Impact of Unregulated Liquor Supply and Consumption on Health and Society: Pragmatic and Utilitarian Approach

Connecting the dots. . .

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Key words

Impact of **Unregulated Liquor** **Supply and Consumption** on **Health and Society**: **Pragmatic and Utilitarian Approach**

What is the word . . . .?

- Liquor
- Liqueur
- Spirits
- ALCOHOL
- Beverage alcohol
- Ethanol

Is Alcohol a Public Good?

Public goods are created by human effort through collective action.
The costs are shared by everybody in the polity.

Is Alcohol a Public Good?

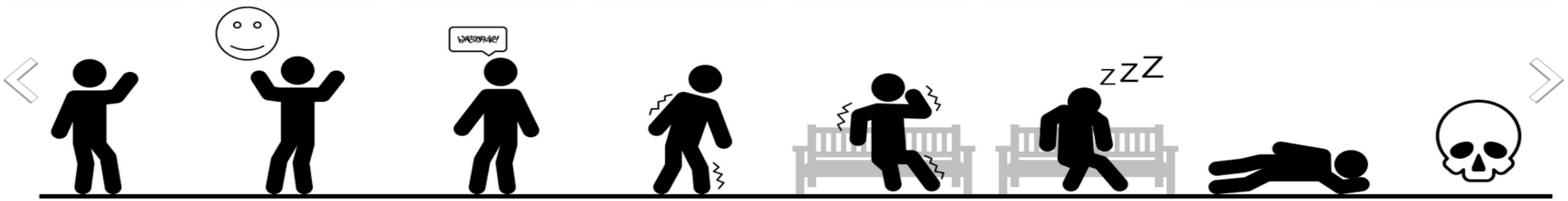
- Is Alcohol use a public good?
- Is potable alcohol use a public good?
- Is managing withdrawal from alcohol use a public good?
- Is preventing “harm” from alcohol use a public good?

Alcohol

An alcoholic beverage is a liquid that contains ethanol (ethyl alcohol, commonly “alcohol”) and is intended for drinking.

a toxic and psychoactive substance with dependence producing properties

Slowed reactions Lowered inhibitions Lightheadedness	Feeling of warmth Loss of inhibition Mild euphoria	Slurred speech Impaired judgement Lowered balance	Loss of coordination Impaired motor skills Exaggerated behavior Possible nausea	Need help standing Numb to pain Impaired gag reflex Blackouts	Difficulty staying awake Lowered heart rate / breathing Lower body temperature	Onset of comas Nerve centers controlling heart and respiration stop functioning May stop breathing	Death



0.02–0.03 | 0.03–0.06 | 0.06–0.10 | 0.10–0.20 | 0.20–0.30 | 0.30–0.40 | 0.40–0.50 | ≥ 0.50

Legal BAC limit:

IMPACT OF ALCOHOL USE

No Organ in the body is immune from alcohol related harm

(Bower – 1992)

↓

Acute & chronic effects

Excessive alcohol
health conditions
alcohol use can le

mful
e, excessive
problems.

Short-term health risks

Injuries
- Motor vehicle crashes
- Falls
- Drownings
- Burns

Violence
- Homicide
- Suicide
- Sexual assault
- Intimate partner violence

Alcohol poisoning

Reproductive health
- Risky sexual behaviors
- Unintended pregnancy
- Sexually transmitted diseases, including HIV
- Miscarriage
- Stillbirth
- Fetal alcohol spectrum disorders

Long-term health risks

Chronic diseases
- High blood pressure
- Heart disease
- Stroke
- Liver disease
- Digestive problems

Cancers
- Breast
- Mouth and throat
- Liver
- Colon and rectum
- Esophagus
- Voice box

