to the APA,[3] inaccurate and pejorative terms should be avoided when referring to sexual orientation, such as "sexual preference", considering that orientation in sexuality is not a person's choice. Likewise, terms like "homosexuality" or "homosexual" should also be avoided, given historical negative associations including pathologization and criminalization. Thus, it is recommended to use identity-first language when describing peoples' sexual orientation, such as gay/lesbian people, bisexual people, asexual people, or queer people. With regard to intimate relationships, the preferred term is same-sex relationships.

Sexual (Dys)function and related topics in individuals with diverse sexual orientation

Sexual satisfaction, sexual pleasure, and orgasm

Research on people with diverse sexual orientations has shown that sexual satisfaction is linked to relationship satisfaction,[4,5] dyadic adjustment,[6] sexual function,[6] and sexual frequency.[5] Overall, women with same-sex partners tend to be more sexually satisfied than men[6,7] and heterosexual women,[6] whereas gay and heterosexual men tend to be equally satisfied,[5,6,8] and bisexual men and women are generally less satisfied.[9] Partnered orgasm is frequently reported by lesbian, gay, and bisexual participants.[10] The link between sexual rewards and sexual satisfaction appears to be stronger for men with same-sex partners[7] than for lesbian women.[11] Finally, the perception of problematic sexual desire discrepancy has been correlated with sexual dissatisfaction for gay and lesbian people.[12]

When promoting sexual health and sexual well-being, it is important to consider sexual satisfaction and to address sexual pleasure during clinical work with individuals with diverse sexual orientations. A wide range of sexual and relationship dimensions, such as sexual function, sexual frequency, orgasm, relationship dynamics and adjustment, and relationship satisfaction, should also be considered, as all are relevant for sexual satisfaction. Thus, clinicians and healthcare providers working with individuals with diverse sexual orientations should be aware of factors associated with sexual function, including aspects of satisfaction and pleasure, and incorporate these in their assessment and intervention protocols.

Sexual function and dysfunction

Premature (early) ejaculation (PE) and erectile dysfunction (ED) are more frequent than low sexual desire among gay[13] and bisexual men,[13,14] with gay men reporting more complaints of ED than bisexual men,[15] and bisexual men being slightly more likely to experience PE.[8] Although there is some confidence in using existing criteria for PE diagnosis in gay men, potential variations in ejaculatory latency should be considered [see[16]]. For young men who have sex with men (MSM), PE was more frequent during anal sex compared to masturbation.[17] For MSM under 50 years old living with HIV, ED was more prevalent compared to heterosexual men, particularly for those who engaged in receptive anal intercourse (RAI) and was strongly associated with psychological components.[18] For gay men, self-identified sexual difficulties (eg, body embarrassment) were more strongly associated with self-awareness during sexual intimacy than other related sexual problems [eg, ED[19];]. Finally, men with mostly heterosexual attractions had significantly lower sexual functioning than those with bisexual attractions.[20]

Among women, no sexual orientation differences were found in the prevalence of persistent genital arousal disorder.[21] However, sexual minority women were more likely than heterosexual women to report female sexual interest/arousal disorder (FSIAD) and genito-pelvic pain/penetration disorder (GPPPD), but not female orgasm disorder (FOD).[22] Sexual pain is a concern for sexual minority women, although women also acknowledged queer advantages in sexual communication due to partners' anatomical similarity and previous experiences of breaking social and sexual norms.[23]

Due to different methodological approaches, discrepancies were found. Some research suggests that sexual minority identity is associated with more sexual functioning problems,[24] particularly for bisexual men and women.[9] Other research indicates no overall functioning differences between heterosexual and lesbian or bisexual women[25] or suggests that sexual minority women report higher solitary and dyadic sexual pleasure and desire.[26] Additionally, among adults with

a same-sex partner, men reported better sexual functioning than women.[7] Finally, lesbian and gay individuals reported higher levels of hypersexuality compared to their bisexual counterparts,[27] emphasizing the role of sexual orientation in sexual behavior patterns.

Sexual function and relationship dimensions

For sexual minority individuals, being in a relationship and having greater acceptance of one's sexual identity were significantly associated with improved sexual functioning.[28] Likewise, engaging in both partnered and solo sexual activity was associated with higher sexual function and satisfaction compared to either solo-only or no activity.[29] Additionally, Newcomb et al.[30] found that sexual position preference and compatibility were positively associated with sexual satisfaction among men in same-sex relationships.

Sexual function and psychological dimensions

Psychological dimensions play a key role in sexual function and satisfaction. For instance, daily stress is significantly associated with lower sexual desire among gay men.[31] Several studies also identified key correlates of sexual function and satisfaction among gay men and lesbian women, highlighting factors such as neuroticism, positive and negative affective states, and the absence of erotic thoughts.[32-34] Minority stress dimensions, such as perceived illegitimacy of bisexuality and internalized bi-negativity, were negatively correlated with sexual satisfaction in mixed-sex couples with one bisexual partner.[35]

Sexual (dys)function and specific topics

Sexual functioning associated with anal sex

Problematic RAI was primarily operationalized as pain and discomfort by the receptive partner during anal intercourse and has been termed anodyspareunia. One qualitative study focusing on anodyspareunia was identified. In this study, participants described two categories of pain: pain during insertion and pain at other times. Locations of pain included the anus, rectum, pelvic floor, and sigmoid colon.[36] Mixed experiences were reported with respect to prostate pain. Participants also reported strategies to minimize pain, such as lubrication and reducing speed and force.

Several studies have estimated the prevalence of anodyspareunia. Among cisgender, self-identified gay and bisexual Polish men, 77.1% experienced pain during RAI (ie, 43.8% experienced little pain, 23.6% moderate pain, 7.5% strong pain, and 2.3% very strong pain).[13] As such, less than 10% would meet the classification for problematic RAI if it were operationalized as strong or very strong pain intensity. A previous study estimated that 12% reported pain during RAI that was too severe to continue.[37] In a study of Belgian MSM, 32% and 17% reported mild or mild–moderate anodyspareunia, respectively, with 6% reporting moderate–severe anodyspareunia.[38] Finally, in two samples of gay and bisexual men treated for prostate cancer (PCa), the prevalence of anodyspareunia was 23% and 15%.[39,40] The latter study used a more conservative operationalization based on the existing classification of genito-urinary pain disorders (ie, the pain was intense, persistent, and distressing).

Among GBM treated with PCa, anodyspareunia seems to worsen post-treatment, influenced by mental health and bowel function.[30,40] Among GBM in general, age and stable relationships were inversely associated with pain intensity during RAI, whereas performance anxiety and internalized homophobia were associated with increased pain intensity.[13] Internalized stigma and victimization were also positively associated with anal discomfort during RAI.[41] Those with the most RAI experiences, compared to those with the least, reported more pleasurable sensations, less severe pain during insertion, less bother about insertional pain, and less bowel urgency.[36] Additionally, negative thoughts about control during sex exacerbated pain symptoms and sexual distress.[42] Painful RAI was associated with lower sexual satisfaction in multiple studies.[13,40,43]

Chemsex

Four studies focused on chemsex, the practice of using substances to enhance sexual pleasure, and use and effects varied among groups. For example, in one study, cisgender gay men used cannabis to lower sexual inhibitions and reduce anxiety during sexual encounters, cisgender pansexual men used it to increase sexual pleasure, cisgender queer men used it to reduce pain during RAI, and cisgender bisexual men used it to overcome shame and stigma.[44] Chemsex is also used to enhance sexual desire, arousal, and pleasure, but it can lead to erectile difficulties, delayed ejaculation, and a sense of comedown post-use.[45] Poppers (eg, amyl nitrate) were also used to improve sexual control and pleasure, helping to maintain erections, decrease pain during RAI, and induce orgasms; thus enhancing both physiological and psychological enjoyment of sexual activities.[46] Gay, bisexual, and pansexual men are more likely to engage in chemsex compared to heterosexual men and those who do report lower sexual well-being are associated with perceived stress and the number of substances used.[47]

Minority stress

Minority stress theory suggests that health disparities among sexual minority populations may be produced or exacerbated by social stresses faced due to their stigmatized sexual orientations.[48] The impact of minority stress on sexual function has only been explored in a few studies with mixed results. Rubinsky's[49] research explored how identity gaps and sexual disclosure are associated with sexual satisfaction, relational satisfaction, and sexual communication satisfaction, highlighting how discrepancies between personal and social identities (which may involve experiences of stigma and discrimination) significantly impact satisfaction. Likewise, Ritter[50] attributed lower sexual satisfaction among sexual minority undergraduates, relative to heterosexual peers, to institutional affiliations such as political ideology and religious affiliation, as well as interpersonal relationships, indicating the influence of environmental and social factors, which can be components of minority stress. However, in a different study of gay and lesbian couples, internalized homonegativity was generally not associated with sexual satisfaction, although among lesbian couples, a partner's internalized homonegativity was negatively associated with satisfaction.[4] Lastly, among older gay men, those with lower levels of internalized homonegativity reported less pain during RAI.[13]

Cultural, social, educational, economic, religious and/or political dimensions can promote or prevent minority stress stigmatization among sexual minority people. Jorba and de Sa[51] conceptualize intersectionality as "the complexity of the experiences of individuals in virtue of their belonging to multiple socially significant categories" [[51]; p. 1455]. In the field of sexual minority sexual (dys)function, it is important to be

aware of intersectionality (eg, health disparities, minoritized race/ethnicity, diverse gender identities and relationship structures) when considering the influences of minority stress. An affirmative approach to clients, with an attitude of curiosity, respect, and acceptance, is required to work successfully in the field.

Asexuality

Little research considers sexual function among asexual people. Sexual function, sexual desire, and lifetime prevalence of treated sexual difficulty/dysfunction were assessed in a large sample of asexual and allosexual (ie, not asexual) individuals,[52] with asexual people scoring lower on solitary and dyadic desire. No differences in sexual function were observed between aromantic and romantic asexual men or women, and both scored low on solitary and dyadic sexual desire; however, romantic asexual individuals scored higher on dyadic desire than aromantic asexual people.[52] This study also found that 11.6% of romantic and 6.7% of aromantic asexual participants reported sexual concerns, and 2.7% of romantic and 0.9% of aromantic asexual participants had sought treatment by a professional. Likewise, among women and others assigned female at birth with autism spectrum disorder, asexual participants reported lower desire for partnered and solo sexual activity, but greater sexual satisfaction than other sexual orientations.[53] Lastly, research by Skorska[54] and Su[55] also provides insights into the complexities of sexual function among asexual people. Skorska[54] considered various aspects of sexual response, including genital arousal, sexual aversion, and fantasy, which are critical in understanding the broad spectrum of asexual experiences, while Su's[55] findings observed that while some asexual individuals report an increase in sexual and romantic attraction, this does not universally alter their asexual identity, underscoring that asexuality should be considered a distinct sexual orientation. Together, these studies illustrate that asexuality encompasses a range of experiences and is characterized by generally low desire for others, rather than a complete absence of sexual desire.

Older adult sexuality

Research on sexuality in older adults with diverse sexual orientations is mainly focused on men and primarily explores the impact of medical treatments, psychological factors, and the use of sexual aids on sexual satisfaction and function. Key themes include the effects of PCa treatments and other medical conditions on sexual function, the psychological burden associated with sexual dysfunction, and strategies used to manage these challenges. Additionally, the prevalence and correlates of sexual satisfaction and dysfunction, the role of self-stigma, and the use of sexual rehabilitation aids were explored.

