

Women and substance use: epidemiological issues

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Format of Presentation

1. The Indian Scenario
2. Global Scenario
3. Patterns of substance use
4. Drivers of substance use
5. Biology and gender
6. Substance use and reproduction
7. Substance use among elderly
8. Substance use in custodial settings
9. Co-morbidity
10. Treatment

1. The Indian Scenario

- ▶ Women as victims of substance use to women as substance users
- ▶ Case Reports
- ▶ Focused thematic studies
- ▶ Reports focusing on women

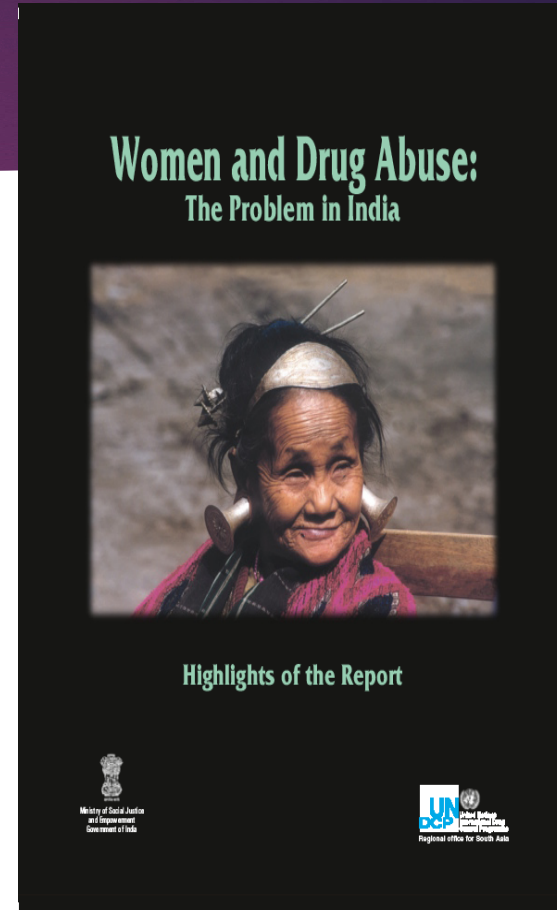
Epidemiological studies 1970's – 1990s

- ▶ Negligible substance use apart from tobacco
- ▶ Alcohol use about 3% among women and illicit drugs and psychotropic use between 0.1 to 0.3%
- ▶ 1990's: ever drug use among 6-8% of women
- ▶ Substance use among women difficult to pick up and study in traditional surveys

UNODC – A tale of three studies

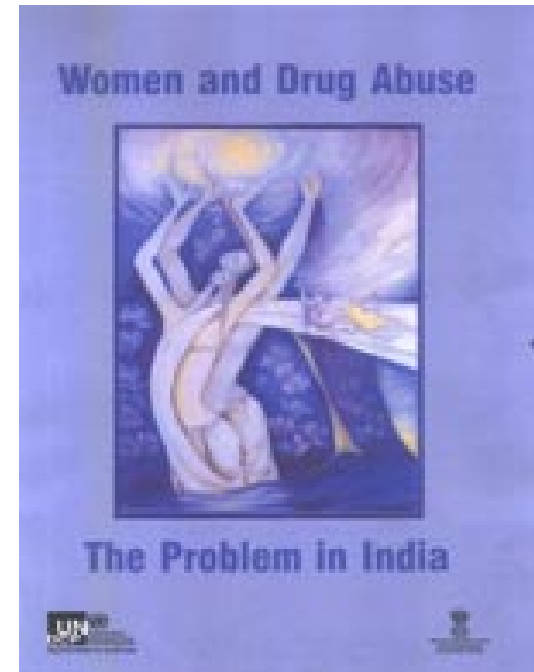
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- ▶ Burden on Women due to drug abuse by family members (Shankardass et al 2002)
- ▶ Study of Women Substance Users and Sex Trade Workers In India (Kapur et al 2001)
- ▶ Rapid Assessment Survey (Kumar 2002)



