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# The use of antilibidinal medications in the treatment of sexual offenders

Jayson Ware and Stephen Allnutt

Jayson Ware is Director of Sex & Violent Offender Therapeutic Programmes with Corrective Services NSW

Dr Stephen Allnutt (FRCPC, FRANZCP) is Senior Consultant Forensic Psychiatrist/Conjoint Senior Lecturer, UNSW

## Abstract

Antilibidinal medications can be used to reduce a sexual offender's deviant sexual fantasies and arousal. We briefly review what these medications are and what effects they have, how commonly they are used or should be used, how effective they actually are, and finally in our clinical opinion which sex offenders would benefit from the taking these medications. We also raise briefly some of the ethical, legal, and medical implications of their use.

## Introduction

In our combined clinician experience one of the questions most frequently put to us is "Why can't we just medicate all sex offenders?" This reflects the notion that a magic pill or injection exists that should completely minimise the possibility of further sexual offences being committed. There is no such magic pill however attractive that notion is; nor for that matter is there a magical psychological cure.

Psychological treatments alone have been shown to be, moderately effective at reducing recidivism (see Losel & Schmucker, 2005) and for a large proportion of sex offenders, this form of treatment is often all that is required. We believe, however, that there is a select group of sex offenders that benefit from the use of medications to manage their inappropriate sexual fantasies and arousal. In our view, these offenders are those with high sex drive and who offend because of sexual preoccupation or a high level of deviant sexual fantasies and arousal. Contrary to public perception this is reflects only a small sample of all sex offenders.

The kinds of medication that can be used in this population are collectively called anti-libidinal medication (medication that reduces the libido or

sex drive). In our opinion antilibidinal medications should be prescribed to sex offenders by knowledgeable *clinicians* with the full *consent* of the person taking them, under *certain* conditions and their use *carefully* monitored.

Within this paper we attempt to describe as simply as possible what these medications are and what effects they have, how commonly they are used or should be used, how effective they actually are, and finally in our clinical opinion which sex offenders would benefit from the taking these medications. We also raise briefly some of the ethical, legal, and medical implications of their use.

## Antilibidinal medication and their effects

There are a variety of medications prescribed by clinicians that have an antilibidinal effect, although only one of these (Androcur) is currently sanctioned by the Australian Therapeutic Goods Administration (TGA) for the explicit purpose of reducing sexually deviant behaviours.

Those most commonly used in the treatment of sex offenders include *Specific Serotonin Reuptake Inhibitors (SSRI's)* and *hormonal agents*. Both of these types of medications have been shown to reduce sexual interest or libido, sexual fantasies, sexual urges

and behaviours, sexual arousal, and sexual performance (they may cause impotence, lack of intensity of orgasm, delayed ejaculation, delayed orgasm).

### *Specific Serotonin Reuptake Inhibitors (SSRI's)*

Serotonin is a neurotransmitter found in the brain. Neurotransmitters transmit information within the brain and from the brain to all the parts of the body. SSRI's are thought to reduce sex drive by increasing the availability of serotonin in the brain. An increase in serotonin in the brain is associated with a decrease in sex drive. SSRI's are mainly used in the treatment of Depression and Anxiety Disorders. Sexual dysfunctions have been a common side effect in people taking these medications for these disorders and as a consequence there has been increasing interest in the use of SSRI's in the treatment of sex offenders. It is not clear exactly how SSRI's work with sex offenders. A reduction in sexual re-offending after being prescribed an SSRI might be because of a general inhibition of sexual activity, a reduction in impulsivity, a reduction in obsessive urges, a decrease in depressive symptoms, or a general reduction in testosterone serum levels, or all of the above.

### **Hormonal Agents**

Testosterone is the most important hormone that modulates sexual behavior through the modulation and reduction of the effect of the hormone testosterone (there is also some evidence that testosterone modulates serotonin) ([Briken et al 2003](#)).

There are essentially three types of Hormonal Agents used in the treatment of sex offenders:

- Medroxyprogesterone Acetate (MPA) or as it is otherwise called *Depot Provera*,
- Cyproterone Acetate (CPA) or *Androcur*, and
- Luteinizing Hormone Releasing Hormone Agonists (LHRH agonists).

