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## Successful treatment

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multiple drug use. More evidence-based knowledge is needed to ascertain the best possible care for polydrug users and especially for problem drug users with mental disorders.

For better understanding of pharmacotoxicological risks from specific combinations, a priority is for clinicians to follow up patients with suspected drug intoxications and to provide evidence-based information about acute and long-term damage to health.

### Successful treatment

In the EU action plan on drugs (2000–04), the third strategy target is ‘to increase substantially the number of successfully treated addicts’. No aggregated data exist at European level to directly measure the level of achievement of this objective. However, many evaluations have been carried out across Europe exploring if and what type of treatment works. Findings on successful treatment are presented here according to the type of treatment intervention: withdrawal treatment, drug-free treatment and medically assisted treatment. The success criteria vary between the different types of treatment and are also related to social reintegration and rehabilitation after treatment.

#### Withdrawal treatment

Withdrawal treatment, or detoxification, is generally considered the first step in a complete treatment process. This intervention aims, firstly, at arriving at a stage where the client is physically drug free and no longer craves for illegal drugs and, secondly, at transferring or referring the client to drug-free treatment. In Sweden and Finland, this process is a prerequisite for starting methadone treatment.

Evaluations of withdrawal treatment have been carried out across the Member States and Norway but nevertheless, globally, it is the least evaluated type of treatment intervention. Overall, withdrawal treatment with medicaments such as Naltrexone, clonidine, lofexidine and buprenorphine have proved effective in decreasing withdrawal signs and symptoms, although the effect on different kinds of withdrawal symptom varies between medicaments (Greenstein et al., 1997). Methadone is widely used for treating withdrawal symptoms although research findings suggest that methadone’s strength lies in maintenance therapy.

Withdrawal treatment with no use of medicaments, also known as ‘cold turkey’, exists although its extent is not really known. Nor are there any reports on the effects and outcomes of non-medically based withdrawal treatment compared to medically assisted withdrawal treat-

ment. The recently emerged concept of rapid detoxification with Naltrexone under full narcosis (sometimes referred to as ‘turbo withdrawal treatment’) should be investigated in more depth.

One intervention in Portugal which combined the delivery of naltrexone and psychotherapy found that after three months there were notable improvements in socio-demographic and psychological variables as well as in risk behaviour (Costa, 2000). An experiment in Germany detoxified methadone users with naltrexone under full narcosis. The patients’ satisfaction was fair but as many as 50 % reported severe discomfort in the first month following the intervention. Six months after discharge one third of the patients had not consumed hard drugs (Tretter et al., 2001).

Although some withdrawal treatment interventions have been subject to evaluation, more in-depth knowledge is needed on the pros and cons of the different modalities and on which type of withdrawal treatment should be used for which type of patient.

#### Drug-free treatment

Drug-free treatment applies physic-social techniques in its aim for the client to become, first, abstinent and, then, long-term free of drug craving. The primary success criterion used for drug-free treatment is the completion of treatment as planned drug free, although others such as improvements in psychological, social and economic well-being are also essential. Important ‘spin-off’ effects are a reduction in crime and risk behaviour as well as an improvement in the health and general welfare of the client.

Evaluations of drug-free treatment interventions have shown that, to a greater or lesser extent, it succeeds in fulfilling these objectives (Gossop et al., 2001). Evaluation results fluctuate greatly, but generally 30 to 50 % of clients entering drug-free treatment complete it successfully. A Danish study concluded that, depending on the kind of drug-free treatment interventions, successful completion rates spanned from 17 to 58 % of the clients entering treatment (Pedersen, 2000).