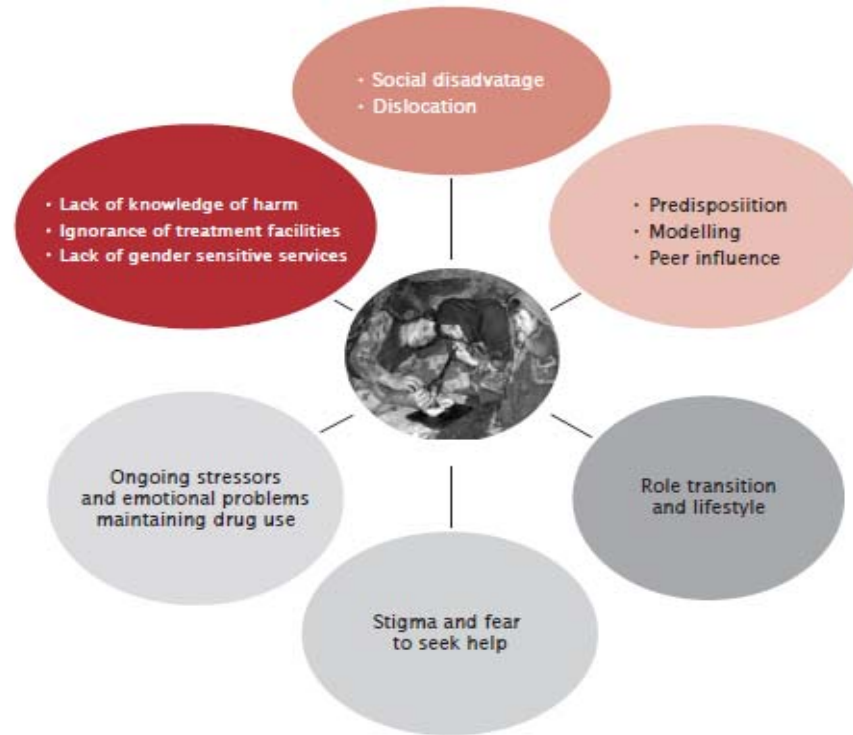
These studies chartered course ahead

- ▶ Several limitations
- ▶ Nevertheless, raised issues pertaining to indirect and direct impact of substance use on women
- ▶ Highlighted need to examine issues against the background of social disadvantage and subordination
- ▶ Highlighted need for a shift from a purely individual, single-cause linear model to a multi-cause interactive model in understanding addiction.



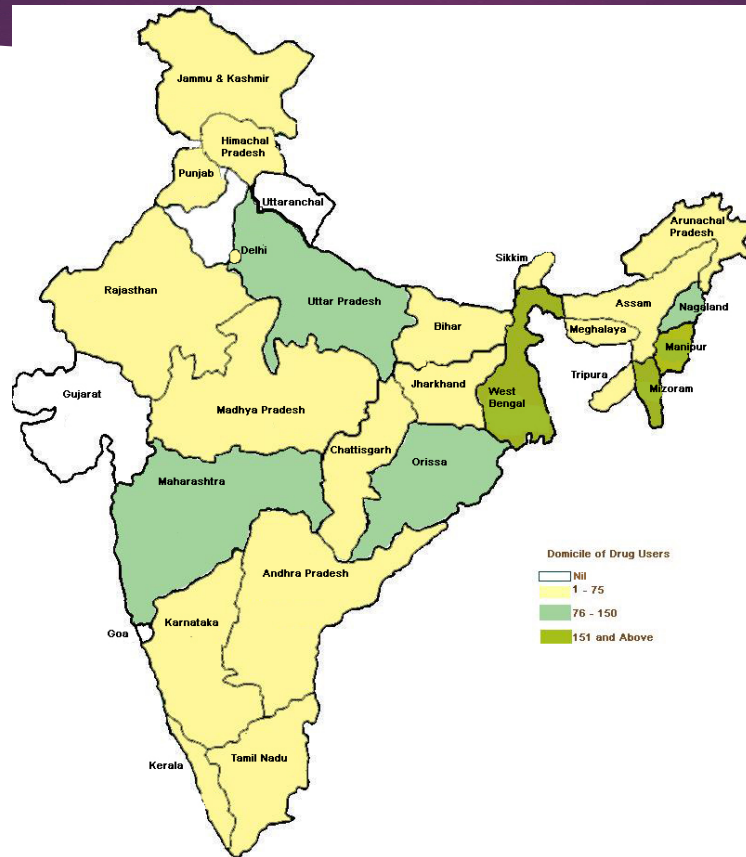
Interacting factors leading to drug use among women

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Women Substance users (FSUs) – SWAHA

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N=1865

Substance use last month (FSUs) I 49 SWAHA

Rank order

Heroin (25.3%)

Dextropropoxyphene (18.3%)

Sleeping pills (15.7%)

Cannabis (15.4%)

Cough syrup (8.3%)

Buprenorphine (4.2%)

Solvents(3.1%)

