REASONS FOR TRANSITION AND REVERSE TRANSITION IN PATIENTS WITH HEROIN DEPENDENCE

RAMESH KUMAR & ANJU DHAWAN

ABSTRACT

Most physical complications related to opiate use are associated with the route of drug administration. The route of administration in opiate dependent patients may change over time. Change from non-parenteral to parenteral route of administration is more common than the reverse transition. In the current study, 17 patients of opiate dependence syndrome (DSM-IV) who had history of reverse transition (Shift from parenteral to inhalational route), were evaluated for the reasons for the reverse transition. Verbatim responses were recorded in response to open-ended questions and a semi-structured questionnaire was also used. All the patients gave health-related reasons for this reverse transition and reported knowledge of health hazards of injecting route as one of the reasons for it. Other reasons cited by subjects for this transition were occurrence of physical complications due to drug use in peers and patients themselves; drug related death of peers, knowledge of risk of HIV/AIDS and difficulties in getting a vein. The study emphasizes the need to educate the patients about the health hazards of parenteral route.

Key words: Opiate, dependence, reverse transition, route of administration

The route of administration is an important characteristic related to abuse of drugs (Strang et al. (1997). Many complications including increased risk of HIV infection are associated with the method of drug administration. The route of administration changes over time in patients of opiate dependence syndrome. Various studies in the past reported that 29-50% of opiate (heroin) dependent patients change their route of administration (Griffiths et al, 1992; De La Funente et al., 1997; Swift, et al., 1999). The change of route of administration from inhalational to parenteral route is more common (Griffiths et al., 1994; Swift, et al., 1999). In a study (Strang et al., 1997), it was twice as common as shift from parenteral route to non-parenteral route which is known as reverse transition and occurs in 3-25% of opiate dependent patients (Griffiths et al., 1992; Swift, et al., 1999).

In India, parenteral use of buprenorphine, mostly in combination with benzodiazepines and antihistaminics, has increased during last ten years (Ray, 1998). It has also been observed that many opiate dependent patients were shifting back from parenteral use of buprenorphine to heroin use by chasing (Chavan et al., 1995; Basu et al., 2000). Heroin is usually used through inhalation (chasing) and the most commonly used opiate by injection route is buprenorphine. It is most commonly taken along with diazepam and antihistaminics.

The present study aims to study the reasons for transition and reverse transition in route of administration in opiate dependent subjects. It would be worthwhile to study the reasons due to which patients shift to safer routes.
of administration. Knowledge about this may enable us in facilitating this process.

MATERIAL AND METHOD

This study is a cross sectional study carried out over six months at De-addiction Centre, AIIMS, New Delhi. It included seventeen consecutive patients of opiate dependence syndrome diagnosed according to DSM-IV (APA, 1994) and who fulfilled the inclusion criteria. Patients currently using opiates predominantly by inhalational route (use by parenteral route < 5 days/month and inhalational route > 25 days/month) during last one month or more were included. In the past, patients should have used opiates by parenteral route (use by parenteral route > 25 days/month) for at least one month for inclusion in the study.

All subjects were administered a semi-structured questionnaire to collect information about demographic data, duration of drug use and opiate use, onset and duration of injection use and reasons for transition from inhalation to injecting route and reverse transition from injection to inhalational route. Patients were asked about reasons for transition and reverse transition by an open ended question to avoid getting only socially desirable responses and the responses were recorded verbatim. The questionnaire also included a structured question with multiple responses on reasons for transition and reverse transition of route of opiate use. Patients could give more than one response to these questions. The questionnaire was administered in the local language.

RESULTS

Seventeen subjects were taken up for the study. All the subjects were males with mean age of 33.7±4.6 years. Majority of subjects (76.3%) were married and more than half of the subjects (58.8%) had completed 8 or more years of schooling. As expected the opiate used by patients in this study through inhalational route was heroin, while by parenteral route was buprenorphine. Buprenorphine was used almost always along with benzodiazepines and antihistaminics. Mean duration of heroin use by inhalational route before shifting to parenteral use of buprenorphine was 7.5±4.4 years (median 9 years, range 0.5-14 years). Mean duration of regular injection use was 4.2±1.8 years. The duration of heroin use by inhalational route following reverse shift was 2.2±1.5 years (range 6 months - 6 years). By virtue of our inclusion criteria, all patients had at least two changes in route (from chasing to injecting route and then again back to chasing). Only one patient reported change in route on more than two occasions; he made four transitions (chasing-injecting-chasing-injecting-chasing).

The most common reasons for transition from inhalational heroin use to injectable buprenorphine use given by patients when they were asked through an open ended question were- use of injection buprenorphine as self-treatment of heroin dependence (41.2%) and injectable buprenorphine being cheaper (35.3%). While on preset questions easy availability (88.2%) and cheaper cost (82.4%) of buprenorphine injection were the two commonest reasons given for this transition. Other common reported reasons were that their friends were using injections (47.0%), to give up heroin use (41.2%), problems in availability of heroin (35.3%), and injection use giving greater high/rush (35.3%) (Table-1).

| TABLE-1 | REASONS FOR TRANSITION |
|---------|-------------------------|
|          | On preset question n(%)  | On open ended question n(%) |
| Easy availability | 15(88.2) | 1(5.9) |
| Lower cost | 14(82.4) | 6(35.3) |
| Friends were using injections | 8(47.0) | 4(23.6) |
| As an attempt to leave heroin | 7(41.2) | 7(41.2) |
| Problem in heroin availability | 6(35.3) | 4(23.6) |
| Gives more kicks | 6(35.3) | 1(5.9) |
| Gives quicker effect | 2(11.8) | - |