Learning and memory problems
- Dementia
- Poor school performance

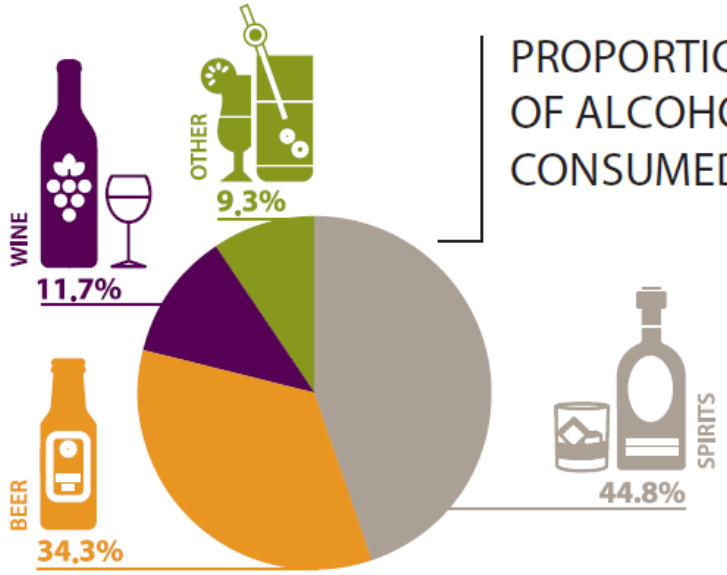
Mental health
- Depression
- Anxiety

Social problems
- Family problems
- Job-related problems
- Unemployment

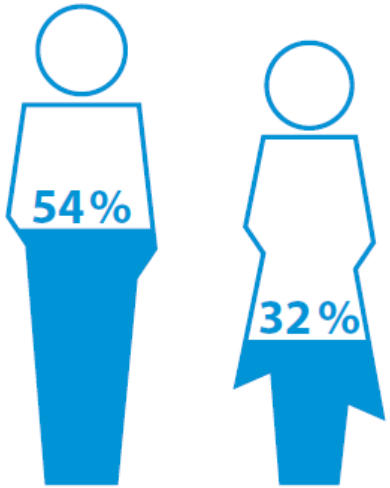
Alcohol use disorders

cdc.gov/alcohol

PROPORTION OF ALCOHOL CONSUMED

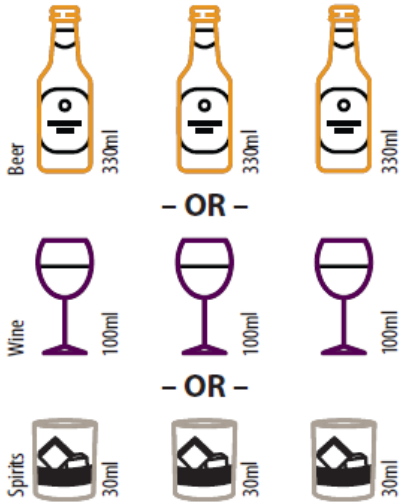


2.3 BILLION PEOPLE ARE CURRENT DRINKERS*

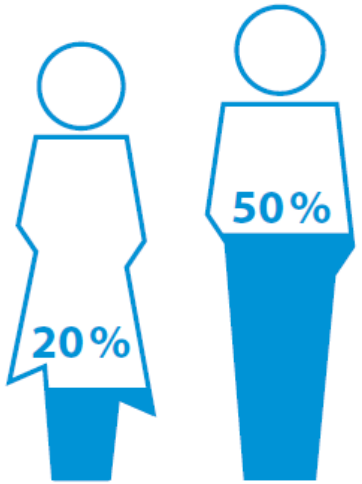


* percentage of those in the population aged 15 years and older who have consumed alcoholic beverages in the previous 12-month period