Erectile dysfunction was common following cancer diagnosis and treatment. PCa treatments led to varied degrees of ED, diminished orgasm intensity, and anejaculation, causing feelings of guilt, celibacy, and exclusion from the gay community.[56,57] Rosser[58,59] highlighted severe sexual dysfunction but also noted resilience among sexual minority PCa patients. While most studies focused on PCa, one reported moderate ED among MSM treated for anal cancer[60]. There was evidence for high satisfaction and quality of life after inflatable penile prosthesis placement for ED.[61] Anodyspareunia was a significant issue, with persistent moderate to severe pain reported among gay and bisexual men treated for PCa, influenced by treatment types and psychological factors.[40] Older gay and bisexual men used sexual rehabilitation aids more frequently than heterosexual men, but these were not always effective.[62] No correlation was found between age, sexual identity, and sexual satisfaction, although higher self-stigma and concealment of sexual identity were linked to lower satisfaction.[63] Similar sexual satisfaction levels were found between older heterosexual and sexual minority adults, with satisfaction associated with lower loneliness and better physical functioning.[64] Finally, the prevalence of general sexual dysfunction among older lesbian, gay, and bisexual adults was similar to that of heterosexual adults.[65]

Measurement of sexual (dys)function in individuals with diverse sexual orientation

Clinical assessment usually relies on a clinical interview (structured or semi-structured) with support of self-report measures that allow for exploration of clinical dimensions associated with the main problem. Also, self-report measures were often used to monitor the progression and evolution of clinical interventions. Thus, it is important to guarantee validated psychometric tools for use in both clinical and research contexts. The majority of measurement tools developed in the field of human sexuality relies on a heteronormative perspective of human sexuality. Table 1 summarizes the recommendations on self-report measures for individuals with diverse sexual orientations.

Further research is needed to develop a reliable sexual function measure for gay and bisexual men. The International Index of Erectile Function (IIEF) is not recommended for assessing sexual function in this population, as it requires major changes to capture erectile function during receptive and insertive anal sex.[66] Similarly, the Arizona Sexual Experience Scale (ASEX) achieved weak invariance when measuring sexual functioning between heterosexual and gay men.[67]

Among women, the Female Sexual Function Index (FSFI) appears to be reliable for lesbian[68] and sexual minority women.[69] Nonetheless, Lynch et al.[70] propose using inclusive language, a broad definition of sexual activity, and a general question about sexual health concerns. The ASEX also appears to be reliable for lesbian women.[67]

Two measures have been developed with encouraging reliability in the field of PCa: the Sexual Quality of Life Questionnaire for MSM with PCa[71] and the Sexual Minorities and Prostate Cancer Scale (SMPCaS).[72] Research is needed to confirm their robustness.

Finally, the Interpersonal Exchange Model of Sexual Satisfaction Questions appears reliable for both gay and lesbian people,[6] whereas the Potential Sexual Satisfaction Factors (PSSF) and the New Sexual Satisfaction Scale (NSSS) should be used with caution as sexual satisfaction perception may vary with sexual identity, as no sexual identity invariance was achieved.[73]

Summary of other specific topics in individuals with diverse sexual orientations

Studies identified in this review also considered sexual function in relation to additional, specific topics (ie, COVID-19, HIV pre-exposure prophylaxis (PrEP), hormones, sex education) and samples (ie, parents who had children from previous mixed-sex relationships).

Table 1. Recommendations on self-report measures for individuals with diverse sexual orientation.

IIEF	Weak recommendation for assessing sexual function in gay and bisexual men
ASEX	Weak recommendation for assessing sexual function in gay men
FSFI	Moderate recommendation for assessing sexual function in sexual minority women
ASEX	Moderate recommendation for assessing sexual function in lesbian women
SQoLQ MSM PCa	In development. Further studies are needed to provide recommendations.
SMPCaS	In development. Further studies are needed to provide recommendations.
IEMSSQ	Moderate recommendation for assessing sexual satisfaction in gay and lesbian people
PSSF	Weak recommendation. Use with caution for assessing sexual satisfaction in sexual minority people.
NSSS	Weak recommendation. Use with caution for assessing sexual satisfaction in sexual minority people.

Abbreviations: ASEX, Arizona Sexual Experience Scale. FSFI, Female Sexual Function Index. IEMSSQ, Interpersonal Exchange Model of Sexual Satisfaction Questions. IIEF, International Index of Erectile Function. NSSS, New Sexual Satisfaction Scale. PSSF, Potential Sexual Satisfaction Factors. SMPCaS, Sexual Minorities and Prostate Cancer Scale. SQoLQ-MSM-PCa, Sexual Quality of Life Questionnaire for men who have sex with men with prostate cancer.

Two studies considered sexual function within the context of COVID-19. An American study explored sexual desire and stress during an early stage of the COVID-19 pandemic and found that sexual and gender minority participants reported higher solitary desire than cisgender heterosexual participants but no difference in dyadic desire.[74] Participants in this study who reported higher stress also tended to report more solitary and dyadic desire regardless of sexual or gender minority status. A German study of lesbian and bisexual women found that lesbian women reported decreased sexual arousal during the pandemic compared to previously, but no differences in capability to enjoy sex, sexual satisfaction, or total sexual health score, while bisexual women reported less capability to enjoy sex, less satisfaction, and less total sexual health but no difference in sexual arousal.[75]

Facebook posts in a PrEP discussion group showed that meanings of pleasure were individualized and associated with the use of PrEP, particularly around condoms and "natural" vs "unnatural" sex.[76] Pleasure was also negotiated through prevention technologies and minimizing harm, and PrEP was described as increasing pleasure by increasing feelings of safety during condomless sex.

Among sexual minority and heterosexual women, no differences in the associations between cortisol, oxytocin, and self-reported sexual arousability were noted.[77] Oxytocin response was not associated with arousability; however, arousability was associated with cortisol response only for women with a history of sexual abuse.

Adolescent sex education and sexual satisfaction were explored among sexual minority and heterosexual young adults.[78] Sexual minority participants reported their sex education to be less relevant, and more comprehensive family sex education was associated with higher satisfaction with sexual communication; there was no association between comprehensive school or family sex education and sexual contentment.

Finally, Fioravanti et al.[79] explored sexual function among lesbian and gay parents with children from previous heterosexual relationships. Among women, sexual function improved with same-sex partners. With other-sex partners, sexual dissatisfaction was higher, and 78.1% reported at least one dysfunction (25% desire, 40.6% arousal, 34.4% lubrication, 50% orgasm, 34.4% pain). With same-sex partners, only one woman reported global dysfunction and one other reported pain. Among men, no differences were noted with same- or other-sex partners for inability to orgasm (15.4% both), ED (30.8% both), or PE (30.8% other-sex, 23.1% same-sex). 26.9% reported low desire with other-sex partners; none reported low desire with same-sex partners. With same-sex partners, 34.6% reported pain during RAI, and 11.5% reported pain after RAI. Most sexual function domains (other than PE and orgasmic function) were higher with same-sex partners, as was sexual satisfaction. Lower awareness of gay/lesbian identity at the time of marriage was associated with better sexual functioning with other-sex partners. Among women, internalized homophobia was correlated with sexual function with other-sex partners but not with same-sex partners. Among men with same-sex partners, internalized homophobia was associated with more orgasm difficulty, lower sexual desire, and sexual dissatisfaction. Fathers who were "out" to their children reported better orgasmic function and erectile function, while fathers who were not out to their children had higher sexual dissatisfaction.

Challenges in the field and future directions for sexual (Dys)function research in individuals with diverse sexual orientation

Overall, we have identified several challenges in the literature regarding sexual (dys)function in individuals with diverse sexual orientation (see Table 2), and we proposed future directions for research in this field (see Table 3).

In conclusion, the study of sexual function in individuals with diverse sexual orientations has increased over the years, with a major focus on gay, lesbian, and bisexual individuals. Little attention has been paid to asexual individuals. The recognition of individual, relational, social, and cultural dimensions alongside the respect for self-identification can strengthen the comprehension of sexual well-being in individuals with diverse sexual orientations, promoting an inclusive and ethical approach to sexual health.

2. Transgender and gender diverse individuals

This section reviews recent studies on sexual function in transgender and gender-diverse populations, emphasizing their common methodologies and assumptions. Recent studies often adhere to cisnormative and heteronormative frameworks, linking successful sexual function to medical interventions like hormone therapies and surgeries. While medical perspectives dominate, an emerging approach focuses on body satisfaction and social contextual factors, suggesting a shift from the primary emphasis on medical transition. This review concludes by challenging the cisnormative and medical model, discussing its implications, and exploring its potential to reshape future research and clinical approaches in sexual function among TGD individuals.

Table 2. Challenges in the field of sexual (dys)function in individuals with diverse sexual orientation.

Challenges in the field
1. **Reliance on convenience samples:** A limitation across many studies in this review is the reliance on convenience samples, particularly from online platforms, which can introduce selection bias and limit generalizability.
2. **Cross-sectional designs:** While practical and cost-effective, cross-sectional studies restrict the ability to draw causal inferences, making it difficult to determine the direction of observed associations.
3. **Prevalence of studies with small sample sizes or the analysis of small proportions of participants with diverse sexual orientations within larger samples:** Future research using sampling methods designed to access hard-to-reach populations while maintaining representativeness (eg, respondent-driven sampling) may be useful to increase both sample size and generalizability.

Table 3. Future directions in the field of sexual (dys)function in individuals with diverse sexual orientation.

Future directions
1. **Role of PrEP in sexual function and pleasure:** Only one paper identified by this review considered the role of PrEP in sexual function and pleasure[73] (da Silva-Brandao & Ianni, 2020). Given the significant role of PrEP in HIV prevention, particularly among MSM, future studies should explore whether PrEP use is associated with sexual function.
2. **Minority stress and sexual function:** Only a few papers explored the role of minority stress on sexual function. Much research has focused on minority stress and physical and mental health [eg, Gerymski & Magoń, 2023] (eg, Frost & Meyer, 2023), and as sexual function can be closely intertwined with these, it is also likely to be affected by minority stress factors.
3. **Intersectionality and sexual function:** Sexual minority individuals may also have additional intersecting identities, such as diverse gender identities and minoritized racial, religious, or migrant backgrounds. As such, future research should consider the impact of intersectionality on sexual function.
4. **Measures for assessing sexual function and pleasure:** Only four studies were identified that considered sexual function among asexual populations. Given that common measures of sexual function (ie, IIEF, FSFI) require participants to have engaged in recent sexual activity, these measures may not be suitable for asexual populations, or, when used in research, may lead to very small or insufficient samples for analysis.
5. **Holistic approach to sexual function among asexual individuals:** Future research should consider a more holistic approach to sexual function and well-being among asexual people, which recognizes that a lack of sexual behavior or desire is not inherently dysfunctional.

Abbreviations: FSFI, Female Sexual Function Index. IIEF, International Index of Erectile Function. MSM, men who have sex with men. PEP, pre-exposure prophylaxis.

