

The Norwegian OMT program – benefits and challenges

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ABSTRACT

Opioid maintenance treatment (OMT) in combination with a range of other interventions/treatments should be established as a comprehensive system to combat the high rates of overdose death among persons untreated for heroin dependence. Since its introduction in Norway in 1998, OMT has steadily increased; more than 7000 persons are currently in treatment. In this paper the OMT literature, with an emphasis on the situation in Norway regarding the treatment outcomes mortality, somatic morbidity and criminal behavior has been reviewed.

For persons in need of OMT, enrollment in treatment is associated with more than 50% lower mortality, drug-related somatic morbidity and criminal activity. However, in the period 2009–2012, methadone-related deaths have increased with 50% despite a lack of increase in the number of patients on OMT who receive methadone. Most methadone-related deaths occur among persons who are not on OMT.

Improved strategies are needed to avoid that the reduced number of heroin overdoses are replaced with methadone poisonings – finding the right balance between availability and control of OMT is a prerequisite for the continued legitimacy of this treatment.

MAIN MESSAGE

Inclusion in the OMT program reduces the risk of overdose death, criminal behavior and somatic disease with more than 50%.

The observed increase in methadone-related deaths in recent years should be followed up by more diversified dispensing regimens, including explicit control measures associated with methadone in OMT, especially for patients that are still using other substances in addition to their OMT-medication.

BACKGROUND AND AIM

Opioid dependence, treatment and challenges

Heroin dependence is a rather rare, but very serious condition. In the western world, 0.3–1% of the adult population (15–65 years of age) are estimated to be heroin dependent (1, 2). Mortality among untreated heroin- and/or opioid dependent persons is approximately 15–25 higher than in the general population (3, 4). Those who inject are at particularly high risk of overdose and contagious diseases such as HIV and hepatitis (5). Other causes of death – suicide, accidents and murder – are also more frequent among opioid dependent persons than among the general population (3). Most persons who seek treatment for substance use disorders, use a mixture of substances; e.g. heroin and benzodiazepine, or amphetamine etc.

As opioid dependence is a complex phenomenon and a disabling and chronic disorder (6), and the consequences include high mortality rates from a range of causes: A society's response to this public health concern of opioid dependence therefore needs to include a range of strategies and interventions; from harm-reduction to abstinence oriented therapeutic communities (7). Interventions need to be available inside and outside prisons, as well as being available to those who suffer from comorbid somatic or psychiatric disorders. Still, evidence informs us that the central treatment to be offered to opioid dependent persons is opioid maintenance treatment (OMT), with long-acting opioids (methadone or buprenorphine), combined with psychosocial follow-up (8–11).

OMT provided as long-term treatment, and combined with psychosocial interventions has shown superior outcomes, to non-medical or short-term interventions. Beneficial outcomes to be expected from

OMT are; reduced illicit drug use, better retention in treatment, as well as reduced mortality, somatic morbidity and crime. It has been shown that higher intensity of adjunct psychosocial interventions increases the positive outcomes of this treatment (8–11).

In Norway OMT is provided with an emphasis on the psychosocial rehabilitation, in a long-term perspective and as a joint effort between the specialist health care system, the social security system and the primary health care system in the municipalities. The capacity of the Norwegian OMT program has improved in recent years, few are on a waiting list for OMT and inclusion into treatment typically takes only some days (12). Nevertheless, opioid users mostly inject heroin and are characterized as polydrug users in Norway – and the rate of overdose mortality is still among the highest in Europe.

Aim and approach

The aim of this paper is to summarize the outcomes of OMT, as the service is organized and delivered in Norway, with an emphasis on the outcomes mortality, somatic morbidity and criminal behavior. The paper is based on a non-systematic literature review and on experience and knowledge about OMT since it was introduced in Norway in 1998.

Annual OMT status surveys

The Norwegian OMT program is evaluated annually in a «national status survey» (13). Primary treatment contacts for OMT patients – enrolled in the national program the previous year – complete a questionnaire (ideally in cooperation with the patient) concerning substance use, criminal behavior, symptoms of psychotic and somatic health issues and rehabilitation aspects such as housing, work

Table. Enrolment in the Norwegian OMT program is associated with substantially better outcomes than being outside of OMT.

| Outcomes and endpoints | | Improved outcomes | References |
|---|---------------------------------------|-------------------|------------|
| Mortality ^a n=3789 | Total | 50% reduction | 17 |
| | Overdose-related | 80% reduction | |
| Morbidity n=200 ^b | Total | 37% reduction | 18 |
| | Related to substance-use ^b | 76% reduction | |
| Criminal behavior ^c , n=3221 | | 60% reduction | 19 |

a. 116. National registry data (OMT registry coupled with Cause of death registry) for the period 1997–2003.

b. Cohort study: Somatic morbidity leading to hospitalization in the counties Hedmark and Oppland.

c. National registry data (OMT registry coupled with Crime statistics)

etc. Termination of treatment is recorded throughout the year.

