

Paraphilic Disorder: Definition, Contexts and Clinical Strategies

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Received : September 4, 2019

Published : September 24, 2019

DEFINITION AND CLINICAL CONTEXT OF PARAPHILIAC DISORDERS

Definitions and preliminary distinctions

The evolution of the definition of perverted or paraphilic sexual activity reveals how psychiatric nosography reflects the society that expresses it. In the context of a culture that considered sexuality in relatively narrow terms, Freud (1905) first, in a closed socio-cultural context but eager to open up, defined perverse sexual activity according to various criteria, such as: focusing of body regions not necessarily genitals (eg: neck, back, ...); the replacement of the usual sexual practice exclusively focused on genital contacts with a partner of the other sex, often for procreative purposes, according to the religious direction; the tendency to be the exclusive practice of the individual. From his first paper, however, cultural attitudes relating to sexuality have changed radically, thanks to globalization and the spread of telematics and social networks capable of connecting individuals separated by oceans and continents. Over the decades, from the first theorizations of the beginning of the last century, not surprisingly, couples (in their intimacy) have cleared a variety of sexual behaviours so to speak "bizarre", up to the removal of perverse behaviours like anal penetration and homosexual orientation [1].

According to McDougall (1986), perverse fantasies are

ABSTRACT

Starting from the concept of paraphilic disorder, we proceeded to list the individual forms envisaged by the DSM-V, with a series of focus on clinical, psychodynamic, cognitive-behavioural and strategic profiles, focusing the analysis above all on the resolving context of the problems analyzed.

KEYWORDS: Psychology; Neuroscience; Anxiety; Prefrontal Cortex; Limbic System; Voyeurism; Paraphilia; Paraphilic Disorder; Paraphiliac Disorders; Paedophilia; Rape; Sexology; Exhibitionism; Frotteurism; Masochism; Sadism; Fetishism; Transvestism; Psychotherapy; Psychopharmacology; Mood-Stabilizing Drugs; Antidepressants; Anxiety; Strategic Approach.

found in all adult sexual behaviour, but cause few problems as they are not experienced as compulsive, or at least as loss of control (so to speak, egodistoniche concerning the external environment). He also suggested using the term "neo-sexuality" to refer to paraphilias, to purify the subject of moralistic and pejorative tones, children of an obscurantist view of reason.

Stoller (1975, 1985) suggested instead a narrower definition of "sexual perversion", meaning it as the erotic form of hatred. In essence, he asserted that cruelty, the desire to humiliate and degrade the sexual partner, and even themselves, are crucial determinants for classifying perverse behaviour. According to this perspective, the intention of the individual is a critical variable in defining perversion. An individual is called perverse, only when the erotic act is used to avoid a long-term, emotionally intimate relationship with another person.

The definition of the paraphilias of the DSM-IV [2], in an attempt to be non-judgmental, suggested the restriction of the term to situations in which non-human objects are used, actual pain is inflicted on oneself, or one's partner or humiliation, or non-consenting children or adults are involved. To consider the continuum between fantasy and action, the DSM-IV has developed a spectrum of gravity:

a) in mild forms, patients are troubled by their

- paraphiliac sexual urges, but do not implement them;
- b) in conditions of moderate severity, patients translate thrust into action, but only occasionally;
- c) in severe cases, patients repeatedly perform their paraphiliac thrusts.

The genesis of the paraphilic disorder

The aetiology of paraphilias remains full mainly of mystery. Although some studies have suggested that biological factors contribute to the pathogenesis of perversions, the data are currently conflicting. Even if biological factors are present (which we will see in the paragraph dedicated to neural correlates), it is undoubtedly the psychological reasons that play a decisive role in the choice of paraphilia and the meaning underlying the sexual acts.

The classical (or psychodynamic) vision [3] of perversions, according to Freud's (1905) drive theory, he believed that in these disorders "instinct" and "object" were separated from each other: "the sexual drive is probably at first independent of its object". Therefore, in perversions, according to this orientation, fantasies become conscious and are expressed directly as "pleasant" ego-syntonic activities.

Continuing on this theoretical orientation, according to Fenichel (1945), the decisive factor that prevents the achievement of an orgasm through the conventional genital relationship is castration anxiety. Perversions, according to this classical view, therefore perform the function of denying castration.

Again, for Kohut (1971, 1977), father of the stream of self-psychology, the perverse activity includes a desperate attempt to restore the integrity and cohesion of the Self in the absence of empathic responses from the Self-object by the others. Sexual activity or fantasy can help the patient feel alive and healthy when threatened by abandonment or separation. A perverse behaviour in therapy can be a reaction to failures of empathy on the part of the therapist, which lead to a temporary disruption in the Self / object-Self matrix.

According to the scholar Stoller (1975, 1985), the essence of perversion is the conversion "of childhood trauma into an adult triumph". Patients are driven by their fantasies of avenging humiliating childhood trauma caused by their parents. Their method of revenge is to humiliate or dehumanize the partner during the fantasy or the perverse act.

According to Michell (1988), however, perverse sexual activity can also be an escape from object relationality. Many people who suffer from paraphilias have separated and individualized incompletely from their intrapsychic representations of the mother. The result is that they feel that their identity as separate people are constantly threatened by a merger of internal or external objects. Sexual expression can thus be the only area in which they can assert their independence.

McDougall (1986), as already mentioned, proposes the use of the term "neo-sexuality" and suggests that sexual behaviour should evolve from a complicated array of identifications and counter-identifications with parents. Each child is involved in an unconscious psychological theatre that arises from the parents' unconscious erotic desires and conflicts. So the obligatory nature of every neo-sexuality is programmed by parental scripts internalized by the child. Finally, according to the author, certain sexual practices and objects become like a drug that the patient uses to treat a sense of internal death and a fear of disintegration of the Self.

Finally, as regards, specifically, the study of female perversions, Kaplan (1991) emphasizes that they imply more subtle dynamics than the more predictable sexuality of male perversions. The themes of separation, abandonment and loss are part of the sexual activities that derive from female paraphilias.