All of these medications have effects on plasma testosterone by reducing its effect and availability and thus reducing sexual drive, arousal and performance. Specifically, MPA induces an enzyme in the liver (testosterone-A-reductase) which has the effect of reducing plasma testosterone. CPA blocks intracellular testosterone uptake and the intracellular metabolism of androgen. It blocks the effect of testosterone at the receptor site. It also reduces LHRH (lutensising hormone releasing-hormone) secretion and thus reduces testosterone in the plasma. LHRH agonists over-stimulate the hypothalamic pituitary axis and as a consequence reduce plasma testosterone levels.

It is important to be clear that CPA and MPA does not seem to work by reducing extremely high levels of testosterone. There is no evidence that sex offenders have abnormally high levels of testosterone ([Fedoroff & Moran, 1997](#)).

### **How commonly are these medications used?**

The use of these medications varies across each jurisdiction and it is immediately unclear to us as how often they are used in Australia and New Zealand, however it appears that they are used relatively infrequently. McGrath, Cumming, and Burchard (2003) completed a large scale survey of 951 North American sex offender treatment programs. They reviewed surveys from 2000 and 2002 and reported that medication use with sexual offenders appeared to be decreasing. In 2002, 52.1% of residential treatment programs for adult sexual offenders used one or more medications for some of their offenders. Of these programs, 45.2% used SSRIs, 30.1% used Provera, 21.5% used Lupron, and 7.5% used another medication type. Very importantly, this does not mean that every sexual offender within the program was medicated but rather that the program used these

medications for certain offenders in certain circumstances. This seems to suggest that almost half of all treatment programs for sex offenders in North America rely upon psychological treatment alone, although it is unclear whether this is actually due to the lack of available psychiatric treatment, funding/policy or a particular philosophical or professional view about the use of these medications.

### **Effectiveness of antilibidinal medications at reducing sexual offending**

Overall the quality of the studies examining the effectiveness and efficacy of anti-libidinal medication in reducing recidivism allows only guarded conclusions to be drawn about the effectiveness of the medication. There is due to the limited scientific evidence at least that which meets the strongest of scientific standards, to allow us to conclude that it is or is not effective in reducing recidivism. To a lesser extent this has been a criticism of psychological treatment also.

We will now review the methodological difficulties inherent in studies investigating the effectiveness of antilibidinal medications before outlining the available evidence as to the effectiveness of the SSRIs and hormonal agents.

### **Methodological problems**

Almost all of the studies looking at the effectiveness of these medications have suffered from methodological problems including: small sample sizes (as few as 10 subjects), lack of randomized controlled trials, limited follow up periods (often less than 12 month), or they have relied upon offender self-report as the measure of reductions in deviant sexual interests.

Further the samples of sex offenders used within each study appear to vary considerably (there is a range of offender type or risk) and most usually

the offenders have been receiving both psychological and antilibidinal treatments. Finally, offenders who have taken these medications until the end of the trials have appeared motivated whereas those who did not complete the trial were not included within the research outcome. As an example of how this impacts on the research, [Hucker et al. \(1988\)](#) reported on an experiment where there were initially 100 sexual offenders referred for assessment and treatment. Only 18 of the 100 agreed to participate in a MPA drug trial suggesting that over 80% of offenders prefer psychological treatment. Further, only 11 of the 18 actually completing the 12-week medication trial.

### **Evidence of effectiveness**

#### *Specific Serotonin Reuptake Inhibitors (SSRI's)*

SSRIs have been used in a number of uncontrolled studies to treat exhibitionists, fetishists, voyeurs, and child molesters with favourable results. Reductions in fantasies, sexual urges, masturbation, and paraphillic behaviours have been reported in as little as 2 to 4 weeks after commencement of treatment (see Bourget & Bradford, 2008). Adi, Ashcroft, Browne, Beech, Fry-Smith, & Hyde (2002) reviewed the clinical effectiveness and cost-consequences of selective serotonin reuptake inhibitors in the treatment of sex offenders. From a review of 78 studies, they identified only nine that were adequate – all of which were from the United States. The total number of subjects across all nine studies was only 225.

Although reporting overall positive results, Adi et al. (2002) concluded that the evidence for the effectiveness of SSRIs with sexual offenders, while appearing positive, is far from conclusive (p.18). They noted significant methodological limitations with each of the nine studies and recommended that further research be

undertaken. Further, there were actually a number of outcomes where SSRIs did not reduce sexual drive in sex offenders (e.g., Stein et al., 1992).

