



Review Article

The substance-using woman and her sexual and reproductive health

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Abstract

The problem of substance use is not exclusive to males, yet most of the epidemiological & clinical data, assessment and interventions are andro-centric. Apart from being acknowledged as a habit either among marginalized females or the newer generation of urban females, substance use among women has received limited mainstream attention. Existing literature not only points to the differences in prevalence and patterns of substance use across genders, but also unearths gender-specific issues having significant implications in progression, outcome and management of substance use in females. One such issue is the unmet sexual and reproductive health needs of this population. This article focuses on elaborating these issues along with briefly delving into the special considerations for management of the related problems.

Keywords: Substance, Woman, Sexual, Reproductive

Introduction

Historically, substance use has largely been considered a problem among males, as reflected in the largely male population-centric research with scarcity of gender-specific research. A handful of studies provide insight into the prevalence and pattern of substance use among women as

well as a superficial qualitative understanding of the psycho-socio-cultural factors influencing substance use in women. The mental, physical and social consequences of this problem among women are even less explored. While the prevalence studies point to significant gender differences in substance use prevalence and patterns, recent data also reveals a rising prevalence among females, with narrowing of the gender gap (Tuchman, 2010).

Social acceptability of women using substance had been an issue with regards to negative implications towards her personal values, character, responsibilities and thereby, a taboo among most conservative cultures, e.g., South-East Asia, Egypt, etc.

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Even in lesser conservative Western cultures, social acceptability had been exclusively restricted to alcohol use. The advent of women's liberation movement in the 1970's paved the way for scientific and public discussions on gender issues; thereafter, the HIV epidemic and the revelation of the drug use connection actually led to this issue garnering global attention.

Most of the scientific research in this area exists with regard to alcohol use. Of the gender-specific differences in patterns and effects of substance, one realm that stands out is the sexual and reproductive implications on health of women using substance. Not only do these implications add on to the social stigma, but also to the burden of medical and psychological morbidity, accessibility to treatment and, most importantly to the health status of the infants born to them and, in turn, the future generation (Sharma et al., 2017). This underlines the need for more individualized interventions in view of the unique compounding factors in reproductive age women using substance.

Epidemiology

Reports from the U.S give an estimate of around 22.6 million substance-dependent users in 2006 with an overall male preponderance (10.5% versus 6.2%) (Tuchman, 2010). More males were noted to use alcohol and tobacco currently than women, while males and females were found to use stimulants, ecstasy, sedative-hypnotics, LSD (Lysergic acid diethylamide) and PCP (Phencyclohexyl piperidine) in comparable rates. Strikingly, 11.8% pregnant women between 15 and 44 years age reported current alcohol use (2.9% in binge drinking pattern; 0.7% in heavy drinking pattern). Non-pregnant females in the same age group showed significantly higher rates (53.0% current alcohol users, with 23.6% in binge

pattern and 5.4% in heavy drinking pattern. With regards to treatment accessibility, only 0.6% of the addicted females in need for treatment were able to receive it. Among females aged 50 years and above, dependence rates are lower than males (1.5% vs. 4.9%) (Tuchman, 2010). Also, alcohol and psychoactive prescription drug abuse were found to be more prevalent in older women, with females aged above age of 59 years being more susceptible as they get addicted faster and on comparatively smaller amounts. A U.K study conducted on community samples of opioid-using males and females had found women to be using lesser amountss of the substances, for a shorter duration, and having lesser chances to use injecting drugs than males. Also, drug-using sexual partners had an important influence on women's drug use behaviours (Powis et al., 1996).