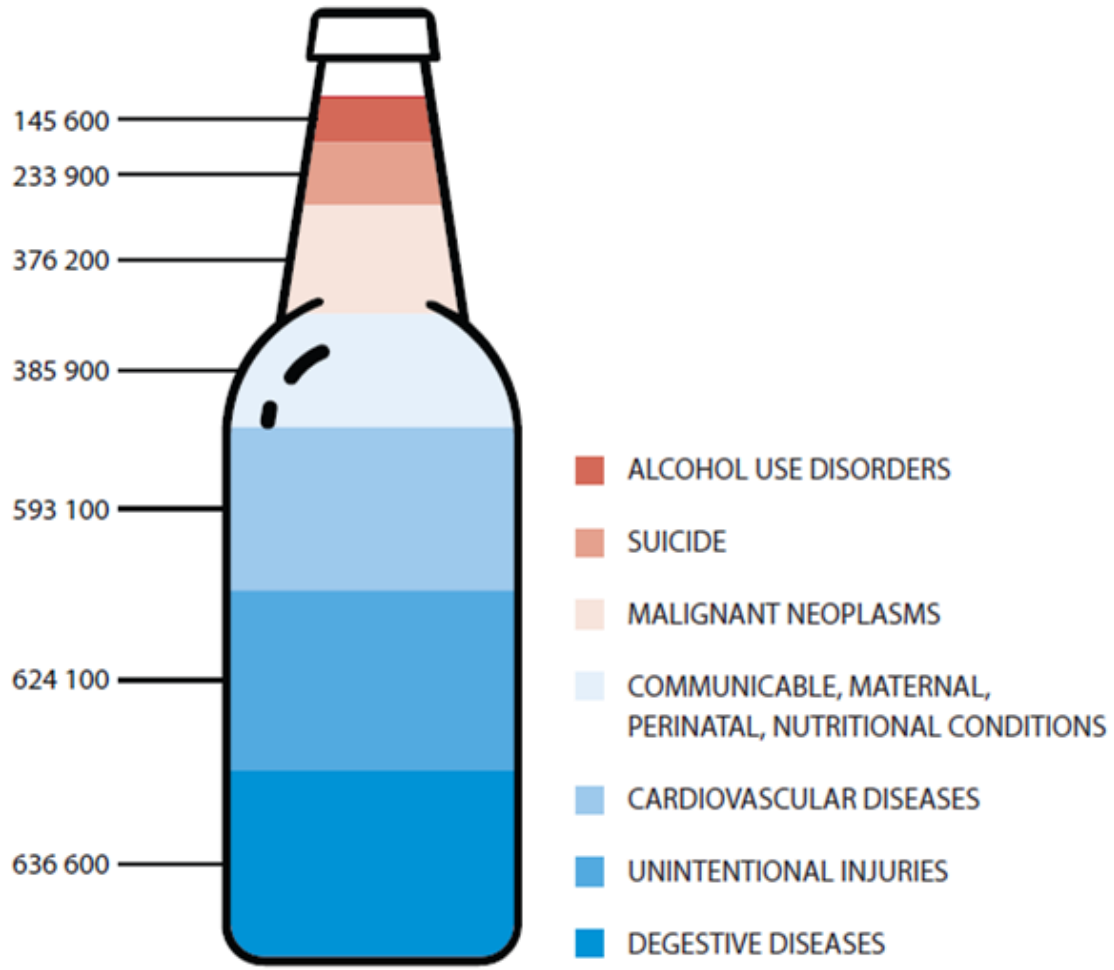
THEY DRINK ON AVERAGE 32.8 GRAMS OF PURE ALCOHOL PER DAY, WHICH IS ABOUT



HEAVY EPISODIC DRINKERS*



* consumed at least 60 grams or more of pure alcohol on at least one occasion in the past 30 days



3 MILLION DEATHS CAUSED BY ALCOHOL

Source: WHO Global Status Report on Alcohol and Health 2018.

While recorded alcohol consumption among adults has fallen steadily in most developed countries since 1980, it has risen steadily in developing countries.

- Global Status Report on Alcohol, 1999.

Quantum of use (per capita consumption for the year 1996)

- Total National Population – 1.2 litres
- Adult population – 2 litres
- Adult male population – 3.5 litres
- Adult male drinkers – 9 litres

Harmful use of alcohol

<u>encompasses the drinking that causes detrimental health and social consequences for the drinker, the people around the drinker and society at large, as well as the patterns of drinking that are associated with increased risk of adverse health outcomes.</u>

- Serious effect on public health and main risk factors for poor health
- The degree of risk for harmful use of alcohol varies with age, sex and other biological characteristics of the consumer as well as with the setting and context in which the drinking takes place.

Harmful use of alcohol

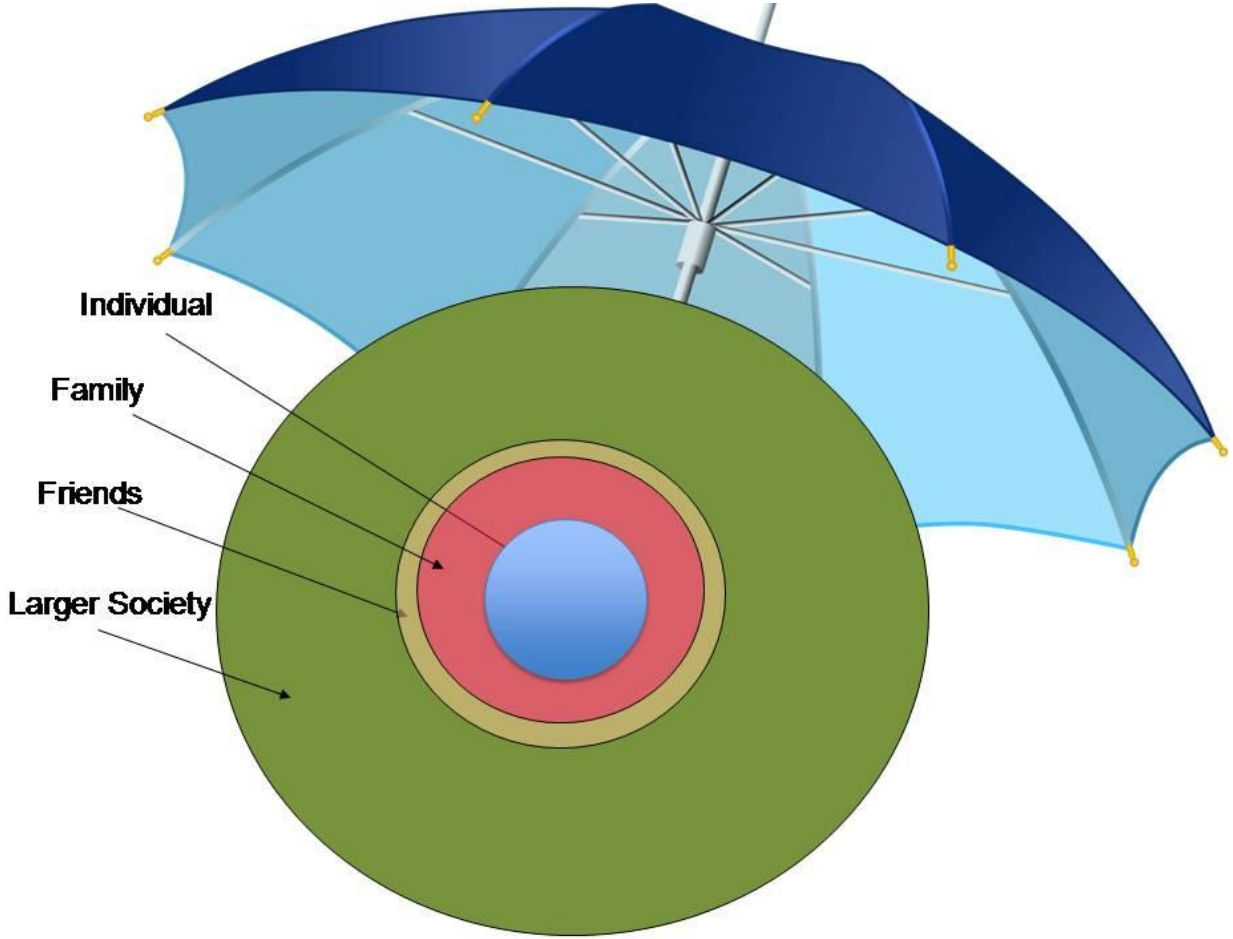
- Major avoidable risk factor for neuropsychiatric disorders and other noncommunicable diseases such as cardiovascular diseases, cirrhosis of the liver and various cancers.
- The harmful use of alcohol is also associated with several infectious diseases like HIV/AIDS, tuberculosis and pneumonia.
- A significant proportion of the disease burden attributable to harmful drinking arises from unintentional and intentional injuries, including those due to road traffic crashes and violence, and suicides. Fatal injuries attributable to alcohol consumption tend to occur in relatively young people.

