THE PARAPHILIAS, OBSESSIVE COMPULSIVE SPECTRUM DISORDER, AND THE TREATMENT OF SEXUALLY DEVIANT BEHAVIORS

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The paraphilias have been mostly ignored by psychiatry, even though psychiatrists are ideally suited to treat and diagnose these disorders by virtue of thier medical and psychological training. The sexual deviations require an understanding of both biological and psychological causation and skills in psychological and pharmacological treatments. More recently the Supreme Court of the United States in Kansas v. Hendricks (1997) upheld the constitutionality of the civil commitment of sexually deviant individuals for psychiatric treatment. As the various states adopt statutes based on Hendricks, psychiatry will be forced to take an active interest in the diagnosis and the management of the paraphillias. This paper outlines briefly where the field is in the understanding of the natural history, diagnosis, and treatment of the paraphilias.

In the aftermath of Kansas v. Hendricks by the Supreme Court of the United States, upholding the civil committal of sexually violent predators, psychiatrists are now faced with treating extremely serious paraphilias (1). In a recent editorial in the New Engiand Journal of Medicine this author decried the need for government and the pharmaceutical industry to support into the treatment of sexually deviant behaviour (2). Pedophilia alone is a public health problem of staggering proportions, with consistently 6% to 62% of girls and 10% to 30% of boys in the United States being the victims of sexual abuse in childhood. The enormous impact of this problem in both financial and human terms is undeniable but is sadly lost on government and the psychiatric profession. The conceptualization of pedophilia (only a fraction of the total problem of sexually deviant behaviour) as public health problem hopefully will contribute to the understanding of the problem and what needs to be done to protect children and women. In the public health model the pathogen that needs to be controlled is the pedophile. A variety of approaches are needed to understand and treat pedophilia. Any treatment that is successful in the treatment of pedophilia will also be effective with the other paraphilias. Although pedophilia is abhorrent to many in society, it has been a component of human sexual behaviour since the time of ancient Greece, and punitive approaches to control and eliminate it have been tried and have failed repeatedly. In the United States individuals convicted of sexually abusing children are incarcerated at staggering costs (more than $2 billion in 1990), while there is no evidence that deterrence has any impact on the problem (4). Often these individuals with an accepted, well-described psychiatric illness receive no treatment while incarcerated and no treatment or rehabilitation on release.

The recidivism rate of pedophiles is often exaggerated in order to support a punitive approach, and the media misrepresents the problem by the sensational reporting of child murder cases. The psychiatric profession and other mental heath professionals stand by, doing little to correct the misperceptions and misinformation. In fact, it is more likely, statistically, for a child to die in a motor vehicle accident or to be killed by a parent than to be involved in a sexually motivated homicide (5). Myers studied prepubescent homicides in Detroit over a 25-year period and reported that most of the murders were committed by family members, with the mother the perpetrator in 43% of the cases; only 3.6% of the murders were sexually motivated (6). In a similar study by Kaplan and Reich in New York City, 2% of the child homicides were sexually motivated and again the mother was the perpetrator in most of the cases (7). In Canada, a national population survey was commissioned in 1984 as part of government-appointed committee to study sexual offences against children, and a review of child homicides was completed at the same time. Children less than 16 were victims of homicides in 11.7% of the total homicides in the period studied, 1961-1974. Sexually motivated homicides were 45 out 498 child homicides (9%) with a majority of the young victims being female. The sexually

motivated homicides against children was a very low percentage of total number of homicides (<1%) in the period under study. However, 43% of all sexually motivated homicides were committed against children, a disproportionately high number. If this finding is replicated, then it is possible that there may a relationship between a small group of pedophiles and sexual sadism. Also, the recidivism rates of both treated and untreated pedophiles have been studied, and in general, are much lower than the public believes. The solution to these problems will come from the better understanding and treatment of the pathogen--in this instance, the pedophile, as well as of sexually deviant behaviour generally.

