Adherence to Buprenorphine Maintenance Treatment Program in Western Nepal

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ABSTRACT:

Background: Opioid use is a serious global problem and the problem is increasing over years. Buprenorphine has been approved as a substitution therapy in Nepal, but there are few long-term studies of its effectiveness.Aim:This study aimed to assess the 1-year efficacy of buprenorphine and reasons for dropout. **Materials and Methods:** This study was conducted at Western Regional Hospital, Pokhara from 29th August 2016 to 31st August 2017. The Buprenorphine Maintenance Treatment Program (BMT) was started on 29th August 2016 and all the clients enrolled in the program within 1 year of starting BMT were included in the study. **Results:** 75% of the enrolled clients dropped out in 1-year period.**Conclusion:** Adherence to Buprenorphine was better in flexible dose adjustment group. Combination of buprenorphine and psychosocial treatment would have been related with better outcome.

INTRODUCTION

Use of opioid and its dependence are global problems. The problem is increasing and is a matter of serious concern in Nepal as well. According to the Survey Report on Current Hard Drug Users in Nepal - 2069 done by Government of Nepal, Ministry of Home Affairs, there were altogether 91,534 current drug users in 2069 which is nearly a double of 46,309 in 2063. The highest number of the drug users were found in Kathmandu valley (36,998) followed by Sunsari: 7,407; Kaski: 6917.[1]Especially growing number of youth and children are getting involved in drug addiction.[2]About 70,390 drug users were below the age of 30. Among the total drug users, 57% (52,174) were IDUs and among them 13% shared needles with someone else.[1]The use of intravenous opioid is gradually increasing and so is the risk of transmitting blood borne illnesses like HIV, Hepatitis B and C as well as their participation in criminal activities.

In 2014 the Ministry of Home Affairs approved the use of buprenorphine as substitution therapy under Harm Reduction Program.[3]Since then it has come to its use. Buprenorphine is a semisynthetic opioid with partial agonist property, has been found to decrease craving and to block withdrawal symptoms in opioiddependent patients. Thus qualifying as an alternative to Methadone.[4,5]

In western world,number of studies have shown Buprenorphine also to be effective in substitution treatment.[6-9] Means of measuring effectiveness varied among studies but overall the variables considered were; treatment retention or dropout rate, reduction in abuse and diversion, improvements in quality of life, and reduction of morbidity, mortality or crimes related to substance use. Studies that found low retention rate in buprenorphine

substitution.[10] were either because of low dosage of Buprenorphine or use of buprenorphine alone not in a combination with naloxone or because of fixed dosing schedule.[11-14]

In India there is preponderance of studies on buprenorphine substitution therapy than other agents. It demonstrated good retention rate, reduction in abuse and improvement in quality of life.[15] However, Indian studies showed high rates of retention even with low doses such that it was recommended in their guideline.[16]But some argue that generalizing the result would be unacceptable as randomized controlled trials were not done to conclude it.[17]

Nepal has less experience with Buprenorphine. Therefore, there are few studies related with buprenorphine substitution therapy and non-regarding its effectiveness considering primary measures as mentioned above.[18,19] Thus, this gap in evidences for buprenorphine substitution therapy in Nepal was one of the reasons for conduction of this study. Besides, this study would try to identify reasons for retention and dropouts which might be a help in formation of solid guideline for Buprenorphine substitution therapy in Nepal.

MATERIALS AND METHODS

This is descriptive study which was conducted at Western Regional Hospital, Pokhara from 29th August 2016 to 31st August 2017. The Buprenorphine Maintenance Treatment Program (BMT) was started on 29th August 2016 and all the clients enrolled in the program within 1 year of starting BMT were included in the study. The sociodemographic profiles of all the included clients were collected, the dosage they were taking when they were continuing with the BMT program and even at time when they dropped out of the program were noted and the reason for dropping out were also noted.

RESULT

A total of 61 clients were enrolled within 1 year of the BMT program at the Western Regional Hospital.

Table 1.

	Retained (n=15)	Dropouts (n=46)
Age 18-25	2 (13%)	21 (46%)
26-35	6 (40%)	22 (48%)
36-45	5 (34%)	3 (6%)
46-55	2 (13%)	
Education School	12 (80%)	35 (76%)
College	3 (20%)	11 (24%)
Occupation Unemployed	6 (40%)	30 (65%)
Employed	9 (60%)	16 (35%)
Marital Status Married	10 (67%)	20 (43%)
Unmarried	4 (27%)	24 (53%)
Divorced/ Separated	1(6%)	2 (4%)

Among 61 enrolled clients, 46 dropped out and only 15 clients continued with the OST program which meant 75% of the enrolled clients dropped out in 1-year period.

Table 2. **dosage adjustments in retained and dropouts.**

Dosage	retained	drop outs
Dose adjustment	5 (8%)	16 (26%)
Fixed	10 (17%)	30 (49%)
Total	15 (26%)	46 (75%)

This study also tried to assess the association of dosage adjustment (increase or decrease in dose or both) and dropout from the OST. In both the groups (retained and dropouts), dropout was more in those

who had fixed dosage but 26 out of 46 dropouts, left OST within 1 month of enrollment.

Table 3. List of reasons for dropout

Reason for discontinuation	no.
Misuse	10
Police custody	7
Could not tolerate	7
Rehabilitation center	5
Transfers (moved to different place)	5
Changed to Methadone	4
Drug free	4
Hospitalized	3
Unknown cause	2
Total	46

The main reason for drop out was found to be misuse of other psychoactive substances, arrest by police and admission in rehabilitation center. Few of them did not tolerate Buprenorphine and changed to Methadone or discontinued Buprenorphine.

DISCUSSION

Retention in this study was very less. Only 15 out of 61 enrolled clients continued to take Buprenorphine (24.6%) in 1year study period.75.4% dropped in one year out of which 42.6% dropped within a month of enrollment. In a study done by Andrew J. Saxona, 46% dropped out of buprenorphine/ naloxone and 30% dropped out within 30 days of starting treatment.[20] It was found that age had a significant relation in discontinuing OST. Dropout was more frequent in younger age group (<35 years- 46%+48%). Similar finding was mentioned in a study done in Georgia, where patients >40 years had better adherence to treatment.[21] Employment was again related to better outcome in retention. Working individuals were more in retention group and more unemployed in dropout group. However, level of education had no obvious relation with retention and dropout. In the current study, it was observed that retention was better in married individuals (67%) and dropout was more in single (unmarried/divorced/separated- 53%+4%) than married clients (43%).

A study done in Methadone suggested retention to be better in those who decreased the dose gradually and maintained in lower doses of Methadone.[22] Whereas the current study found dropout to be more in those who did not adjust the dose although they were in minimum dose (2mg). Also, dropout was more within 1 month of enrollment which was similarly found in one of the study where thirty percent dropped out within 30 days of starting treatment.[20]

However, there was also a study which found higher doses to be more associated with good retention.[23]The main reason for discontinuation of Buprenorphine were misuse of other psychoactive substance and arrest by police (also due to misuse). There were also few who could not tolerate the drug and changed to Methadone. Only four of them gradually tapered the dose and said to attain drug free life. Whatever the reason for discontinuation, 75.4% dropping out of treatment was a significantly high. In order to assess reason for the high percentage of drop out, possibility of lack of psychological intervention and follow up could have been one of the reasons. There were several studies stating outcome to be better with psychological interventions and follow ups.[22-24]

CONCLUSION

Adherence to Buprenorphine was better in flexible dose adjustment group and combination of buprenorphine and psychosocial treatment would have been related with better outcome.

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