Population estimates

The following is a summary of reported proportions of TGD people in the general population as reported in the World Professional Association for Transgender Health's Standards of Care Version 8.[80]

- Health systems-based studies: 0.02%-0.1%
- Survey-based studies of adults: 0.3%-0.5% (transgender), 0.3%-4.5% (transgender and gender diverse)
- Survey-based studies of children and adolescents: 1.2%-2.7% (transgender), 2.5%-8.4% (transgender and gender diverse)

General experience

Sexual well-being among TGD individuals is influenced by unique intrinsic and extrinsic factors.[81-84] Quality romantic relationships, characterized by care, connection, and acceptance of one's gender identity, enhance sexual well-being. Effective communication in these relationships correlates with better sexual outcomes.[82,84-86]

Recent research explores sexual well-being from a psychosocial perspective, considering body satisfaction, adherence to gender norms, effects of gender-affirming processes, and unfulfilled transition expectations.[81-84] Internalized stigma significantly affects various aspects of TGD lives. For instance, A study in trans men revealed that while gender congruence itself was not directly associated with sexual satisfaction, internalized transphobia emerged as a significant predictor of sexual satisfaction, indicating the intricate role of internalized transphobia in the sexual well-being of transgender individuals.[87]

Body image profoundly impacts sexual well-being. Body dissatisfaction among trans women correlates with sexual distress.[83,88,89] Higher body and genital image satisfaction leads to increased sexual satisfaction and pleasure.[83,89,90] A study of 317 TGD individuals showed that body satisfaction is crucial for reducing sexual distress, regardless of gender-affirming hormone therapy (GAHT) or GAS status.[91] For trans women, appearance significantly influences sexual satisfaction, especially post-vaginoplasty.[86] However, it is worth noting that not all transgender individuals necessarily associate feelings of bodily comfort with sexual satisfaction. Qualitative research in 358 transgender and gender diverse men found that only a small percentage of trans men link bodily comfort with sexual satisfaction.[82]

Sexual satisfaction/pleasure and dysfunction among TGD individuals

Transgender or gender diverse individuals generally report lower sexual satisfaction compared to cisgender peers,[90] though specific rates may vary depending on specific sample characteristics and measurement of satisfaction. A European study found that 46.9% of trans women and 51% of trans men were satisfied with their sex lives, yet scores on the Amsterdam Sexual Pleasure Index (ASPI) were lower for TGD individuals compared to cisgender reference data.[90] In Australia, only 32.4% of 1613 TGD participants were satisfied with their sex lives.[92] In Iran, 42% of 127 trans

women reported low sexual satisfaction,[86] while a study using the Golombok Rust Inventory reported only 9% of trans men and trans women had issues with sexual satisfaction.[93]

Sexual dysfunction is prevalent in TGD populations, though an assessment of true prevalence is difficult without validated measures tailored to this population. Studies show high rates of dysfunction: 87.8% of trans men and 92.3% of trans women according to the ASEX scale,[93] and 69% of trans women and 54% of trans men in Europe reported dysfunction.[94]

Sexual desire and arousal among TGD individuals

Sexual desire and arousal among TGD individuals are influenced by many factors. MRI studies show distinct neural activation patterns linked to gender and hormone levels.[95] Trans men exhibit arousal patterns similar to cisgender men.[96] Among GAHT/GAS naive transgender people in Turkey, 2.2% of trans men and 10% of trans women reported desire issues, while 8.8% of trans men and 5% of trans women had arousal problems.[93] Online surveys in Canada show 17% of TGD individuals experience sexual aversion, with 12% reporting a lack of desire or arousal.[97] A study in Europe showed 20% of trans women and 9% of transmen reported problems with low sexual desire and 14% of trans men reported problems related to too strong sexual desire.[94] Sexual aversion seen in TGD individuals is often related to past trauma.[89]

Erectile or lubrication difficulties among TGD individuals

Transgender or gender diverse individuals face unique challenges with erectile and lubrication difficulties. In Canada, 8.6% of trans and nonbinary people reported these issues.[97] Among GAHT-naive individuals, 23% of trans women had erection problems, and 9.7% of trans men had lubrication issues.[93]

Orgasm/delayed ejaculation among TGD individuals

Orgasm issues are common. In Europe, 29% of trans women and 15% of trans men reported difficulties.[94] An online survey found 12.3% of TGD individuals experienced delayed orgasm.[97] For some trans women, ejaculation is undesirable, causing significant distress.[94]

Sexual pain among TGD individuals

Sexual pain varies by population. Dyspareunia in TGD individuals is linked to body dysphoria and medical transition factors.[81,82,86] Mixed results are observed for GAS's impact on pain.[86,89,91] Holistic gender-affirming care is crucial for managing sexual pain in these populations.[83,84]

Gender-affirming hormone therapy and sexual function

Gender-affirming hormone therapy significantly impacts sexual function and distress among TGD individuals. Studies show that GAHT leads to a steady reduction in sexual distress over time for both trans men and trans women.[88] Increased body satisfaction over time is associated with decreased sexual distress, suggesting that body satisfaction mediates sexual distress more effectively than GAHT alone or gender-affirming surgeries.[91]

In trans men, testosterone therapy increases interest in sexual activity, sexual desire and the ability to orgasm, though it may cause vaginal pain or discomfort during sexual activity. Testosterone does not significantly affect overall sexual satisfaction, lubrication, or orgasm pleasure.[98,99] GAHT increases sexual desire during the first 3 years before decreasing to the baseline thereafter.[100] In contrast, for trans women, estrogen therapy results in reduced sexual desire at the beginning,[100] with no significant difference between oral and sublingual administration.[101] Estrogen therapy also alters orgasm sensations, shifting pleasure from the genitals to other body parts like the nipples, legs, and back, and reduces the ability to maintain an erection.[102]

Gender-affirming hormone therapy improves orgasm quality in both trans men and trans women. Trans men report increased orgasm duration, while trans women experience longer, more intense orgasms with a shift to a full-body experience.[103] Unfulfilled desires for gender-affirming medical treatments (GAMT) are linked to lower sexual and life satisfaction, higher anxiety, and greater body image concerns.[104]

Additional findings indicate that improved subjective orgasm quality is reported by 67% of trans men and 74% of trans women after commencing GAHT. Trans men reported increased orgasm duration, while trans women experienced longer orgasm duration, delayed time to orgasm, and a shift to a whole-body orgasm experience.[103] GAHT decreases erectile function in trans women, with no difference noted based on the estrogen administration route.[101-103] In terms of vulvodynia and dyspareunia, testosterone GAHT does not appear to cause these conditions in trans men, although specific sexual practices were not comprehensively queried.[105]

In conclusion, the effects of GAHT on sexual function are complex and individualized, highlighting the need for comprehensive, personalized approaches to gender-affirming care. Addressing both hormonal influences and body satisfaction is crucial for improving sexual health and overall well-being in TGD individuals.

Gender-affirming surgery and sexual function

Mastectomy

Three studies examined the impact of gender-affirming mastectomy on sexual well-being, all using the BREAST-Q sexual well-being domain, which assesses feelings of sexual attractiveness and confidence related to breasts, and comfort during sexual activity[106]. However, it is not yet validated for use in transmen. In addition, the terminology used to describe the gender identity of individuals included across the samples varied. All studies demonstrated improvement in BREAST-Q sexual well-being preoperatively to 6 months[107,108] to 6-to-12 months postoperatively.[109] Three-fourths of patients reported higher satisfaction with their sex life post-operatively, and the vast majority reported that male chest appearance was considerably important in gender affirmation.[109]

Vaginoplasty

Studies generally support improved sexual function post-vaginoplasty, though further prospective work with longer follow-up periods is warranted. Half of the studies used the FSFI,[110] which is not specifically validated for TGD individuals. Other measures included the OMtFSFI, Sexual Satisfaction Questionnaire, FGSIS, PROMIS Sexual Function

scale, and author-derived measures. Most studies focused on a single type of surgery or surgeon, with few studies comparing different techniques or types of surgery, including vaginoplasty with and without creation of a vaginal canal (commonly referred to as "vulvoplasty" or "shallow-depth vaginoplasty").[111-113] It was suggested that feminizing genital GAS options presented to patients always include vaginoplasty with and without creation of a vaginal canal.[113] Variability in follow-up periods and the assessment of hormone therapy (HT), sexual activity, and partner status confounded outcomes.

Patient satisfaction with surgical outcomes is high. For instance, 85% were satisfied with the overall result,[114] and only 7% reported concerns due to esthetic dissatisfaction.[115] Evidence suggests improved sexual function post-vaginoplasty,[86,116] with high satisfaction in those who underwent laparoscopic right colon vaginoplasty.[117] In sexually active samples, good sexual function was reported (mean FSFI score = 26.67).[113] Rates of sexual problems varied: 83% screened positive for dysfunction,[118] and one-third reported concerns.[115]

Some studies found sexual function comparable to non-clinical samples of cisgender women.[119] Post-operative trans women showed higher sexual function and more positive genital self-image compared to pre-operative counterparts.[120] Most individuals achieved penetration post-vaginoplasty: 97%,[121] nearly half,[122] and 19% could not due to short/narrow cavities.[115] About one-third reported pain.[115] Regarding orgasm, 70% to 83% were able to experience orgasm,[115,121] with satisfaction in orgasmic function and tactile/erogenous sensation.[122] Additionally, 69% were satisfied with lubrication, and 53% reported fluid release at orgasm ("pseudo ejaculation").[119]

Phalloplasty

Phalloplasty generally yields high patient satisfaction among trans men in both esthetic and functional aspects. In a study involving 59 trans men post-GAS, 88% were very satisfied with the esthetic results, 75% had sexual intercourse, and 72% were very satisfied with their sexual function.[123] Similarly, another study observed 68 trans men who had GAS without urethral lengthening (UL), finding that 63% were satisfied with the esthetic results of their penis, 65% with the neo scrotum, and 50% with functional outcomes, including voiding and sexual function.[124]

Examining post-phalloplasty sensitivity, a study of 59 transmasculine individuals noted that while tactile sensation in the neophallus was initially reduced compared to the donor site, it improved over time. Most participants reported some tactile and erotic sensitivity, though sexual satisfaction varied.[125] Similarly, another study found that tactile sensation precedes erogenous sensation and is present in most cases when flaps from specific donor sites, like the forearm or anterior lateral thigh, are used. Sensation increased over time, taking over a year to achieve maximum sensation. Interestingly, the study found no significant correlation between objective tactile sensation measurements and subjective sexual satisfaction.[126]

In terms of surgical planning and priorities, the Genital Affirmation Surgical Priorities Scale (GASPS) was developed in a study of 63 trans men, revealing that high priorities included the ability to stand to urinate and erotic sensation, with 86% reporting a history of orgasm.[127] Further research assessed factors considered by trans men during surgical planning. Key priorities included standing to urinate, erogenous sensation of the phallus, the ability to perform insertive intercourse and penis length. While phalloplasty typically includes urethral lengthening (P + UL), those opting for phalloplasty without urethral lengthening (P-UL) prioritized avoiding potential complications associated with UL.[128]

Metoidioplasty

An online survey with 15 trans men who underwent metoidioplasty evaluated sexual function and attitudes toward erectile aids. The survey revealed significant challenges with penetrative intercourse and erectile function, while fewer participants reported difficulties with orgasm. Despite these challenges, 87% were willing to try PDE5 inhibitors, though only 40% were open to intracavernosal injections, citing barriers such as a lack of knowledge among primary care physicians.[129]

Online surveys queried gender non-conforming men, women, and intersex adults who had undergone genital GAS about erogenous sensation in surgically created anatomy. The majority endorsed experiencing erogenous sensations in their new genital anatomy.[130]

Measurement of sexual function among TGD individuals

In general, our review highlights the need for validated instruments to assess sexual function, behavior, and satisfaction among TGD individuals. Such measures may need to take into account the specific anatomy of the participant as well as their partner(s). Many studies examining sexual function in trans women utilized the original, or a modified version, of the FSFI. Examples of the modifications made to the FSFI were: replacing "sexual stimulation" and "intercourse" with "sexual activity (alone or with a partner)," and expanding "vaginal penetration" definition beyond penile-vaginal intercourse.[70] Newer research is investigating the development and validation of measures specifically for this population. For example, the operated Male to Female Sexual Function Index (oMtFSI) questionnaires (19-item questionnaire) include domains specific to TGD individuals, such as genital self-image, and correlate well with FSFI.[131] Another example is the Orgasm Quality Inventory, developed very recently for assessing potential changes in orgasm function related to various gender affirming procedures (surgery and hormonal) in trans men and trans women.[132] Consistent use of validated measures will allow for greater ability to make more comprehensive interpretations of studies on sexual function in TGD individuals. Table 4 summarizes the recommendations on self-report measures for TGD individuals.