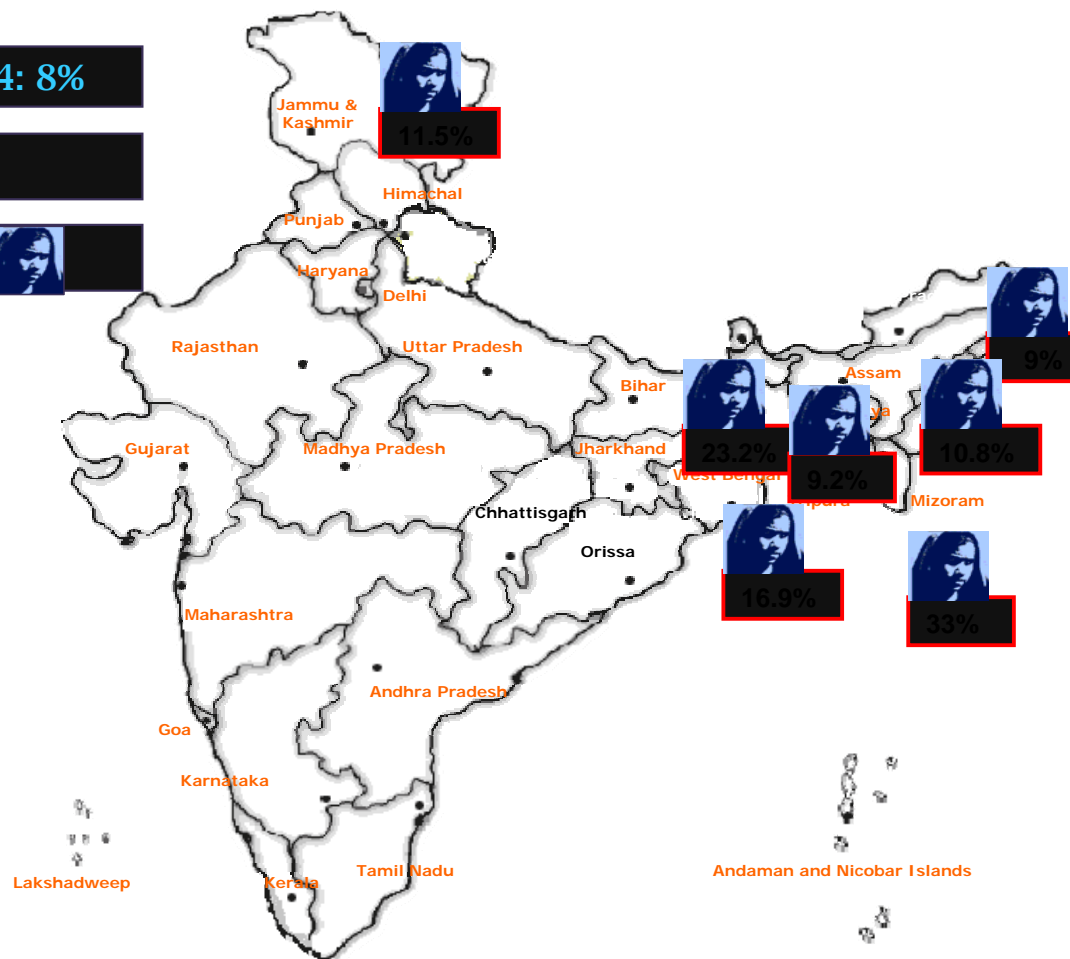
Alcohol use reported by
67.5% of FSUs

Tobacco use reported by
75.7%

RAS National Survey 04: 8%

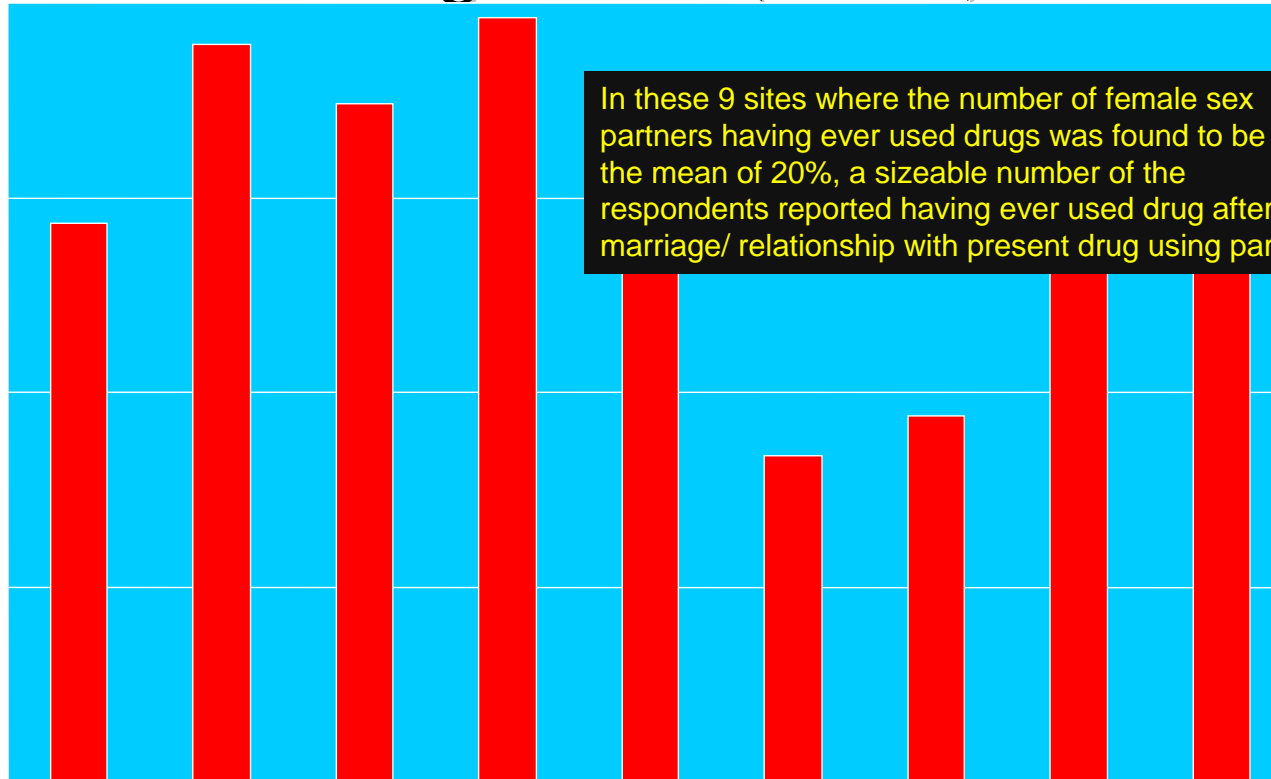
H13 RSRA: 6%

Sites with FDU > 8%





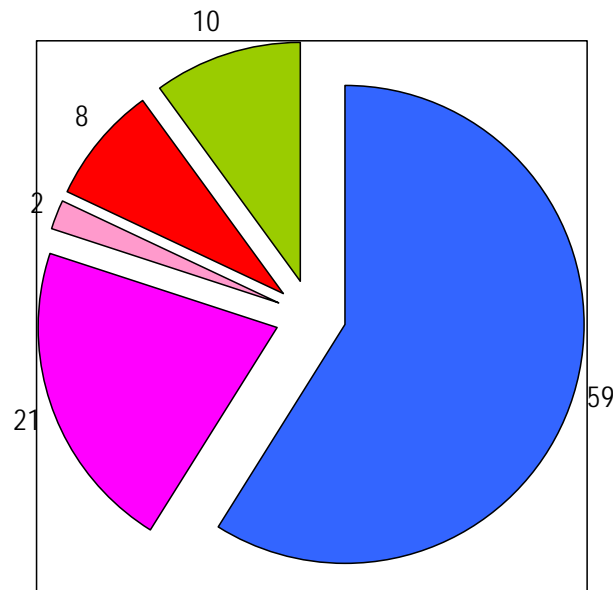
Drug Use: With Present Drug Using Partner (9 sites)



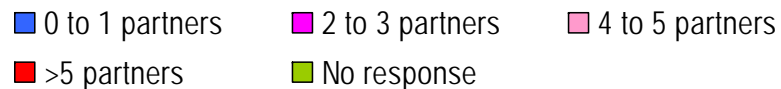
In these 9 sites where the number of female sex partners having ever used drugs was found to be over the mean of 20%, a sizeable number of the respondents reported having ever used drug after marriage/ relationship with present drug using partner



Number of Sexual Partners in Last 12 Months – RSRA



In all the demonstration sites,
sex with multiple
partners was reported in the past 12 months.



HIV testing (SWAHA)

	Ever been tested for HIV				Partner ever been tested			
	FSU (1774)		NSUP(4200)		FSU (1635)		NSUP (4147)	
	N	%	N	%	N	%	N	%
Yes	595	33.5	797	19.0	320	19.6	674	16.3
No	989	55.7	3032	72.2	738	45.1	2470	59.6
Don't know	122	6.9	224	5.3	475	29.1	802	19.3
No response	68	3.8	147	3.5	102	6.2	201	4.8

Violence – SWAHA

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	N FSU	% FSU	N NSUP	% NSUP	Odds Ratio