Epidemiologic data from India reveals that prevalence of substance use is lower in females than males. A study by Mohan et al (1986) found that women mostly abused tobacco, followed by alcohol, opioids, and sedatives. Another recent study from North India found that the common substances abused by women were opioids (60%), followed by alcohol (17%), and tobacco (11.5%) and benzodiazepines (11.5%) (Grover et al., 2005). A preponderance of tobacco use (almost equal to males) has been noted among women working as manual labourers in plantations (Nebhinani et al., 2013) and injecting drug use among females hailing from the North-east India (Sharma et al., 2017). The National Mental Health Survey of 2015-16 shows that the prevalence of any substance use disorder (SUD) among females is lower as compared to males (10.05 % vs. 35.67 %). Most of the SUDs (including alcohol, tobacco and other substances) are less prevalent among females than males (Alcohol UD-0.48% vs. 9.10%; Tobacco UD- 9.78% vs. 32.76%; Other SUDs- 0.09%

vs. 1.09%). Besides this, Alprazolam use was found to be more common among females in the state of Uttar Pradesh, tobacco and alcohol use was found to be pretty common among women in Kerala and Jharkhand, with respondents from Punjab reporting Non Steroidal Anti-inflammatory Drugs (NSAIDs) abuse among elderly females and gradual rise in prevalence of alcohol use among younger women (Murthy et al., 2017).

Historically, opium has been used for traditional medicinal purposes in India, but not as substances of abuse in women. Studies from India show that, initiation of substance use in women is mostly through family members (Nebhinani et al., 2013), e.g. alcohol (Selvaraj et al., 1997) and injecting drug use (Sharma et al., 2017) initiation among females. Also, Indian women become alcohol dependent more rapidly than men. They mostly suffer from physical and psychiatric consequences, with comparatively less social consequences, viz., domestic violence, harms to unborn children and guilt of neglecting their children (Nayak et al., 2012; Nebhinani et al., 2013). A study from North-East India found that about 40% of female Intravenous (IV) drug users engaged in occasional sex work and about 25% engaged in professional sex work (Murthy, 2012). These women resorted to sex work either to obtain drugs from their sexual partners or to earn money for purchasing drugs. Among female IV drug users, the prevalence of HIV infection was found to be three fold higher than male users (Lucas et al., 2015). Compounding this situation is the poor health care utilization (<1%) by this population, specifically from de-addiction services (Sharma et al., 2017; Nebhinani et al., 2013).

These findings point to numerous aspects of substance use among women that require specific attention in terms of gender-specific

clinical implications, consequences, assessments and interventions.

Need for focus on sexual and reproductive health (SRH) of female substance users

Biological and subjective responses to drugs vary between men and women (Tuchman, 2010). While women initiate cocaine use earlier, they report less euphoria and dysphoria, and get addicted in a shorter span of time. Equal doses of cocaine elicit similar cardiovascular response in both genders despite the blood concentrations of cocaine rising higher in men. Also, women become intoxicated on lesser quantities of alcohol, yet achieve higher blood alcohol concentrations than men, reason being comparatively less total body water in females. Women also smoke cigarettes with lower nicotine content than men, smoke lesser cigarettes/day, and inhale less deeply than men. They also report more post-smoking increases in positive mood and more decline in positive mood on smoking abstinence than men. This gender-specific variance in biological effects of substance subsequently leads to differences in health consequences among substance users.

Medical consequences like anemia, hypertension, liver diseases, cardiovascular and gastrointestinal disorders occur at higher rates in women than men (Jarque-Lopez et al., 2001). Reproductive health problems like- infertility, reproductive tract infections, repeated miscarriages and premature delivery are unique risks experienced by women substance-users (Tuchman, 2010; Nelson-Zlupko et al., 1995). Also, postmenopausal women who drink moderate-to-heavy amounts of alcohol have risk of other health problems, including breast cancer. There appears to be a shorter duration between developing alcohol dependence and resultant medical complications in women- a phenomenon

termed as 'telescoping' (Randall et al., 1999). Also, women have been found to be more vulnerable to the effects of IV drug use, they share paraphernalia more frequently, mostly use drugs with multiple partners, resorting to sex work for money or drugs, and having difficulty negotiating condom use with their regular sex partners as well as sex work customers. These factors not only worsen the sexual and reproductive health (SRH) of female drug users, but also make them more vulnerable to acquire HIV (Human Immunodeficiency Virus) infection and AIDS (Acquired Immunodeficiency Syndrome) (Tuchman, 2010, Sharma et al., 2017).

