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## Exhibitionism - a review of research

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## Exhibitionism - a review of research

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### Summary

**Introduction and purpose:** Exhibitionism is a paraphilic behavior characterized by a persistent or recurrent tendency to expose one's genitalia to strangers, typically without the intention of further interaction. While often linked to sexual excitement and followed by masturbation, this behavior is more commonly observed in men. Research highlights several potential risk factors for exhibitionistic disorder, including childhood sexual or emotional abuse, hypersexuality, and sexual preoccupation. Neurobiological, cognitive, and social mechanisms are believed to underlie the development of these tendencies. Treatment of exhibitionistic disorder primarily involves cognitive behavioral therapy (CBT). Pharmacological approaches are also employed to manage symptoms by modulating serotonergic transmission. The aim of this publication is to discuss various aspects of exhibitionism based on the latest literature.

**Material and methods:** The PubMed database was searched to find scientific articles in which the terms "exhibitionism" appear in the title, abstract, or keywords.

**Conclusions:** Although relatively uncommon, exhibitionistic disorder has significant implications for individuals and society, underscoring the need for improved awareness, accurate prevalence estimates, and expanded access to effective treatment interventions.

**Key words:** exhibitionism, paraphilia, review

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## **Introduction**

Paraphilias, also known as sexual preference disorders, are defined as conditions where sexual arousal or satisfaction arises in response to stimuli or behaviors that are not commonly regarded as sexually stimulating [1]. The DSM-5 classification lists eight disorders in this category (pedophilia, exhibitionism, voyeurism, sexual sadism, sexual masochism, frotteurism, fetishism, and transvestic fetishism). In contrast, the ICD-10 includes nine disorders, differing by the exclusion of frotteurism, the combination of sexual sadism and masochism into "sadomasochism," and the addition of three broader categories: "other disorders of sexual preference," "varied forms of sexual preference disorders," and "unspecified disorders of sexual preference" [1,2].

Estimating the global prevalence of paraphilias is challenging due to significant discrepancies in the literature, with reported rates ranging from a few percent to as high as 60%, depending on the studied population [1,3,4]. A study by Joyal et al. [5] involving a representative sample of approximately 1,000 participants found that interest in paraphilic behaviors appeared widespread (reported by over half of respondents), though only about one-third acted upon these interests. Numerous studies [1,5,6] indicate that paraphilias are significantly more common in men, although a few occur at similar rates across genders.

The etiology of paraphilias remains unclear. Researchers suggest a potential influence of genetic, neurobiological, interpersonal, and cognitive factors [1,7]. Studies conducted several years ago imply that paraphilias may be linked to disruptions in neurotransmitter systems, particularly serotonergic and dopaminergic pathways [8]. Considering these findings, paraphilias are likely a relatively common phenomenon in society. However, research on specific paraphilias remains limited, making this an important and intriguing area for further investigation.

## **Objective**

This article aims to compile the latest findings on exhibitionism, focusing on its etiology, prevalence, and treatment.

## Methods

A search was conducted in the PubMed database to identify scientific articles containing the term “exhibitionism” in their title, abstract, or keywords. The search focused on articles published between 2014 and 2024, with an emphasis on studies exploring the etiology, prevalence, and treatment of exhibitionism.

## Diagnostic criteria

### DSM-V

In the DSM-V classification, exhibitionistic disorder is assigned the code 302.4 and is characterized by the following diagnostic criteria:

- A. Over a period of at least 6 months, recurrent and intense sexual arousal from the exposure of one’s genitals to an unsuspecting person, as manifested by fantasies, urges, or behaviors.*
- B. The individual has acted on these sexual urges with a nonconsenting person, or the sexual urges or fantasies cause clinically significant distress or impairment in social, occupational, or other important areas of functioning [9].*

### ICD-10

In the ICD-10 classification, exhibitionism is assigned the code F65.2, with the following diagnostic criteria:

*A recurrent or persistent tendency to expose the genitals to strangers (usually of the opposite sex) or to people in public places, without inviting or intending closer contact. There is usually, but not invariably, sexual excitement at the time of the exposure, and the act is commonly followed by masturbation. This behavior also meets the following additional criteria for paraphilia:*

- Significant distress due to the realization of this drive.*
- Persistence of this preference for at least six months [2].*

### ICD-11

In the ICD-11 classification, exhibitionistic disorder is assigned the code 6D30, and the diagnostic criteria are as follows:

*Exhibitionistic disorder is characterised by a sustained, focused and intense pattern of sexual arousal—as manifested by persistent sexual thoughts, fantasies, urges, or behaviours—that involves exposing one’s genitals to an unsuspecting individual in public places, usually without inviting or intending closer contact. In addition, in order for Exhibitionistic Disorder*

*to be diagnosed, the individual must have acted on these thoughts, fantasies or urges or be markedly distressed by them. Exhibitionistic Disorder specifically excludes consensual exhibitionistic behaviours that occur with the consent of the person or persons involved as well as socially sanctioned forms of exhibitionism [10].*

