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Review Article

Nosology, clinical features, evaluation and management of penile dysmorphic disorder : A review of existing evidence

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Abstract

Penile Dysmorphic Disorder (PDD) is the persistent anxiety and preoccupation about having a small penis combined with repetitive checking behaviors, leading to significant distress and/or impairment. Literature is scarce regarding the risk factors, clinical features, and comprehensive management of PDD in men. There is a considerable degree of uncertainty regarding the risk factors, nosological status, psychopathology, diagnosis, and management of PDD. The present review will provide an overview of risk factors, patho-clinical features, and diagnostic strategies using screening instruments specific to PDD. It also aims to summarize the multimodal treatment options involved in managing PDD. The literature review shows that though the psychopathological understanding of PDD is in its early stages, considerable knowledge has accrued over the past few years regarding the phenomenology and psychopathology of PDD, which facilitates a better understanding of the disorder and guides appropriate surgical and/or psychological interventions. Specialized psychotherapies such as psychosexual therapy involving individuals and couples have been frequently used in individuals with PDD.

Keywords:
Penile dysmorphophobia, Small penis syndrome, Nosology, Diagnosis, Management

Introduction

The male genitalia, especially the penis, is perceived as a symbol of masculinity and sexual prowess (Kim, 2016). Penis along with, muscle mass, body hair, and built are considered aesthetic ideals of the male gender. They are not only sources of confidence and self-esteem but are also subjected to repeated self-scrutiny, comparison, and teasing by peers. Anxiety about the size and appearance of the penis starts as early as childhood when the child compares his penis with his male siblings. Around 62.7% of boys developed anxiety about penis size in childhood after comparing their penis sizes with their friends (Mondaini and Gontero, 2005). The

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anxiety mentioned above is named "Small Penis Syndrome" (SPS), where the person has anxiety about the subjective perception of the size, appearance, and girth of the penis both in the flaccid and erect states despite evidence for the contrary. The anxiety can stem due to an obsessive rumination or body dysmorphic disorder (BDD) named penile dysmorphic disorder (PDD) or due to psychosis (Wylie and Eardley, 2007).

Penile Dysmorphic Disorder (PDD) is diagnosed when the anxiety about a small penis persists as a preoccupation for at least one hour per day along with repetitive behaviors such as checking, leading to significant distress and/or impairment (Veale et al., 2015c). Men with persistent PDD report lower sexual satisfaction despite an intact libido and arousal mechanism (Veale et al., 2015c). Studies reveal that only a few men approach the appropriate medical services (urology, sexual medicine, or psychiatry). A significant majority either avoid medical consultations due to shame or consult unreliable web sources and unethical or pretentious medical practitioners (Marra et al., 2020). Literature is scarce concerning the clinical features, course, and outcome, pharmacological and psychological management of PDD.

The present review aims to understand and elucidate the nosological status, risk factors, clinical features, and management of the penile dysmorphic disorder.

Methods

The literature search was done on PubMed, EMBASE, MEDLINE, Science Direct, Ovid, Cochrane Library, and Google Scholar. The search terms used were "penile dysmorphophobia", "penile dysmorphic disorder", "genital dysmorphic disorder", "body dysmorphic disorder in males", "penile dissatisfaction", "small penis syndrome" and "small penis anxiety". The search gave a total of 32 articles. To ensure phenomenological specificity regarding PDD, papers that focussed only on small penis syndrome or have used PDD and SPS interchangeably were excluded after careful deliberation, yielding 22 articles for the present review.

Nosological status and epidemiology

Penile dysmorphic disorder (PDD) is the subjective preoccupation with the perceived flaw of the size and shape of the penis (Veale et al., 2015a). Hence, in the International Classification of Diseases (ICD-10), it is included under hypochondriacal disorder (F45.2), which includes dysmorphophobia and dysmorphic disorder (Chowdhury et al., 2022). In small penis syndrome (SPS), men are subjectively dissatisfied with the size of the penis, which is objectively normal size, and there is no excessive preoccupation as in PDD. Some authors opine that they could be a part of a continuum; however, the findings are inconclusive (Chowdhury et al., 2022). The nosological status of SPS and PDD is paramount in understanding the risk factors, phenomenology, and response to cosmetic surgery.

Although BDD is more common in women, BDD with the preoccupation with genitalia is more common in men (Phillips et al., 2006). Despite arising in diverse socio-cultural settings, the exact prevalence of PDD is unknown. However, in a study on Italian men having sex with men (MSM), the prevalence was 4.2% (Fabris et al., 2022). Further, men with PDD were older than the controls, and there was no difference in marital status or employment status (Veale et al., 2015b).

Risk Factors

Studies have found various risk factors associated with the development of PDD. On the contrary,

Box 1: Risk factors associated with the development of PDD

- Older age group (around 40s-50s)
- Childhood history of emotional, physical abuse and neglect
- Teasing about genitalia and sexual competency by peers
- Obesity (possibly due to physical appearance distortions caused by high pubic fat and overhanging abdominal fat)

ethnicity, sexual orientation, sexual abuse, previous history of genital surgeries, employment, or marital status did not confer any risk (Veale et al., 2015b).