Sexual & reproductive health implications of substance use among women

A. Unsafe sexual practices: Since the substance use behavior in females is initiated more commonly through their partners, who themselves are substance users, the quality of the couple's marital life, including life choices, sexual and interpersonal relations is likely to get affected by their substance use behavior. These women also serve as resources to procure drugs for their partners. Also, their partners often have sex with multiple partners exposing these women to further risk of sexually transmitted infections (STIs). They also report having a series of regular partners due to unsteadiness of their relationships (Sharma et al., 2017).

It is widely established that, substance dependence in men can affect sexual function causing lack of libido, erectile dysfunction and this, in turn, also affects the spouse's sexual function. Instances of coerced sex and sexual violence are also commonly reported (Zhang et al., 2020). Sexual assertiveness in females with substance-dependent partner has been found to be significantly lower than

females with non-substance dependent husbands (Haghparast et al., 2019). Women substance users report to have a tendency to forget safe sex practices while intoxicated; sometimes, they would meet resistance to use condoms from their partners, or they may abstain from using a condom for offer of extra money from paid partners or for fear of violence (Sharma et al., 2017, Stevens et al., 1998). They would practice self-imposed sanitary practices like douching the genitalia, urinating immediately after sex, etc. to reduce chances of infection. These women, though informed of the efficacy of oral contraceptive pills, often choose not to use them due to their unstable lifestyle.

A qualitative study conducted in India on drug-using females revealed that majority of them had STI symptoms like vaginal discharge, dyspareunia, itchiness, genital ulcers, etc. due to unprotected sex with paid partners or their husbands having multiple sexual partners (Sharma et al., 2017). Most of them do not seek any treatment for these symptoms due to lack of knowledge or information or due to fear of facing stigma from healthcare services. These problems pave the way for menstrual irregularities, recurrent miscarriages, problems in conception and other health hazards.

This interplay of gender and substance-specific risky sexual behaviors renders women more vulnerable than men to infection with the HIV. Women using IV drugs are at higher risk of contracting HIV than men (Tuchman, 2010, Stevens et al., 1998). 26% of all adult AIDS cases in the U. S. are females, with doubling of cases over the past decade; a majority of them (80%) was contributed by high-risk heterosexual behaviour. Similar

findings have been replicated in HIV prevalence studies across the world, e.g., in India, China, Russia, Canada etc. (Sharma et al., 2017). An estimated 1 in 5 new female HIV cases in the US women have been injection drug users (Tuchan, 2010).

B. Sexual dysfunction

I. **Alcohol** is a central nervous system depressant that potentiates the neurotransmitter GABA (gamma amino butyric acid). It acts as an anxiolytic and loosens behavioural restraint at low to moderate doses and thus potentiates sexual desire and improves sexual performance when used for short-term. Chronic and prolonged use might lead to negative neurological and cardiovascular consequences thereby affecting sexual function. It is reported to increase testosterone levels in women. A recent study comparing sexual function between women with alcohol dependence and controls reveals that all stages of sexual cycle are affected adversely in alcohol users, with factors like- the early age of onset, longer duration of use and severe dependence being important predictors of sexual dysfunction (Shalbfafan et al., 2019).

II. **Opiates** have been used historically as part of cultural traditions and for therapeutic causes in India and the surge of using both injecting and non-injecting opioid preparations among Indian females in recent times, underline its importance. A 'dual effect' is noted with opiates- viz., in short term use, many women experience relief from symptoms of vaginismus, but with continued long-term use, they experience a decline in sexual desire and anorgasmia (impaired ability to achieve

orgasm) (Shalbfafan et al., 2019). In a study on chronic prescription opioid-users, sexual dysfunction in females was reportedly lesser than males (25% vs. 33%) (Ajo et al., 2016).

