

## Commentary

Since their introduction in clinical practice, methadone and buprenorphine have been widely used for the treatment of opioid dependence. In the paper, *"Buprenorphine versus methadone treatment: a review of evidence in both developed and developing worlds"*<sup>[1]</sup> authors critically evaluated and compared buprenorphine with methadone in different areas pertaining to management of opioid dependence. The conclusion from the review appears valid in light of the evidence presented.

Buprenorphine, a synthetic opioid compound derived from the natural opiate thebaine has partial agonist activity at the  $\mu$ -opioid receptor, partial or full agonist activity at the  $\delta$ -opioid receptor, and competitive antagonist activity at the  $\kappa$ -opioid receptor. In comparison, methadone has full agonist activity at the  $\mu$ -opioid receptor. Although both these drugs are available in the western countries, particularly in the USA and the UK, methadone is not freely available in India to date. Buprenorphine continues to be the primary drug both for detoxification and maintenance in the country's tertiary center for addiction treatment, i.e National Drug Dependence Treatment Centre of All India Institute of Medical Sciences. Thus, clinical experience with methadone from India is rather limited. Instead buprenorphine and opioid antagonist naltrexone form the cornerstones of pharmacological management of opioid dependence syndrome and the experience gathered has been reasonably good. Further, the National AIDS Control Organisation and the Government of India also recommend buprenorphine as the agonist for tackling the problem of HIV associated with injection drug users.

In a recent systematic review, it was reported that in comparison with methadone, medium dose buprenorphine (8-15 mg) is inferior in retaining patients and also suppressing heroin use.<sup>[2]</sup> This concurs with the experience from an Indian setting where buprenorphine maintenance is well accepted by addicts and the community at large, but several heroin addicts report use of heroin while on buprenorphine maintenance to achieve a desired "high."

In the absence of a systematic study on drop-out rates from India, it is not feasible to assess the effectiveness of buprenorphine in treatment retention. However, the preliminary evidence suggests that most who discontinue treatment cite physical distance from the rehabilitation centers to their home.<sup>[3]</sup> Advent of buprenorphine-naloxone combination and practise of alternate day maintenance have definitely shown improvement in treatment retention. Again, how significant this change is has not been systematically evaluated.

With respect to safety, buprenorphine has so far fared reasonably well in Indian settings. The post-marketing study in India also established the safety of this medication with no deaths being reported during the study although a few patients had elevated liver enzymes which may require monitoring while on treatment.<sup>[4]</sup> In the absence of methadone for use in India, little can be said about the safety among opioid users in the country, but there is probability that it would be in line with the international experience.

Buprenorphine, since its introduction in clinical practice has provided a safer alternative due to its ceiling effect and has secured its place in the opioid substitution therapy. However, diversion of buprenorphine tablets by staff and heroin addicts and their use through injection in efforts to achieve a "high" has been reported by number of heroin addicts attending the national center. This issue has been highlighted by the authors of the review *"Buprenorphine versus methadone ..... developed and developing worlds"*. This is emerging as one reason for concern, indicating the primary question about effectiveness of buprenorphine in comparison with methadone. These examples surely hint toward preference for a "high" among users rather than a safety concern from the providers. Although the number of such cases are small, they do suggest that given a preference for hedonism will prevail over other options and methadone will be preferred to buprenorphine. There is also another perspective to this debate that has emerged from the experience of using sustained released morphine tablets as a maintenance

agent for opioid users. Most opioid (heroin) users who initially accepted morphine for maintenance for its ability to produce a “high” equivalent to heroin, shifted back to buprenorphine maintenance mostly on alternate day buprenorphine dispensing or take home buprenorphine-naloxone formulation. The main reasons stated were severe opioid withdrawals a few hours before the next dose and difficulty in sustaining a productive life with daily maintenance treatment.

In Indian settings, with a negligible social support, an ability to work once off the heroin becomes important and, in most cases, prevails over the desire for the so called “high.” To conclude, the experiences from the western countries have indicated the popularity of methadone over buprenorphine i.e. desire for “high” has prevailed over safety, in an Indian context this will be applicable for the relatively small subsection of opioid (heroin) users who are financially well-off, while in the majority buprenorphine–naloxone would likely continue to be the mainstay for opioid maintenance treatment.

Kushal Jain  
Fortis Escorts Heart Institute, New Delhi, India & MAMTA Health  
Institute for Mother & Child, New Delhi, India

**Address for correspondence:**

Dr. Kushal Jain,  
Fortis Escorts Heart Institute, New Delhi, India & MAMTA  
Health Institute for Mother & Child, New Delhi, India  
E-mail: drkushal80@gmail.com

## References

1. Whelan PJ, Remski K. Buprenorphine vs methadone treatment: A review of evidence in both developed and developing worlds. *J Neurosci Rural Pract* 2012;3:45-50.
2. Mattick R, Kimber J, Breen C, Davoli M. Buprenorphine maintenance versus placebo or methadone maintenance for opioid dependence. *Cochrane Database Syst Rev* 2009;3:CD002209.
3. Kumar MS, Natale RD, Langkham B, Sharma C, Kabi R, Mortimore G. Opioid substitution treatment with sublingual buprenorphine in Manipur and Nagaland in Northeast India: What has been established needs to be continued and expanded. *Harm Reduct J* 2009;6:4.
4. Ray R, Pal H, Kumar R, Maulick P, Mangla R. Post-marketing surveillance of buprenorphine. *Pharmacoepidemiol Drug Saf* 2004;13:615-9.

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