In 2012, the total number of opioid dependent persons – and thus the target group for treatment – was about 10.000 persons in Norway. The mean age of OMT patients was 42 years and the proportion of women in treatment was 30% (14). Approximately 60% or more of the target group is currently enrolled (more than 7000 persons in 2014) in the Norwegian OMT program (13, 14).

According to the Norwegian guideline on OMT (from 2010), the first choice of treatment should be buprenorphine combined with naloxone (15). Buprenorphine/naloxone preparations are associated with a lower risk of overdosing when injected, and are therefore regarded as less harmful than methadone if used by others than the intended OMT patients (16). The guideline emphasizes that availability of OMT for the target group should be stressed more than control measures linked to dispensing of medicines and urine controls for additional drug use (15).

Since buprenorphine became available in 2001, use of methadone within the Norwegian OMT program has gradually decreased; 44% of OMT patients were on methadone in 2012. Buprenorphine is currently the most used OMT medication (12).

Improved outcomes for patients enrolled in the OMT program

Mortality among OMT patients in Norway has been slightly less than 1% for most years

in the period 2003–2012 (13). Enrolment in the OMT program in Norway is associated with a substantially lower risk of mortality, morbidity and criminal behavior than being outside of OMT (Table).

According to national registry data for the period 1997–2003, total mortality was 2.4% per year for those on a waiting-list for OMT, 1.4% for OMT patients, and 3.4% for those who terminated OMT (17). From the same registry data: before OMT enrolment, age below 35 years was associated with the highest overdose risk and after termination of OMT, people older than 50 years had the highest risk of overdose death (3). Total mortality was reduced to about 50% of outside of treatment levels, and overdose mortality was only around 20% of the levels outside of treatment, while patients were enrolled in OMT (17).

Among the substance users in the cohort study in two Norwegian counties (18), the most common reason for hospitalization was drug-related local or systemic bacterial infections; both infection-related disease episodes and non-fatal overdoses were substantially reduced (83% and 64%) during OMT enrolment. Persons that terminated OMT had 41% fewer hospitalization episodes related to substance-use during OMT. After termination of OMT, hospitalization rates increased substantially due to an increase in both injection-related and non-fatal overdoses (20). The increase occurred concomitantly with an increase of substance use and injection-related behavior. The 2012 status survey among OMT patients, reported that 31% had an

injury or somatic disease that limited their life during the 4 weeks before the survey, that 6% had a lethal overdose/poisoning during the last year and that about 2% of the OMT patients were HIV-positive and 55% had hepatitis C (13).

Crime committed by opioid dependent persons affects both society and individuals. Although we often consider crime as a negative outcome for the victims of crime, it is also associated with negative outcomes for the perpetrators, of whom many are convicted and imprisoned as a result of their crimes (21). Among 3789 opioid dependent persons included in a study, more than 8000 crimes leading to conviction were committed, each of the three years prior to OMT entry (22). However, only 60% of those actually contributed to the high numbers of convictions. The crime categories were distributed as follows; 56% for acquisitive crime, 22% for sales of narcotic drugs and other crime associated with substance-use, 14% for violation of traffic rules, 2% for violence and 6% for other types of crime (22). All types of criminal offences were reduced during OMT, in the range of 60% reduction during treatment versus prior to treatment (19). The regions with most engagement and resources for psychosocial follow-up of the OMT patients experienced the largest reduction of crime (23).

DISCUSSION

Overall the presented research stemming from the Norwegian OMT program show benefits in the range of 50% or more reduction in mortality, morbidity and crime, during OMT compared with being outside of OMT. These positive outcomes include results «produced» both from OMT-medications and psychosocial interventions combined, and are beneficial to both society and individuals. In Norway the experience has been that these results are possible to achieve within a 15 year timeframe, since OMT was first made available and until the estimate of 60% +OMT coverage today. In this period, the treatment has changed and adapted, from the initial high-threshold and control-oriented program, to a nationally available and liberal program, with a stated aim of «normalization» of OMT as a treatment program (15, 24).