III. **Cocaine** has been reported to increase sexual function initially, with reduced sexual function in long term use (Shalbfafan et al., 2019).

IV. **Amphetamines** heighten self-confidence, causes sexual disinhibition and a sense of increased physical arousal, thereby enhancing sexual function. Long-term consumption is associated with delayed orgasm in women (Zaazaa et al., 2013).

V. **Benzodiazepines** might help to improve sexual function in those whose sexual activity has been hampered by severe anxiety. However, regular use of benzodiazepines can cause decreased sexual desire, erectile dysfunction, delayed ejaculation and anorgasmia, but this effect has been inconsistently reported (Shalbfafan et al., 2019).

VI. **Cannabinoids** short-term use increases duration of intercourse, quality of orgasm and sexual satisfaction, however, its long-term use actually deteriorates orgasm (Del Rio et al., 2020) and overall sexual function. The initial improvement is reported to be due to anti-anxiety effects, lowered sexual inhibitions, slowing of temporal perception, and expectancy effects (Scimeca et al., 2017). Cannabis also causes vaginal dryness (Del Rio et al., 2020).

VII. **Nicotine** is a vasoconstrictor and it reduces blood flow to genital areas during sexual activity. It also has an inhibitory effect on sex hormones such

as testosterone and estrogen in both male and female cigarette smokers. This can lead to poor sexual functioning (Zaazaa et al., 2013).

C. Reproductive health

The reproductive health complications in substance-using women are attributed to: (a) their high-risk sexual behaviours, (b) poor general health status, (c) teratogenic effects of substances, (d) poor treatment-seeking behavior and (e) lack of accessibility to health care services.

Most of the female drug users who engage in professional sex work are young (Sharma et al., 2017), belonging to early reproductive age. Early exposure to unsafe sexual practices have a bearing on their future Sexual and Reproductive Health (SRH). Even when they reach an appropriate age to bear children, some of them lack the financial stability for the same; some express the obligation to have more children because of the high mortality rates of their children; some are forced to bear the children of their male partners; some report multiple accidental miscarriages due to fall while intoxicated, some are subjected to inappropriate medication due to non-disclosure of drug use habit, while some experience intimate partner violence (Sharma et al., 2017). Others face the problem of 'Unmet need for contraception' as a result of various social factors (Sharma et al., 2017, Zhang et al., 2020), leading to unplanned and unwanted pregnancies due to lack of women's autonomy in decision making. These pregnancies are further complicated because of the already present health complications as a consequence of substance use, often resulting in maternal and infant morbidity and/or mortality. Also, presence of psychiatric co-morbidities like bipolar disorder, schizophrenia (that are more prevalent among substance using females) impair the maternal and infant's mental and physical well-being.

Most commonly reported SRH adverse effects are those due to tobacco smoking and alcohol use. Maternal smoking during pregnancy is associated with pre term birth, fetal growth retardation, low birth weight, sudden infant death syndrome, neuro developmental and behavioural problems in the infant, impaired lung function, obesity, diabetes and cardiovascular ailments in later life of offspring. Smoking during lactation leads to neuro-behavioural disorders, sleep cycle disturbances, metabolic and respiratory problems in the child. The nicotine level in breast milk has been found to be double that of serum level in smokers (Banderali et al., 2015).

Alcohol use during puberty adversely affects the maturation of the reproductive system, menstrual cycle and fertility while regular use of alcohol in pregnancy can lead to miscarriages, preterm labour, intrauterine growth retardation, stillbirth and fetal alcohol syndrome (Zhang et al., 2020). It can result in neuro developmental disorders, behavioural symptoms, and structural abnormalities of the heart, kidney and bones in the offspring. Infants of breast feeding mothers who use alcohol might suffer from disturbed sleep and delayed motor development (Mennella, 2001).