In conclusion, before examining the dynamics of each paraphilia, we must remember that the individual preference of a perverse fantasy rather than another remains obscure. Therefore, the psychodynamic understanding of a patient involved in perverse sexual activity implies a comprehensive understanding of how perversion interacts with the underlying characterological structure of the patient:

- 1) In the case of *exhibitionism*, for Freud (1905) and Fenichel (1945), the exhibitionist exposes his genitals in public because in this way he is reassured of not being castrated, as a sort of reaffirmation of his sexual dimension and his social role. The shock reactions that these actions cause help him to cope with castration anxiety and give him a sense of power over the opposite sex. Fenichel has also associated voyeuristic tendencies with a fixation on the first infantile scene, in which the child attends or hears a sexual relationship between the parents. This early traumatic experience could stimulate the child's castration anxiety and then lead him, once an adult, to re-enact the scene over and over again in an attempt to

- master a passively experienced trauma actively. Finally, the scholar also identified an aggressive component in looking, conceptualizing it as a shift in the desire to be directly destructive to women, to avoid feelings of guilt. The scholar Stoller (1985) instead pointed out that the typically exhibitionistic actions follow a situation in which the person responsible felt humiliated, often by a woman.
- 2) Furthermore, the act of showing his genitals allows a man to regain some sense of value and positive male identity. Often these men reveal deep insecurity concerning their sense of masculinity. According to Mitchell (1988), exhibitionists often feel that they have had no impact on any person in their family and have, therefore had to resort to extraordinary measures to be noticed. Even the other side of exhibitionism, voyeurism, involves the violation of the private life of an unknown woman, an aggressive triumph, but secret over the female sex.
 - 3) In the case of *sadism* and *masochism*, the discourse is more articulated. Patients afflicted with sadism are often unconsciously attempting to overturn childhood scenarios in which they have been victims of physical or sexual abuse. For Fenichel (1945), inflicting on others what happened to them when they were children, they get revenge and a sense of mastery over childhood experiences of abuse at the same time. Masochistic patients may be firmly convinced that they deserve punishment for their conflicted sadistic desires and that the acceptance of a sadistic act is a "lesser evil" than their fear of castration. According to the current of self psychology, masochistic behaviour can be experienced by the patient as capable of restructuring the Self. In this regard, a masochistic patient wrote to her therapist "physical pain is better than spiritual death". In relational terms, according to Michell (1988), sadism often develops from a particular internal relationship in which the rejecting and distant object needs an energetic effort to overcome its resistance to its representation of the Self. Even masochistic patients, who need humiliation and even pain to achieve sexual pleasure, maybe repeating childhood experiences of abuse. The masochistic surrender is essentially the implementation of an internal object relationship in which the object will respond to the Self only when it is humiliated.
 - 4) In *fetishism*, to achieve sexual excitement, fetishists need to use an inanimate object, often an article of feminine underwear, or a shoe, or a non-genital part of the body. Freud initially explained fetishism as derived from castration anxiety. The object chosen as a fetish represents the female penis, a shift that helps fetishists overcome castration anxiety. Following the premise that the masculine awareness of female genitalia increases man's fear of losing his genitals and becoming like a woman, Freud thought that this unconscious symbolization explained the relatively frequent presence of fetishism. The founder of psychoanalysis used this theory to develop his concept of splitting the ego (1938): in the fetishist's mind, two contradictory ideas coexist the denial of castration and the affirmation of castration. The fetish represents both. According to Greenacre (1979), fetishism derives from severe problems in the mother-child relationship: the child cannot be consoled by the mother or by transactional objects. To experience bodily integrity, the child, therefore, needs a fetish, a reassuring, hard, inflexible, immutable and lasting object. These early pregenital disorders are subsequently reactivated when the male child or adult is concerned about genital integrity. Also, the scholar Kohut (1977), argued for a relatively similar view of fetishism, although expressed in terms of Self Psychology. In his view, the fetishist, in contrast to feelings of helplessness towards his mother, can have complete control over the non-human version of the self-object. Therefore, what appears to be an intense sexual need for a narcissistic object may reflect severe anxiety about the loss of one's sense of self.
 - 5) In *paedophilia*, again for Freud (1905) and Fenichel (1945), the paedophile sees the child as an image that represents himself; for this reason, paedophilia is considered as a narcissistic object choice. In clinical practice, it is found that sexual activity with prepubertal children can affect fragile self-esteem. On the other hand, the paedophile often idealizes children: sexual activity with them involves the unconscious fantasy of fusion with an ideal object or restructuring of a young, idealized self. At a deeper level, the union with a child represents the desire to incorporate the mother's breast and therefore to compensate for the practical absence of maternal care in early childhood. Furthermore, paedophiles have frequently been victims of child sexual abuse. Sadistic dynamics and a sense of triumph and power can accompany the transformation of a passive trauma into an actively perpetrated victimization.
 - 6) In *transvestism*, the male patient dresses as a woman to create in himself a sexual excitement that leads to a heterosexual sexual relationship or masturbation. The patient behaves traditionally masculine when dressing as a man, but becomes effeminate when dressing as a woman.

The classical psychoanalytic understanding of dressing up as a woman involves the notion of a phallic mother. Imagining that the mother has a penis, although this is not visible, the male child overcomes his castration anxiety. For Fenichel (1945), the act of dressing up as a woman can, therefore, be an identification with the phallic mother. On a more primitive level, the small child can identify with the mother to avoid anxiety about separation. His awareness of the sexual differences between him and his mother can trigger the anxiety of losing her because they are separate people.

Paraphilia and paraphilic disorder: Distinctions and similarities

At the outset, a clear distinction must be made between “paraphilia” and “paraphilic disorder”. [4]

In the definition of Colombo [5], paraphilias are described as “sexual disorders” because the objects or situations that cause excitement deviate from those commonly found in normality. The choice of the object or the deformation of the act is manifested with characteristics of exclusivity, continuity and compulsiveness. If paraphilias stabilize, they can seriously influence the subject’s ability to establish mutual and satisfying affectionate relationships, leading to a deviant behaviour that is harmful to the well-being of the individual. Conversely, those paraphilic or perverse behaviours that are transiently manifested and remain circumscribed within healthy sexuality and a couple of relationships are not to be considered pathological. Not surprisingly, Colombo describes paraphilias as behaviours marked by impulses, fantasies or intense and recurrent sexual behaviours, which involve unusual objects, activities or situations; in fact, among the main diagnostic criteria we find the consequent presence of clinically significant distress or impairment of the social, work, or other important areas of individual functioning, for at least a period exceeding six months.

