Review Article

Management of Paraphilias: Guidelines, Challenges and Options

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Abstract

Paraphilias are important psychiatric disorders that have an important impact on society due to their relationship with sexual offences. Management strategies for paraphilias range from surgical to pharmacological to psychotherapeutic strategies. The studies have many methodological issues. This review aims at identifying the various management strategies that are available for paraphilias and the evidence for use of these strategies.

Keywords: Paraphilia, Paraphilia Treatment, Paraphilia Pharmacotherapy, Paraphilia Psychotherapy, Guidelines

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Introduction

During the late nineteenth century, clinical psychiatry had started recognizing the biological basis for sexual deviance, prior to which, Freud's psychoanalysis was being utilized for assessment as well as treatment for paraphilias for almost a century (Rosen, 1997). The first therapeutic use of 'Surgical castration' was done to treat hypersexuality in an imbecile patient in 1892 (Sturup, 1972). The United States & certain European countries had continued this treatment for some sex offenders leading to marked reduction in recidivism rates (Bremer, 1959; Cornu, 1973; Heim and Hursch, 1979; Ortmann, 1980; Heim, 1981; Wille and Beier, 1989). Surgical castration has been used for sex offenders in some states in the USA (Weinberger et al., 2005). The treatment of paraphilias aims not only to reduce the personal distress of the paraphilic patient but also to prevent sexual offences in paraphilias such as pedophilia.

Along with the biological modalities of treatment, psychological therapies are equally necessary for holistic management. This review provides an overview of pharmacological as well as psychological strategies for treatment of a paraphilic patient, challenges in management and evaluation of paraphilia as well as guidelines for its management.

Methodological limitations & ethical concerns

Literature regarding the treatment of paraphilias consists mainly of case reports or series & controlled treatment efficacy studies are sparse as paraphilic sex offenders are most often referred by the court or under societal pressure and rarely seek treatment voluntarily. Also, ethical considerations restrict double-blind placebo-controlled studies in paraphilic subjects. In addition, statistical analyses remain difficult in most studies due to small sample size, cross over designs & short duration of follow up. The outcome measures also continue to be subjective and unreliable as paraphilic sexual activity is mostly self-reported. It is often difficult to compare the existing studies due to methodological differences like the type of paraphilias included; outpatients or prisoners; retrospective or prospective designs; variations in follow up durations and different operational criteria.

Evaluation of paraphlias

A detailed evaluation of the subjects with paraphilia is crucial for deciding- whom to treat and what modality of treatment is to be used according to the severity of symptoms. Not all sex offenders suffer from paraphilia, and that, not all patients with paraphilia commit sexual offences.

Demographic and clinical characteristics (Thibaut et al., 2010)

Demographic characteristics:

- Age
- Gender
- Marital status
- Number, age & gender of children
- Current and past employment status
- Education status

Clinical characteristics:

- Normal and paraphilic sexual fantasies and activity (intensity, frequency, and type)
- Exclusive/non-exclusive paraphilic behaviour
- Age at onset of paraphilic behaviour
- Type and number of paraphilias
- Gender and age of victims
- Intrafamilial or not
- Internet use or video use
- History of violence, previous convictions for offences (sexual or non-sexual)
- Family and personal history of sexual disorders
- Previous treatments & compliance - Alcohol or illicit drug consumption
- Age of puberty
- Family and personal history of psychiatric disorders, suicide attempts, history of brain

trauma, current dementia, history of violence, history of sexual abuse
- Degree of interpersonal, occupational or social deterioration
- Any history or current evidence of sexually transmitted diseases
- Legal issues

Physical Examination

Examination of external genitalia and secondary sexual characteristics should be done as part of assessment of paraphilias.

Rating Scales

Certain rating scales are useful in the assessment of Paraphilias. Some of these are The Multiphasic Sex Inventory (Nichols and Molinder, 1984); Clarke Sex History Questionnaire (Langevin and Paitich, 2002); Bradford Sexual History Inventory (Bradford et al., 2002).

Specific Hormonal Investigations

Sex hormone profile is useful in evaluation of paraphilias (Kingston et al., 2012). Some hormones have been found useful in predicting recidivism among offenders. (Studer et al., 2005) It is also useful to have baseline levels before starting treatment especially hormonal treatment. Following hormonal profiles are useful.

- Free and Total Testosterone
- Follicle-stimulating hormone
- Luteinizing hormone
- Estradiol
- Prolactin
- Progesterone

Other investigations

Phallometry or Penile Plethys mography is useful in assessing sexual arousal in response to different stimuli (Seto et al., 2008, Blanchard et al., 2001). It has been used in the assessment of pedophillia, biastophillia and sexual sadism.