Treatment-seeking for sexual & reproductive health-related issues in women using substance

In studies conducted in Indian settings, (Sharma et al., 2017, Kermode et al., 2013), it was reported that harm-reduction services for substance users are limited mainly to HIV and STI prevention thereby leaving lacunae in addressing specific reproductive health needs, like- contraception and family planning. Those women in need of treatment mainly shy away from hospitals due to (a) lack of information, (b) poor awareness, (c) fear of consequences related to disclosure of substance use status, (d) past

bad experiences like ill-treatment or (e) negative attitudes from health care professionals, etc (Sharma et al., 2017). Only less than 1% of these females actually seek medical help for their problems.

Even globally, substance abuse treatment programs for women are lacking. Though the ratio of women to men with dependence to illicit drugs is higher, yet lesser number of women seeks admission to substance abuse treatment programs (Tuchman, 2010). Women enter treatment with problems related to health risks, family and employment situations, mainly facilitated by social agencies rather than through family support or criminal justice system. They face specific barriers to treatment like - lack of services for pregnant women, lack of social and financial support, fear of losing custody of their children, fear of prosecution, sexual harassment and lack of affordable childcare. Also, women entering substance abuse treatment programs were found to be younger, unmarried, less educated with poor employment status, had more physical and mental health problems, had greater exposure to physical and sexual abuse, and had greater concerns about issues related to childcare (Tuchman, 2010).

Apart from these factors, a plethora of other factors like - lack of autonomy, gender power imbalances, social stigma towards substance use, lack of affordable maternity and gynecological services, lack of community awareness programs, taboo and religious-cultural myths about sexual issues - all play important role in hindering accessibility of health care services to this marginalized portion of society.

In terms of retention and completion of substance use treatment, there are studies that vary with regards to duration of treatment & factors for attrition (McCaul et al., 2001). Consensus however states that

most dropouts from treatment are poorly educated, separated/single women, with poor family/social functioning. They also state that, rather than substance-specific interventions, services related to health care, domestic violence counseling, transportation, and child care, along with good relationships with counselors - are the primary reasons they remain in treatment (Tuchman, 2010). These are strong hints that the male-centric approach of treatment is not as effective among women.

Assessment

- ◆ The reason for which the client has presented to the healthcare facility will guide a clinician towards the assessment. In order to obtain detailed relevant information, utmost importance should be given towards making the client comfortable and ensuring confidentiality throughout the process. If the client presents for treatment of her substance use problem, one should obtain a detailed history of (h/o) substance use habit and its severity with clear understanding behind the reason for decision to seek help. Assessment of the client's motivation stage would provide helpful clue regarding management. Later on, with establishing a better therapeutic alliance and ensuring confidentiality, details of sexual and reproductive health might be obtained. Subsequently, sexual history and clinical details of SRH-related problems, if any, should be taken.
- ◆ If the client presents to a STD clinic or SRH-related problems, and, disclosure of substance use is an incidental finding, sexual history and history of substance use should be obtained in conjunction with Gynaecological/Obstetric history. A liaison with mental health professional after obtaining

consent from the client would be fruitful.

- ◆ If the client seeks consultation for sexual dysfunction, details of her presenting complaints, with onset, duration and progression of the symptoms, symptom severity, any exacerbating or relieving factors and the impact of current symptoms on her daily functioning - should be enquired.
- ◆ Any psychological problem that comes up while interacting with the client or through self-report should be documented and explored in detail with the help of a mental health professional.
- ◆ Past history should focus on h/o first sexual contact, knowledge about sexual functioning, any h/o sexual abuse and high-risk sexual behaviour.
- ◆ The client's knowledge and attitude towards treatment, h/o psychosocial and interpersonal problems and treatment history should be explored.
- ◆ History of any other behavioural addictions should be enquired.
- ◆ Sexual and substance use history of partner, if possible, should be obtained. This should be complemented by detailed general physical examination, gynaecological examination of the client vis-a-vis general physical examination and/or genital examination of the partner.
- ◆ Necessary Blood workup, hormonal profile, viral markers including Hepatitis and HIV testing, etc. should be advised.
- ◆ Vaginal/ cervical swab, urine examination, ultrasound of pelvis, etc. as indicated

after history taking and physical examination.