Another widely acknowledged notion is that treatment duration is closely linked to treatment outcome or, in other words, the longer the time spent in drug-free treatment the better. This idea is backed up by a German study which suggested that retention rates/duration in drug-free treatment correlate with its outcomes (Sonntag and Künzel J., 2000). Some research has tried to identify the threshold at which successful treatment outcomes are likely to increase. One study found that clients

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staying in drug-free inpatient treatment for 90 days achieved better outcomes — in terms of abstinence from opiates, stimulants and in the reduction of injecting drug use — one year after discharge than those who left earlier (Gossop et al., 1998). This is confirmed by a Greek study which found that those clients who left treatment within the first three months only decreased heroin consumption after discharge by 11 % compared with 76 % for those who stayed at least a year (Kethea, 2001).

Regarding the issue of long-term effectiveness, an Austrian study concluded that a treatment scheme with a focus on social and psychotherapy interventions markedly increased the social competence and the subjective satisfaction of the clients, which results in their long-term stability (Wirth, 2001).

The National Treatment Outcome Research Study (NTORS) was established in 1994 at the request of the British Minister of Health to assess the effectiveness of drug misuse treatment services in the United Kingdom. NTORS recruited 1075 clients for the project in 1995 and followed them for five consecutive years. A random stratified sample of 650 clients was selected and followed in four different treatment modalities: inpatient, residential rehabilitation, methadone reduction or methadone maintenance. The main finding of the study is that treated individuals do improve on outcome parameters such as drugs intake, injection frequency, needle sharing and psychological health. The total aggregated cohort showed statistically significant improvements in heroin intake — around 75 % had regular heroin use at intake compared to around 40 % four to five years on. Regular use of non-prescribed methadone had gone down from around 30 % at intake to under 10 % and needle sharing had decreased from around 20 % at intake to around 5 %. Scorings on psychological health also showed statistically significant improvement between the state at intake and the state four to five years on.

Drug-free treatment has been evaluated across Europe applying different methodologies, and substantial insights have been gained especially over the last decade. However, there are still areas where further research is needed to respond to phenomena that have recently emerged. One example is on the efficiency of drug-free treatment for predominant cocaine users and amphetamine users as well as other specific sub-populations. Furthermore, there are few large-scale studies on how many remain drug free in a longer-term perspective after the successful completion of treatment.

### Medically assisted treatment

Medically assisted treatment (which includes substitution treatment) uses agonist or antagonistic medicaments in

its therapy of clients. Agonist medicaments (e.g. methadone) activate the opiate receptors in the brain and antagonistic medicaments (e.g. naltrexone) limit or eliminate the effect of other illicit drugs taken. The aim of medically assisted treatment can be abstinence but may also be to maintain the client in long-term medical treatment. Whether the end goal be to achieve abstinence or to reduce the harmful effects of drug addiction, common interim goals include: reducing the consumption of illegal drugs and the risk of infectious diseases; improving the mental and physical state of the client; and reducing drug-related crime.

Methadone maintenance is the most widely diffused type of medically assisted treatment. As ‘maintenance’ implies, the objective of this type of intervention treatment is not abstinence but to keep the client in maintenance treatment thereby reducing criminal activity and risk behaviour (and consequently the risk of the acquiring infectious diseases), as well as improving health and social functioning.

Medically assisted treatment has been widely evaluated across Europe and has generally proved effective in achieving goals such as reducing the consumption of illegal drugs, risk behaviour and crime. In particular, medically assisted treatment interventions with methadone have been evaluated and found effective in relation to these goals (Lowinson et al., 1997; EMCDDA, 2000), although buprenorphine has proved effective too. One structured literature review of buprenorphine trials found that its main strength was in lowering the risk of overdosing and lowering the level of parallel illicit drug use (Berglund et al., 2001). For both methadone and buprenorphine, sufficient dosages have shown to be imperative to ensuring positive outcomes.

Despite these apparent ‘successes’, some countries consider that neither methadone nor buprenorphine have sufficiently improved the general welfare of particularly deprived street addicts and have sought other alternatives.