Any violence	1271	72.9	2804	68.5	1.2**
Type of violence (among those reporting violence)					
Verbal violence	1270	96.9	2937	97.6	0.77
Physical violence	1187	90.5	2415	80.4	2.3***
Sexual violence	667	52.5	856	30.3	2.5***
Perpetrator of violence					
Partner/spouse	745	84.3	1103	81.1	1.2
Parents	186	21.3	249	18.7	1.2
In laws	104	12.1	201	15.2	0.8*
Friends	159	18.4	108	8.2	2.5***
Employer	89	10.3	64	4.9	2.2***
Police	240	27.7	123	9.4	3.7***

Impact on Children (SWAHA)

- ▶ Low female: male gender ratios among children, likely a grim reflection of persisting gender inequality in India
- ▶ Greater levels of illiteracy and primary school drop out among FSU children
- ▶ In some FSU homes other family members like grandparents assume parental responsibilities
- ▶ Among NSUPs, despite paternal substance misuse, more children able to go to college
- ▶ Emotional, academic and behavioral problems common and significantly greater in dual substance using households
- ▶ Higher rates of tobacco and alcohol use, and emerging drug use
- ▶ Substance use higher among sons than daughters in both groups
- ▶ NSUP mothers have more concerns on all aspects of their children's health and functioning than FSU mothers