For some diseases there is no evidence of a threshold effect in the relationship between the risk and level of alcohol consumption.

Some emerging patterns of alcohol use in India

- Men drink far more than women, but women's drinking is also rising
- The age of starting to drink is reducing
- Every third person who starts, develops problem drinking
- People with heavy use of alcohol, develop early health problems
- Early health damages are unrecognized by physicians.
- Hospital admissions directly linked to per capita consumptions
- Drinking also linked to growing social, economic and health problems in society

Harms To Others from Drinking



- Alcohol's harms to Others
- Negative externalities
- "collateral damage"
- "Second hand effects" of drinking

Control alcohol, promote health, protect future generations

Alcohol use is part of many cultural, religious and social practices, and provides perceived pleasure to many users. This new report shows the other side of alcohol: the lives its harmful use claims, the diseases it triggers, the violence and injuries it causes, and the pain and suffering endured as a result.

This report presents a comprehensive picture of how harmful alcohol use impacts population health, and identifies the best ways to protect and promote the health and well-being of people.

It also shows the levels and patterns of alcohol consumption worldwide, the health and social consequences of harmful alcohol use, and how countries are working to reduce this burden.

"SAFER" an acronym for 5 most cost effective interventions to reduce alcohol related harm.

1. **S**trengthen restrictions on alcohol availability
2. **A**dvance and enforce drink driving counter measures
3. **F**acilitate access to screening, brief interventions and treatment
4. **E**nforce bans or comprehensive restrictions on alcohol advertising, sponsorship, and promotion
5. **R**aise prices on alcohol through excise taxes and pricing policies