Challenges in the field and future directions for sexual (Dys)function research among TGD individuals

Overall, challenges in the literature have been identified in what concerns sexual (dys)function in TGD individuals (see Table 5), and future directions for research in this field were proposed (see Table 6).

In conclusion, the exploration of sexual function in TGD populations is evolving, with a growing recognition of the importance of social and personal factors alongside medical interventions. The integration of these diverse perspectives can enhance our understanding and support of sexual well-being

Table 4. Recommendations on self-report measures for trans and gender diverse individuals.

FSFI	Moderate recommendation for assessing sexual function in trans women and trans men. Modified versions can be found taking into account the specific anatomy of the participant and their partner(s) and definitions/types of sexual activity.
oMtFSFI	In development for assessing sexual function in trans women with vagina (male-to-female patients after surgery). Preliminary findings revealed adequate psychometric properties. Further studies are needed to assess the robustness of the tool.
OQI	In development for assessing potential changes in orgasm function related to various gender affirming procedures in trans men and trans women. Further studies are needed to assess the robustness of the tool.

Abbreviations: FSFI, Female Sexual Function Index. oMtFSI, operated Male to Female Sexual Function Index. OQI, Orgasm Quality Inventory.

Table 5. Challenges in the field of sexual (dys)function in TGD.

Challenges in current research
1. **Research operates within cisnormative and heteronormative frameworks**: Research often emphasizes medical aspects (eg, hormone therapy and surgeries), while neglecting social and personal factors. This focus can overlook individual patients' personal priorities, expectations, and anticipated outcomes, highlighting the importance of detailed pre-op discussions and reference materials. Studies frequently focus on physical function, missing emotional and relational aspects, and lack validated measures for TGD populations, which hinders comparison across studies. Research often uses clinical samples from gender clinics, not represent the broader TGD community and skew data toward those undergoing or seeking medical transitions.
2. **Neglecting nonbinary and gender-fluid experiences**: Important social factors like social dysphoria and social stigma among TGD individuals are often overlooked. Studies relying on participants' recall of pre-transition experiences may be biased, distorting the understanding of transition-related care's impact on sexual function and satisfaction. Definitions of sexual health tend to align with cisgender norms, which may not reflect TGD individuals' priorities or experiences.
3. **Little correlation between objective and subjective sensations and arousal**: The finding that there is little correlation between objective and subjective sensations suggests we may be overlooking the importance of visual cues and sexual arousal. Future research could explore whether mental and physical sensory-focusing exercises improve subjective sensation. Greater research on post-surgery sexual function outcomes and the use of pharmacologic erection-inducing aids is needed for metoidioplasty. Understanding how existing sexual-aid devices can be modified to enhance sexual function and satisfaction in metoidioplasty patients is also crucial.
4. **Clear terminology and heteronormative scripts**: Gender expectations influence sexual interactions, often leading to dissatisfaction for those not aligning with heteronormative scripts. TGD individuals often navigate desires, boundaries, and consent more explicitly, highlighting the need to address communication in sexual health research. Research should account for the duration of GAHT use, gonadectomy status, types and timing of surgeries, specific sexual practices, and the sex and gender of sexual partners to provide contextually accurate findings. Clear terminology should be used to minimize confusion about the biological sex and gender identity of study subjects.
5. **TGD patients appear not to always be offered a diverse spectrum of gender-affirming surgery choices to select from, which might include options that better meet the individual's sexual function and/or preferred cost/benefit profile.** Lack of choices to choose from can limit patients' ability to choose the surgery option that best meets their individual needs. Failure to make patients considering gender-affirming surgery aware of all published surgery options that exist and are offered by their own and/or other surgeons not only fails to align with the four key ethical principles of medicine: autonomy, beneficence, non-maleficence, and justice, but also has the effect of potentially confounding studies where patient satisfaction with, and sexual function quality outcomes after, gender affirming treatments and surgeries, when patients have undergone a specific treatment/surgery that they might not have otherwise undergone if they had been offered other choices.

Abbreviations: GAHT, gender-affirming hormone therapy. TGD, transgender or gender diverse.

Table 6. Future directions in the field of sexual (dys)function among TGD individuals.

Future directions
1. **Development of validated measures:** Create and validate measures that capture the full range of TGD sexual experiences, including emotional and relational aspects.
2. **Broader sampling:** Use diverse sampling methods beyond clinical settings to better represent the TGD community.
3. **Inclusive research on nonbinary and gender-fluid individuals:** Expand research to include nonbinary and gender-fluid experiences, ensuring findings are applicable to the entire TGD community.
4. **Integration of social contextual factors:** Incorporate social factors like social dysphoria, fetishization, and social stigma into research to provide a comprehensive understanding of TGD sexual experiences.
5. **Addressing recall bias:** Use longitudinal studies to mitigate recall bias and gain accurate insights into the impact of transition-related care on sexual function and satisfaction.
6. **Expanding definitions of sexual health:** Develop definitions of sexual health that reflect the diverse priorities and experiences of TGD individuals beyond cisgender norms.
7. **Detailed reporting in sexual function research:** Ensure research reports include details about GAHT duration, gonadectomy status, specific surgeries, and sexual practices to provide contextually accurate findings.
8. **Clear and inclusive terminology:** Continue to refine and use clear, inclusive terminology that accurately reflects the biological sex and gender identity of study subjects.
9. **Gender affirming medical treatment and surgery outcomes research studies should ideally disclose what treatment/surgery options patients were offered (and not offered) to patients/subjects to choose from, and how decision-making to proceed with a given treatment/surgery choice is made.** In this way, sexual function outcomes and patient satisfaction studies can be better interpreted by detailing what choices patients are provided with, and a clearer understanding of how, and to what degree, decision-making is shared with their providers.

Abbreviation: TGD, transgender or gender diverse.

in TGD individuals, ultimately fostering a more inclusive and holistic approach to sexual health.

3. Intersex and individuals with differences of sexual development

The study of sexual function in individuals with intersex/DSD conditions reveals varied outcomes, highlighting both emerging insights and persistent challenges. Kreukels et al.[133] reported that many intersex/DSD individuals are dissatisfied with their sex life, experience various sexual problems, and are less sexually active compared to the general population. Conversely, other studies found satisfaction levels comparable to non-DSD subjects.[134,135] De Neve-Enthoven et al.[136] found that women with DSD were less interested in sex, less sexually active, and had more negative associations about their sexuality compared to control women.

Research on DSD genital reconstructive surgery shows mixed results. Nidal et al.[137] reported that post-pubertal females with DSD who underwent feminizing genitoplasty had a mean FSFI score of 22.2, with genital self-image positively associated with sexual function. Batista et al.[134] observed that DSD surgery did not significantly affect postoperative sexuality in a mixed cohort of cisgender and DSD individuals, highlighting the need for standardized terminology in DSD research.

Mayer-Rokitansky-Küster-Hauser syndrome

Six studies on Mayer-Rokitansky-Küster-Hauser syndrome (MRKH) and sexual function reviewed here compare or evaluate treatment outcomes, including dilation or various forms of genital reconstructive surgery. The primary tool used for assessing sexual function is the FSFI.[138-142] Cheikhelard et al.[143] used patient-reported outcomes and the WHOQOL-BREF to evaluate sexual distress.

Among these studies, three specifically investigated sexual function outcomes following vaginal reconstruction using various surgical techniques, with generally positive results.[138,140,142] However, Poordast et al.[142] reported less favorable results in 25 women with vaginal agenesis undergoing McIndoe vaginoplasty with amnion graft, noting significantly smaller vaginas and lower FSFI scores compared to controls.

Comparative analyses between surgical intervention and vaginal dilation are presented in two studies.[139,143] Kang et al.[139] found similar FSFI scores between women undergoing surgery and those engaging in vaginal dilation without surgery. Cheikhelard[143] reported that surgery was not superior to dilation in treatment outcomes.

Congenital adrenal hyperplasia

A study comparing women with congenital adrenal hyperplasia (CAH) to those with Polycystic Ovary Syndrome (PCOS) found that women with CAH reported worse sexual function, with 81% scoring below the cutoff point on the FSFI, indicating sexual dysfunction. Women with CAH were more likely to identify as homosexual or bisexual.[144] However, another study showed no significant difference in FSFI score between CAH and control groups. The prevalence of female sexual dysfunction in the CAH group was 5 out of 9 patients and 4 out of 10 in the control group.[145]

Hypospadias

A Russian study examined 112 men who had undergone hypospadias repair but experienced treatment failure. Using the IIEF questionnaire, results indicated that 64.2% were dissatisfied with their penis appearance post-repair. Additionally, 40.2% reported ED, with 20% of cases attributed to psychogenic causes. Other ejaculatory dysfunctions were also prevalent.[146]

46 XX with SRY gene

Research on 46,XX male syndrome is limited. One study investigated erectile function in 10 individuals with 46,XX SRY-positive males compared to healthy males using IIEF scores. Findings revealed comparable erectile function to 46,XY males, though 46,XX males exhibited significantly lower testosterone levels, potentially influencing sexual desire. This study did not provide data on sexual desire or other dimensions of sexual function.[147]

Challenges and future directions in the field of or sexual (Dys)function research with intersex/DSD individuals

Overall, several challenges have been acknowledged in the literature regarding sexual (dys)function in intersex/DSD individuals (see Table 7), and we proposed future directions for research in this field (see Table 8).

In conclusion, the exploration of sexual function in intersex/DSD populations appears to be in its early phases. Additional work is needed to better understand the sexual function and dysfunction among individuals experiencing varying types of DSD, and to understand the long-term impact of various gender-affirming medical interventions on sexual function outcomes in this population.

Medical ethics and diversity, equity, and inclusion considerations in the context of Care of Individuals with diverse sexual orientation, TGD, and intersex/DSD individuals care

The four key principals of bioethics in medicine (1) beneficence, (2) non-maleficence, (3) autonomy, and (4) justice[148] are, each to varying degrees, reflected within every guideline recommendation presented in this chapter. Respect for patients/individuals' autonomy is a common theme of these guideline statements. Another common theme is a call for providers to recognize the diversity of experiences among sexuality and gender minority individuals, together with the diversity of factors associated with sexual function and dysfunction. The need for culturally competent continued professional development is acknowledged and recommended, especially as research in this area is in a state of continuous development.