- ◆ Any psychological testing, if necessary, should be conducted.

Management

- ◆ Clients those who have less severe substance use disorders (i.e., those with nicotine UD, lesser duration and lower amount of substance use, with minimum physical or psychological harms) benefit from brief interventions (BI). BI brings about cognitive change, impacting the client's motivation.
- ◆ Clients having more severe substance use disorders (i.e., IV drug users, longer duration, heavy amounts of use, with significant physical and psychological effects) require other techniques, like - individual therapy, group therapy, family therapy, relapse prevention and pharmacotherapy). Most will benefit from a combination of several specific techniques involving liaison between several professional disciplines.
- ◆ Treatment approach needs to be tailored according to the subject's clinical status and stage of readiness to change.
- ◆ Those who require treatment for sexually transmitted diseases should be referred for necessary testing, administered medical care and counselled about safe-sex practices, genital hygiene and receive sexual knowledge about normal reproductive anatomy and physiology. Any misconceptions and myths should be assessed and addressed appropriately.
- ◆ Treating co-morbid sexual dysfunction should start with taking a feedback about the relationship between

substances use and sexual dysfunction and also the role of other psychosocial factors. A motivational interviewing approach should be adopted while explaining to the client the benefits of quitting substance use on sexual functioning. The therapist might need to address the client's sexual knowledge, myths, help improve communication between the couple, besides employing sensate focus therapy, Master and Johnson's approach, PLISSIT (Permission, Limited Information, Specific Suggestions and Intensive Therapy) model, etc. as per the client/couple's presentation and needs (Ghadigaonkar et al., 2019). Systemic testosterone is helpful for hypoactive sexual desire in females. However, side effects like hirsutism, hoarseness of voice, alopecia, and a potential increase in cardiovascular problems can occur. Topical estrogens are helpful in improving vaginal lubrication and genital arousal.

- ◆ Treatment of co-morbid mental disorders require integrated treatment approach where the same staff can treat both mental disorder and addiction concurrently. This is more beneficial than treating both disorders by parallel treatment (where different disciplines provide care for addiction and mental disorder) or sequential treatment (treating one problem after the other) (Mojtabai et al., 2014).
- ◆ Pregnant women who are addicted to alcohol or opioids require intensive outpatient care usually. Besides treating them for the substance use problem, the unborn fetus needs regular monitoring of well-being too. Newborns of these mothers require monitoring for withdrawal symptoms

and should be treated for them, if needed. In the postpartum period, monitoring and therapeutic interventions with child care counselling and vocational support help to retain these mothers in treatment (McMurtrie et al., 1999).

Special considerations in assessment & management

- ◆ While male drug users tend to have a denial of their problem, females usually have strong guilt and shame over their problem. So, a traditional confrontational vis-à-vis punitive approach would be less suited to females because it enhances guilt and shame and is counterproductive (Tuchman, 2010).
- ◆ As there are differences in childhood adversities, abuse, social conditioning and patterns of physical and psychological problems among male and female users, gender-non-specific approaches to therapy are less effective in female subjects. Also, gender-specific interventions show improved psychological well being, attitudes, beliefs and risk-taking behavior (in relation to substance use) in females.
- ◆ The manifold adverse social and psychological implications of substance use among women who are mothers (as explained earlier) implies that an increased level of multi disciplinary support is required to address their needs adequately.
- ◆ A study comparing women-only versus mixed-gender addiction groups reported that women identified several issues that they would discuss only in women's groups, including guilt regarding being an inadequate mother. Also, superior outcomes were reported

for women treated in specialized women's programs versus mixed-gender programs (Nelson-Zlupko et al., 1995). This might be because of gender-specific differences in interactional styles and societal power structures.

- ◆ Since barriers to seeking treatment are unique to women, these issues require individualized attention as well to increase efficacy of treatment.

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