Neuroimaging

Recent studies suggest that neuroimaging may help in the assessment and guiding the treatment of paraphilic disorders. Kärgel et al. (2015) found that pedophiles who engaged in child sexual abuse demonstrated decreased resting-state functional connectivity (RSFC), between the left amygdala and orbitofrontal cortex and anterior prefrontal regions as compared to those who did not engage in sexual abuse using fMRI. Future studies may validate these findings to be useful predictors of pedophile's proneness to act on his sexual impulses.

Assessment of comorbidities

A range of comorbidities is seen with paraphilias (Gordon and Grubin, 2004), which need to be identified as they may be associated with guilt, depression, shame, and impairment in social and sexual functioning with increased risk of harm to self and others.

- Major mental illness (Kafka and Hennen, 2002)
- Personality Disorders
- Neurological disorders, such as temporal lobe epilepsy or brain trauma (especially before 6 years of age, Blanchard et al., 2002); Klüver Bucy and Kleine Levin

syndromes (50%); Huntington's disease (10%).
- Patients receiving dopaminergic agents (Parkinson's disease) (Guay, 2008).

Guidelines

The World Federation of Societies of Biological Psychiatry (WFSBP) guidelines propose a hierarchical treatment protocol that progresses from psychotherapy (offered at all stages) to the most severe stage where the combination of a GnRH agonist with an antiandrogen and/or SSRI is recommended. According to the great majority of authors, a minimal of 3 – 5 years duration of treatment for severe paraphilia associated with sexual violence is necessary & at least 2 years for mild paraphilias (Thibaut et al., 2010).

British Association of Psycho-pharmacology (BAP) recommends SSRIs as an initial intervention in the presence of dysfunctional mood states or impulsive behaviour. (Winder et al., 2014, 2018). In individuals with increased sexual drive, anti-androgens, and GnRH agonists are recommended as the initial intervention.

The American Academy of Child and Adolescent Psychiatry (AACAP; Shaw, 1999) practice parameters recommend cognitive-behavioural interventions, psychosocial interventions, and SSRIs for children and juveniles who are sexual abusers. The use of anti-androgens is avoided in patients less than 17 years of age due to the risk of delayed puberty and less bone growth.

Hill et al. (2003) formulated a comprehensive treatment plan including psychotherapy and pharmacotherapy on the basis of severity and comorbid conditions. For less severe cases, and with comorbid depressive, anxious or obsessive/ compulsive symptoms, SSRIs are recommended as the first choice of treatment.

Therapeutic approaches

Therapies for paraphilic disorders may target one or more of the following:
1) Patterns of sexual arousal and attraction.
2) Social skills to improve sexual interactions with adult partners.
3) Reduce sexual drive.

Treatment modalities used in paraphilic behaviours can be divided into three categories: Bilateral orchidectomy (Heim and Hursch, 1979), Pharmacotherapy and Psychotherapy. A comprehensive treatment plan should include pharmacotherapy as well as psychotherapy, specifically, behavioural therapy.

1. Bilateral orchidectomy

Surgical castration i.e. removal of testes leads to lowest recidivism rates by reducing circulating testosterone levels, in turn, reducing paraphilic fantasies and behaviours (Level D of evidence). However, it is no longer used in most European countries due to the availability of less invasive alternatives (Stone et al., 2000).

2. Psychotherapy

Psychotherapy includes both individual as well as group/family therapies. Most of these studies are conducted in paraphilias not associated with serious sex offences; hence, the findings cannot be generalized. Longer follow-up randomized controlled trials are required.

Psychodynamic psychotherapy

Through interaction with the therapist, the target is to moderate the drive of id and replace the primitive defenses (splitting, denial) with more mature ones (Stoller 1976; Glasser, 2001). Psycho dynamic approaches were common in the past in the UK (Grub, 2002) but cognitive-behavioural therapy (CBT) based interventions are preferred now.

Aversion therapy

In this, the paraphilic stimulus is paired with an aversive event (Beech & Harkins, 2012). This modifies the sexual arousal patterns. Currently, it is not used as the sole form of treatment (Marshall, 1998).

Group therapy

The group therapy component is intended to confront the denial and rationalization, called 'therapeutic confrontation,' and its purpose to help offenders develop empathy for others using techniques like victim identification (University of Wisconsin, Board of Regents, 2002).

Cognitive behavioural therapy

Cognitive restructuring attempts to eliminate sex offenders' cognitive distortions associated with maladaptive and dysfunctional behaviour. CBT works by targeting problematic arousal, impulse control, empathy for the victim, emotional management, and cognitive distortions. Techniques like covert sensitization, verbal and masturbatory satiation, imaginal desensitization, and biofeedback are commonly used (Thibaut et al., 2010, 2016). CBT has been shown as an effective treatment modality in adult men (L€osel & Schmucker, 2005) and adolescents (Thibaut et al., 2016, Maletzki and Steinhauser, 2002; Kentworthy et al., 2004) (Level C of evidence).