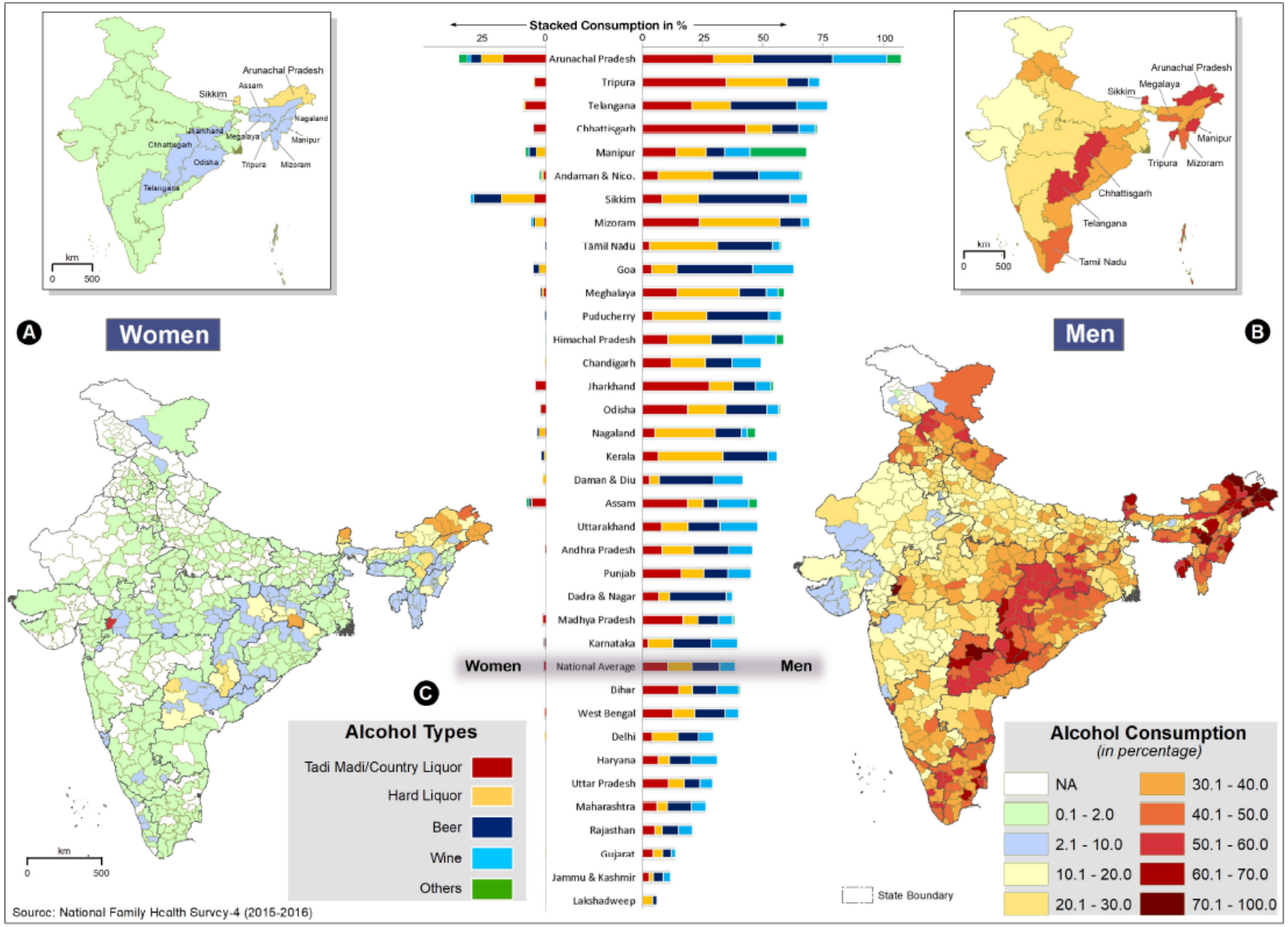


FIGURE 1 | State and district-wise comparison of alcohol consumption in men and women, National Family Health Survey (NFHS)-4. The inset maps (top) show the state-wise average, and the bottom maps show the district-wise alcohol distribution for women **(A)** and men **(B)**. The darker red shades denote higher consumption. The state boundaries are overlaid to show inter-intra state distributions. The state-wise comparison of different types of alcohol consumption is shown for men (right bars) and women (left bars) **(C)**. The colors in the bars indicate relative consumption (%) of different alcohol types.

Front. Public Health, 27 August 2021 | https://doi.org/10.3389/fpubh.2021.617311

A renewed *focus*

THE LANCET

Log in

Alcohol use and burden for 195 countries and territories, 199…

PDF [5 MB]

Interpretation

Alcohol use is a leading risk factor for global disease burden and causes substantial health loss. We found that the risk of all-cause mortality, and of cancers specifically, rises with increasing levels of consumption, and the level of consumption that minimises health loss is zero. These results suggest that alcohol control policies might need to be revised worldwide, refocusing on efforts to lower overall population-level consumption.

Harms from alcohol use accrue importantly to the families. . .

Girish N Rao, Pratima Murthy, Subodh B N, Vivek Benegal, Gururaj G

A specific objective was to measure the indicators of harm in the defined community using a mixed-method strategy

- Survey undertaken
  - 13 slums where the NGO was working
  - Door to door cold calling strategy
  - Trained staff used a semi-structured questionnaire
  - Questionnaire developed specifically for survey
  - 60% of the 3 lakhs resided in the identified slums
  - Proportionate number of HH drawn from each slum

Survey

- HH was the Unit of study
- A responsible female respondent gave information about events and members of HH
- HH classified as User and Non-user HH
  - HH with 1 or more alcohol users were classified as User HH
- Final study instrument focused on socio-demographic information, employment related , assets, expenses, savings, indebtedness, health.
  - Other details pertaining to the use of alcohol and other substance in the past 12 months and psychosocial issues was also collected but not included for the present analysis.

Sample included

517 HH

2456 individuals

279 User HH	**238 Nonuser HH**
1377 members	1079 members

Socio-demographic information = fairly comparable

Variable	User Households [N (%)]	Nonuser Households [N (%)]	Total [N(%)]
n	1377	1079	2456
Age			
< 16 yrs	431 (31.3)	310 (28.7)	741 (30.2)
16 – 40 yrs	687 (49.9)	578 (53.6)	1265 (51.5)
41 – 60 yrs	228 (16.6)	165 (15.3)	393 (16.0)
> 60 yrs	031 (02.3)	026 (02.4)	057 (02.3)
Age in yrs[Mean (SD)]	26.51 (SD=16.23)	26.21 (SD=16.11)	26.38 (SD=16.18)
Monthly income in Rs[Mean (SD)]	4533.33 (3089.56)	1458.52 (2406.58)	1863.06 (2713.92)
Sex Male	724 (52.6)	541 (50.1)	1265 (51.5%)
Female	653 (47.4)	538 (49.9)	1191 (48.5%)

Socio-demographic information = fairly comparable

Variable	User Households [N (%)]	Nonuser Households [N (%)]	Total [N(%)]
n	1377	1079	2456
Education			
Illiterate	152 (11.0)	107 (09.9)	259 (10.5%)
Primary	215 (15.6)	127 (11.8)	342 (13.9%)
Secondary	368 (26.7)	263 (24.4)	631 (25.7%)
High School	437 (31.7)	337 (31.2)	774 (31.5%)
Pre-University	074 (05.4)	101 (09.4)	175 (07.1%)
Vocational	006 (00.4)	006 (00.6)	012 (00.5%)
Graduate	025 (01.8)	032 (03.0)	057 (02.3%)
Post –Graduate	004 (00.3)	005 (00.5)	009 (00.4%)
Not known &	002 (00.1)	009 (00.8)	011 (00.4%)
Not Applicable	094 (06.8)	092 (08.5)	186 (07.6%)