Clinical features (history, phenomenology & psychopathology)

History

The most common age group of presentation of PDD in men ranges between 40 - 50 years (Veale et al., 2015b; Veale et al., 2015c). Men with PDD most often present themselves in specialties such as urology and plastic surgery other than psychiatry. The most common presenting complaints are decreased penile size, erectile dysfunction, sexual dissatisfaction, and persistent demands to increase the size and girth of the penis (Mansfield, 2020; Veale et al., 2015c). Individuals can also seek solutions such as cosmetic products, exercise, and surgical measures for enlarging the penile size (Veale et al., 2015c).

Clinicians should explore childhood risk factors such as exposure to adverse childhood experiences such as neglect and physical and emotional abuse (Veale et al., 2015b). Exposure to teasing about penile size by peers and sexual partners was associated with the emergence of PDD in later life (Veale et al., 2015b). Premorbid obsessive-compulsive personality traits confer an additional risk of developing PDD (Chowdhury et al., 2022). Comorbid psychiatric disorders associated with PDD include anxiety, depression, social phobia, and obsessive-compulsive disorder (Wylie and Eardley, 2007). A recent case study revealed the co-occurrence of Koro in a patient with PDD (Chowdhury, 1989a).

Phenomenology

The two central phenomenological experiences associated with PDD are dissatisfaction and shame.

Penis size shame or small penis syndrome (SPS) can be described as shamefulness regarding the penile size among males with a purportedly normal-sized penis (Veale et al., 2014). The reported inadequacy in size of the penis will not corroborate with the findings in the clinical evaluation of the genitals. Penile dysmorphophobia, in simple terms, can be explained as dissatisfaction with the penile adequacy of the individual (Austoni et al., 2002).

The concept of dysmorphophobia can be grossly differentiated into the following two classes (Spyropoulos et al., 2005):

1. Aesthetic: The individual is dissatisfied with his penis in the flaccid state.

2. Functional: The individual is dissatisfied with his penis during the erection.

The dissatisfaction among such individuals can be considered inadequate in size, girth and symmetry (Nugteren et al., 2010). The shame due to distorted perception of penile size can lead to the individual considering himself to be unattractive or undesirable in the presence of the sexual partner (Shame, 1998).

Psychopathology

Penile dysmorphophobia shares similar maladaptive psychological processes associated with the disorder of body dysmorphophobia. Excessive consciousness of self and perceiving a distorted negative image from the observer's perspective are the core cognitive errors in body dysmorphic disorder (Osman et al., 2004). Individuals with PDD are found to have obsessive ruminations and hypochondriacal thought processes (Chowdhury et al., 2022). Depressed affect, low self-esteem, depressive cognitions, and suicidal ideas can be present when the PDD is complicated with depression (Wylie and Eardley, 2007). The low self-esteem among the men with PDD was predicted by the maladaptive self-perception of penile size apart from body weight, muscularity, and height (Tiggemann et al., 2008).

The self-discrepancy theory proposes three domains of self-belief, namely:

1. The actual self is the set of attributes an individual possesses

2. The ideal self is the set of attributes individual hope to possess
3. The should or the ought self is a set of attributes that an individual believes that he should possess.

The self-discrepancy theory to body dysmorphophobia has revealed that such individuals experienced their 'actual self' differed from both their 'ideal' and 'should self' (Veale et al., 2003).

Diagnosis with the use of screening instruments

- Beliefs about Penis Size (BAPS) (Veale et al., 2014): The BAPS scale assesses the perceived masculinity and shame about perceived penile size across domains such as - internal and external evaluation and the consequences anticipated due to perceived penis size and self-consciousness. The scale comprises 10 items measured on a five-point Likert scale. The presence of higher scores represents greater levels of shame about the size of the penis by the individual. Further, this scale can differentiate individuals with PDD and small penis anxiety.

- Cosmetic Procedure Screening Scale for PDD (COPS-P) (Veale et al., 2015a): This self-report scale comprises nine items. The items are measured on a Like rt scale with 0-8. Higher scores indicate higher preoccupation and distress regarding penile size and shape. Like BAPS, the COPS-P scale can also differentiate between individuals with PDD and small penis anxiety.

- Augmentation Phalloplasty Patient Selection and Satisfaction Inventory (APPSSI) (Spyropoulos et al., 2005): The questionnaire comprises four items, measured on a five-point Likert scale (scores 0-4). Three questions assess the patient's perception of their sexual body image and their perceived need for augmentation surgery. In contrast, the last question assesses the satisfaction with the outcome of the surgery. The lower scores indicated very low self-esteem and increased seeking for surgical intervention.

- Draw-a-penis-test (DAPT) (Chowdhury, 1989b): A graphomotor projective test that compares the image of the penis drawn by the individual and the normal penis, both in the flaccid and in the extended state.