The OMT program in Norway has been beneficial, but the high relapse rates after termination of OMT implies that continuous and long-term enrolment in the program is necessary to achieve sustainable results. The most beneficial outcomes were observed among those who remained long-term in

OMT; those who terminated OMT benefited from the treatment as long as they were receiving OMT. However, previous enrolment in OMT did not seem to have a protective effect after termination of the treatment, the mortality rates were high again after termination of OMT (17). We should bear in mind that many of the patients who terminate OMT have not «found their place» in the OMT system and go back to risky behavior and heavy substance use.

OMT also comes with some negative consequences. Recent numbers indicate increasing numbers of methadone related deaths in Norway. For 2012, 59 methadone related deaths were registered, and this constitutes a 50% increase from the 2006–2009 time period (25). During these years the number of methadone patients did not increase, as most new inclusions to OMT are now on buprenorphine/naloxone medication (12). Additionally most methadone related deaths occur among persons not in OMT (26).

The increase in methadone-related deaths primarily among persons who are not enrolled in the OMT program, give cause for concern. Particularly disturbing is the fact that it is assumed that the methadone involved in these deaths, mostly stem from «leakage» of OMT-medications from patients in OMT. We do not have exact knowledge about; from whom or from where OMT-medications on the street come from. It is likely that it is the very same medicines that are given as «take-home» dosages to patients in OMT that sometimes end up on the street. Leakage of OMT-medications is therefore a serious concern, and it seems as if it results in increasing numbers of lives lost to methadone related causes.

One possible explanation for increasing numbers of methadone deaths is the increasing use of high concentration – 5% – methadone (the 1% concentration was more common earlier). Additionally, oral methadone is currently not always mixed with juice, as it was some years back. Combined, methadone is now therefore «more readily available» for injection. If methadone is injected and used more sporadically, this can lead to poisoning that one would not have experienced if methadone is used adequately; i.e. regular daily doses taken orally.

Finally the somewhat changed emphasis of the 4-year-old OMT guideline – from focusing on control measures to more focus on availability of OMT for the target group

(15, 24) – results in a higher number of patients in treatment, who are not totally abstinent from illicit drugs. Although stabilized, OMT patients may bring OMT drugs home for 1–2 weeks, this dispensing regimen is less optimal for the not-so-well-stabilized patients.

OMT-medication-associated deaths are primarily linked to use of methadone, but dispensing routines are currently the same for methadone and buprenorphine.

All these factors combined; less focus on control, and hence increased leakage of OMT medications, methadone solutions more readily available for injection and more patients in treatment with ongoing drug-taking behavior, may contribute to the observed increase in methadone related deaths.

The challenge for the treatment systems is to find the right balance between treatment access with the aimed normalization for patients and control with the OMT-medications, so that these medicines do not kill persons outside of OMT.

Although OMT-treatment facilities must take into account that people in a rehabilitation process want a normalized life, and that picking up medicines daily at a treatment center or pharmacy may not be perceived as «normal». Still, OMT-patients who use methadone may need to accept a somewhat stricter control with drug dispensing than those who use buprenorphine; especially Suboxone, which is the drug least associated with abuse and death.

CONCLUSION

The OMT approach and systems need to be dynamic, flexible and have long-term goals to mirror the nature of the substance users' problems; i.e. long-term fluctuating chronic disease (27). The program should cater for patients both in good and difficult phases of their dependence, and be tailored to varying needs regarding intensity of follow-up and treatment – including flexibility on choice of drug, dosage and drug handling regime (28). It should take into account that fluctuating severity of dependence symptoms is the rule rather than exception. Those who terminate the program should be offered a quick and bureaucracy-free possibility to return to OMT.

Individualized treatment within a comprehensive treatment model, with different goals and control measures are needed; those who use the least dangerous drugs, are stable, well-functioning and show

long-term drug-free behavior need other control regimes than those who use the most dangerous medications, are less stable and need treatment aimed at harm reduction. Control regimens that are adapted to the individual needs are called for, not a one-size fits all approach, and definitely not an approach where non-stabilized patients are given many take-home dosages of methadone.

We must avoid that the reduced number of heroin overdoses achieved as a result of OMT are replaced with methadone poisonings – finding the balance between availability and control of OMT is a prerequisite for the continued legitimacy of this treatment.

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