Paraphilias involve sexual excitement for atypical objects, situations and/or subjects (e.g., children, corpses, animals). However, sexual activities that seem unusual to another person or health professional do not constitute paraphilia simply because they are unusual. People may have paraphilic interests even when they do not meet the criteria for a paraphilic disorder.

Unconventional sexual arousal patterns in paraphilias are considered pathological disorders only when both of the

following conditions are met:

- a) are intense and persistent;
- b) cause significant hardship or social or occupational impairment or in other important areas of functioning or damage, or have the potential to damage, others (e.g., children, non-consenting adults);
- c) paraphilias can present a compromised or non-existent ability to become attached, to experience emotional involvement and sexual intimacy with a consenting partner.

The disturbed modes of sexual arousal are usually well developed before puberty, and at least 3 mechanisms are involved:

- a) anxiety or early emotional trauma interfere with healthy psychosexual development;
- b) the typical pattern of excitement is replaced by another model, sometimes through early exposure to significant sexual experiences that reinforce the subject’s experience of sexual pleasure;
- c) the sexual arousal mode often acquires symbolic and conditioning objects (e.g., a fetish symbolizes the object of sexual excitement, but it can be chosen because it has been randomly associated with curiosity, desire and sexual excitement).

The definition of “paraphilic disorder” instead applies when a paraphilia begins to cause discomfort or impairment in the person’s daily life or even causes damage or danger to themselves or others, becoming for the person who lives them of ego-dystonic behaviours concerning the environment. Concerning the diagnostic criteria for the disorder in question, the DSM-V identifies two: A which specifies the qualitative nature of paraphilia (e.g. addressing sexual attention towards children) and B which specifies the negative consequences of paraphilia, i.e. discomfort impairment or damage to others. The diagnosis of paraphilic disorder should, therefore, be reserved for individuals who satisfy both Criteria A and B; if an individual only satisfies Criterion A but not B for a particular paraphilia, then it could be said that the individual has a paraphilia, but not a paraphilic disorder.

To be diagnosed with a paraphilic disorder, the DSM V requires that people with this interest live it with personal

anguish, not merely resulting from social disapproval; or have a sexual desire or behavior that leads to mental distress, injury or the death of another person; or a desire for sexual behavior involving other people unable to give valid consent or involved without their knowledge. To further emphasize the boundary between an atypical sexual desire and a mental disorder, the working group redefined, for example, "Sexual Masochism" from DSM IV in "Sexual Masochism Disorder". The chapter on paraphilias includes eight conditions: exhibitionistic disorder, fetishistic disorder, frotteurism disorder, paedophile disorder, sexual masochism disorder, sexual sadism disorder, transvestism disorder, and voyeuristic disorder. An essential difference from the DSM IV-R concerns transvestism disorder, which identifies people who are sexually excited by dressing as the opposite sex, but who experience significant discomfort in their social or work life due to this behaviour. The DSM IV limited this behaviour to heterosexual men: the DSM V has no restrictions, opening this diagnosis to women or homosexual men. In the first criticism that this change would widen the people interested in the diagnosis, the working group pointed out that to enter the category, individuals must experience considerable discomfort due to their behaviour. To date, paraphilias can be classified according to the "act" they replace or to the "object" to which they are addressed. A further subdivision concerns the sensory channel that is solicited:

a) in the part of the act there is a substitution of coitus or sexual activity, with other practices;

b) in the part of the object there is a subrogation of the normative object or displacement of the goal:

- the normative object is constituted by the sexual partner (heterosexual or homosexual);
- The goal is represented by the achievement of sexual pleasure (orgasm).

c) the sensory channels involved in paraphilias:

- the visual channel, sexual excitement is sought in the display of the body or parts of it (exhibitionism), in the observation of other subjects engaged in sexual activities (voyeurism, mixoscopy) or physiological bodily functions (coprophilia, urophilia);
- acoustic/verbal channel, excitement is obtained through the practice of foul language, listening or pronouncing scurrilous or vulgar words related to sexuality (telephone scatology, coprolalia, pornolalia, mixacusi);

- olfactory channel, there are neurophysiological connections between the vomeronasal organ and certain areas of the brain, such as the limbic system (emotional) and the BNST nucleus (nucleus of the terminal strip); sexual excitement is given by the perception of odours, even unpleasant ones, such as urine, faeces, flatulence (flatulophilia), sweat (ospressiophilia), this can be connected to pheromones excreted with these substances;
- taste channel, sexual excitement is pursued through the ingestion/spraying of body excretions (coprophagia, spermatophore, pissing);
- the practice of unusual bodily activities gives tactile channel, sexual pleasure: stuffing (penetration with objects), percoxophilia, spanking (spanking with violence), climatephilia (enema practice), basophilia, rhinolagnia, urolagnia (stimulation of parts of the body not classically erogenous, like the nostrils or the urethra).

Paraphilias and the concept of abnormality

Until 2012, the psychiatric classification described with the term "paraphilias" (from the Greek παρά="beyond" and φιλία="love") all those erotic impulses characterized by intense and recurring fantasies or impulses that imply specific activities that concern objects, which involve suffering and/or humiliation, or that are directed towards minors and/or non-consenting persons. It is with this term that classification has replaced the classic and more widespread category of perversions, thus attempting to reduce the negative judgment connected to these disorders. It was later, in 2013, that the new Diagnostic and Statistical Classification of Mental Disorders (DSM V) further normalized some preferences, distinguishing "paraphilias" from "paraphiliac disorders" [6]. The boundary between normality and pathology would, therefore, reside in this distinction. According to this definition, to diagnose a paraphiliac disorder, people with this interest should experience it with anguish, not merely deriving from social disapproval, or having a desire or sexual behavior that leads to mental distress, injury or death to another person, or a desire for sexual behavior involving other people unable to give valid consent or involved without their knowledge.

However, how much is there anomalous in the paraphilic interests? Towards the end of 2014, a researcher Canadian wrote a commentary on this subject, questioning the definition

of paraphilia. In DSM V this term goes, in fact, to indicate every intense and persistent sexual interest (fantasy or behaviour) not included in the definition of those so-called neurotypical ones, or genital stimulation with consenting human partners, phenotypically normal (already understanding what is going to mean in a way objective this attribute is somewhat complicated), physically mature. The author, therefore, underlines how much this type of definition depends more on historical, political and socio-cultural factors than on medical or scientific evidence.