The ethical principle of Justice is the basis for consideration of diversity, equity, and inclusion (DEI) in the course of care of sexuality diverse, gender diverse, and intersex (LGBTQIA+) people, each of whom is, at the outset, already a "minority" group within the context of the cisgender, heterosexual patient majority population. Given the frequent overlap of minority identities within the aforementioned populations, it is essential to highlight intersectionality across groups when present. As such, to help ensure inclusivity of racial, ethnic, socio-economic, cultural, and other co-occurring diversities,

Table 7. Challenges in the field of sexual (dys)function in intersex/DSD individuals.

Challenges in the field
1. **Ethical concerns in treatment:** Ethical challenges exist with regard to how DSD is managed, especially regarding early interventions, impact future sexual function and personal autonomy. How treatments offered (and not offered) align with the four key principles of medical ethics: autonomy, beneficence, non-maleficence, and justice should always be considered.
2. **Diagnostic and treatment complexity:** Diagnosing and managing sexual dysfunction in intersex individuals is complex due to diverse DSD manifestations.
3. **Stigma and social perception:** Stigma around atypical sex characteristics affects the sexual health and self-esteem of intersex individuals.
4. **Inconsistency in healthcare provision:** There is significant variability in approaching sexual dysfunction in intersex individuals globally, leading to unequal care access.
5. **Lack of longitudinal data:** The critical lack of long-term data on sexual health outcomes prevents comprehensive care protocol development.

Abbreviation: DSD, differences of sexual development.

Table 8. Future directions in the field of sexual (dys)function in intersex/DSD individuals.

Future directions
1. Future research should prioritize exploring the broad spectrum of sexual experiences among intersex individuals.
2. Collaborative interdisciplinary efforts between medical professionals, researchers, and advocacy groups are essential to develop care protocols.
3. Longitudinal studies focusing on life-course sexual health will be crucial for informing these efforts.

Abbreviation: DSD, differences of sexual development.

providers must always consider DEI in the course of providing healthcare to LGBTQIA+ people.

Conclusion

Attention toward sexual and gender diverse communities is increasing, and efforts from academics, researchers, clinicians, and healthcare providers have enabled us to develop a set of clinical guidelines and recommendations for those who work clinically with these populations. Overall, an affirmative, ethical, and holistic approach to the difficulties presented by individuals should be used, and people's identities must be respected. Healthcare workers should be aware of new developments in the field, use updated information, and pay close attention to the overlap of dimensions (intersectionality) that may contribute to vulnerability or distress within these communities.

Acknowledgments

The Authors would like to that to Eleanor G. Polen (University Hospitals Core Library) for her precious help during the literature web search.

Author contributions

M. Garcia and M.M. Peixoto shared first authorship.

Supplementary material

Supplementary material is available at *Sexual Medicine Reviews* online.

Funding

None declared.

Conflicts of interest

1. MLM Sante, Inc. (Owner/U.S. Patents)
2. Eli Lilly, Inc. (Consultant)
3. University of California (Issued U.S. Patents)
4. MMI Robotics (Consultant)
5. World Professional Association for Transgender Health (Teaching honoraria)

References

1. American Psychological Association. Guidelines for psychological practice with lesbian, gay, and bisexual clients. *Am Psychol*. 2012;**67**(1):10–42. https://doi.org/10.1037/a0024659
2. Diamond LM. Sexual fluidity in male and females. *Curr Sex Health Rep*. 2016;**8**(4):249–256. https://doi.org/10.1007/s11930-016-0092-z
3. American Psychological Association. *Inclusive Language Guide*. 2nd ed; 2023.
4. Bahamondes J, Barrientos J, Guzmán-González M, Garrido-Rojas L, Gómez F, Espinoza-Tapia R. The negative effects of internalized homonegativity on sexual satisfaction: dyadic effects and gender-based differences in Chile. *J Lesbian Stud*. 2023;**27**(1):22–40. https://doi.org/10.1080/10894160.2022.2122197
5. Frederick D, Gillespie BJ, Lever J, Berardi V, Garcia JR. Sexual practices and satisfaction among gay and heterosexual men in romantic relationships: a comparison using coarsened exact matching in a U.S. National Sample. *J Sex Res*. 2021;**58**(5):545–559. https://doi.org/10.1080/00224499.2020.1861424
6. Calvillo C, Del Mar S-FM, Parrón-Carreño T, Sierra JC. Validation of the interpersonal exchange model of sexual satisfaction questionnaire in adults with a same-sex partner. *Int J Clin Health Psychol*. 2020;**20**(2):140–150. https://doi.org/10.1016/j.ijchp.2019.07.005
7. Calvillo C, Sánchez-Fuentes MDM, Sierra JC. An explanatory model of sexual satisfaction in adults with a same-sex partner: an analysis based on gender differences. *Int J Environ Res Public Health*. 2020;**17**(10):3393Published 2020 May 13. https://doi.org/10.3390/ijerph17103393
8. Grabski B, Kasparek K, Müldner-Nieckowski Ł, Iniewicz G. Sexual quality of life in homosexual and bisexual men: the relative role of minority stress. *J Sex Med*. 2019;**16**(6):860–871. https://doi.org/10.1016/j.jsxm.2019.03.274
9. Björkenstam C, Mannheimer L, Löfström M, Deogan C. Sexual orientation-related differences in sexual satisfaction and sexual problems-a population-based study in Sweden. *J Sex Med*. 2020;**17**(12):2362–2369. https://doi.org/10.1016/j.jsxm.2020.07.084
10. Frederick DA, John HKS, Garcia JR, Lloyd EA. Differences in orgasm frequency among gay, lesbian, bisexual, and heterosexual men and women in a U.S. National Sample. *Arch Sex Behav*. 2018;**47**(1):273–288. https://doi.org/10.1007/s10508-017-0939-z

11. Mangas P, Granados R, Cervilla O, Sierra JC. Validation of the orgasm rating scale in context of sexual relationships of gay and lesbian adults. *Int J Environ Res PublicHealth*. 2022;**19**(2):887. doi.org/10.3390/ijerph19020887
12. Peixoto MM. Problematic sexual desire discrepancy in heterosexuals, gay men and lesbian women: differences in sexual satisfaction and dyadic adjustment. *Psyc & Sexual*. 2022;**13**(5):1231–1241. https://doi.org/10.1080/19419899.2021.1999313
13. Grabski B, Kasparek K. Sexual anal pain in gay and bisexual men: In search of explanatory factors. *J Sex Med*. 2020;**17**(4):716–730. https://doi.org/10.1016/j.jsxm.2020.01.020
14. Levitan J, Quinn-Nilas C, Milhausen R, Breuer R. The relationship between body image and sexual functioning among gay and bisexual men. *J Homosex*. 2019;**66**(13):1856–1881. https://doi.org/10.1080/00918369.2018.1519301
15. Lawless P, Lovell GP, Allen A, Kannis-Dymand L. Metacognitions in heterosexual, bisexual, and homosexual men: with or without premature ejaculation and erectile dysfunction. *Behav Cogn Psychother*. 2021;**49**(5):612–625. https://doi.org/10.1017/S1352465820000879
16. McNabney SM, Weseman CE, Hevesi K, Rowland DL. Are the criteria for the diagnosis of premature ejaculation applicable to gay men or sexual activities other than penile-vaginal intercourse? *Sex Med*. 2022;**10**(3):100516, 1–100513. https://doi.org/10.1016/j.esxm.2022.100516
17. Dos Reis M, Barros EAC, Monteiro L, Pazeto CL, Baccaglini WRC, Glina S. Premature ejaculation prevalence among young men who have sex with men: a cross-sectional study with internet users in the metropolitan region of São Paulo, Brazil. *Sex Med*. 2023;**11**Published 2023 Mar 1(2):1–13. https://doi.org/10.1093/sexmed/qfac016
18. De Vincentis S, Decaroli MC, Milic J, et al. Determinants of sexual function in men living with HIV younger than 50 years old: focus on organic, relational, and psychological issues. *Andrology*. 2023;**11**(6):954–969. https://doi.org/10.1111/andr.13372
19. Kiss MJ, Morrison TG, McDonagh LK. Male body image self-consciousness during physical intimacy (M-BISC): validating the M-BISC with gay men. *J Sex Med*. 2019;**16**(2):307–315. https://doi.org/10.1016/j.jsxm.2018.12.004
20. Lorenz TK. Brief report: sexual wellbeing in heterosexual, mostly heterosexual, and bisexually attracted men and women. *Int J Sex Health*. 2019;**31**(3):339–349. https://doi.org/10.1080/19317611.2019.1628156
21. Dèttore D, Pagnini G. Persistent genital arousal disorder: a study on an Italian Group of Female University Students. *J Sex Marital Ther.* 2021;**47**(1):60–79. https://doi.org/10.1080/0092623X.2020.1804022
22. Erdős C, Kelemen O, Pócs D, et al. Female sexual dysfunction in association with sexual history, sexual abuse and satisfaction: a cross-sectional study in Hungary. *J Clin Med*. 2023;**12**(3):1112Published 2023 Jan 31. https://doi.org/10.3390/jcm12031112
23. Ekholm E, Lundberg T, Carlsson J, Norberg J, Linton SJ, Flink IK. A lot to fall back on: experiences of dyspareunia among queer women. *Psychology & Sexuality*. 2021;**13**(5):1242–1255. https://doi.org/10.1080/19419899.2021.2007988
24. Bőthe B, Tóth-Király I, Griffiths MD, Potenza MN, Orosz G, Demetrovics Z. Are sexual functioning problems associated with frequent pornography use and/or problematic pornography use? Results from a large community survey including males and females. *Addict Behav*. 2021;**112**:106603. https://doi.org/10.1016/j.addbeh.2020.106603
25. Gewirtz-Meydan A, Mitchell KJ, Spivak-Lavi Z. Attachment and sexual functioning: understanding the mediating role of body image among LGB and non-LGB women. *J Sex Med*. 2021;**18**(7):1245–1257. https://doi.org/10.1016/j.jsxm.2021.04.012
26. Bogen KW, Jones HR, Lorenz TK. Relational and trait factors mediate the associations between Women's intoxication-related unwanted sexual experiences, pleasure, and desire. *J Sex Res*. 2022;**59**(9):1175–1191. https://doi.org/10.1080/00224499.2022.2030661
27. Ortega-Otero M, Montesinos F, Charrabe L. Influence of psychological inflexibility and mindfulness on hypersexuality and sexual satisfaction in a Spanish sample. *Front Psychol*. 2023;**14**:1182222. https://doi.org/10.3389/fpsyg.2023.1182222
28. Pereira H, Silva P. Prevalence and psychosexual determinants of sexual functioning and sex addiction among middle-aged and older sexual minority men. *Sex Health Compulsivity*. 2021;**28**(1–2):81–97. https://doi.org/10.1080/26929953.2021.1986762
29. Arthur E, Flynn K, Jeffery D, Cusatis R. Associations between relationship status, anxiety, sexual function, and sexual satisfaction in lesbian, gay, and bisexual people. *Int J Sex Health*. 2023;**35**(1):41–51Published 2023 Feb 7. https://doi.org/10.1080/19317611.2023.2172510
30. Newcomb ME, Swann G, Ma J, et al. Interpersonal and intrapersonal influences on sexual satisfaction in young male couples: analyses of actor-partner interdependence models. *J Sex Res*. 2021;**58**(2):183–194. https://doi.org/10.1080/00224499.2020.1820933
31. Hiemstra J, van Tuijl P, van Lankveld J. The associations of sexual desire, daily stress, and intimacy in gay men in long-term relationships. *Int J Impot Res*. 2024;**36**(3):248–255. https://doi.org/10.1038/s41443-023-00664-x
32. Peixoto MM, Nobre PJ. Cognitive-emotional predictors of sexual functioning in lesbians, gays, and heterosexuals. *Arch Sex Behav*. 2020;**49**(5):1823–1838. https://doi.org/10.1007/s10508-020-01732-9
33. Peixoto MM. Sexual functioning, automatic thoughts and affective response: the moderation role of personality traits in a study with heterosexual and gay men. *Span J Psychol*. 2023;**26**:e15Published 2023 May 26. https://doi.org/10.1017/SJP.2023.16
34. Peixoto MM. The moderator role of neuroticism in the relationship between sexual thoughts and affective response during sexual activity, and sexual functioning: a study with heterosexual and lesbian women. *Curr Psychol*. 2023;**42**(5):3427–3436. https://doi.org/10.1007/s12144-021-01703-w
35. Mark KP, Vowels LM, Bunting AM. The impact of bisexual identity on sexual and relationship satisfaction of mixed sex couples. *J Bisexuality*. 2020;**20**(2):119–140. https://doi.org/10.1080/15299716.2020.1734137
36. Gaither TW, Siapno AED, Kianian R, et al. Relationship between pelvic sensations and lifetime exposure to receptive anal intercourse among people with prostates. *J Sex Med*. 2023;**20**(9):1195–1205. https://doi.org/10.1093/jsxmed/qdad099
37. Rosser BR, Short BJ, Thurmes PJ, Coleman E. Anodyspareunia, the unacknowledged sexual dysfunction: a validation study of painful receptive anal intercourse and its psychosexual concomitants in homosexual men. *J Sex Marital Ther*. 1998;**24**(4):281–292. https://doi.org/10.1080/00926239808403963
38. Vansintejan J, Vandevoorde J, Devroey D. The GAy MEn sex StudieS: Anodyspareunia among Belgian gay men. *Sex Med*. 2013;**1**(2):87–94. https://doi.org/10.1002/sm2.6
39. Wheldon CW, Polter EJ, Rosser BRS, et al. Pain and loss of pleasure in receptive anal sex for gay and bisexual men following prostate cancer treatment: results from the *Restore-1* study. *J Sex Res*. 2022;**59**(7):826–833. https://doi.org/10.1080/00224499.2021.1939846
40. Wheldon CW, Bates AJ, Polter EJ, et al. Unrecognized sexual dysfunction in gay and bisexual men after prostate cancer treatment: the antecedents and impact of anodyspareunia. *J Sex Med*. 2023;**20**(4):515–524. https://doi.org/10.1093/jsxmed/qdad009
41. Li DH, Remble TA, Macapagal K, Mustanski B. Stigma on the streets, dissatisfaction in the sheets: is minority stress associated with decreased sexual functioning among young men who have sex with men? *J Sex Med*. 2019;**16**(2):267–277. https://doi.org/10.1016/j.jsxm.2018.12.010