It is important to note that each of the classifications mentioned suggests that exhibitionistic disorder should not be diagnosed in children and adolescents, as this age group is characterized by a tendency for sexual experimentation [2, 9, 10]. This disorder should also not be diagnosed if exhibitionistic behaviors occur only once or a few times and are linked to specific situations (e.g., the use of psychoactive substances) [9, 10]. Additionally, exhibitionistic behaviors should always be evaluated in the context of the accepted norms within a particular cultural group, as certain forms of exhibitionism may be permissible in some cultures, which would exclude the possibility of diagnosing pathology [9, 10]. Any instances of consensual exhibitionism also preclude the diagnosis of this disorder [9, 10]. In summary, the diagnostic criteria for this disorder appear to be consistent across different classification systems.

### **Suspected etiology**

As previously noted, the etiology of specific paraphilias remains relatively poorly understood [1]. According to the assumptions made in ICD-11 and DSM-V, a logical risk factor for exhibitionistic disorder is the manifestation of exhibitionistic behaviors [9, 10]. Some researchers also suggest that childhood sexual and emotional abuse, as well as sexual preoccupation or hypersexuality, may contribute to the risk of developing this disorder [9].

Exhibitionism has also been associated with specific psychological predispositions, where the individual committing the act perceives the shock or surprise of the observer as sexual interest, which may encourage the continuation of such behaviors [11].

Research suggests that a variety of neurobiological, social, and cognitive mechanisms may play a role in the development of exhibitionistic behaviors. In paraphilic disorders, distinct neural circuits are associated with impulsivity and compulsivity. Impulsivity is regulated by an action-outcome learning system within the ventral striatum, while compulsivity relies on a habituation system in the dorsal striatum. Initial behaviors often emerge in the ventral circuit, linked to motivation and reward, but over time, some shift to the dorsal circuit through neuroadaptive changes and neuroplasticity, eventually becoming ingrained as habitual

behaviors [12]. Key roles in the development of exhibitionistic disorders are also played by various disturbances in dopaminergic [8] and serotonergic [8, 13] neurotransmission.

Zheng et al. [14] conducted neuroimaging studies on a patient with X-linked adrenoleukodystrophy who exhibited exhibitionistic behaviors. The imaging revealed changes in the bilateral frontal white matter, the basal ganglia, and dorsal thalami. Exhibitionistic behavior in this case was associated with a limited understanding of the emotions and changes that accompany typical puberty, combined with challenges related to social or intellectual difficulties, as well as the observed changes in the frontal white matter [14, 15, 16].

Neuroimaging studies on geriatric patients who developed paraphilic behaviors (including exhibitionism) following a stroke confirmed the association between damage to the dorsolateral and orbitofrontal cortex, temporal cortex, temporoparietal cortex, amygdala, hippocampus, frontostriatal circuits, and cerebellum with these types of disorders [17, 18, 19]. Other conditions that promote the development of various paraphilic behaviors include temporal lobe epilepsy, frontal lobe injury, Huntington's disease, frontotemporal dementia, and Parkinson's disease [17, 20, 21].

Thomson et al. [22] also highlight the potential for the development of exhibitionism (and other paraphilias) as a result of the use of antipsychotic medications, due to their influence on dopaminergic and serotonergic neurotransmission. This can lead to the onset of hypersexuality, which in turn predisposes individuals to engage in certain paraphilic behaviors [23].

### **Global prevalence and gender differences**

Estimating the global prevalence of paraphilias, as well as specific forms of these disorders, is challenging due to significant variations in reported data [1]. However, many researchers agree that exhibitionistic disorder occurs in approximately 2-4% of men, while it is extremely rare in women [3, 9, 24].

An interesting study conducted by Joyal et al. [5] provided valuable insights into the prevalence of exhibitionistic behaviors. Participants were asked about their desire to experience exhibitionism and their past involvement in exhibitionism, including a broader form defined as engaging in sexual intercourse in front of others or in a location where being seen by others is highly probable. The desire to experience exhibitionism was reported by

5.9% of men and 3.4% of women, while the desire for expanded exhibitionism was reported by 35% of men and 26.9% of women. Past experience of exhibitionism was reported by 7.8% of men and 2.7% of women, with 32.6% of men and 29.4% of women reporting past involvement in expanded exhibitionism.

These findings align with the observations of other researchers [3, 9, 24], who have noted that exhibitionism is significantly more common in men than in women. However, it is worth noting that the gender differences regarding expanded exhibitionism are relatively small [5].

The cause of the higher prevalence of exhibitionistic behaviors in men has not yet been fully explained [25]. Some researchers suggest that this may be partly due to the perception by men of exhibitionistic behaviors as less repulsive [25, 26]. From an evolutionary perspective, this tendency may also be explained by a greater inclination of men to engage in behaviors associated with a short-term mating strategy [27, 28]. The lower prevalence of exhibitionistic behaviors in women has also been attributed to the fact that, in many cultural contexts, women have the option to dress provocatively without facing significant social disapproval, which may partially satisfy their exhibitionistic impulses [25]. In summary, the key factors differentiating the tendency for exhibitionistic behaviors in both genders are sociosexuality and sexual compulsivity. However, further research in this area is necessary [25].

