

Meta-analyses of opiate maintenance therapies

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Background

The treatment of opiate dependence is no longer limited to abstinence but is also based on maintenance therapies. Opiate maintenance therapies differ widely in their methods and purposes. Several pharmacological agents, partial or complete agonists, are currently available: methadone, buprenorphine, LAAM (levo-alpha acetylmethadol) but also codeine. In addition, several other compounds have been used in a more limited manner, such as dextromoramide, morphine, ... For all these substances, there is a wide variability in dosages and treatment duration, but also in objective and subjective effects. In this context, it is important to precise the respective role of the various agents in the treatment of opiate addiction.

Methods

We performed meta-analyses according to the methods defined by Cucherat (1997). The main objective was to compare the relative efficacy of the maintenance treatments. In addition, we wanted to evaluate the importance of the dosages, the role of the duration (less vs more than 5 months) and of the origin of the studies (USA vs rest of the world), the influence of associated psychosocial interventions and pharmacological therapies such as disulfiram, desipramine, or buspirone. Selected studies were randomised controlled trial (RCT) comparing at least 2 maintenance treatments in opiate addicts. Two main parameters of efficacy were used: retention in treatment groups and abstinence from illicit opiates. The results were controlled for publication biases using the funnel plot method.

Results

From a total of 1902 studies, 28 were selected for the evaluation of maintenance treatments, 11 for the influence of psychosocial interventions and 4 for the role of associated therapies. Methadone was found superior to placebo both in retention ($p < 0.001$) and abstinence ($p < 0.001$). Buprenorphine was also significantly better than placebo in both criteria ($p < 0.001$ and $p < 0.001$). Methadone was superior to buprenorphine in retention ($p < 0.002$) but a trend in the opposite direction was observed for abstinence ($p = 0.09$). No difference was present between methadone and LAAM. Regarding the duration of the studies, results showed a significant effect favoring methadone over buprenorphine in studies longer than 5 months. Studies performed in the USA exhibited a statistically less important effect for methadone as compared to studies performed in the rest of the world, even if methadone was effective in both areas. Regarding dosages, a higher dose of methadone (60 mg/d or more) was associated with better retention ($p = 0.04$) and abstinence ($p = 0.003$). Similarly, higher dosages of buprenorphine (7 mg/d or more) demonstrated better outcomes regarding both retention ($p = 0.04$) and abstinence ($p = 0.047$). Higher dosages of LAAM exhibited a trend toward better results in abstinence ($p = 0.06$) but not retention. Finally, psychosocial interventions as well as associated therapies did not influence significantly the outcome.

Conclusion

These meta-analyses support the efficacy of maintenance treatment in opiate addiction. The two main substances appear different in their efficacy, with methadone associated with better retention in the program and buprenorphine with a higher rate of abstinence.

References

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