42. Yessick LR, Gauvin SEM, Salomons TV, Pukall CF. Pain characteristics, sexual script flexibility, and penetration control cognitions in those experiencing anodyspareunia. *Psychology & Sexuality*. 2022;**14**(1):321–336. https://doi.org/10.1080/19419899.2022.2118069
43. Lapping-Carr L, Mustanski B, Ryan DT, Costales C, Newcomb ME. Stress and depression are associated with sexual function and satisfaction in young men who have sex with men. *Arch Sex Behav*. 2023;**52**(5):2083–2096. https://doi.org/10.1007/s10508-023-02615-5
44. Parent N, Ferlatte O, Milloy MJ, Fast D, Knight R. The sexualised use of cannabis among young sexual minority men: "I'm actually enjoying this for the first time". *Cult Health Sex*. 2021;**23**(7):883–898. https://doi.org/10.1080/13691058.2020.1736634
45. Nimbi FM, Rosati F, Esposito RM, Stuart D, Simonelli C, Tambelli R. Sex in Chemsex: sexual response, motivations, and sober sex in a Group of Italian men who have sex with men with sexualized drug use. *J Sex Med*. 2021;**18**(12):1955–1969. https://doi.org/10.1016/j.jsxm.2021.09.013
46. Schwartz C, Fast D, Knight R. Poppers, queer sex and a Canadian crackdown: examining the experiences of alkyl nitrite use among young sexual minority men[published correction appears in Int J Drug Policy. 2020 Oct;84:102882. doi: 10.1016/j.drugpo.2020.102882]. *Int J Drug Policy*. 2020;**77**:102670. https://doi.org/10.1016/j.drugpo.2020.102670
47. Gerymski R, Magoń W. Chemsex and sexual well-being in young polish men. *Int J Environ Res Public Health*. 2023;**20**Published 2023 Jun 17(12):1–11. https://doi.org/10.3390/ijerph20126163
48. Frost DM, Meyer IH. Minority stress theory: application, critique, and continued relevance. *Curr Opin Psychol*. 2023;**51**:101579. https://doi.org/10.1016/j.copsyc.2023.101579
49. Rubinsky V. Sex talk: the effects of sexual self-disclosure and identity gaps on sexual and relational outcomes in diverse relationships. *Sexuality & Culture*. 2022;**26**(4):1452–1476. https://doi.org/10.1007/s12119-022-09953-x
50. Ritter LJ, Morris HR, KnoxD. Who's getting the best sex? A comparison by sexual orientation. *Sexuality & Culture*. 2018;**22**(4):1466–1489. https://doi.org/10.1007/s12119-018-9538-y
51. Jorba M, López de Sa D. López de Sa, D. Intersectionality as emergence. *Philos Stud*. 2024;**181**(6-7):1455–1475. https://doi.org/10.1007/s11098-024-02155-1
52. Antonsen AN, Zdaniuk B, Yule M, Brotto LA. Ace and Aro: understanding differences in romantic attractions among persons identifying as asexual. *Arch Sex Behav*. 2020;**49**(5):1615–1630. https://doi.org/10.1007/s10508-019-01600-1
53. Bush HH, Williams LW, Mendes E. Brief report: asexuality and young women on the autism Spectrum. *J Autism Dev Disord*. 2021;**51**(2):725–733. https://doi.org/10.1007/s10803-020-04565-6
54. Skorska MN, Yule MA, Bogaert AF, Brotto LA. Patterns of genital and subjective sexual arousal in cisgender asexual men. *J Sex Res*. 2023;**60**(2):253–270. https://doi.org/10.1080/00224499.2022.2071411
55. Su Y, Zheng L. Stability and change in asexuality: relationship between sexual/romantic attraction and sexual desire. *J Sex Res*. 2023;**60**(2):231–241. https://doi.org/10.1080/00224499.2022.2045889
56. McConkey RW, Holborn C. Exploring the lived experience of gay men with prostate cancer: a phenomenological study. *Eur J Oncol Nurs*. 2018;**33**:62–69. https://doi.org/10.1016/j.ejon.2018.01.013
57. Danemalm Jägervall C, Brüggemann J, Johnson E. Gay men's experiences of sexual changes after prostate cancer treatment-a qualitative study in Sweden. *Scand J Urol*. 2019;**53**(1):40–44. https://doi.org/10.1080/21681805.2018.1563627
58. Rosser BRS, Kohli N, Polter EJ, et al. The sexual functioning of gay and bisexual men following prostate cancer treatment: results from the restore study. *Arch Sex Behav*. 2020;**49**(5):1589–1600. https://doi.org/10.1007/s10508-018-1360-y
59. Rosser BRS, Polter EJ, Talley KMC, et al. Health disparities of sexual minority patients following prostate cancer treatment: results from the *Restore-2* study. *Front. Oncologia*. 2022;**12**:812117, 1–8. Published 2022 Feb 4. https://doi.org/10.3389/fonc.2022.812117
60. Mauro GP, da Conceição Vasconcelos KGM, Carvalho HA. Quality of life and sexual function of men who have sex with men treated for anal cancer: a prospective trial of a neglected population. *J Sex Med*. 2021;**18**(8):1461–1466. https://doi.org/10.1016/j.jsxm.2021.05.015
61. La J, Loeb CA, Barham DW, et al. Satisfaction rates of inflatable penile prosthesis in men who have sex with men are high. *Int J Impot Res*. 2023;**35**(6):564–568. https://doi.org/10.1038/s41443-022-00603-2
62. Ussher JM, Perz J, Rose D, Kellett A, Dowsett G. Sexual rehabilitation after prostate cancer through assistive aids: a comparison of gay/bisexual and heterosexual men. *J Sex Res*. 2019;**56**(7):854–869. https://doi.org/10.1080/00224499.2018.1476444
63. Gonçalves JAR, Costa PA, Leal I. Minority stress in older Portuguese gay and bisexual men and its impact on sexual and relationship satisfaction. *Sex Res Soc Policy*. 2020;**17**(2):209–218. https://doi.org/10.1007/s13178-019-00385-1
64. Buczak-Stec EW, König HH, Hajek A. Sexual satisfaction among sexual minority and heterosexual middle-aged and older adults. *Innov Aging*. 2023;**7**(2):igad010Published 2023 Jan 31. https://doi.org/10.1093/geroni/igad010
65. Flesia L, Monaro M, Jannini EA, Limoncin E. "I'm too old for that": the role of ageism and sexual dysfunctional beliefs in sexual health in a sample of heterosexual and LGB older adults: a pilot study. *Healthcare (Basel)*. 2023;**11**Published 2023 Feb 5(4):1–14. https://doi.org/10.3390/healthcare11040459
66. Kiss MJ, McDonagh LK, Sparks B, Hamp T, Morrison TG. Accurately assessing gay Men's erectile functioning: a critique of the International Index of Erectile Function (IIEF) use with gay men. *J Sex Res*. 2021;**58**(5):589–598. https://doi.org/10.1080/00224499.2020.1811195
67. Sierra JC, Mangas P, Guillén-Riquelme A, Muñoz-García LE. Measurement invariance of the Arizona sexual experience scale by sexual orientation: comparing the sexual functioning of gay and heterosexual individuals. *J Sex Med*. 2023;**20**(5):684–689. https://doi.org/10.1093/jsxmed/qdad029
68. Peixoto MM. Measurement invariance of female sexual function index: a study with heterosexual and lesbian Portuguese women. *Women Health*. 2021;**61**(8):811–818. https://doi.org/10.1080/03630242.2021.1970084
69. Wu C, Chau PH, Choi EPH. Validation of the adapted female sexual function index among Chinese cisgender heterosexual women and sexual and gender minority women. *J Sex Med*. 2023;**20**(6):878–887. https://doi.org/10.1093/jsxmed/qdad052
70. Lynch KA, Austria MD, Le T, et al. Suggestions for modifications to the female sexual function index based on cognitive interviews with sexual and gender minority individuals and cisgender, heterosexual persons. *J Sex Med*. 2023;**20**(6):871–877. https://doi.org/10.1093/jsxmed/qdad042
71. Lee TK, Wibowo E, Dowsett GW, et al. Development of a sexual quality of life questionnaire for men-who-have-sex-with-men with prostate cancer. *Sex Med*. 2022;**10**(2):100480. https://doi.org/10.1016/j.esxm.2021.100480
72. Polter EJ, Kohli N, Rosser BRS, et al. Creation and psychometric validation of the sexual minorities and prostate cancer scale (SMACS) in sexual minority patients-the Restore-2 study. *J Sex Med*. 2022;**19**(3):529–540. https://doi.org/10.1016/j.jsxm.2021.12.012
73. Holt LL, Chung YB, Janssen E, Peterson ZD. Female sexual satisfaction and sexual identity. *J Sex Res*. 2021;**58**(2):195–205. https://doi.org/10.1080/00224499.2020.1784827
74. Goldey KL, Cital MN, Rodriguez SC, Espinosa A, Barton EA. Desire on lockdown? Sexual desire and COVID-19 stress among LGBTQ+ and cisgender, heterosexual college students. *Psychol*