These limitations notwithstanding, in comparison with other classes of medications used with sexual offenders, it was noted that SSRI's have the following advantages:

1. They are familiar to most psychiatrists and therefore do not necessarily require the expertise required when prescribing anti libidinal medication;
2. There are fewer side effects which are, in general, less serious;
3. SSRIs are likely to be more attractive to sexual offenders than anti-libidinal medications. In a study by [Fedoroff \(1995\)](#), he noted that when offering a range of treatment services to 59 men with paraphillic symptoms, 41 chose an SSRI in addition to psychological treatment, and only 1 chose a hormonal agent.

### **Hormonal Agents**

#### *MPA (Depot Provera)*

There is a surprisingly small amount of evidence relating to MPA's effectiveness, particularly given that MPA is used as part of mandated treatment in 9 states in North America. Nelson et al. (2002) summarised the existing literature. They found 13 case reports, 12 case studies, and 5 placebo-controlled studies that evaluated sex offenders treated with MPA. These studies totaled just over 300 subjects. The overall results appear positive but are hampered by methodological problems. Whereas case studies reported reductions in sexual fantasies and arousal, paraphillic behaviors, sexual recidivism, and relapse rates with MPA given both orally and intramuscularly the placebo controlled studies only partially support these outcomes.

Four of the 5 placebo-controlled studies showed decreases in offender

self-reporting of symptoms, but only one of these studies used more objective measures (i.e., plethysmograph). [Kiersch \(1990\)](#) found that 5 of 8 "hard core" sex offenders who were administered MPA reported reductions in deviant sexual fantasies however this was not substantiated by measurements in the offender's responses to stimuli presented by plethysmograph (measures blood flow to penis); thus raising concern that sex offenders could be reporting that these medications are effective, when they may not be.

[Maletzky, Tolan, and McFarland \(2006\)](#) have completed the biggest study to date and it appears very promising. They compared 79 sexual offenders who received MPA with 55 offenders who did not receive it (even though it was recommended for them) over a follow up period of up to 4 years. They found that offenders receiving MPA committed *no* new sex offences and fewer non-sexual offences. Almost one third of offenders judged to need medication but did not receive it committed further sexual offences. Of note, these all appeared to be high risk sex offenders.

#### *CPA (Androcur)*

There is limited evidence as to effectiveness of this medication. There appears to be 4 case reports, 8 case studies, 3 double-blind placebo-controlled studies, and 1 double-blind comparison study that evaluated sex offenders treated with CPA. These studies totaled over 260 subjects. The majority of these studies were completed from the 1970s to the early 1990s (see Nelson et al., 2002 for review of these studies).

The overall results of these studies appear promising yet they are limited by methodological weaknesses. The use of CPA had positive effects within the case studies. The intensity and frequency of paraphillic fantasies and behaviors, testosterone levels, sexual

drive, and a reduction in penile tumescence in response to evocative stimuli have all been indicated (Nelson et al., 2002). The results of the double-blind, placebo controlled studies and the double-blind comparison, were mixed. Only 1 study showed statistically significant differences, although this is probably due to the small sample sizes used in most studies. [Bradford and Pawlak \(1993\)](#), for example, used a double-blind crossover trial, reporting that in 19 offenders, CPA, but not placebo, significantly reduced self-reported sexual arousal to visual sexual stimuli. This was replicated in a second study with a further 17 offenders, although in this case the plethysmograph was used.

#### *LHRH agonists*

The effectiveness of LHRHs has been examined in at least 6 case studies, one case control study, and 7 open uncontrolled studies ([Briken, Hill, & Berner, 2003](#)). All of these 13 studies have significant methodological limitations (Nelson et al., 2002) and the total number of subjects was only 118. Only 43 of these men were diagnosed with paraphilia whereas the deviant sexual interests of the others were unclear. All of these studies reported significant decreases in sexually deviant behaviours and fantasies or interests as measured by client self-report.

[Rosler and Witzum \(1998\)](#) conducted the largest study evaluating the use of a LHRH with a total of 36 men with paraphillias who were medicated for between 8 to 42 months. They reported a complete reduction of paraphillia acts and significant decreases in measures of sexual interest, activity, and fantasies. Grubin (2008) notes that although LHRH's appear to have a more potent impact on testosterone levels and sexual arousal than CPA or MPA but the side effect osteoporosis (thinning of bones) is a particular problem. The LHRH medications are also significantly more expensive.