Socio-demographic information = fairly comparable

Variable	User Households [N (%)]	Nonuser Households [N (%)]	Total [N(%)]
n	1377	1079	2456
Occupation			
Unskilled	214 (15.5)	143 (13.3)	357 (14.5%)
Semi skilled	062 (04.5)	026 (02.4)	088 (03.6%)
Skilled	343 (24.9)	286 (26.5)	629 (25.6%)
Semiprofessional	011 (00.8)	010 (00.9)	021 (00.9%)
Professional	000 (00.0)	002 (00.2)	002 (00.1%)
Unemployed	026 (01.9)	013 (01.2)	039 (01.6%)
Retired	007 (00.5)	008 (00.7)	015 (00.6%)
Student	409 (29.7)	293 (27.2)	702 (28.6%)
Housewives	206 (15.0)	193 (17.9)	399 (16.2%)
Not applicable	099 (07.2)	105 (09.7)	204 (08.3%)

Socio-demographic information = fairly comparable

Variable	User Households [N (%)]	Nonuser Households [N (%)]	Total [N(%)]
n	1377	1079	2456
Marital status			
Married	628 (45.6)	458 (42.4)	1086 (44.2%)
Unmarried	697 (50.6)	541 (50.1)	1238 (50.4%)
Widow	048 (03.5)	077 (07.1)	0125 (05.1%)
Separated	004 (00.3)	003 (00.3)	0007 (00.3%)

Employment related measure of harm

	USER	NON USER	OR
Any adult in the family without a job	31 (11.1%)	15 (6.3%)	1.9
Continuously unemployed	17 (6.1%)	10 (4.2%)	1.8
Periodically unemployed	14 (5.0%)	5 (2.1%)	2.5
If working irregular at work	169 (60.6%)	34 (14.3%)	9.2
Not brought home any salary despite working	57 (20.4%)	3 (1.3%)	20.1

Expenses on health care and education

Expenditure / Annum in Rs	Users [Mean (SD)]	Nonusers Mean (SD)
Medicines* **	4547.08 (9144.85)	3152.93 (4020.08)
Doctors charges	1336.46 (2398.50)	1259.91 (2281.83)
Education**	11351.76 (11875.50)	12771.09 (13021.69)

Saving money

	Non user (N)	User (N)
Able to save money last month	101	78
Money saved [Mean (SD)]	2624.78 (4142.33)	3175.96 (6556.36)

	User (N)	Non User (N)	Odds ratio (95% CI)
Savings Bank	20	8	**3.11 (1.3-7.2)**
Chit fund	24	45	**0.58 (0.3-1.0)**
Self help group	20	40	**0.55 (0.3-1.0)**
Creation of assets	2	2	**1.17 (0.2-8.4)**
Any other	7	3	**2.79 (0.7-11.0)**

Loans

	User (N)	Non User (N)
Loans in last yr	195	136
Loan amount [Mean (SD)]	26002.69 (52438.85)	25003.82 (47778.47)
Pawned / sold house hold items / assets during the last year	146	92

Health related

Health status	User (N)	Non User (N)
Significant health problems amongst family members***	165 (59.1%)	92 (38.7%)
Family members received treatment for alcohol related problems***	36 (12.9%)	2 (0.8%)
Overall state of health of family very good or good	143 (51.3%)	137 (57.6%)
Deaths in the family	46 (16.5%)	41 (17.2%)
Deaths related to alcohol	29 (10.4%)	0 (0.0%)
Happiness in the family ***	138 (49.5%)	175 (73.5%)

Key Issues of Life and Living [KILL]

	User (N)	Non user (N)	Odds ratio
Difficulty in buying ration* **	79 (28.3%)	36 (15.1%)	2.2
Difficulty to buy medicines* **	81 (29.0%)	4 (17.2%)	2.0
Difficulty to pay rent*	46 (16.5%)	25 (10.5%)	1.7
Difficulty to pay school fees*	73 (26.2%)	37 (15.5%)	1.9
Missed social functions* **	65 (23.8%)	21 (8.8%)	3.1

Key Issues of Life and Living [KILL]

	User (N)	Non user (N)	Odds ratio (95% CI)
Verbal fights amongst family members* **	69 (24.7%)	12 (5.0%)	6.2
Physical fights among family members* **	47 (16.8%)	6 (2.5%)	7.8
Altercation with neighbours* **	28 (10.0%)	4 (1.7%)	6.5
Altercation with creditors* **	27 (9.7%)	3 (1.3%)	8.4
Complaints from neighbours* **	30 (10.8%)	2 (0.8%)	14.2

Take home message

- Harms from alcohol use
  - accrue to the families
  - It affects and KILLs
- Alcohol use families
  - Distress
  - Desperation
- Measurement at HH level
  - Possible by the female responsible respondent of the HH
  - Feasible
  - Sensitive to the HH needs and demands
- What is needed
  - Strengthen formal HH level interventions
- **(Paradigm) Shift in measurement for Public Health**