In this regard, it is perhaps useful to recall that until relatively recently, masturbation, anal sex and homosexuality were considered "perverse" practices. Normality is therefore continually subject to revisions and changes in time and space and consequently also what is considered deviation from the norm.

The distinction between paraphilias and paraphiliac disorders is already a good step forward in the pathologization of non-penetrative and non-criminal sexual interests such as fetishism, masochism or consensual sadism. One could argue whether these interests can even be considered non-paraphiliac, at least when they are confined to sexual fantasies.

Two new diagnoses, "coercive paraphilic disorder" and "hypersexual disorder", have been proposed for inclusion in the manual, but without being seriously considered.

TIPOLOGIE E CLASSIFICAZIONI DEI DISTURBI

According to the DSM V [7] Eight different types [8] of paraphilic disorder can be identified [9]:

Voyeuristic disorder

In voyeurism, the person gets sexual excitement and gratification from observing and watching the naked bodies of people often not aware of being observed and even engaged in sexual activities. A specific must be done if the observer is aware and consenting: in this case, we speak of troilism. Troilism consists of drawing sexual excitement from observing-without hiding-individuals who have sexual relations, who know they are being observed and are therefore consenting. The real voyeur instead hides from the sight of others and generally wants to reach orgasm through masturbation, while it is observing or at a later time through fantasies about what it has observed. In action it is passive, and the pleasure derives from the fact that it violates the intimacy of the subjects that are

observed, without having any need to get in touch with the victims to get pleasure. In the most severe forms, voyeurism is the particular form of sexual activity.

Exhibitionistic disorder

Exhibitionistic disorder is a paraphiliac disorder that consists of exhibiting one's genitals or sexual organs to people who do not agree and are often unknown and in inappropriate situations. Usually, exhibitionism is prevalent in the male gender, but in more rare cases, it can also occur in women. As in other paraphilic disorders, the exhibitionist tends to objectify the victim towards whom he projects his desires and sexual impulses, while the victim lives and suffers the fact as a violent act, not sought after and unwanted. Exhibitionist men and women usually do not seek any physical or sexual approach with the stranger who is the victim of this attention. In more rare cases, exhibitionist behaviour can also be accompanied by masturbation.

Frotteurism disorder

It's characterized by intense and recurrent sexual excitement manifested through fantasies, desires and/or real behaviours related to touching, or rubbing against, a non-consenting person. To satisfy the criterion of frotteuristico disorder, these fantasies and/or behaviours must manifest themselves for at least 6 months (alternatively the condition can be defined paraphilia but not paraphilic disorder).

Sexual masochism disorder

In sexual masochism disorder, sexual arousal manifests itself recurrently and intensely through fantasies, desires or behaviours deriving from the act of being humiliated, beaten, bound (bondage) by other acts inducing pain and suffering (burns, perforation of the skin, flagellation, application of electric shocks, ...). Such behaviours and fantasies must cause clinically significant distress and must last at least six months. Sexual masochism can often be a form of paraphilia in most people who have masochistic interests but do not meet the criteria for the diagnosis of a paraphiliac disorder. Sadomasochistic sexual fantasies and behaviours among consenting adults are persistent. Masochistic activity tends to be ritualized and long-lasting. The disorder can be accompanied by asphyxiation if the subject is attracted by the practice of achieving sexual excitation connected with the limitation of breathing (see below the specification of asphyxia as an additional paraphiliac disorder).

Sexual sadism disorder

In sexual sadism disorder, sexual excitement manifests itself in a recurring and intense way through desires, fantasies or behaviours in which the physical or psychological suffering of another person is deliberately and intentionally caused. Most sexual sadists have persistent fantasies in which sexual excitement is the result of suffering inflicted on the partner, whether consenting or not. If the criteria for sexual sadism disorder are not met, sexual sadism can be considered a form of paraphilia; Moderate sadistic sexual behaviour is a common sexual practice among consenting adults, and is usually limited in scope and not harmful. However, when such behaviour, fantasies or impulses of a person cause clinically significant distress or behavioural impairment and/or cause damage to others, one enters the pathological area of the paraphiliac disorder. When practised with non-consenting partners, sexual sadism is a criminal activity. Sexual sadism is particularly severe when it is associated with an antisocial personality disorder. This combination of disorders is particularly resistant to psychiatric and psychotherapeutic treatment.

Pedophilic disorder

Paedophilia is a form of paraphilia that causes harm to others and is therefore considered a paraphilic disorder. The clinical diagnosis of Pedophilic Disorder according to DSM5 includes the following criteria: a) recurrent sexually arousing fantasies, impulses or behaviours involving one or more prepubertal children (usually ≤ 13 years) who were present for ≥ 6 months; b) the person is driven by the impulse or is firmly in difficulty or altered by impulses and fantasies; c) the person is ≥ 16 years and ≥ 5 years older than the child-targeted by fantasies or behaviours (but older adults who are in continuous contact with a child of 12 or 13 must be excluded). For the diagnosis, therefore, it is necessary to keep in mind that the subject must be at least 16 years old and his age must be at least 5 years greater than the child (or children) towards whom the fantasies, desires or pedophiliac behaviours manifest themselves. The disorder can be exclusive when the patient is only attracted to children or non-exclusive. Often subjects suffering from paedophilia disorder can use force and physically threaten the child if they reveal abuse.

Fetishistic disorder

The fetishist disorder consists of an intense and recurrent sexual excitement, for at least six months, manifested

through fantasies, desires or behaviours, deriving from the use of inanimate objects or particular interest for one or more non-genital parts of the body. The objects must not be limited to items of clothing used for cross-dressing (as in transvestic disorder) or to instruments designed explicitly for tactile stimulation of the genitals (e.g. vibrator, rubber fols, ...). It can also be characterized as paraphilia without the disturbance criteria being met.

Transvestism disorder

The transvestite disorder implies a recurrent and intense sexual excitement, manifested with fantasies, desires or behaviours, for at least six months, deviant by cross-dressing, or by wearing clothing of the opposite sex. A significant difference compared to the DSM IV-TR concerns the transvestitism disorder, which identifies people who are sexually excited by dressing like people of the opposite sex, but who feel discomfort in their social or work life because of this behaviour. The DSM IV considered concerning this behaviour only heterosexual men, while the DSM 5 now includes also homosexual men and women in this category.