### **Contemporary forms of exhibitionism**

Technological advancements have led to the emergence of new forms of various paraphilic behaviors [29, 30]. One modern form of exhibitionism is unsolicited “dick pics” (DP), where individuals send an image of their penis to someone, typically via a dating platform, without their consent [29, 30, 31]. Motivations for sending unsolicited DPs include attempts to encourage the recipient to engage in sexual activity [32], pressuring the recipient to send back explicit images [33], and exercising a sense of power over the recipient (a form of coercion) [34]. Due to the negative feelings this behavior generates, especially among women, who are the primary recipients, unsolicited “dick pics” have been recognized as a form of sexual harassment [35]. Interestingly, the reception of unsolicited DPs is generally more positive when the recipient is a gay man [36, 37]. To illustrate the prevalence of this phenomenon, data from Smith [38] shows that over half of women aged 18-24 have received a DP, with 47% of these being unsolicited.

### **Complications and legal implications**

Exhibitionism is classified as a non-contact sexual offense in many countries, although some forms of it are permissible under certain circumstances (e.g., nudist beaches) [9, 10, 39]. It remains one of the more common behaviors among individuals convicted of sexual offenses, with nearly one in four offenders exhibiting it, though it is rarely the only paraphilia presented by these individuals [40]. Many researchers have suggested [9, 10] that exhibitionism, in most cases, does not result in physical contact with the victim; however, studies by Chan et al. [39] indicate that it increases the risk of both non-penetrative and penetrative sexual assault.

According to data from Smith [38], 46% of women under 18 have received an unsolicited DP, which is classified as a crime in the country where the study was conducted.

## **Treatment**

The treatment of paraphilias in general, including exhibitionism, is challenging, primarily due to the relatively low engagement of the individuals being treated, who are often referred for treatment involuntarily [1]. The primary method for treating exhibitionism is psychotherapy, with cognitive behavioral therapy (CBT) being the most common approach, as it has proven effective for treating virtually all types of paraphilias [41]. Pharmacological treatment for exhibitionism primarily involves the use of medications that influence serotonergic transmission, with medications such as clomipramine, fluoxetine, fluvoxamine, paroxetine, and trazodone showing good efficacy in this regard [12, 42]. One study also suggests that symptoms of this disorder may improve with the use of bupropion, which aligns with the previously discussed role of dopaminergic transmission disorders in the development of paraphilias [12].

## **Summary**

Exhibitionism is characterized by a recurrent or persistent tendency to expose one's genitalia to strangers, often of the opposite sex, or to people in public spaces, without seeking or intending closer contact. Typically, but not always, this act is associated with sexual excitement and is often followed by masturbation.

Research indicates that exhibitionistic disorder is more common among men. Key differentiating factors influencing exhibitionistic tendencies between genders include sociosexuality and sexual compulsivity.



Some researchers have proposed that risk factors for exhibitionistic disorder may include childhood sexual and emotional abuse, as well as hypersexuality or sexual preoccupation. Neurobiological, social, and cognitive mechanisms are also thought to contribute to the development of exhibitionistic tendencies. Additionally, exhibitionism, like other paraphilias, has been associated with the use of antipsychotic medications.

The primary treatment for exhibitionism is psychotherapy, particularly cognitive behavioral therapy (CBT). Pharmacological interventions mainly focus on modulating serotonergic pathways, often through the use of selective serotonin reuptake inhibitors (SSRIs).

Despite being a relatively rare disorder, exhibitionism significantly impacts both the individuals affected and society at large, particularly its victims, who may experience lasting psychological harm. Further investigation into the true prevalence of exhibitionistic disorder is warranted, as current estimates may be imprecise. Additionally, there is a need for awareness programs to educate individuals with this disorder about the importance of seeking treatment, as they rarely pursue psychological help voluntarily.

**Author's contribution:**

Conceptualization: K.W., A.M.; methodology: K.W., A.M.; software: K.W., A.M., J.W., A.W.; formal analysis: K.W., A.M., J.W., A.W.; investigation: K.W., A.M., J.W., A.W., J.D., W.C.; resources: K.W., A.M., J.W., A.W., P.S., E.G.; data curation: K.W., A.M., J.W., A.W., P.S., E.G.; writing - rough preparation: K.W., A.M., J.W., A.W., J.D., W.C., P.S., E.G.; writing - review and editing: K.W., A.M., J.W., A.W., J.D., W.C., P.S., E.G.; visualization: K.W., A.M., A.W.; supervision: K.W., A.M.; project administration: K.W., A.M. All authors have read and agreed to the published version of the manuscript.

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