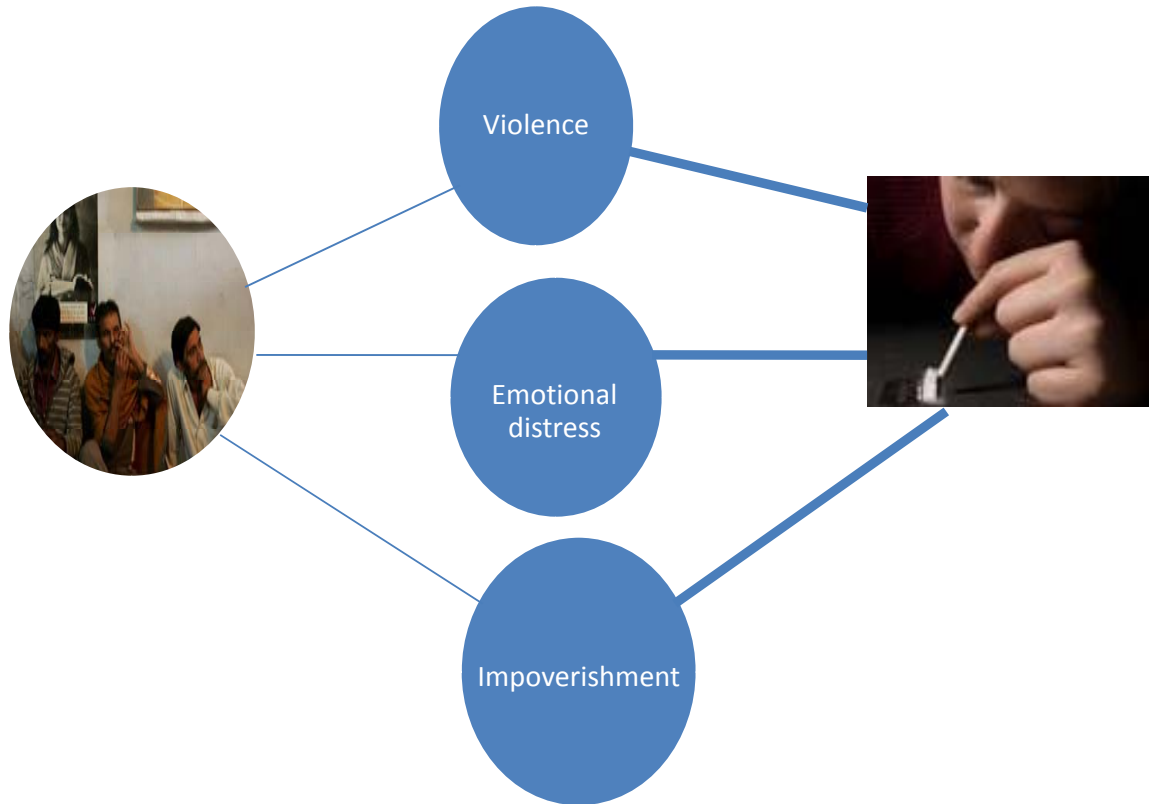
Feelings of worthlessness and suicidal attempts (I 49 SWAHA)

	FSU		NSUP		OR
Felt life was not worth living during the last year	1218	66.6	2360	54.3	1.63***
Attempted to take own life during last year	726	40.2	1286	29.7	1.54***

*** significant at $p < 0.001$

Qualitative interviews I 49 SWAHA

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Higher risk for
substance use

Lower risk for
substance use

Greater poverty*

Absent father*

Lower education*

Early age of sexual
exposure*

Good and stable
early relations

Better education

Later exposure to
sex

Substance use
correlates

Lower risk for
substance use despite
partner's substance
use

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Sexuality-greater coercion into
sex, multiple sex partners,
sexual violence, expectancies*