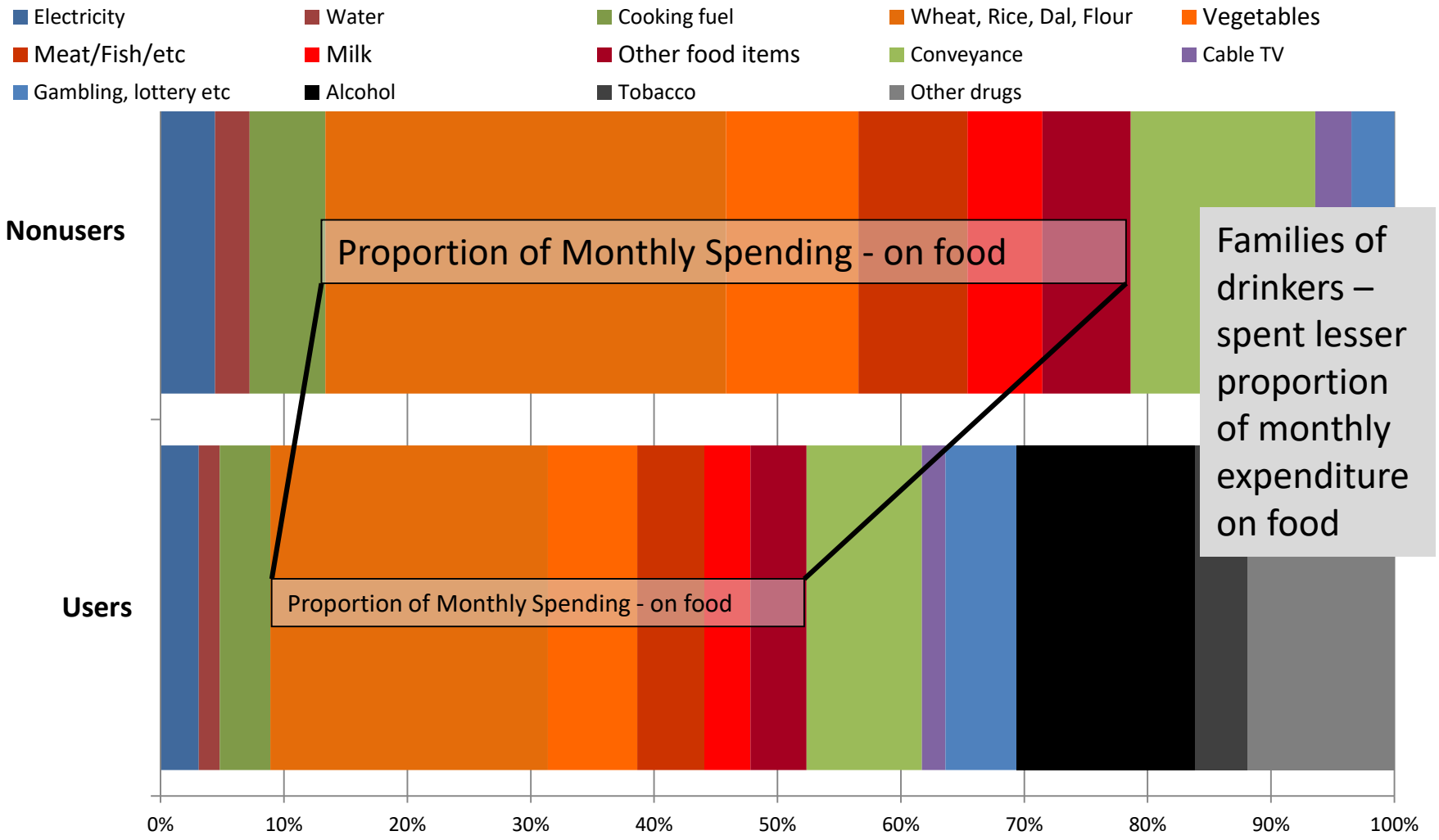
Bonu S, Rani M, Peters DH, Jha P, Nguyen SN. Does use of tobacco or alcohol contribute to impoverishment from hospitalization costs in India? Health Policy Plan. 2005 Jan;20(1):41-9.

Potential risk of impoverishment from borrowing and distress selling of assets for meeting costs of hospitalization in India amongst tobacco and alcohol user. A representative survey of 120,942 households across India used to investigate the likelihood and the levels of borrowing and distress selling of assets to cover hospitalization expenditures among regular users of tobacco and/or alcohol

After controlling for socio-economic and demographic factors higher risk for

- Tobacco users - OR 1.35, $p<0.05$
- Tobacco non-users but belong to tobacco user HH - OR 1.38, $p<0.05$
- Non-users but both tobacco and alcohol user HH - OR 1.51, $p<0.05$
- The adjusted population-attributable risk proportion - 16%