Sex Orientat Gend Divers. 2024;**11**(2):337–352. https://doi.org/10.1037/sgd0000596
75. Batz F, Lermer E, Hatzler L, et al. The impact of the COVID-19 pandemic on sexual health in cis women living in Germany. *J Sex Med*. 2022;**19**(6):907–922. https://doi.org/10.1016/j.jsxm.2022.02.025
76. da Silva-Brandao RR, Ianni AMZ. Sexual desire and pleasure in the context of the HIV pre-exposure prophylaxis (PrEP). *Sexualities*. 2020;**23**(8):1400–1416. https://doi.org/10.1177/1363460720939047
77. Alley J, Diamond LM, Lipschitz DL, Grewen K. Women's cortisol stress responsivity, sexual arousability, and sexual history. *Arch Sex Behav*. 2020;**49**(5):1489–1503. https://doi.org/10.1007/s10508-019-01585-x
78. Evans R, Widman L, Goldey K. The role of adolescent sex education in sexual satisfaction among LGB+ and heterosexual young adults. *Am J Sex Educ*. 2020;**15**(3):310–335. https://doi.org/10.1080/15546128.2020.1763883
79. Fioravanti G, Banchi V, Giunti D. Sexual functioning of a sample of lesbian and gay parents who have children from heterosexual relationships: an exploratory study. *Sex Relatsh Ther*. 2020;**36**(2–3):256–275. https://doi.org/10.1080/14681994.2020.1728245
80. Coleman E, Radix AE, Bouman WP, et al. *Standards of Care for the Health of Transgender and Gender Diverse People, Version 8*. World Professional Association for Transgender Health; 2022.
81. Lindley L, Anzani A, Galupo MP. What constitutes sexual dissatisfaction for trans masculine and nonbinary individuals: a qualitative study. *J Sex Marital Ther*. 2020;**46**(7):612–629. https://doi.org/10.1080/0092623X.2020.1765924
82. Lindley L, Anzani A, Prunas A, Galupo MP. Sexual satisfaction in trans masculine and nonbinary individuals: a qualitative investigation. *J Sex Res*. 2021;**58**(2):222–234. https://doi.org/10.1080/00224499.2020.1799317
83. Goldbach C, Lindley L, Anzani A, Galupo MP. Resisting trans medicalization: body satisfaction and social contextual factors as predictors of sexual experiences among trans feminine and nonbinary individuals. *J Sex Res*. 2023;**60**(6):868–879. https://doi.org/10.1080/00224499.2021.2004384
84. Engelmann MJ, Hines R, Connors H, et al. The role of social support in the sexual well-being of TGD populations. *Int J Transgend Health*. 2022;**24**(2):214–225
85. Harvey P, Jones E, Copulsky D. The relational nature of gender, the pervasiveness of heteronormative sexual scripts, and the impact on sexual pleasure. *Arch Sex Behav*. 2023;**52**(3):1195–1212. https://doi.org/10.1007/s10508-023-02558-x
86. Nematollahi A, Gharibzadeh S, Damghanian M, Gholamzadeh S, Farnam F. Sexual behaviors and vulnerability to sexually transmitted infections among transgender women in Iran. *BMC Womens Health*. **22**(1):170. https://doi.org/10.1186/s12905-022-01753-7
87. Kline K, Randall AK. The moderating effect of internalized transphobia on the association between gender congruence and sexual satisfaction for transgender men. *Journal of LGBTQ Issues in Counseling*. 2021;**15**(1):93–109. https://doi.org/10.1080/15538605.2021.1868378
88. Ristori J, Cocchetti C, Castellini G, et al. Hormonal treatment effect on sexual distress in transgender persons: 2-year follow-up data. *J Sex Med*. 2020;**17**(1):142–151. https://doi.org/10.1016/j.jsxm.2019.10.008
89. Scheim AI, Bauer GR. Sexual inactivity among transfeminine persons: a Canadian respondent-driven sampling survey. *J Sex Res*. 2019;**56**(2):264–271. https://doi.org/10.1080/00224499.2017.1399334
90. Gieles NC, van de Grift TC, Elaut E, et al. Pleasure please! Sexual pleasure and influencing factors in transgender persons: an ENIGI follow-up study. *Int J Transgend Health*. 2023;**24**(2):212–224. https://doi.org/10.1080/26895269.2022.2028693
91. Staples JM, Bird ER, Gregg JJ, George W. Improving the gender-affirmation process for transgender and gender-nonconforming individuals: associations among time since transition began, body satisfaction, and sexual distress. *J Sex Res*. 2020;**57**(3):375–383. https://doi.org/10.1080/00224499.2019.1617829
92. Holt M, Broady T, Callander D, et al. Sexual experience, relationships, and factors associated with sexual and romantic satisfaction in the first Australian Trans & Gender Diverse Sexual Health Survey. *Int J Transgend Health*. 2023;**24**(1):38–48. https://doi.org/10.1080/26895269.2021.2016540
93. Şahin S, Korkmaz ÖP, Durcan E, Özkaya HM, Turan Ş, Kadioglu P. Sexual functions of transgender individuals before gender transition. *Endocrinol Res Pract*. 2021;**25**:184–192
94. Kerckhof ME, Kreukels BPC, Nieder TO, et al. Prevalence of sexual dysfunctions in transgender persons: results from the ENIGI follow-up study. *J Sex Med*. 2019;**16**(12, 12):2018–2029. https://doi.org/10.1016/j.jsxm.2019.09.003
95. Mueller SC, Wierckx K, T'Sjoen G. Neural and hormonal correlates of sexual arousal in transgender persons. *J Sex Med*. 2020;**17**(12, 12):2495–2507. https://doi.org/10.1016/j.jsxm.2020.08.021
96. Raines J, Holmes L, Watts-Overall TM, et al. Patterns of genital sexual arousal in transgender men. *Psychol Sci*. 2021;**32**(4):485–495. https://doi.org/10.1177/0956797620971654
97. Lafortune D, Dussault E, Philibert M, Godbout N. Prevalence and correlates of sexual aversion: a Canadian community-based study. *J Sex Med*. 2022;**19**(8):1269–1280. https://doi.org/10.1016/j.jsxm.2022.05.142
98. Tordoff DM, Lunn MR, Chen B, et al. Testosterone use and sexual function among transgender men and gender diverse people assigned female at birth. *Am J Obstet Gynecol*. 2023;**229**(6):669.e1. https://doi.org/10.1016/j.ajog.2023.08.035
99. Garz M, Schroder J, Nieder T, et al. Body image and sexual desire in the context of gender affirming therapy: results of a cross-sectional multi-centered transgender study. *J Sex Marital Ther*. 2021;**47**(5):435–445. https://doi.org/10.1080/0092623X.2021.1888831
100. Defreyne J, Elaut E, Kreukels B, et al. Sexual desire changes in transgender individuals upon initiation of hormone treatment: results from the longitudinal European network for the investigation of gender incongruence. *J Sex Med*. 2020;**17**(4):812–825. https://doi.org/10.1016/j.jsxm.2019.12.020
101. Yaish I, Gindis G, Greenman Y, et al. Sublingual Estradiol offers No apparent advantage over combined oral Estradiol and Cyproterone acetate for gender-affirming hormone therapy of treatment-naive trans women: results of a prospective pilot study. *Transgend Health*. 2023;**8**(6):485–493. https://doi.org/10.1089/trgh.2023.0022
102. Rosenberg S, Tilley PJM, Morgan J. "I couldn't imagine my life without it": Australian trans women's experiences of sexuality, intimacy, and gender-affirming hormone therapy. *Sexuality & Culture*. 2019;**23**(3):962–977. https://doi.org/10.1007/s12119-019-09601-x
103. Zaliznyak M, Lauzon M, Stelmar J, Yuan N, Smith SM, Garcia MM. Effects of gender-affirming hormone therapy on orgasm function of transgender men and women: a long term follow up. *Urology*. 2023;**174**:86–91. https://doi.org/10.1016/j.urology.2023.01.002
104. Kennis M, Duecker F, T'Sjoen G, Sack AT, Dewitte M. Gender affirming medical treatment desire and treatment motives in binary and non-binary transgender individuals. *J Sex Med*. 2022;**19**(7):1173–1184. https://doi.org/10.1016/j.jsxm.2022.03.603
105. Abern L, Maguire K, Cook J, Carugno J. Prevalence of vulvar pain and dyspareunia in trans masculine individuals. *LGBT Health*. 2022;**9**(3):194–198. https://doi.org/10.1089/lgbt.2020.0357
106. Pusic AL, Klassen AF, Scott AM, Klok JA, Cordeiro PG, Cano SJ. Development of a new patient-reported outcome measure for breast surgery: the BREAST-Q. *Plast Reconstr Surg*. 2009;**124**(2):345–353. https://doi.org/10.1097/PRS.0b013e3181aee807