Emotional problems especially
in the context of interpersonal
difficulties*

Greater financial freedom,
money from selling sex and
drugs*

Low risk perception*

Monogamous relationship

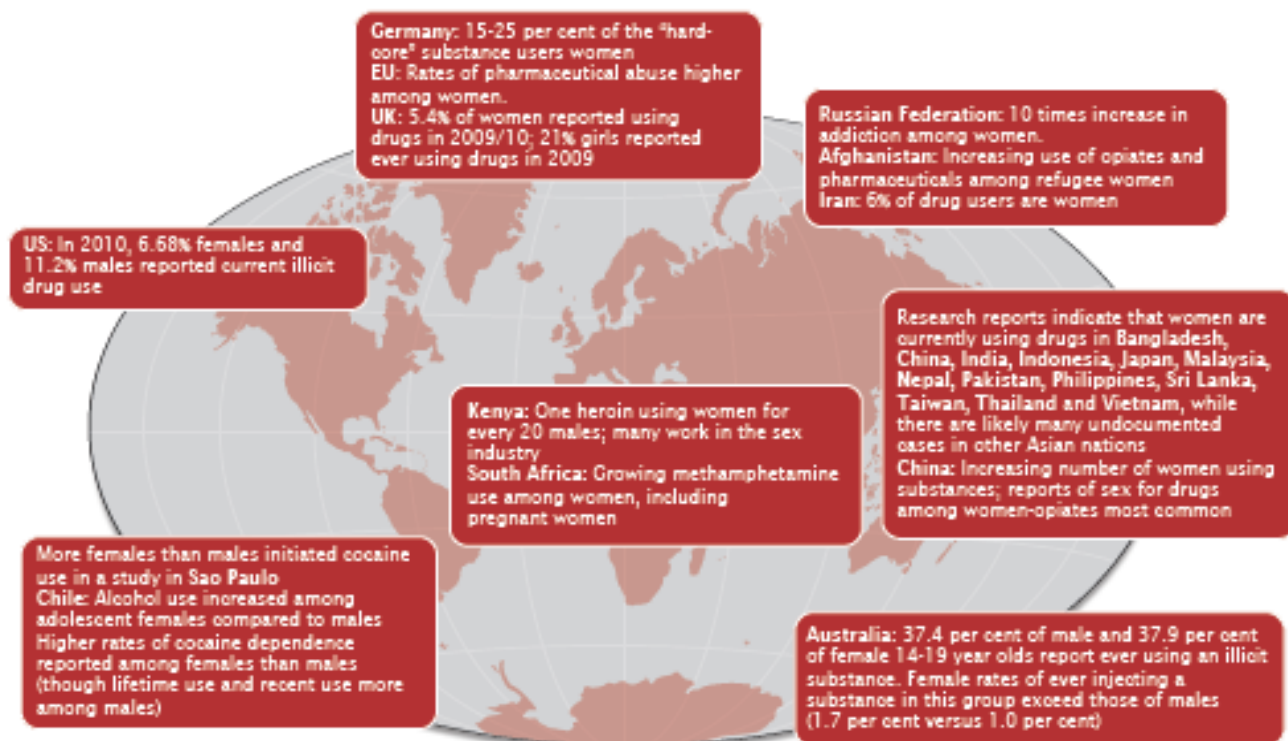
Better risk perception

Better emotional adjustment

I 49 SWAHA

2. Global scenario

Figure 1: Global Trends of Drug Use among Females¹⁵



3. Patterns- The Closing Gap...NESARC study³¹

- 2001 to 2002 NESARC, sampled more than 42,000 individuals.
- Rates of alcohol use/abuse /dependence were smallest for younger cohorts
- 1950s male/female ratio of initiation in the 10- to 14-year-old age group was 4:1 - 1990s it was 1:1
 - Greater proportion of women working outside home.
 - Lesser proportion of women bearing children.
 - Changing socio-cultural roles.

3. Prevalence

- ▶ Alcohol – 5-8% (Genacis 2005)
- ▶ Tobacco – 20% (GATS 2010)
- ▶ Other drugs- Focused thematic studies
- ▶ Prescription drug use
- ▶ Hospital data (Opioids, other prescription drugs)

Bangalore Mall study- half the respondents were female (Nattala et al 2015)

Catagories of medicine	Non-medical use <i>n</i> (%)	Used in ways other than prescribed <i>n</i> (%)	Used without prescription <i>n</i> (%)	Drugs used non-medically <i>n</i> (%)
Analgesics and anti-inflammatories	190 (26)	24 (13)	166 (87)	Nimesulide -114 (60) Mefenamic Acid -25 (13); Paracetamol -14(8); Others - 37 (19)
Opioids	115 (16)	46 (40)	69 (60)	Cough syrups (Diphenhydramine, codeine) - 106 (92); Tramadol capsules -9 (8)
Antibiotics	92 (13)	86 (93) ^a	6 (7) ^b	Ciprofloxacin, Levofloxacin, Norfloxacin, Ofloxacin -53 (58); Erythromycin, Roxithromycin, Azithromycin -18(19); Metronidazole - 9 (10); Amoxicillin -7 (8); Others (Cefixime, Clavulanate, Gentamicin) -4 (4); 'Don't remember' -1 (1)
Sedatives	88 (12) ^c	64 (73) ^c	24 (27) ^c	Alprazolam -25(29); zolpidem, zopiclone -20 (23); diazepam -18 (20); others (lorazepam, clonazepam, oxazepam) -14 (16); 'don't remember' -11 (12)

^a34 of these used longer than prescribed, 51 had used lesser than prescribed, and one respondent used irregularly, ^bReported using 1-2 tablets of the antibiotic/starting, stopping erratically, ^cAll the 24 who used 'without prescription', and 7 of those who used 'in ways other than prescribed' reported using irregularly - stopping use, restarting - and continuing this pattern on and off over a period of time

3. Patterns and Prevalence

Table 1: Indian studies on substance use prevalence and patterns in past decade

Study (author, year)	Summary	Sampling	Year	Number	Prevalence
International Institute for Population Sciences, 2000 ^[26]	National Family Health Survey	Household	1998-1999	486,011 males and females aged 15-54 in 26 States	Alcohol - 17% of men and 2% women
WHO, 2004 ^[27]	Global status report on alcohol	Survey	2000-2001	n=9540; 4605 males and 4935 females	Heavy drinking during past year in females - 0.4%; dependence pattern - 0.7%
Ray <i>et al.</i> , 2004 ^[24]	National survey on extent, pattern and trends of drug abuse in India - focused thematic studies	Snowball sampling technique (Delhi, Mumbai, Aizawl)	2000-2001	75 females with substance use disorders	Heroin (90.6%); propoxyphene (35%); alcohol (33%); minor tranquilizers (23%); cannabis (11%); cough syrup (15%); injecting drug users (40%)
Ray <i>et al.</i> , 2004 ^[24]	National survey on extent, pattern and trends of drug abuse in India - rapid assessment survey	Nonrandom sampling	2000-2001	4648 substance users at 14 sites	About 8% users were females. Heroin, alcohol, and painkillers were commonly used substances
Benegal <i>et al.</i> , 2005 ^[14]	GENACIS	Random sampling	2004	1517 males; 1464 females across five districts in Karnataka	Alcohol use in last year - 5.9% females and 32.7% males
International Institute for Population Sciences and Macro International, 2007 ^[28]	National Family Health Survey	Household	2005-2006	124,385 females and 74,369 males aged 15-54 in 29 States	Alcohol - 1/3 of men and 2% women; tobacco - 57% men and 11% women