Management

Patients with PDD need to undergo systematic evaluation and assessment, which can include the following, as mentioned in Table 2 (Seo and Choe, 2016):

The evidence for the effectiveness of various therapeutic options remains unclear. Interventions are broadly classified as surgical, nonsurgical, pharmacological, and psychological.

Surgical interventions

Surgical interventions are generally suited for patients with medical and surgical conditions, including penile carcinoma, penile trauma, excessive skin loss, buried penis, Peyronie's disease, and congenital anomalies (epispadias, hypospadias, and inter sex disorders). Most surgical interventions aim to increase the penile length or penile girth. Suspensory ligament incision was the most frequent surgical method employed in patients with PDD. Many studies have used inconsistent non-standardized techniques to assess patient satisfaction before and after the surgical procedure yielding various interpretations (Marra et al., 2020). Patients with current or past psychiatric illnesses and hypogonadism were usually excluded from surgical interventions.

Non-surgical interventions

Among the various non-surgical interventions, penile extenders, injectables, and vacuum devices were commonly used (Marra et al., 2020).

Pharmacological

The pharmacological options in PDD are few and are targeted toward tackling anxiety and hypochondriacal beliefs. Selective Serotonin Reuptake Inhibitors (SSRIs) are used in PDD but less frequently, and their efficacy and effectiveness need to be evaluated in the longterm (Micluia, 2021).

Table 2: Evaluation and assessment of penile dysmorphic disorder (PDD)

Section	Areas of exploration /assessments
Chief concern on penile size	• Related to flaccid or erect length • Penile girth • Rule out small penis syndrome
Psychiatric & medical history	• A thorough history to rule out depression, anxiety, and suicidality • Personality traits • Medical illnessessuch as diabetes, endocrine disorders
Sexual history	• Sexual orientation • Fantasies • Sexual habits & their frequency
Physical examination	• Assessment of body habitus • Detailed genital examination to rule out physical anomalies (hypospadias, episadias, Peyronie's disease, etc.) • Assessment of testis & secondary sexual characteristics to rule out endocrine abnormalities • Significant amount of suprapubic fat, if any • Abnormalities of the penile skin (webbed penis, concealed penis, or penile scrotalization)
Penile size examination	• Flaccid length, stretched length, erect state length (after visual, tactile, or intracavernosal alprostadil stimulation), and flaccid circumference (penile girth) (Penile length measurement is taken from the pubopenile junction to the tip of glans with a scale with millimeter readings)
General considerations	• To ensure adequate privacy • Comfortable room temperature • Consistent methods of measurement with similar ruler/tapes

Psychological

Literature reveals that psychological therapies such as psychosexual therapy, psychotherapy, and cognitive-behavioral therapy are warranted in patients with PDD before considering surgical interventions. Brief and focused counseling sessions targeting the anxiety about the small penis have proven to be effective and helped to avert unnecessary surgical procedures in more than two-thirds of patients (Marra et al., 2020). Psychotherapies target the central abnormal ideas of "penile representation of masculinity" and "penile adequacy in satisfying the partner". Inculcating the ideas of intimacy and love beyond the often-glorified acts of penetration is crucial in therapies addressing PDD (Mansfield, 2020; Minhas and Mulhall, 2017).

Cognitive challenging and reframing of maladaptive thoughts help enhance the self-worth of men with PDD. Intimacy-based interventions, either individually or as a couple, have been beneficial in correcting maladaptive thought processes linked to PDD (Minhas and Mulhall, 2017). Slow but consistent change from the premise of function and performance towards self-worth and intimacy needs to be the aim for such interventions.

Regional relevance & considerations

The main psychological construct in PDD is the constant preoccupation with genital appearance in terms of size and sexual functionality. Such preoccupations overlap with the constructs of various culture-bound syndromes prevalent in India, such as Dhat and Koro, where virility and penile adequacy govern the clinical presentation. A recent case study has corroborated an association between PDD and Koro (Chowdhury et al., 2022). Such findings suggest that future studies should explore the cultural influences and variations in PDD presentations.

Similar to the male-predominant prevalence of Dhat and Koro syndromes, in PDD, males are mostly affected. Nevertheless, studies need to explore the hidden prevalence of genital dysmorphophobia in females presenting with anxiety and sexual concerns related to performance and satisfaction. Common questions related to concerns on penile dimensions, functions, and partner satisfaction need to be considered during the regular screening of both individuals and among couples seeking consultations in sexual wellness clinics.

Conclusions

Despite increasing reports of penile dysmorphic disorder in adult men, especially those exposed to childhood adverse events and peer teasing, the nosological status of PDD remains unclear. PDD shares some common psychopathological features with body dysmorphic disorder. A variety of specific screening instruments and incorporation of inquiries related to PDD among individuals and couples visiting sexual wellness clinics would help identify this syndrome among vulnerable individuals. Psychological interventions play an integral role in pre-surgical assessment, correcting maladaptive thoughts and perceptions, and ensuring recovery in patients who had avoided surgical procedures.

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Conflicts of interest: None

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