In February 2002, the findings of a Dutch randomised controlled trial with co-prescription of heroin for methadone clients were published. The target groups of the intervention were severely addicted, older, heroin users who had not benefited sufficiently from methadone maintenance treatment. In order to define this target group, a predefined set of inclusion and exclusion criteria were established and subjects were selected from the local methadone maintenance treatment registration system. A total of 625 patients treated in six units located around the Netherlands were selected and randomly divided into an experimental group and control group. First, the patients

were divided according to their route of administration, inhaling or injecting, and then subdivided according to the intervention — those receiving only methadone and those receiving a combination of methadone and heroin. The main finding of the study was that for severely addicted, older, heroin users methadone plus heroin was more effective than treatment with methadone alone, irrespective of the route of administration. The study furthermore showed that at the end of the trial, 30 % of the clients in the experimental group no longer met the inclusion criteria (their general condition having improved considerably), whereas it was only 11 % in the control group (van den Brink et al., 2002).

In Germany, a trial with the prescription of medical heroin for opiate addicts has been developed and refined over the past couple of years. The trial which began in spring 2002 will last for three years with seven German cities participating. The main question to be answered is if and under which condition the prescription of heroin for an extremely deprived group of opiate addicts can contribute to improving their situation in terms of health, social and legal aspects. The patients in the trial will be divided randomly into an experimental group and a control group. These groups will be further divided into two groups receiving different types of psycho-social intervention — one group 'case management' and the other 'psycho-education'. The study is expected to provide further insights on psycho-social intervention and its efficiency in the treatment of opioid addiction (<http://www.heroinstudie.de/>).

In Denmark, an alternative to a heroin project was launched for 2000–02 with the aim of initiating special pilot projects for drug addicts in methadone treatment, involving massive psycho-social activities. The qualitative and quantitative evaluation will study the extent to which results can be achieved in the form of better social, health-related and mental functioning, reduction of drug use, reduction of infectious diseases and crime, as well as an extension of network relations.

### Conclusions and future perspectives

Success depends on the purpose of a given treatment intervention and consequently that success should be assessed in accordance with the pre-established objectives. There is already a considerable wealth of research that, when comparing objectives with outcomes, has enabled insight and knowledge to be gained on the effectiveness and/or success of various types of treatment.

It is, for instance, an important outcome that retention rates are crucial for treatment outcomes or 'success', but

knowledge needs to be gathered on how to keep clients in treatment or, in other words, on which elements in treatment are crucial for increasing the retention rate. Identifying the 'active ingredient' in any kind of treatment is a difficult task and it is essential to improve the performance of treatment services, thereby improving treatment outcomes.

However, having the theoretical knowledge and insight is one thing and implementing it another. An example of this is the importance of accompanying psycho-social interventions in medically assisted treatment, which much research has found to contribute to success but which nevertheless are still not adequately implemented in practice.

In recent years, much emphasis has been placed on expanding treatment services and this has to a rather large extent been achieved. The challenge now is to widen the fan of treatment services and refine the interventions themselves, thereby increasing the 'success' of these.

## Drug use in prison

The presence of drugs and drug use has fundamentally changed the prison reality over the past two decades and, nowadays, all countries in Europe experience major problems due to drugs and drug-related infectious diseases in prisons.

### Drug demand in prison <sup>(61)</sup>

National routine information on drug use, patterns and consequences amongst prisoners is rare. Most of the data available in the EU come from ad hoc studies carried out at local level amongst a small sample of prisoners. This makes extrapolations very difficult.

### Prevalence of drug users in prison

The prison population can be considered as a high risk group in terms of drug use. Indeed, compared with the community, drug users are over-represented in prison. The proportion of inmates in the EU reporting ever having used an illicit drug varies according to prisons and countries between 29 and 86 % (over 50 % in most studies) (Figure 25). As in the community, cannabis is the most frequently experienced substance, but several studies also show high levels of heroin experience (close to 50 % of the inmates or more in some cases).

<sup>(61)</sup> See also the table: Proportion of drug users among prisoners in the EU (online version).