Most patients reported one or more health
REASONS FOR TRANSITION AND REVERSE TRANSITION

related factors associated with injecting route as the main cause for the shift from parenteral to non-parenteral route, when asked about the reason for shifting through an open ended question. Occurrence of physical complications in them (35.3%) was the most frequently given response in this question. On pre-set questions, all the patients (100%) gave knowledge of health hazards of injection route as one the reasons for reverse transition. Other commonly given reasons were occurrence of physical complications due to drug use in peers (76.5%) and in patients themselves (58.8%), drug related death of peers (47%), fear of HIV infection (41.2%) and problem in finding a vein (35.3%) (Table-2).

| Reasons                                      | On pre set question n(%) | On open ended question n(%) |
|----------------------------------------------|--------------------------|------------------------------|
| Knowledge about health hazards of injection   | 17(100)                  | 3(17.6)                     |
| Physical complication in peers               | 13(76.5)                 | 2(11.8)                     |
| Physical complication in patient             | 10(58.8)                 | 6(35.3)                     |
| Drug related death of peer                   | 8(47.0)                  | 3(17.6)                     |
| Knowledge about HIV/AIDS risk                | 7(41.2)                  | 1(5.9)                      |
| Problem in finding a vein                    | 6(35.3)                  | 3(17.6)                     |
| Difficulty in procuring injectable drugs/heroin easily available | 3(17.6) | 3(17.6) |
| As attempts towards abstinence or recovery   | 2(11.8)                  | -                            |
| Peers have changed to non-parenteral         | 1(5.9)                   | -                            |
| Heroin chasing                               | 1(5.9)                   | -                            |
| more effective injection is more addictive    | 1(5.9)                   | -                            |

All the patients gave multiple reasons for the transitions on pre-set questions and one or two reasons on open ended questions. On pre-set questions patients gave additional responses to those given on open ended questions. Patients reported that answers given to open ended questions were the main reasons for change of route (transition and reverse transition) while other reasons were contributory for transition of route.

DISCUSSION

Parenteral administration of drugs is associated with risk of HIV infection, hepatitis B, infections like cellulitis, abscesses and endocarditis (Ghodse, 1989). As part of harm minimization an important aspect of treatment of opiate dependence is encouraging patients to shift to safer methods of drug use if they are unable to stop drug use (Riley, et al., 1999). Based on our clinical observation of recent occurrence of reverse transition in route of opiate use, we were interested in studying the reasons for this transition. This could be done through a prospective or retrospective design. This study retrospectively looked into this issue through open ended questions and structured questions. The former were administered first to eliminate bias due to desirable responses. The structured questions would enable patients to recollect reasons that they did not give on open ended questions.

Previous Indian studies have inquired about reasons related to transition from inhalational to parenteral route (Singh et al., 1992 and Koijam, et al., 1995). Only one study also inquired about reasons for reverse transition although patients with reverse transition in their study were only eight in number (Koijam, et al., 1995).

The main reasons for shift to parenteral route on open ended questions were related to self-treatment of heroin dependence with injection buprenorphine, low cost of buprenorphine and non availability of heroin. Other frequently reported contributory reasons (from pre-set questions) were easy availability, use of injection by peers and better acute effect of injection buprenorphine. Previous studies (Singh et al., 1992; Koijam, et al., 1995; Sharma and Mattoo. 1999) found almost similar results. Non-availability of heroin, attempts to decrease heroin use and cheaper cost of buprenorphine were the reasons given in those
All the patients gave health related reasons for reverse transition on pre-set questions and majority of them reported health related reasons as the main reasons for this transition on open ended questions eg. occurrence of complications in self or others, death of peers, knowledge of hazards of injection. In an earlier study (Kotjam, et al., 1995) all the eight subjects reported knowledge of harmful effects and risk of HIV infection as one the reasons for the reverse transition, findings comparable to that of this study. Heroin being available again was given as one of the reasons by 6 out of 8 subjects in their study while only one out of 17 subjects reported this in the current study. A study from Spain (De La Fuente et al., 1997) found that 73% of heroin dependents who had reverse transition, reported that the result of the HIV test or fear of becoming infected with HIV were important factors for a reverse shift. Griffiths et al. (1994) have pointed out that attempts to decrease the exposure to injecting health risks, to moderate drug habits or physical consequences of injection could be possible reasons for injectors of heroin to shift back to chasing method. From findings of above studies including that of our study, it is apparent that the awareness and the occurrence of physical complications due to opiate use by injection route are among the important factors which determine the change of route of drug administration to a safer one (non-parenteral route). However, in a recent study from Australia (Swit, et al., 1999), somewhat different reasons for reverse transition were reported. Those were primarily situational factors including availability of smokeable heroin, being with peers or lack of opportunity for injection (eg. in prison) but interestingly no health related factors were reported as the reasons for reverse shift.

All the patients gave multiple reasons for the transitions on pre-set questions and one or maximum two reasons on open ended question. The increased number of responses on pre-set questions as compared to response on open ended question could be explained by recall of the reasons and socially desired responses when presented with pre-set questions.

This study is retrospective in design with the inherent limitations of any retrospective study including recollection bias. Since all patients gave health related reasons like awareness and occurrence of health complications related to parenteral route for reverse shift, it may be concluded that the emphasis on education of patients about hazards of injection route may help in preventing injection use or leading to change to non-parenteral route.

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RAMESH KUMAR *, M.D., Senior Resident, ANJU DHAWAN, M.D., Assistant Professor, Department of Psychiatry, All India Institute of Medical Sciences, New Delhi-110029

*Correspondence