At this moment in time, no one is certain of the cause of pedophilia or of other sexual deviations. There have been biological, psychological, and sociological theories of causation, too extensive to be repeated here but well summarized in a recent review of sexual deviance (9). The actual incidence and prevalence of the paraphilias is unknown. The reports of victims are fairly consistent in the US. Kinsey et al reported that 24% of 4000 females surveyed disclosed a sexual interaction with a male at least 5 years older than them when they were 14 years old or younger (10). Sexual intercourse occurred in only 3% of cases and in 31% of cases the interaction was minor petting or fondling without involvement of the genitals. A Canadian National Population Survey completed specifically for the purpose of studying sexual violence against children and adolescents found that 18.1% of children (23.5% of females and 12.8% of males) were victims of such violence. Only 18% of the perpetrators were strangers; friends and acquaintances accounted for 48%; incest with parents, 10%; incest with other family members and relatives 11%; persons in a position of trust, 4%; and for other persons known to the victim, 9% (11). In a majority of cases, the sexual assault occurred in the victim's own home. These figures are very close to the Kinsey data. Extrapolating from the sexual abuse survey data suggests that the prevalence of sexual victimization could reach 3% or more of the male population-close to the overall prevalence of OCD in the population. Thus, there is evidence that the prevalence of both the paraphilias and the non-paraphilic disorders of hypersexuality are considerably higher than was previously realised (12). Although the actual prevalence of deviant sexual behaviour in the general population is impossible to determine accurately, Crepault and Couture reported in a study of sexual fantasies that over 60% of the males (n = 94) reported heterosexual pedophilic fantasies, and 33% of males had rape fantasies (13).

The onset of paraphilic sexual interest usually occurs prior to age 18 years (14). The average age of onset for the various paraphilias is: 13.6 years for transvestism; 16.0 years for fetishism; 17.4 for voyeurism; 18.2 for nonincestuous homosexual pedophilia; 19.4 for sadism; and 21.1 for nonincestuous heterosexual pedophilia. The actual onset of paraphilic fantasy and urges occurs much earlier; that is, there is an opportunity for intervention when the clinical signs and symptoms of the paraphilias are present but prior to victimization having actually occured. This means that if there were an effective treatment, primary prevention in adolescence for the public health problem of the paraphilias and specifically pedophilia could be employed. Furthermore, there is considerable comorbidity among the paraphilias (14). This means that treatment needs to be effective for all paraphilias and must be consistently applied. This strongly supports a pharmacological option in the treatment of the paraphilias.

Historically, surgical castration had been used for the treatment of severe paraphilias, mostly sexual sadism and pedophilia. The individuals who were castrated were high-risk, highly recidivating sexual offenders. Surgical castration resulted in a reduction of recidivism from over 60% to less than 5% in the majority of cases (16). Langeluddeke reported that the recidivism rate for castrated offenders was 2.3%, compared to 80% in the untreated group, when studied for up to 20 years (17). Cornu reported the recidivism rate fell from 75% to 4.1% in castrated sexual offenders over a five year period (18). Sturup's findings were similar (19). Despite some methodological problems with these studies, they clearly demonstrated that castration reduced recidivism substantially (20). Furthermore, it was the understanding of the biological mechanism by which surgical castration affected deviance that drove the development of antiandrogen treatment for the paraphilias.

Cyproterone acetate (CPA), an antiandrogen, has been used extensively in the treatment of sexually deviant

behaviour in Europe and Canada since the 1970's (20, 21, 22, 23, 24, 25). Medroxyprogesterone acetate (MPA), a hormonal agent, has been used for the treatment of sexual deviation in the U.S. over approximately the same timeframe (25). There have also been anecdotal case reports of the treatment of paraphilias with analogues of LHRH (luteinizing hormone releasing hormone); more recently, there was a study of tryptorelin (25, 26). CPA, MPA, and LHRH analogues all reduce plasma testosterone by different mechanisms. These agents interfere with the production of the principal male hormone, testosterone, which is responsible for driving sexual behaviour (25).