There are also a series of paraphiliac disorders not otherwise specified. For example, autoerotic asphyxia (also called asphyxiophilia) is a paraphilia disorder not otherwise specified associated with Sexual Masochism Disorder (DSM V, 2013). Among the various types of atypical sexual behaviour, probably the autoerotic asphyxia (once also called hypoxifilia) is among the most dangerous (Prati, 2006). Erotic asphyxia (or auto-erotic) is a sexual practice that through the deprivation of oxygen to the brain increases sensitivity during masturbation and orgasm. Oxygen deprivation can be implemented in various ways: through the use of laces, plastic bags, chest compression, suffocation instruments, the immersion of the head in liquids, stunning by chemical inhalation, use of unique masks (Myers et al., 2008). Focusing on the dangers of this practice, the risk of sudden deaths is high, primarily if implemented in solitude.

During oxygen deprivation, on the one hand, there is an increase in pleasure sensations; on the other hand, reaction times decrease. It often happens that the person is not able to free himself from the grip that was created and that he dies by suffocation. It is complicated to establish the epidemiology of the phenomenon, both because autoerotic asphyxia is a very private and socially little accepted practice and because they are often mistaken for

suicide cases. Among paraphilias not otherwise specified may also include “devotes”. The “devotes” is a cultural translation of the diagnostic category “acrotomophilia”, which Money J, a psychologist and sexologist, explores scientifically in the eighties, or the ability to experience interest or sexual excitement only in the presence of people who have deformations or amputations in the limbs or as in the basophilia for aids such as wheelchairs, plaster casts, prostheses ... The pathological component of this phenomenon resides and takes shape in the fact that the interest is directed only towards the amputated part or the handicap and rarely towards the person and his human qualities. In devotees, the social, occupational and emotional and sexual intimacy with their partner is often compromised. This type of paraphilia comes close to fetishism, as a sexual drive directed towards an inanimate object. As in the fetishist, the object is indispensable and indispensable for excitement and sexual activity.

Devotees tend to avoid the intimate relationship with their partner and make not a boot but erotic aids that the disabled use or the impaired limb. In devoting, people ask to be able to touch their legs, to watch while the person eats, they ask to be able to comb their hair or be able to accompany her to the bathroom, and treat the person as an object. Most devotees belong to the group of “Amplovers” or amputee lovers. Sexual attraction can reside in the stump itself, in prostheses, or in the imagination of what exists under it. Other paraphilic disorders not otherwise specified include, among many others, sexual arousal related to zoophilia (animals), necrophilia (cadavers), coprophilia (faeces), chlimafilia (enemas) or urophilia (urine).

The Neural Correlates in Paraphiliac Disorders

The organization [10] of the sexual brain, circuits begin during the fetal period, and the primordial basis is the female one. The brain in male subjects masculinizes before birth through the secretion of testosterone and its conversion into the hormone estrogen. Masculinization means that some regions of the brain, especially groups of neurons within the hypothalamus, grow the most while other areas, such as the corpus callosum, remain smaller. A subsequent turning point is in puberty when there is the maturation of ovarian estrogens and progestogen steroids for female subjects and intense production of testosterone for male subjects. These hormones bind to various receptors in different subcortical regions of the brain, especially in men, in the preoptic area of the anterior hypothalamus.

Laboratory studies [11] show that male animal that loses their testicles before sexual maturation does not develop strong impulses to sexuality while maintaining social impulses. It has been observed, however, that the impulse is preserved if the testicles are lost by men who are already sexually active. Testosterone is therefore of great importance for male libido, above all because it activates various neuropeptides, such as vasopressin, which in males is present in double the amount of female subjects. Vasopressin in animals promotes courtship, sexual ardour, territorial marking and aggressiveness among males. Testosterone also activates nitric oxide (NO) which, once again, promotes sexual ardour and aggression. From these observations, it can be noted that testosterone plays an important role both in male sexuality and in the impulse of social dominance, even if these two systems remain, however, distinct. In female subjects, impulses for sexual receptivity originate in the ventromedial hypothalamus (VMH). Most of them do not produce much testosterone and their sexuality is controlled primarily by estrogen and progesterone. Sexual activation is also governed by regular oestrous cycles. Estrogens and progesterone also promote the production of oxytocin, which would make female subjects emotionally more receptive and more confident. This discourse is only partially valid for human beings since sexuality in humans is much more linked to the useful life of the mind and to the socio-cultural aspects of what happens in other animals. Nevertheless, at the level of primary processes, the circuits of sexual desire are very similar. Panksepp (2012) notes that the dopamine-driven research system, especially in the search for a sexual partner, is also involved in the promotion of sexual desire. Concerning the gender difference, Panksepp emphasizes that the two hormones, oxytocin and vasopressin, are the basis of the most marked differences. Normally oxytocin encourages attitudes of care, translating into the expression “take care and be friendly”, while vasopressin is more aggressive attitudes, translating into “attack and compete”. Oxytocin has been commonly considered, according to a simplistic view, as the “love hormone”. Panksepp remembers, in this regard, how oxytocin does not act alone but works with the support of many other chemical substances and environmental stimuli, so it is likely that it will produce intense positive affective experiences starting from concomitant social interactions. Animal studies show that oxytocin provides comfort when animals are alone, promotes confidence and facilitates positive social interactions. Furthermore, it seems that these results can also be extended to humans. In the system of sexual desire, the homeostatic and sensory elements play a strong role in sexual activation, nevertheless it is configured,

for Panksepp, as an emotional system because it presents a very evident readiness to act and its affective state can perturb other systems. As for sexual development, Panksepp makes an important distinction between the gender of the body and the genus of the mind, in fact these develop in a way, in some respects, independent: the sex hormones that determine the sexual organization of the brain in development fetal are different from those that make specific the appearance of the genital apparatus. Biologically we call females those born with chromosome XX and males those born with XY chromosome and normally the female brain circuit is stronger in biological females and that male in males. However, this does not always happen in this way, and this happens when, for example, the fetal sexual substances of the brain are arranged in an atypical way. From this, it follows that gender identity is not simply learned and cannot be altered by persuasion. Panksepp reports the results of some experiments in the laboratory, in which some female rats were injected with estrogen generating female offspring with a male brain. Other studies show that if testosterone cannot be converted into estrogen during the last months of pregnancy, there is a good chance that a male fetus is born with a female brain. These latter cases would occur, for example, when the mother experiences strong prenatal stress. It is hard to say how much these data can be generalized even to humans, although many cases seem to confirm them. However, it should not be forgotten that biological phenomena must be combined with personal, social and cultural phenomena, with tendencies that are sometimes contrary to various levels, from primary to third. The sexual desire system has emerged to promote reproduction and preserve the animal species. It is a system capable of pushing to the creation of the first bonds between organisms: when the system is active, the animal looks for a body connection with another that is sexually receptive, so the tension can be positive or can become a stress factor if this junction was denied. However, this system is also at the origin of those bonds that, as happens in different species, can also be exclusive and last a lifetime. The system of sexual desire is, therefore, fundamental in the development of social life.

