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A study of assessment of sexual dysfunction in male subjects with opioid dependence

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ABSTRACT

Context: The relationship between opioid use and sexual problems among males is complex one, as some are using opioids to increase their sexual performance while others are suffering from sexual problems due to its use. And research addressing this relationship is still limited.
Aims: The aim of the current study was to assess and evaluate sexual dysfunction in male subjects seeking treatment for opioid dependence and to compare it with healthy control group.
Methods and material: 60 male subjects with opioid dependence for more than one year (ICD-10 criteria) were compared to 120 healthy age & tobacco abuse matched control group (case: control = 1:2) using standard questionnaires evaluating various domains of sexual dysfunction.
Results: Opioid dependents were found to have sexual dysfunction ranging from 53.3% to 81.7% which was significantly greater than the healthy control group (15.8% to 41.7%).
Conclusions: Sexual dysfunctions are highly prevalent in opioid dependents and this should be addressed properly while assessing and treating a patient of opioid dependence.

1. Introduction

Opioids are one of the most common substance abuse for which patient seeks treatment. Globally the burden is estimated to be 32.4 million with an overall prevalence of 0.7% (Bott, 2015). In India, one of the largest proportion of patients coming for treatment of drugs and alcohol use disorders is opiate users, i.e., 26% (Ray, 2004).

People abusing opioids do suffer from sexual dysfunction in short term and long term, although the relationship between opioid use and sexual dysfunction is complex one. People may use opioids for enhancing their sexual performance or to overcome sexual dysfunction, but over time, opioid abuse may impact the sexual function negatively and may lead to sexual problems (Peugh and Belenko, 2001).

Various studies are available which explain the sexual dysfunctions in male opioid users. Morphine administration affects testicular function by suppressing LH release and reduces the levels of testosterone and estradiol (Azizi et al., 1973; Vuong et al., 2010). Opioid use has been linked to the development of decreased libido, erectile dysfunction (ED), hypogonadism and infertility (Lafisca et al., 1985; Ragni et al., 1988; Wang et al., 1978). Adrenal androgen production is also influenced by Opioid use negatively. The adrenal hormones dehydroepiandrosterone (DHEA), DHEA sulfate (DHEAS), and androstenedione are precursors of testosterone, and weakly androgenic. Adrenal androgen production can be determined by serum DHEAS levels. Opioids if used daily, decreases adrenal androgen production as measured by DHEAS levels (Daniell, 2006).

There is limited research especially from India establishing the relationship between opioid dependence and sexual dysfunction. Compared with the general population studies with heroin addicts or Methadone maintenance treatment (MMT) or Buprenorphine maintenance treatment subjects have shown higher rates of sexual dysfunction, ranging 34–85% for heroin addiction (Al-Gommer et al., 2007; Babakhanian et al., 2012; Brown et al., 2005; Cioe et al., 2010; Hallinan et al., 2008; Hanbury et al., 1977; Nik Jaafar et al., 2013; Palha and Esteves, 2002; Ramdurg et al., 2012; Trajanovska et al., 2013; Tufani and Afshari, 2009; Wu et al., 2007; Xia et al., 2013; Zhang et al., 2011) and up to 90% for naltrexone maintenance (Ramdurg et al., 2012; Tufani and Afshari, 2009). Some studies (Brennemann et al., 1993; van Ahlen et al., 1995) have noticed an improvement in sexual function when opioid dependents are treated with opioid antagonists.

However, still the topic carries a very limited research and mostly from the west with patients on maintenance therapy.

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Hence, the present study will add to our knowledge of the association between opioid use and sexual dysfunction from this region of Asia continent.

2. Material and methods

2.1. Setting and sample

It was a comparative cross-sectional observational study conducted at a Government medical college from North India. 60 consecutive male patients who fulfilled criteria for the diagnosis of Opioid Dependence Syndrome (F11.2, ICD-10) for 1 year or more compared with 120 healthy controls (male) after informed consent. Purposive sampling was done for selecting age & tobacco abuse matched controls.