Grover <i>et al.</i> , 2005 ^[29]	Profile of substance dependent women attending a de-addiction center in North India	Chart review	1978-2003	35	Opioids - 60%; alcohol - 17%; tobacco and benzodiazepines - 11.5% each
Murthy, 2008 ^[25]	Substance, women, and high-risk assessment study	Purposive sampling using snowballing and key informant approach	2007	6266 respondents; 1865 substance users, 4401 partners not using substances	Among female substance users (ever use): Alcohol - 77.4%; smoking tobacco - 69.1%; smokeless tobacco - 21.9%; heroin - 33.5%; dextropropoxyphene - 25.9%; sleeping pills - 22.4%; cannabis - 22.7%
Potukuchi and Rao, 2010 ^[30]	Problem alcohol drinking in rural women	Consecutive sampling	2009	1400 female with history of alcohol use	Dependence - 4%; problem drinking - 1%
Caixeta, 2012 ^[31]	Tobacco use in women in developing countries	Multi-stage cluster sample design	GATS	28,482 females (India)	Smokeless tobacco - 14.9%
Prabhakar <i>et al.</i> , 2012 ^[32]	Tobacco use in India	Household (three-stage sampling in urban areas and two-stage sampling in rural areas)	GATS 2008-2010 2009-2010	<i>n</i> =69,030 respondents over 15 years of age	Tobacco use (ever): Male - 51.5%; females - 28.8% (predominantly smokeless tobacco)
Nebhinani <i>et al.</i> , 2013 ^[33]	Profile of substance dependent women attending a de-addiction center in North India	Chart review	1978-2011	100	Tobacco - 60%; opioids (27%); alcohol - 15%; benzodiazepines - 13%
Kermode <i>et al.</i> , 2013 ^[34]	Qualitative study of HIV and substance use in North-Eastern States	FGD and KII	2009-2010	<i>n</i> =71 (FGDs); <i>n</i> =27 (KII) in Manipur and Nagaland	Alcohol - 90-91%; heroin - 0-64%; spasmoproxyvon - 16-26%
Chaturvedi <i>et al.</i> , 2013 ^[35]	Correlates of opium use in Arunachal Pradesh	Household survey	1998-2000	<i>n</i> =3421 individuals (1795 men and 1626 women)	Opium use: Male - 6.6%; females - 2.1%

GENACIS – Gender, Alcohol, and Culture: An International Study; FGDs – Focus group discussions; KII – Key informant interviews; GATS – Global adult tobacco survey; TB – Tuberculosis

4. Drivers

Table 1: Positive expectancies regarding effects of alcohol use

Females*	Males**
<ul style="list-style-type: none">· Elevates mood· Provides strength after childbirth· Improves health and relieves tiredness	<ul style="list-style-type: none">· Improves sleep· Improves sleep· Relieves tiredness, fatigue and worry· Prevents colds, coughs and breathing problems, helps in asthma and paralysis· Increases joy and cements friendship· Improves sexual desire and performance

*Murthy et al (1995) **Chandrasekhar (1994)

5. Gender difference in Biology

- ▶ Gender differences in neural process and behaviour
- ▶ Neuroactive steroidal hormones
- ▶ Differences in metabolism
- ▶ Differential systemic effects
- ▶ Particular effects on heart and nervous system
- ▶ Gender specific risk

6. Fetal alcohol spectrum defects

- ▶ Ethanol may interfere with fetal development causing abortion, fetal death, premature birth, low birth weight, abnormalities in mental and physical development, somatic alterations.
- ▶ The teratogenic effects of alcohol are globally defined as fetal alcohol spectrum disorders (FASD) and the fetal alcohol syndrome (FAS) is the worst manifestation.
- ▶ Fetal damage is not dose-related and may occur even at low levels of maternal alcohol intake, especially if ingested in early pregnancy.