Recidivism studies are actually treatment-outcome studies. A meta-analysis by Furby, Weinroth, and Blackshaw for the first time presented a detailed methodological analysis of the existing studies of sexual offender recidivism (27). They showed that most of the existing studies were flawed. They found 42 studies comparing recidivism for treated sex offenders and untreated controls that passed their stringent criteria for inclusion. In general they were critical that treatment was in most incidences not effective in reducing recidivism rates. They also at the same time outlined what would be necessary to improve the research methodology in future recidivism research. In another meta-analysis Alexander reported on a review of the existing studies on recidivism (28). She reviewed 68 studies and found that untreated exhibitionists and child molesters had considerably higher rates of recidivism than treated sexual offenders.

The most recent advance in the treatment of the paraphilias has been the use of drugs that have an effect on serotonin (29). In laboratory animals decreased brain serotonin leads to enhanced mounting behaviour, a model of increased sexual drive (30). It would logically follow that increased brain serotonin would lead to diminished mounting behaviour. From these and other findings it became apparent that 5HT was involved in the neurobiology of sexual behaviour. In humans the role of 5HT in sexual behaviour is more complicated, as the behaviour itself is more complex and there are a wide range of 5HT receptors. Theoretically, in humans, too, an increase in 5HT should suppress sexual drive.

Since 1990 there have appeared reports that SSRI's were helpful in the treatment of paraphilias. Bianchi reported a case-study of an exhibitionist treated with fluoxetine hydrochloride, with a reduction in paraphilic fantasy (31). Three case-reports involving a pedophile, an exhibitionist, and a voyeur were reported as successfully treated with fluoxetine (32). Other case-reports followed, showing that this drug reduced paraphilic fantasies and behaviour (33, 34). Kafka reported on four patients with nonparaphilic hypersexuality treated with fluoxetine and reported sexual drive reduction. He also treated three cases of paraphilia, two of whom were considerably improved over a 3 month follow-up period (35), He also reported a case study of a rapist who improved on fluoxetine over a 10-month follow-up period; open clinical trials followed (36).

Kafka and Prentky studied a group of 16 outpatients 50% of whom were paraphilic and the other half were non-paraphilic hypersexuals. Ml patients improved when treated over a 3-month period on a mean dose of 39 mg of fluoxetine. They hypothesized that fluoxetine reduced the frequency of certain paraphilic or hypersexual sexual behaviours preferentially, while facilitating normal sexual arousal (37). Stein, Hollander, Antony, et al reported that of 5 paraphilic males, none showed decreased sexual fantasies, urges, or masturbation to paraphilic fantasies when treated with fluoxetine (38). In the same study they also reported that in a group of 5 subjects with hypersexuality, 3 subjects reported some improvement; however, 1 subject developed sexual dysfunction, including anorgasmia with normophilic sexual activity. Coleman, Cesnick, Moore et al reported in a retrospective study of a group of 13 paraphilic males that all improved in their paraphilic fantasies and urges when treated with fluoxetine (39). Zohar, Kaplan, and Benjamin, in a single-case study with repeated measures, found that fiuvoxamine eliminated the paraphilic urges. fantasies, and behaviour in an exhibitionist (40). Desipramine and single-blind fiuvoxamine placebo phases were associated with a relapse in paraphilic urges, fantasies and behaviour in this subject. They suggested there was possibly that a subset of paraphilias had co-existing OCD. Kafka conducted an open clinical trial with 13 paraphilic males and 11 nonparaphilic hypersexual males, and found statistically significant reduction in paraphilic sexual fantasies, urges, masturbation, and sexual behaviour (41). He used sertraline and found