Despite the limitations of the research anti-libidinal medications can reduce sexual interest and sex drive and it would be reasonable to consider that a reduction of sex drive and sexual interest would assist in enabling a person to avoid offending situations and apply cognitive behavioural and relapse prevention (psychological) strategies should the person wish to do so. This makes medication a helpful addition to psychological treatment.

#### **Which offenders might need antilibidinal medications?**

Grubin (2000) estimates that less than 5% of sexual offenders would be suitable for the use of anti-libidinal medications (CPA or MPA). In his view, medication is to be used only with offenders where sexual arousal plays a very significant and central role in their offending and should be used in combination with psychological intervention or treatment. In particular this includes sex offenders with paraphillias and/or high sex drive. There is general agreement that anti-libidinal medications should be administered in conjunction with psychological treatment ([Glaser, 2003](#); [Harrison, 2007](#)).

Offenders that might need an assessment for antilibidinal medications often present as follows:

1. Their sexual history reveals high rates of deviant acts that are persistently evident over an extended period of time
2. There is a preoccupation with deviant sexual fantasies that causes the person considerable distress or results in the individual behaving in inappropriate ways (i.e., including causing harm to others).
3. Phallometric assessments (which measure blood flow to penis) indicate either strong deviant sexual arousal pattern or very high sexual arousal to all stimuli (i.e., normative and deviant).

4. The offender self-reports either excessive masturbation (e.g., more than once per day), or persistent arousal to staff or to persons depicted in the media.
5. The offender's institutional behaviour reveals he is collecting pornography or watching television shows that depict person's matching his victims (e.g., children's shows or shows portraying violence against women) and he persists in these activities despite advice to desist.
6. The offender's institutional behaviour reveals either persistent attempts to engage staff in romantic or sexualized behaviour that is not discouraged by feedback, or incidents of sexual assaults or sexual harassment of staff or other inmates.

The ideal goal of treatment would be to suppress deviant sexual fantasies, urges and behaviors while still allowing for age appropriate and satisfying sexual behavior to occur; this enables the offender to pursue satisfying intimate relationships if they have the capacity to do so. While for low risk/low harm sex offenders this would be ideal; it might be too high risk a strategy for the higher risk/high harm sex offenders where a suppression of sex drive might be preferable.

Bradford (2000) has proposed an algorithm for the prescription of anti-libidinal agents. The aims of the treatment are to reduce deviant sexual fantasy urges and behavior and reduce further victimization. The algorithm takes into consideration the severity of the paraphillia and the degree of potential harm. For those offenders on the lower end of this spectrum the aim of medication would be to suppress deviant fantasies and urges with a minor to moderate impact on sex drive to allow for appropriate sexual expression. This would be the case for most sex offenders. For those offenders on the other end of the scale, that is those who pose high risk or who engage in sexual offending that is more harmful, the goal of treatment might be to suppress deviant fantasies and urges with a significant reduction

in sex drive and in rare and extreme cases (for example, those with recurrent sexually sadistic offences) creating an asexual individual.

Bradford (2000) proposes 6 levels of treatment:

*For those in the low to moderate risk/harm side of the risk/ harm spectrum*

Level 1 - CBT and relapse preventions alone;

Level 2 - SSRI up to a maximum dose;

Level 3 - If the SSRI is not effective in 4 to 6 weeks then the addition of a small dose (50 mg) of MPA daily;

*For those in the moderate to severe risk/harm side of the risk/harm spectrum*

Level 4 - Either oral MPA, 50 to 300mg daily; or oral CPA 50 to 300mg daily

Level 5 - Either intramuscular MPA 300mg weekly; or intramuscular CPA 300mg two x weekly;

*For those with "catastrophic" severity (severe sexual sadism for example)*

Level 6 - Intramuscular CPA 200 to 400 mg weekly or an LHRH Agonist

We believe that when prescribing antilibinials it is preferable that psychological treatment is provided concurrently but in those instances where a high risk offender, or an offender who meets the criteria we listed above, is continually refusing such psychological treatment it is acceptable to prescribe antilibininal medications rather than leave the person with no treatment at all.