Recently, virtual reality-based interventions have also been used in this population, testing the ability of patients to use coping skills in risky situations (Berger et al., 2018). It was suggested that neuro bio feedback may also be a beneficial intervention (Renaud et al., 2011).

Relapse prevention therapy (RPT)

RPT includes both internal self-management, as well as an external supervisory dimension. RPT provided promising results with cognitive-behavioural approaches, though it has become less widely used after being found ineffective (Fedoroff & Marshall, 2010).

In Canada, RP approaches have become limited or eliminated at some locations and the positive-psychology 'Good Lives Model' (GLM) (Ward, 2002) has largely emerged as the replacement (Marshall & Marshall, 2015).

Pharmacotherapy

Psychotropic Drugs

SSRIs may act by the following possible mechanisms for reducing paraphilic behaviours: (1) non-specific reduction of sexual interest; (2) decreased impulsiveness; (3) reduction in obsessive-compulsive symptoms & concurrent depressive symptoms (Hill et al., 2003). We reviewed the available literature for the efficacy of SSRIs in paraphilias and sex offenders and found the following studies:

Kafka and Prentky (1992) demonstrated the effectiveness of Fluoxetine (20-60 mg/day) for 12 weeks in paraphilic subjects with telephone scatologia, exhibitionism, frotteurism, sadism, fetishism, reducing preferentially the paraphilic behaviours without affecting the normal sexual arousal. A case report considered impaired impulse control as a central component for paraphilias & described treating a patient with exhibitionism and telephone scatologia with Buspirone (Pearson, 1992). Greenberg et al. (1996), found a significant decrease in deviant fantasy in 4-8 weeks with SSRIs in a retrospective study in 58 paraphilics with Fluvoxamine, Fluoxetine and Sertraline being equally effective (76% received concurrent psychotherapy). A combination of psychotherapy and SSRIs was found to be more effective than psychotherapy alone by Bradford and Greenberg (1996). In another study, Sertraline (up to 12 weeks) decreased paedophilic arousal by 53% as assessed by penile plethysmography with improved or unaffected arousal (Bradford, 1999, 2001) & reduced deviant sexual behaviour (Bradford et al., 1995; Bradford, 2000). Adi et al., (2002) suggested preliminary evidence regarding the efficacy of SSRIs in the treatment of sex offenders after reviewing 9 case series but the results were far from conclusive. A review by Garcia & Thibaut, including, 24 case reports, 3 retrospective studies & 5 open studies, found SSRIs to be effective in reducing fantasies and paraphilic behaviours (Garcia & Thibaut, 2011). A double-blind study by Wainberg et al. (2006), found Citalopram to be effective in homosexual males with compulsive sexual behaviour, hence, the findings cannot be generalized to sex offenders. A study by Winder et al., (2018), done on 247 prisoners serving for sexual offences, showed statistically significant change with SSRIs as compared to the control group. There is a lack of controlled, randomized studies evaluating the efficacy of SSRIs for the treatment of paraphilias & WFSBP guidelines (Thibaut et al., 2010) recommended level C evidence for psychotropics. To conclude, SSRIs have been recommended in milder forms of paraphilias, in juveniles, those having comorbid depression and OCD & in maintenance treatment (Bradford & Fedoroff, 2006).

Other psychotropics that have been studied in this population include Lithium, Tricyclic antidepressants, Antipsychotics (thioridazine, haloperidol, risperidone), Anti-convulsants (carbamazepine,

topiramate, divalproate), and Naltrexone. Studies using these agents are limited and have not demonstrated any significant efficacy (Thibaut et al., 2010).

Hormonal Treatment

Oestrogens

Despite its efficacy in paraphilias (Whittaker, 1959; Bancroft et al., 1974), oestrogens are best avoided therapeutically due to various side effects with breast cancer being the most dreaded one. (Field, 1973; Symmers 1968) (No level of evidence and major side effects).

Antiandrogens

Steroidal antiandrogens such as medroxyprogesterone acetate (MPA) or cyproterone acetate (CPA) act by decreasing the circulating levels of both testosterone and DHT (dihydrotestosterone). Also, they block the cellular uptake of androgens by interfering with the binding of DHT to androgen receptors. The depo-Provera scale (Maletzky et al., 2006) is a useful tool to evaluate and decide antiandrogen use in paraphilic subjects especially sex offenders.

Medroxyprogesterone acetate (MPA)

The WFSBP guidelines reviewed 13 open and controlled studies with a total of approximately 600 paraphilic subjects (Pedophilia in 15%) (Thibaut et al., 2010), and found that administration of MPA resulted in the reduction of sexual behaviour, deviant sexual behaviour and fantasies after 1 to 2 months of treatment but an unfavorable risk/benefit ratio & study biases, hence, level C of evidence was noted for its use. A recent Cochrane review in 2015 noted poor evidence of the effectiveness of MPA in reducing sexual recidivism rates and tolerability in sexual offenders (Khan et al., 2015).