clinical improvement in approximately 50%. The non-responders were offered fluoxetine, and two-thirds then showed clinical improvement. The mean duration of sertraline treatment was 17.4 (sd t 18.6) weeks, at a mean dosage of 100 mg per day. The mean dosage of fluoxetine 51.1 (sd t 19.6) mg per day with the duration of treatment 30.5 (sd t 16.8) weeks. Bradford, Greenberg, Gojer, et al reported a 12-week, open-labelled, dose-titrated study of pedophilia (n = 20 with 2 drop-outs) treated with sertraline (42). The mean effective dose was 131 mg per day. Statistically significant results were found both with self-report scales and with penile plethysmography measurements of sexual arousal. Subjects reported decreases in pedophilic sexual fantasies, sexual urges, and associated masturbation. The physiological measures of sexual arousal showed a decrease in pedophilic arousal and improved or maintained normophilic arousal. Greenberg, Bradford, Curry et al completed a retrospective study of three different SSRI's (fluvoxamine, fluoxetine, and sertraline) in the treatment of a sample of paraphilic males (43). Their aim was to see the relative efficacy of the different SSRIs in their ability to reduce paraphilic urges, fantasies, and behaviour. They were all found to be equally effective. A similar study, comparing SSRIs to a cognitive treatment, showed the SSRIs were more robust in decreasing sexual fantasies and urges (44).

The pharmacological treatments of deviant sexual behaviour have been undergoing rapid changes over the past 4 years. Traditionally, the pharmacological treatmLnt of deviant sexual behaviour was based on the biological aspects of sexuality and specifically on the hormonal basis of human sexuality. These antiandrogen treatments formed the basis of the pharmacological treatment approaches from 1970 to 1990. The development of SSRI's has introduced a new era in the treatment of sexually deviant behaviour.

Traditionally, the pharmacological treatment of sexually deviant behaviour was based on the assumptions 1) that suppression of the sexual drive would decrease paraphilic or deviant sexual behaviour and 2) that the sexually deviant behaviour was driven by various elements of sexual drive, such as sexual fantasies and urges. If there was then a global reduction of sexual drive, the sexually deviant fantasies, urges, and behaviour would all be reduced. This assumption was well-supported in the surgical castration studies and also subsequently in antiandrogen studies. More recently, the use of SSRI's in the treatment of sexually deviant behaviour supports this assumption, but at the same time it raises a question about the origin of deviant sexual urges and fantasies. The question is whether the paraphilias are part of the OCD-spectrum disorders; the response of the paraphilias to treatment with SSRI's supports this relationship. The natural course of the paraphilias and of OCD have certain similarities: both have an onset in adolescence and continue into adulthood. They are also similar in their phenomenology, in that both obsessions and paraphilic fantasies are intrusive and are experienced as ego-dystonic (although not always). The compulsive rituals seen in OCD are mirrored in the compulsive masturbation and other sexual behaviours of the person with paraphilia. Furthermore, the comorbidity of OCD and the paraphilias with the spectrum of anxiety disorders and with some degree of depression is similar. Interestingly, we know considerably more about the basic neurobiology of sexuality and therefore the paraphilias that we know about OCD. Perhaps the paraphilias should be included in the OCD-spectrum disorders, though the issue remains complex and requires further research.

The aim of the pharmacological treatment of sexually deviant behaviour hac also changed in the last 10 years. Surgical castration and the early antiandrogen treatments aimed at creating an asexual individual, whose deviant as well as non-deviant sexual interests were completely suppressed. These two elements of sexual behaviour interact all of the time in sexually deviant individuals and their interactions are extremely complex. Ideally however. successful treatment would mean sexually deviant urges, fantaisies, and behaviour were suppressed or eliminated, while non-deviant sexual fantasies and urges would be left intact or perhaps enhanced. Some of the pharmacological treatments now available have been shown to have this capacity.

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PSYCHIATRIC QUARTERLY, vol 70. No 3, Fall 1999
00332720/99/09000209$1600,0 © 1999 Human Sciences Press, Inc.