2.2. Inclusion criteria

Cases were patients who presented in the Psychiatry department for treatment of opioid dependence and controls were accompanying persons either with case himself or other patients. Both cases and controls were aged between 21 and 50 years, literate enough to understand the purpose of and were married or having a stable heterosexual relationship.

2.3. Exclusion criteria

Case/control having Co-morbid physical disorders: diabetes mellitus, hypertension, signs & symptoms suggestive of liver disorders, a clinical diagnosis of endocrine disorders, history of genito-urinary surgeries, neurological or spinal cord lesions and other illnesses causing sexual dysfunction, Co-morbid psychiatric disorders: schizophrenia, delusional disorder, anxiety disorder and mood disorders including dysthymia etc., using drugs affecting sexual functions (antipsychotics, antidepressants, antihypertensives, steroids, disulfiram etc.) and using alcohol or other substances except tobacco was excluded. A case having a history suggestive of primary sexual dysfunction (prior to initiation of opioid use), in the early phase of withdrawal and whose wife was having any kind of chronic illness was also excluded.

2.4. Measures and methodology

Cases/controls were assessed on semi-structured history sheet for substance abuse including tobacco abuse and marital harmony and for the socio-demographic profile a self-designed pro forma with **Modified Kuppuswamy's Socioeconomic Scale** (Bairwa et al., 2013) was used. This was followed by observer reported scales **Hamilton rating scale for depression (HAM-D)** (Hamilton, 1967) and **Hamilton anxiety scale (HAM-A)** (Hamilton, 1959). The patient group was assessed on **Severity of Dependence Scale** (Gossop et al., 1995) to measure the severity of opioid dependence. This was followed by assessment for a period of past one month on **Arizona Sexual Experience Scale (ASEX)** (McGahuey et al., 2000) (rated by an observer) and **International Index of Erectile Function (Hindi)** (Rosen et al., 1997) (rated by subject). Statistical analysis was done with the help of Microsoft Exel and Statistical Software for Social Science ver.17 (SPSS.16).

2.4.1. Arizona sexual experience scale (ASEX)

The ASEX is a brief 5-item questionnaire designed to measure sexual functioning in the following domains: sexual drive, arousal, penile erection/vaginal lubrication, ability to reach orgasm, and satisfaction with orgasm. Items are rated on a 6-point scale ranging from 1(hyperfunction) to 6 (hypofunction), providing a total score range between 5 and 30. A total score $\geq$19 on ASEX or a score $\geq$5 on any one item or a score $\geq$4 on any three items is associated with clinical sexual dysfunction. The subjects were assessed for the past one month.

Table 1
Socio-demographic profile – Case and Control group.

Variables	Case(60) mean(SD)/frequency(%)	Control (n = 120) mean(SD)/frequency(%)	Chi-square test Value
Age	37.28 (6.91)	37.28(6.88)	–
Marital status			
Married	60 (100%)	120 (100%)	
Unmarried	0 (0%)	0 (0%)	
Age at marriage	21.78 (4.88)	21.90 (4.23)	0.869
Duration of marriage	15.45 (7.55)	15.38 (8.33)	0.958
Religion			
Hindu	48 (80%)	103 (85.80%)	
Muslim	11 (18.30%)	17 (14.20%)	0.272
Sikh	1 (1.70%)	0 (0%)	
Locality			
Rural	36 (60%)	80 (67.7%)	0.378
Urban	24 (40%)	40 (33.3%)	
Type of family			
Nuclear	34 (56.70%)	44 (36.70%)	
Extended	19 (31.70%)	51 (24.50%)	**0.034**
Joint	7 (11.70%)	25 (20.80%)	
Education			
Up tp 8th	35 (58.30%)	54 (49.40%)	
Up to 12th	19 (31.70%)	51 (38.90%)	0.094
UG/PG	6 (10%)	15 (11.70%)	
Occupation			
Employed	55 (91.70%)	115 (95.80%)	
Unemployed	5 (8.30%)	5 (4.20%)	0.25
Socio-economic class			
Upper	6 (10%)	7 (5.80%)	
Middle	40 (66.70%)	90 (75%)	0.431
Lower	14 (23.30%)	23 (19.20%)	