Fetal alcohol spectrum disorders

- ▶ Most important preventable cause behavioural dysfunction
- ▶ NOFAS – Range of deficits (physical, mental, behavioural & learning disabilities) seen in persons whose mothers consumed alcohol when pregnant with them.
- ▶ ARBD – Alcohol related birth defects
- ▶ ARND – Alcohol related neurodevelopmental disorder
- ▶ FAS – Fetal Alcohol syndrome

(Nayak et al 2008)

7. Elderly and substance use

- ▶ Physical risk factors
 - ▶ Male sex (for alcohol), female sex (for prescription drug)
 - ▶ Caucasian ethnicity
 - ▶ Chronic pain, Physical disabilities or reduced mobility
 - ▶ Transitions in care/living situations
 - ▶ Poor health status, Chronic physical illness/polymorbidity
 - ▶ Significant drug burden/polypharmacy
 - ▶ Psychiatric risk factors
 - ▶ Avoidance coping style
 - ▶ Previous and/or concurrent SUD
 - ▶ Previous and/or concurrent psychiatric illness
 - ▶ Social risk factors (Affluence, Bereavement)
-
- ▶ Low in elderly women in India (Nadkarni et al 2013)

Kuerbis et al 2014

8. Substance use among women in correctional settings

- ▶ 17.9% of women prisoners reported use of tobacco in some form. This is marginally more than the prevalence of tobacco use among women in Karnataka (15.2%-figures for 2001). Chewing tobacco was more common among women (12.7%) compared to smoking (5.1%).
- ▶ 3 % used alcohol
- ▶ Anonymous urine screen in 60 women
 - ▶ 30% screened positive for one or other drug
 - ▶ 13 (22%) were positive for Benzodiazepines
 - ▶ 3 (5%) for cocaine
 - ▶ 2 (3.3% for opioids/amphetamines)
 - ▶ 1 for cannabis

9. Co-morbidity

► Mood and anxiety disorders

- Lifetime rates of mood and anxiety disorders among individuals with substance use disorders are significantly higher among women than men
- Most common mood disorder among women with alcohol or drug use disorders was major depressive disorder (15.4%) and the most common anxiety disorder was specific phobia (15.6%)

The large majority (91%) of women with substance use disorders and a co-occurring

Mood or anxiety disorder do not seek treatment

Arch G Psychiatry. 1997;54:313–321.

► Eating disorder

- NCS-R estimated that rates of lifetime alcohol use disorders occurred in up to 34% of individuals with EDs, which is significantly higher than rates of alcohol use disorders in the general population

Prevalence of PTSD is 1.4 to 5 times higher compared to those without substance use disorders

.....Lowenson and Ruis, 5 th edition, 2010

10. Course, outcome and treatment related issues

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Telescoping

- ▶ Term to describe an accelerated progression from the initiation of alcohol to the onset of dependence and related medical complications.
- ▶ Consistently observed across the world
- ▶ more severe clinical profile (eg, more medical, behavioral, psychological, and social problems) than men, despite having used less of the substance and for a shorter period of time compared with men.

Medium interval first drink to dependence is 3.0 years for women and 3.6 years for men. (*Dawson 1996*)

Female injecting drug users and female sex partners
of men who inject drugs

Assessing care needs and developing responsive services



Barriers for providing services to FSW FIDUs

- Stigma and discrimination
- Fear of identification
- Fear of pimps
- Overcrowding in government facilities
- Unable to procure OST
- Low priority given to treatment for other drugs of use

Treatment characteristics

- ▶ Women's only facilities and those with child care facilities
 - ▶ Influence length of stay, but not treatment completion
 - ▶ Service combining mental health and substance use improve treatment completion
 - ▶ Best response however is with women's only programmes
 - ▶ Flexible program, friendly staff, women's only spaces, home visits, childcare improve treatment continuation
 - ▶ Networking important

Ashley et al 2003, Brady et al 2005, Murthy 2008,

Treatment related issues

- ▶ Systemic barriers
- ▶ Structural barriers
- ▶ Socio-cultural and personal barriers
- ▶ Quality of therapeutic relationship, Stigma and discrimination from health care system, Support needs, and Informational needs (Thomas et al 2017).

Qualitative interviews

Stigma and discrimination	<ul style="list-style-type: none">• Referred to as a 'case' rather than as an 'individual'• Being labelled as an 'addict'• Gender prejudice
Social support	<ul style="list-style-type: none">• Perceived need for social support from health care provider• Lack of family support
Financial issues	<ul style="list-style-type: none">• Lack of money• Lack of financial support from family• Need for free or subsidized treatment
Informational needs	<ul style="list-style-type: none">• Information about gender-sensitive treatment services• Information and assistance to access medical services• Information to the family about treatment
Quality of therapeutic relationship	<ul style="list-style-type: none">• Time spent by the health care provider• Poor attention by the health care provider on psychosocial issues• Greater preoccupation with prescribing drugs then listening and responding• Gender of the health care provider

Thomas et al 2017

Outcome

- ▶ From complete loss to follow-up (Kamath and Murthy 1998) (Varghese et al 2014) to relatively better outcome if retained (Nebhinani et al 2013)
- ▶ No of life problems and number of supportive relationships good predictors of outcome (Macdonald 1987)
- ▶ Mental illness related to poorer outcome (example- risk of relapse in depressed smokers doubled)

You can tell the condition of a nation by looking at the status of its women

Pandit Jawaharlal Nehru

- ▶ Long-term investments in the role of women as full and equal citizens-through education, economic, social, and political empowerment-will be the only way to deliver sustainable improvements in maternal and child (nutrition), and in the health of women and children more generally. Richard Horton The Lancet 2008