Cyproterone acetate (CPA)

The WFSBP guidelines reviewed 10 open and controlled studies with approximately 900 male subjects. A significant decrease in sexual fantasies and absence of deviant sexual behaviour was experienced by 80 to 90% of subjects within 4 to 12 weeks (Thibaut et al., 2010) but significant side effects in the form of hot flushes, hair loss, gynecomastia, weight gain, and osteoporosis were noticed (Gijs & Gooren, 1996). Hence, the WFSBP guidelines again noted a level C evidence for recommendations on the use of CPA due to non systematic decrease in testosterone levels, unavailability of forms other than oral & measurement methods in many countries.

GnRH Analogs

The GnRH analogs suppress the physiologic, pulsatile release of luteinizing hormone from the pituitary gland, in turn, inhibiting testicular production of testosterone. Also, GnRH reduces the sexual behaviour by acting as a neuromodulator at the olfactory bulb or the amygdala (Kendrick and Dixson, 1985; Moss and Dudley, 1989). GnRH analogs are useful in situations where there is a contraindication for steroidal medications or steroidal medications are ineffective or intolerable (Hill et al., 2003; Rosler & Witztum, 2000).

The three GnRH analogs studied as a treatment in paraphillias are Triptorelin, Leuprorelin, and Goserelin (Thibaut et al., 2010). GnRHa has shown better efficacy as compared to previous treatments with psychotherapy, SSRIs or other anti androgens but there is a lack of randomized controlled studies (Garcia et al., 2013).

A review based on two prospective open studies, two retrospective studies, and one case report, observed the disappearance of deviant sexual fantasies with triptorelin between 1 and 3 months (Thibaut et al., 1993; Thibaut et al., 2010). Similar findings have been observed for leuprorelin (Briken, 2002). One retrospective study found GnRHa & CPA to be equally efficacious in paraphilic subjects (Czerny et al., 2002).

The 2015 Cochrane review could not identify any studies on the use of GnRH analogs of sufficient quality which could meet the inclusion criteria for their review (Khan et al., 2015).

The WFSBP guidelines recommend the use of GnRH analogs in Level 5 or higher level i.e. adult males with severe paraphilias, a high risk of sexual violence, and sexually sadistic fantasies and/or behaviour or physical violence (Thibaut et al., 2010).

A recent study observed significant improvement in deviant sexual interests and behaviours with Leuprolide in sexual offenders who were evaluated by using objective psychiatric assessment (Choi et al., 2018). Another recent study examined the effect of Leuprolide acetate LA (Lupron) treatment on violent (including sexual) recidivism by comparing a group of sexual offenders receiving LA and CBT with a group receiving CBT only (Gallo et al., 2018). The first group was found less likely to re-offend than untreated subjects. Many other studies also support the use of Lupron in sexual offenders (Krueger & Kaplan, 2001; Briken et al., 2001; Raymond et al., 2001; Schober et al., 2005).

Surgical	Bilateral Orchidectomy (LEVEL-D)	
Psychotherapy	Psychodynamic Therapy Aversion Therapy Group Therapy Cognitive Behaviour Therapy (LEVEL-C) Relapse Prevention Therapy	
Pharmacotherapy	Psychotropic Drugs	SSRI (LEVEL-C) Fluoxetine Sertraline Citalopram Buspirone Others Lithium TCAs Antipsychotics Anticonvulasants Naltrexone
	Hormonal Therapy	Oestrogens Antiandrogens (LEVEL-C) *Medroxyprogesterone acetate (MPA)* *Cyproterone acetate (CPA)* GnRH Analogs *Triptorelin* *Leuprorelin* *Goserelin*

Table-1. Various therapeutic approaches for Paraphilias with level of evidence

Conclusion

The paraphilic disorders, not only involve deviant sexual interests but also, may lead to subsequent behaviours like sexual offending. Hence, this group of disorders is a potential target for intervention for psychiatrists and treatment is essential for the society at large. The treatment of paraphilias continues to remain far from evidence-based practice & the guidelines and algorithms stand way down the evidence hierarchy, not supported by well-conducted randomised controlled trials. Research regarding pharmacological interventions in women, juveniles and sexual murderers, is scarce with only a few case reports published.

Future studies including neuroimaging may provide new insights in terms of neural substrates of deviant

sexual interest & aid to screen those at risk for offending and requiring treatment. Further large scale national or international collaborative studies, eliminating methodological and statistical biases, are needed to confirm the efficacy of pharmacological treatments in paraphilias.

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