Post-mortem and Imaging studies with mass spectrometry [12] over the last two decades have revealed the structural brain related to sexuality and sexual disorders, including: the hypothalamus, the thalamus, the amygdala.

Recently, however, new studies have found the substantial (or structural) difference, from a neural point of view, between hetero and homosexual sexual orientation:

a) Hypothalamus: It is a portion of the brain that contains several "nuclei" (discrete groups of cell bodies in the neuron soma) [13]. Now, the term "nucleus" in neuroanatomy must not be confused with the same use made of it in cell biology: in the second case it refers to the organelles found in eukaryotic cells that contain the genetic material of the cell; while in the former it refers to discrete groups of densely packed neuronal cell bodies in the central nervous system [14]. In anatomical sections, a nucleus appears as a region of grey substance surrounded by white matter. It is known to be involved in sex differences in reproductive behaviour, mediating menstrual cycle responses: in particular, the anterior hypothalamus helps regulate typical male sexual behaviour. In the mid-1990s, it was also linked to gender identity and sexual orientation [15]. Seminal research conducted by Simon LeVay would have discovered that an interstitial nucleus of the hypothalamus, INAH3, was dimorphic according to sexual orientation but not according to gender. Specifically, the INAH3 of homosexual men was found to be lower in volume than that of heterosexual men; these results were obtained by post-mortem analysis of hypothalamic nuclei of known homosexual subjects compared to heterosexual patients [16]. Further research has shown that INAH3 has a smaller volume in homosexual men than in heterosexual men, this because the former have a higher neuronal density within it than the latter; there is no difference in the number of the cross-sectional area of neurons in the INAH3 of homosexual men compared to heterosexuals [17]. It has also been discovered that there is no effect found from HIV infection on the size of INAH3, i.e. it does not take into account the difference observed in the volume between homosexual and heterosexual men. The hypothalamus is also linked to sexual orientation through discoveries showing that aromatase activity-an important enzyme that converts androgen into estrogen-is elevated in the pre-optic hypothalamic region of the mammal during the pre and neonatal periods. This is indeed related to sexual differentiation and may be a basis in the structural and functional sex differences that play a role in mediating orientation development due to prenatal hormone exposure. The suprachiasmatic nucleus of the anterior hypothalamus (SCN) also refers to sexual orientation, being larger and more elongated in homosexual males than in heterosexual males and females. The cell sub-nucleus containing the vasopressin of the SCN of homosexual men is twice as large and has 2.1 times the number of cells compared to the subgroup containing the vasopressin of

the SCN in heterosexual men [18].

- b) Thalamus:** It is a symmetrical ovoid structure of the midline within the human brain, located between the cerebral cortex and the midbrain in both cerebral hemispheres. A magnetic resonance imaging study compared subcortical volumes of homosexual and heterosexual men; found that while both groups did not differ in the total volume of the brain, the volume of the thalamus (in both hemispheres) was greater in heterosexual men [19]. Another study reported that the functional connectivity involving the right thalamus and the right cuneus was different between homosexual and heterosexual men and also showed correlations with Kinsey scale scores [20]; moreover the thalamus is involved in the process of sexual excitement and reward; during the visually evoked excitement both heterosexual men and homosexuals activated the thalamus, but in contrast to the latter, heterosexuals showed further activation in the lingual gyrus [21]. The basal nucleus of the terminal stria (BNST) is an area of the limbic system of the prosencephalon which is involved in the control of the coupling behaviour; it receives neuronal input from the medial amygdala and the accessory olfactory bulb and sends projections both to the medial preoptic area [22] and to the ventro-medial nucleus of the hypothalamus [23]. The central part of the BNST (the BNSTc) is greater than 44% in heterosexual men compared to straight women and 62% in homosexual men compared to them [24]. BNSTc is larger in homosexual men than in straight men, although the size difference is not statistically significant. It is therefore hypothesized that the BNSTc of homosexual men is "hyper-masculinized" as it is larger than the BNSTc of straight men and women.
- c) Amygdala:** It was discovered that both men and homosexual women show connections with the amygdala different from those of heterosexual men and women [25]. Specifically, the connections between homosexual men and straight women were more widespread by the left amygdala, while in straight men and lesbians functional connections were more common in the right one [26].
- d) Anterior commissure:** It is a bundle of white matter fibers that connects the two cerebral hemispheres. It was found by Allen and Gorski to be significantly larger in homosexual men and heterosexual women than in heterosexual men [27]. This discovery provides a possible anatomical basis for higher inter-hemispherical functional connections in homosexuals, which explain why homosexual men and heterosexual women show a marked functional symmetry of the linguistic circuit in comparison with heterosexual men performing the same verbal tests [28].
- e) Corpus callosum:** Like the anterior commissure, it is an essential neuronal connection that connects the two hemispheres; however, unlike the commissura (which is present in all types of vertebrates), CC is present only in placenta animals (including therefore humans) [29]. An MRI study that compared the CC of homosexual and heterosexual men found that all parts of CC are more significant in gay people [30]. In particular, the isthmus (a part of the CC present between the corpus callosum and the splenius muscle of the head) is significantly more abundant in homosexual men than in heterosexuals; the size of CC has a strong genetic basis, with genetic inheritance rates ranging between 82% and 94%. This association of sexual orientation with a highly heritable brain structure supports the thesis of a genetic and neurobiological basis in the origin of the same orientation.
- f) Gray substance [31]:** It is an important part of the central nervous system that is mainly composed of neuronal cell bodies. While men generally have a greater amount of grey and white matter than women (due to the greater male body mass and consequently a greater brain size), women generally have a greater grey matter-to-substance ratio and larger layers of it in areas of the cerebral cortex specific to men. It has been found that homosexual women have relatively less grey matter than straight women in the ventral cerebellum area, in the left premotor cortex, in the temporal-basal cerebral cortex and, more significantly, in the left perirhinal cortex of the temporal lobe. No difference in the amount of grey matter was found between straight and homosexual men. These results are important because the perirhinal cortex is located near the brain regions (entorhinal cortex, hippocampus, parahippocampal gyrus and amygdala) involved in olfactory and spatial processing, which have been shown to determine differences in sexual orientation- in particular, are notes in homosexual women superior performance to straight women in spatial processing tests. The perirhinal cortex itself is involved in functions related to the processing of sexual stimuli such as olfactory processing, memory coding and spatial processing itself; it is also involved in detecting the identity of the object. It is known that it modifies sexual attraction in humans, and the olfactory system is able to differentiate pheromone-