### **Ethical, legal and medical implications of antilibidinal medication use**

There are a large number of issues and implications that need to be considered when using anti-libidinal medications with sex offenders. We list a number of these below.

1. Medication can only be taken on a voluntary basis; although criminal justice staff can encourage an offender to comply with medication, they cannot compel an offender to take medication.
2. Consent to treatment and compliance with treatment can be significant issues; prior to consideration of the use of medication, offenders should be assessed by a forensic psychiatrist who is experienced in the assessment of treatment of sex offenders as well as having a comprehensive medical work up. Informed consent should include a discussion of medication options, targeted symptoms, potential side effects (which can be numerous), and the expected course of treatment.
3. As hormonal treatments significantly impact on sexual functioning (including with consenting adult partner), many sex offenders are reluctant to consent to this treatment; for this reason it is important to aim to reduce sex drive without causing a person to become completely impotent; which at least allows opportunity for a normal sex life; this however might not be possible as the dose increases.
4. Compliance with these medications can be a problem – given that the majority of medications are taken orally, there can be difficulties in ensuring compliance, particularly if side effects occur; some medications can be given by injection to improve compliance; whilst an offender might agree to a future regime of medical treatment this consent can be withdrawn at any time; compliance can be improved if the person is engaged treatment program and has a good therapeutic relationship with a mental health worker.
5. There is some concern that termination of anti-libidinal medications may rapidly increase the risk of sexual recidivism ([Meyer et al., 1992](#)). [Wincze, Bansal, and Malamund \(1986\)](#) note that if this happens this probably has more to do with the offender than the medication.
6. [Harrison \(2007\)](#) notes that sexual fantasies and urges may still continue if correct dosage is not administered which means that each offender needs to be carefully assessed and continually monitored. There is some controversy over what doses are best to use with some psychiatrists aiming for a reduction to pre-pubertal testosterone levels whereas others suggest a reduction to 30-50% of pre-treatment assessment ([Maletzky, 1998](#)).
7. The length of time an offender should remain medicated is unclear, although [Grubin \(2008\)](#) cautions against any offender being medicated with anti-libidinal medications for longer than 24 months. Others such as [Bradford \(2000\)](#) suggest they can be used in the long term as long as the person is closely monitored for side effects.
8. There are potentially serious side effects, a few which can be difficult to reverse. These include infertility and abnormal spermatozoa (slowly reversible), breast enlargement (common and may be permanent), mood changes and altered liver function ([Glaser, 2003](#)). A high level of medical monitoring is therefore essential.
9. The use of MPA or CPA medications with adolescent and/or developmentally disabled sexual offenders is controversial because of issues of consent and these medications can affect genital and bone growth. [Glaser \(2003\)](#) advises that these medications should therefore not be given to boys under the age of 18 years.

## Our conclusions

We have presented a brief overview of the use of antilibidinal medications. Our conclusion is that there appears to be a general consensus amongst clinicians that for a relatively small

sample of high risk/high harm or highly distressed sexual offenders the use of medications for an anti-libidinal purpose (SSRIs, CPA, MPA) is likely to be an effective and important treatment approach preferably when combined with psychological treatment. These offenders should meet the criteria we have listed above.

We need to know more about the effectiveness of these medications. Further research is necessary; particularly double-blind placebo crossover design studies with adequate sample sizes. To date, this research appears to have been hampered by a lack of funding for this research (within the USA) and from the ethical barriers to this type of research design – i.e., giving a placebo pill (e.g., a pill that does not have any effect) to sex offenders.

We conclude by agreeing with Harrison's (2007) recommendation that, on the basis of the available evidence, it appears sensible to include the option of anti-libidinal use in the treatment and management of the highest risk sex offenders - particularly for those who pose immediate and significant risk of harm to the community.

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#### **Correspondence to:**

Jayson Ware  
Director  
Sex & Violent Offender Therapeutic Programmes  
Corrective Services NSW  
Level 4/66 Wentworth Ave, Surry Hills, NSW  
2010.  
E-mail: [jayson.ware@dcs.nsw.gov.au](mailto:jayson.ware@dcs.nsw.gov.au)

Jayson Ware is Director of Sex & Violent Offender Therapeutic Programmes with Corrective Services NSW  
Dr Stephen Allnutt (FRCP, FRANZCP) is Senior Consultant Forensic Psychiatrist/Conjoint Senior Lecturer, UNSW