107. Agarwal CA, Scheefer MF, Wright LN, Walzer NK, Rivera A. Quality of life improvement after chest wall masculinization in female-to-male transgender patients: a prospective study using the BREAST-Q and body uneasiness test. *J Plast Reconstr Aesthet Surg*. 2018;**71**(5):651–657. https://doi.org/10.1016/j.bjps.2018.01.003
108. Lane M, Kirsch MJ, Sluiter EC, et al. Gender affirming mastectomy improves quality of life in Transmasculine patients: a single-center prospective study. *Ann Surg*. 2023;**277**(3):e725–e729. https://doi.org/10.1097/SLA.0000000000005158
109. Romano G, Bouaoud J, Schmidt M, et al. Improvements in transgender masculinizing chest surgery: a pilot study of a tailored approach with a life satisfaction assessment. *Transgender Health*. 2023. https://doi.org/10.1089/trgh.2021.0212
110. Rosen R, Brown C, Heiman J, et al. The female sexual function index (FSFI): a multidimensional self-report instrument for the assessment of female sexual function. *J Sex Marital Ther Apr-Jun*. 2000;**26**(2):191–208. https://doi.org/10.1080/009262300278597
111. Gentile G, Martino A, Nadalin D, et al. Penile-scrotal flap vaginoplasty versus inverted penile skin flap expanded with spatulated urethra: a multidisciplinary single-centre analysis. *Arch Ital Urol Androl* 2020;**92**(3):186–191. https://doi.org/10.4081/aiua.2020.3.186
112. Vedovo F, Pavan N, Bertolotto M, et al. Neoclitoral location may affect sexual function in transgender women: a preliminary pelvic MRI study. *Int J Impot Res*. 2024;**36**(5):526–530. https://doi.org/10.1038/s41443-023-00716-2
113. Garcia MM. Sexual function after shallow and full-depth Vaginoplasty: challenges, clinical findings, and treatment strategies—urologic perspectives. *Clin Plastic Surg*. 2018;**45**(3):437–446. https://doi.org/10.1016/j.cps.2018.04.002
114. Monteiro Petry Jardim LM, Cerentini TM, Lobato MIR, et al. Sexual function and quality of life in Brazilian transgender women following gender-affirming surgery: a cross-sectional study. *Int J Environ Res Public Health*. 2022;**19**(23):1–10. https://doi.org/10.3390/ijerph192315773
115. Potter E, Sivagurunathan M, Armstrong K, et al. Patient reported symptoms and adverse outcomes seen in Canada's first vaginoplasty postoperative care clinic. *Neurourol Urodyn*. 2023;**42**(2):523–529. https://doi.org/10.1002/nau.25132
116. Nimitpanya P, Wainipitapong S, Wiwattarangkul T, Suwan A, Phanuphak N, Panyakhamlerd K. Evaluation of mental health and satisfaction following transfeminine gender-affirming surgery in Thailand. *Transgend Health*. 2022;**7**(1):61–67. https://doi.org/10.1089/trgh.2020.0096
117. Garcia MM, Shen W, Zhu R, et al. Use of right colon vaginoplasty in gender affirming surgery: proposed advantages, review of technique, and outcomes. *Surg Endosc*. 2021;**35**(10):5643–5654. https://doi.org/10.1007/s00464-020-08078-2
118. Thammapiwan P, Suwan A, Panyakhamlerd K, Suwajo P, Phanuphak N, Taechakraichana N. The sexual function among transgender women who have undergone gender-affirming surgery using penile skin inversion vaginoplasty in Thailand. *Eur J Plast Surg*. 2022;**45**(1):101–107. https://doi.org/10.1007/s00238-021-01857-7
119. Litrico L, Van Dieren L, Cetrulo CL Jr, Atlan M, Lellouch AG, Cristofari S. Improved sexuality and satisfactory lubrication after genital affirmation surgery using penile skin inversion in transgender women: a satisfaction study. *J Plast Reconstr Aesthet Surg*. 2023;**86**:8–14. https://doi.org/10.1016/j.bjps.2023.07.024
120. Kloer C, Blasdel G, Shakir N, et al. Does genital self-image correspond with sexual health before and after Vaginoplasty? *Plast Reconstr Surg Glob Open*. 2023;**11**(2):e4806Published 2023 Feb 17. https://doi.org/10.1097/GOX.0000000000004806
121. Opsomer D, Vyncke T, Mertens D, et al. Fifteen-year experience with the Ghent technique of penile inversion Vaginoplasty. *Plast Reconstr Surg*. 2021;**148**(3):416e–424e. https://doi.org/10.1097/PRS.0000000000008300
122. Huang JB, Lai A, Morgantini LA, et al. Gender-affirming vaginoplasty: technical considerations in patients with genital skin deficiency. *Neurourol Urodyn*. 2023;**42**(5):947–955. https://doi.org/10.1002/nau.25091
123. Papadopulos NA, Ehrenberger B, Zavlin D, et al. Quality of life and satisfaction in transgender men after Phalloplasty in a retrospective study. *Ann Plast Surg*. 2021;**87**(1):91–97. https://doi.org/10.1097/SAP.0000000000002693
124. Pigot GLS, Al-Tamimi M, Nieuwenhuijzen JA, et al. Genital gender-affirming surgery without urethral lengthening in transgender men-a clinical follow-up study on the surgical and urological outcomes and patient satisfaction. *J Sex Med*. 2020;**17**(12):2478–2487. https://doi.org/10.1016/j.jsxm.2020.08.004
125. Elfering L, van de Grift TC, Al-Tamimi M, et al. How sensitive is the Neophallus? Postphalloplasty experienced and objective sensitivity in Transmasculine persons. *Sex Med*. 2021;**9**(5):100413, 1. https://doi.org/10.1016/j.esxm.2021.100413
126. Küenzlen L, Nasim S, van Neerven S, et al. Multimodal evaluation of functional nerve regeneration in transgender individuals after Phalloplasty with a free radial forearm flap. *J Sex Med*. 2020;**17**(5):1012–1024. https://doi.org/10.1016/j.jsxm.2020.02.014
127. Ganor O, Taghinia AH, Diamond DA, Boskey ER. Piloting a genital affirmation surgical priorities scale for trans masculine patients. *Transgend Health*. 2019;**4**(1):270–276Published 2019 Oct 25. https://doi.org/10.1089/trgh.2019.0038
128. Smith SM, Yuan N, Lee G, Stelmar J, Ray E, Garcia MM. 'Modified Phallourethroplasty' as a surgical alternative to Phalloplasty with urethral lengthening: technique, how we present this option to patients, and clinical outcomes. *Sex Med*. 2022;**10**(2):100495. https://doi.org/10.1016/j.esxm.2022.100495
129. Khorrami A, Kumar S, Bertin E, et al. The sexual goals of metoidioplasty patients and their attitudes toward using PDE5 inhibitors and Intracavernosal injections as erectile aids. *Sex Med*. 2022;**10**(3):100505, 1–100508. https://doi.org/10.1016/j.esxm.2022.100505
130. Langer SJ, Caso TJ, Gleichman L. Examining the prevalence of trans phantoms among transgender, nonbinary and gender diverse individuals: an exploratory study. *Int J Transgend Health*. 2023;**24**(2):225–233Published 2023 Jan 6. https://doi.org/10.1080/26895269.2022.2164101
131. Vedovo F, Di Blas L, Perin C, et al. Operated male-to-female sexual function index: validity of the first questionnaire developed to assess sexual function after male-to-female gender affirming surgery. *J Urol*. 2020;**204**(1):115–120. https://doi.org/10.1097/ju.0000000000000791
132. Zaliznyak M, Lauzon M, Stelmar J, Yuan N, Smith SM, Garcia MM. A proposed inventory to assess changes in orgasm function of transgender patients following gender affirming treatments: pilot study. *Sex Med*. 2022;**10**(3):100510. https://doi.org/10.1016/j.esxm.2022.100510
133. Kreukels BPC, Cohen-Kettenis PT, Roehle R, et al. Sexuality in adults with differences/disorders of sex development (DSD): findings from the DSD-LIFE study. *J Sex Marital Ther*. 2019;**45**(8):688–705. https://doi.org/10.1080/0092623X.2019.1610123
134. Batista RL, Inacio M, Brito VN, et al. Sexuality and fertility desire in a large cohort of individuals with 46, XY differences in sex development. *Clinics (Sao Paulo)*. 2023;**78**:100185. https://doi.org/10.1016/j.clinsp.2023.100185
135. Abrar S, Mohsin R, Zia UI. Vaginal reconstruction in patients with vaginal agenesis: options and outcome: a single-center experience. *Pak J Med Sci*. 2023;**39**(1):219–222. https://doi.org/10.12669/pjms.39.1.6356
136. de Neve-Enthoven NGM, Callens N, van Kuyk M, et al. Sexual self-concept in women with disorders/differences of sex development. *Arch Sex Behav*. 2022;**51**(4):2213–2229. https://doi.org/10.1007/s10508-021-02188-1

137. Nidal S, Kocherov S, Jaber J, Levi-Khademi F, Farkas A, Chertin B. Sexual function and voiding status following one stage feminizing genitoplasty. *J Pediatr Urol*. 2020;**16**(1):97 e1-97 e6. https://doi.org/10.1016/j.jpurol.2019.11.017
138. Jha S, Singh S. Sexual and psychosocial outcome after Neovaginoplasty using Interceed in females with Mayer-Rokitansky-Kuster-Hauser syndrome: a case-control study. *J Obstet Gynaecol Can*. 2022;**44**(8):926–930. https://doi.org/10.1016/j.jogc.2022.03.018
139. Kang J, Chen N, Song S, et al. Sexual function and quality of life after the creation of a neovagina in women with Mayer-Rokitansky-Kuster-Hauser syndrome: comparison of vaginal dilation and surgical procedures. *Fertil Steril*. 2020;**113**(5):1024–1031. https://doi.org/10.1016/j.fertnstert.2020.01.017
140. Delshad S, Delshad B, Mogheimi P. Postoperative outcomes of sigmoid colon vaginoplasty for vaginal agenesis: a randomized controlled trial. *Ann Med Surg (Lond)*. 2022;**78**:103833. https://doi.org/10.1016/j.amsu.2022.103833
141. Özyazgan I, Yontar Y, Aygen EM, Aydin A. Use of infragluteal folds as a full-thickness skin graft donor site for construction of the neovagina in cases of Mullerian agenesis. *J Obstet Gynaecol Res*. 2018;**44**(10):1985–1994. https://doi.org/10.1111/jog.13752
142. Poordast T, Najib FS, Kianmehr Z, Shoaee F, Askary E. Long term anatomical and functional results of modified McIndoe Vaginoplasty with amnion graft in patients with congenital vaginal aplasia compared with a control group. *INTERNATIONAL JOURNAL OF PEDIATRICS-MASHHAD*. 2020;**8**:11551–11559. https://doi.org/10.22038/ijp.2020.47238.3832
143. Cheikhelard A, Bidet M, Baptiste A, et al. Surgery is not superior to dilation for the management of vaginal agenesis in Mayer-Rokitansky-Kuster-Hauser syndrome: a multicenter comparative observational study in 131 patients. *Am J Obstet Gynecol*. 2018;**219**(3):281.e1. https://doi.org/10.1016/j.ajog.2018.07.015
144. Kepczynska-Nyk A, Kurylowicz A, Nowak A, Bednarczuk T, Ambroziak U. Sexual function in women with androgen excess disorders: classic forms of congenital adrenal hyperplasia and polycystic ovary syndrome. *J Endocrinol Investig*. 2021;**44**(3):505–513. https://doi.org/10.1007/s40618-020-01332-3
145. Dobrowolska-Glazar B, Honkisz I, Sulislawski J, Tyrawa K, Wolnicki M, Chrzan R. Sexual function and health status in adult patients with congenital adrenal hyperplasia. *J Pediatr Urol*. 2020;**16**(4):464.e1. https://doi.org/10.1016/j.jpurol.2020.05.162
146. Gamidov S, Shatylko T, Gasanov N, et al. Sexual dysfunction in patients with late complications of hypospadias surgery. *Andrologia*. 2022;**54**(6):e14413. https://doi.org/10.1111/and.14413
147. Yigman M, Tangal S, Haliloglu AH, Caglar GS. Erectile function in SRY positive 46,XX males with normal phenotype. *Cent European J Urol*. 2021;**74**(1):95–98. https://doi.org/10.5173/ceju.2021.0284.R1
148. Beauchamp TL, Childress JF. *Principles of Bioethics*. 7th ed. Oxford University Press; 2013.

Sexual Medicine Reviews, 2025, 1–18
https://doi.org/10.1093/sxmrev/qeaf024
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