like compounds based on sexual orientation.

g) Brain asymmetry: The size of the telencephalon is a sexually dimorphic trait in which men tend to show asymmetry in the volumes of their hemispheres, while women show a volumetric symmetry instead. It is also a trait that is very unlikely to be influenced by learned socio-environmental patterns [32]. A volumetric study with magnetic resonance in 2008 indicated that gay men and heterosexual women showed symmetrical hemispheric volumes, while homosexual women and straight men showed a right-hand asymmetry. These results demonstrate a global neurological difference in brain structures that show atypical sexual characteristics associated with sexual orientation [33].

h) Cerebral cortex [34]: It is the outermost layer of the human brain and is composed of nervous tissue. An RM study compared the cortical thickness in various brain regions of homosexual men, heterosexual men and heterosexual women: he discovered that homosexual men had thinner cortexes-compared to hetero-in the lateral orbitolateral region of the right hemisphere, as well as in the regions located in the visual cortex (lingual, pericalcarin and wedge). The same regions showed a thinner cortex in heterosexual women than straight men, while no differences were found between heterosexual women and homosexual men. Gay and hetero males did not differ in total brain volumes, and it was determined that the differences reported in cortical thickness were not influenced by the years of education or the brain volume of the subjects. Since the regions mentioned above show sexual dimorphism, the authors hypothesized that the biological processes frequently proposed to underestimate the same, such as gene-dependent and sex-hormone-dependent mechanisms during prenatal and postnatal development, may interact with cortical architecture in visual areas resulting in different cortical thicknesses in gays compared to hetero.

i) Brodmann area 45: Homosexual men showed thinner cortices than straight men and women both in the triangular pars right (Brodmann area 45) and in the lower temporal regions; this suggests that brain differences related to male homosexuality may also be present in regions that are not necessarily considered as sexually dimorphic [35]. Another study showed that the cortical thickness of the right triangular pars also differs among MtFe transsexuals and gay men. Specifically, the pars

triangularis of MtF people (and of heterosexual men) is thicker than that of gays; moreover, in MtF it is thicker even than that of straight men. In particular, in both studies, the region concerned is the pars triangularis present in the right hemisphere) [35].

Still, other studies have found functional differences, always from a neural point of view, between hetero and homosexual sexual orientation:

a) Response to pheromones: Two proposed human pheromones [the progesterone derivative 4,16-androstadienone-3-one (AND) and an ester-1,3-5 (10), 16-tetraen-3-ol (EST) (estrogen-like steroid)] showed specific responses to sexual orientation in the activation of neural circuits of the anterior hypothalamus in both homosexual and heterosexual subjects. The anterior hypothalamus is involved in the processing of reproductive functions, and recent evidence suggests that it helps to integrate stimuli Hormonal and sensory involvement in sexual behaviour and its preferences [36]. Recent functional magnetic resonance imaging experiments have shown that the presentation of AND, found in male sweating, as an olfactory stimulus produced normal olfactory responses in straight and lesbian men, while activating the anterior hypothalamus in gay men and straight women [37]. The EST proposal of the pheromone, found in the urine of pregnant women, produces a normal activation or olfactive in gay men and heterosexual women, while lesbians and straight men have shown to have sexually related hypothalamic responses. Gay men showed the same sexually related functional responses to these stimuli of heterosexual women, while homosexual women responded as straight men. This research by Berglund and Savic indicates on the whole that AND and EST induce "specific effects of sexuality on the autonomic nervous system" and that stimuli have produced a response path that depended on the sexual orientation of the subject rather than on the sex resulting from the phenotype.

b) Response to visual sexual stimuli: Sexual arousal is a highly coordinated process that prepares a person for reproductive behaviour; widespread changes occur in the person's neurophysiological state during excitement to obtain adaptive responses. The attention, affective and motivational systems of the individual concerned are optimized to allow the selection and successful use of sexual stimuli. In response to visual sexual stimuli, men show subjective and self-reported excitement of a specific

category; their greatest excitement is directed to those categories of people with whom they prefer to have sex: homosexual men experience greater genital and subjective excitement for men than for women (and therefore prefer male sexual stimuli), while for heterosexual men the reverse happens. It is believed that the hormone influences the development of neural structures that regulate sexual behaviour in the prenatal period; therefore it is believed that some aspects of neuro-hormonal development in homosexuals proceed differently from heterosexuals, with consequent psychological differences such as distinct triggers (or "stimuli") for sexual excitement. A 2007 study on functional magnetic resonance imaging (fMRI) [38] that explored the neural mechanisms of sexual arousal in gay, and straight men showed their subjects composite sexual interactions; have shown that both male groups activate the same brain regions after each is exposed to a sexual stimulus that agrees with the sexual orientation of the subject being examined. Another fMRI study [39] showed that by observing both hetero and gay erotic visual stimuli, only those videos corresponding to the subject's sexual orientation produced patterns of activation in the areas of the brain associated with sexual arousal. The heterosexual response showed the same pattern of neural sexual processing that caused gay vision while displaying images of the opposite orientation did not elicit the same response. A significant correlation was therefore found between excitation and neural activation in the hypothalamus, a key region of the human brain due to its sexual function; self-reported sexual arousal values were also equal in both groups. However, the extent of hypothalamic activation was lower in gay men than in straight men, a trait that is also shared by straight women. A further fMRI study [40] determined patterns of cerebral activation in homosexual and heterosexual subjects, exposing them to gay, hetero and lesbian visual stimuli; they then found that different neuronal circuits were active in the two male groups: brain regions such as the left angular gyrus, the right pale globe and the left caudate nucleus were activated exclusively in homosexual men while the bilateral lingual gyrus, the right parahippocampal gyrus and the right hippocampus were activated exclusively in heterosexual men. These results indicate that the neural circuits (related to the processing of visual sexual stimuli) that are active during sexual arousal in homosexual and heterosexual men are different. New fMRI research [41] has shown heterosexual and homosexual women and men photos of male genitalia and female genitalia; thus limiting the visual

sexual stimulus to genital photographs, the authors have minimized the neuronal activity related to the processing of various stimuli such as faces, voices, body movements and sexually exciting body parts in addition to genitals. They found that the ventral striatum, the centromedian thalamus and the bilateral premotoriavental cortex showed a stronger response to the photos of the preferred sex than those corresponding to non-preferred sex. Since the ventral striatum and the centromedian thalamus are known to be activated by innate preferences, the selective response of these regions to the preferred sexual stimuli seems to reflect a predetermined response pattern. This notion is therefore used to support one of the tests that want sexual orientation to be of a purely biological origin. Another FMRI study [42] sought to verify whether subjects responded more to faces (male or female) to whom they were sexually-oriented and predicted this modulation in the brain circuit of the reward system. Heterosexual and homosexual men and women were shown photos of male and female faces and therefore invited to evaluate their visual attractiveness. Consistent with the hypothesis, it was discovered that the reward circuit of homosexual males and heterosexual females responded more to photographs of male faces, while the reward circuits of homosexual females and heterosexual males responded more to photographs showing female faces. The interaction between the subject's gender stimulus (male or female face) and sexual orientation (homosexual or heterosexual) was highly significant in two brain regions: the mediodorsal nucleus of the thalamus (MDT) and the medial orbitofrontal cortex (OFC). The activation in the OFC is remarkable because it is involved in the representation of the reward value of various sensory stimuli, including attractive faces. It also appears to play an important role in processing the facial signals necessary for social communication, as this region has selective neurons for the face and because patients with OFC lesions are unable to identify emotional facial expressions. The modulation of the response to faces within the OFC through sexual orientation adds further importance to its role in social behaviour; since mdT and OFC receive neural projections from each other, the similar activation patterns observed in these regions can be attributed to their anatomical connections.

- c) **Response to serotonin:** Serotonin is a neurotransmitter found in the central nervous system that has various roles in regulating sexual behaviour; its agonists and antagonists have to activate or inhibiting effects depending on their

concentration and the brain area involved. Fluoxetine is a selective serotonin reuptake inhibitor that prolongs its effect on neurons [43]. Kinnunen et al. administered fluoxetine to their study subjects to see if the brain is activated differently in homosexual and heterosexual men through the action of serotonin [44]; after administration of fluoroxin they measured glucose metabolism in the brain using positron emission tomography (FDG-PET). They found that the cerebral response to fluoxetine differs between gay people and straight men, ie the former show a lower reduction in glucose metabolism in the hypothalamus than in the latter. Also, other areas of the brain were also differentially activated: the associative prefrontal cortex of homosexual men showed greater activity after administration, while that of straight men showed no change. The anterior lateral girdle and the bilateral/parahippocampal gyrus of the straight men showed greater activity, while a reduced one was observed in portions of their anterior cingulate cortex. These results suggest that homosexuals and heterosexuals may not only differ in the total number of neurons in various areas of their central nervous system but may also differ in the distribution of certain types of them, such as serotonergic and dopaminergic neurons.

CLINICAL AND THERAPEUTIC STRATEGIES

As for therapeutic interventions, the most effective treatments for paraphiliac disorders are those that involve the integration between psychotherapy and adequate drug therapy (if necessary, compared to the case under consideration). Clearly, treatments will be more effective in those situations where the discomfort experienced by the subject is relevant, and the subject requires help. In the case of many paraphiliac disorders, the treatment is less effective instead when it is ordered by the court and the motivation for the treatment is extrinsic, even if many subjects, even in such cases, still benefit from treatments, such as group psychotherapy associated with antiandrogens. Among psychotherapeutic approaches, cognitive-behavioural therapy has proven to be a very effective treatment in helping the subject manage impulses and sexual fantasies. This type of therapy aims to identify and modify beliefs and thoughts, which lead the subject to implement dysfunctional behaviour by replacing this behaviour with other more functional behavioural modalities. Therapeutic approaches generally support the patient and must take a non-judgmental attitude, promoting acceptance and

empathy. In general, the treatment is multi-axial and may include specific cognitive-behavioural interventions to modify dysfunctional sexual thoughts, behaviours and emotions that are activated in front of a specific situation training of social-relational skills and self-regulation of impulses in the management of adult affective relationships treatment of sexual dysfunctions to address dysfunctions related to the sexual sphere.

With regard to pharmacological treatment, this is considered very useful in the process of treating various paraphiliac disorders because, for example, treatment with antiandrogens helps to inhibit the response of sex hormones, causing a decrease in desire and sexual excitement. Antiandrogenic drugs, such as cyproterone acetate (CPA) and medroxyprogesterone acetate (MPA, Depo-Provera), and lutein hormone therapies [45], in addition to therapies based on SSRIs (serotonin selective reuptake inhibitors) [46], are, therefore, common therapeutic tools, but their use is, however, limited due to side effects on the patient's health. Finally, the problem of the low compliance of the products and the fact that they do not resolve the deviation in itself is very remarkable. If the drug is interrupted, the deviant behaviour will reappear.

CONCLUSION

Recent discoveries in the field of neuroscience have shown that paraphilic disorder, and emotional sexuality in general, has not only psychological but also biological and neurobiological roots. Future studies will necessarily have to orientate in this direction, favouring the study of the relationships between hormones and sexuality, emotions and sexual orientations and sexual preferences and neuronal circuits. Also from a therapeutic point of view, the causal link between the binomial "psychotherapy-pharmacology" and the resolution of the paraphiliac disorder appears clear and demonstrated, even if the most resistant form seems to be the paraphiliac disorder of sadistic matrix, due to its intrinsic psychological qualities linked to the first years and the first evolutionary stages of the subject, stratified with irrational convictions now anchored in the personality.

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