Impact on Monthly Expenditure



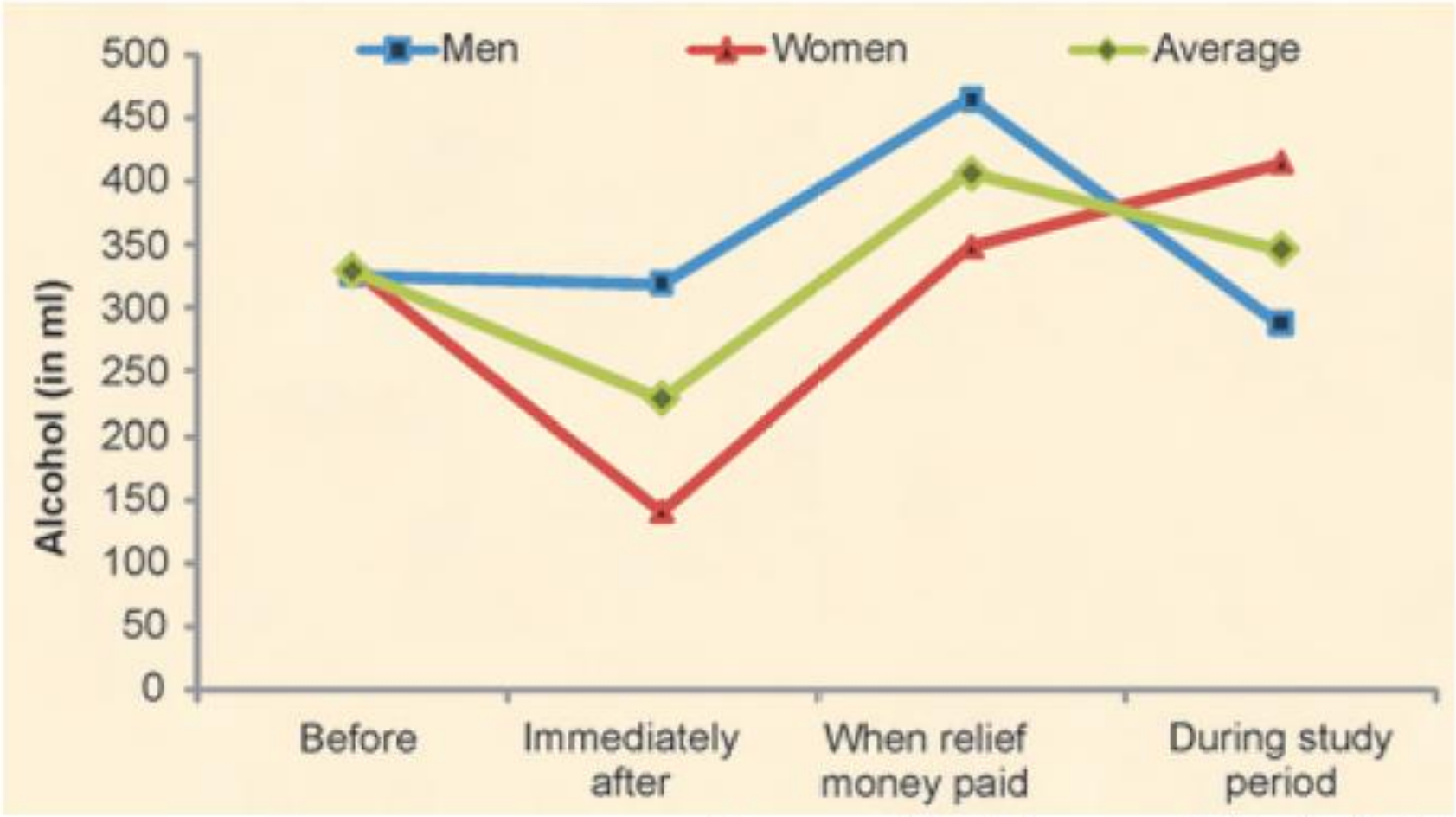
WHO Study on Impact of Alcohol in Urban Settings, 2010

Alcohol and help seeking,

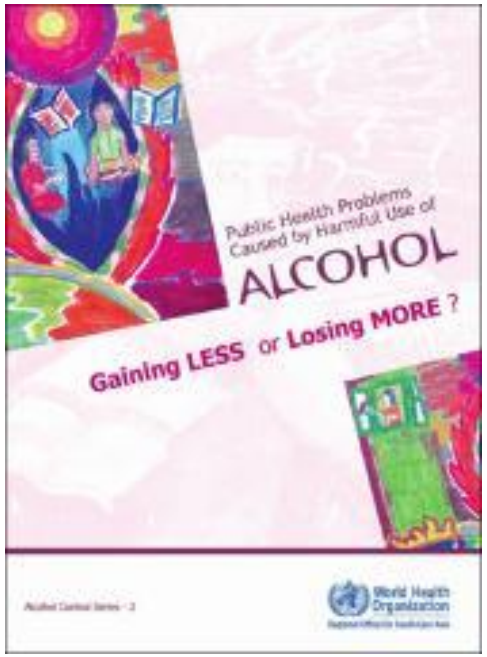
Bangalore Study, 2004 (n=1,658 households)

Question	Users
Felt the need for reducing or stopping	52.6
Doctor has advised on reducing drinking	16.3

Figure: 15: Alcohol consumption and tsunami

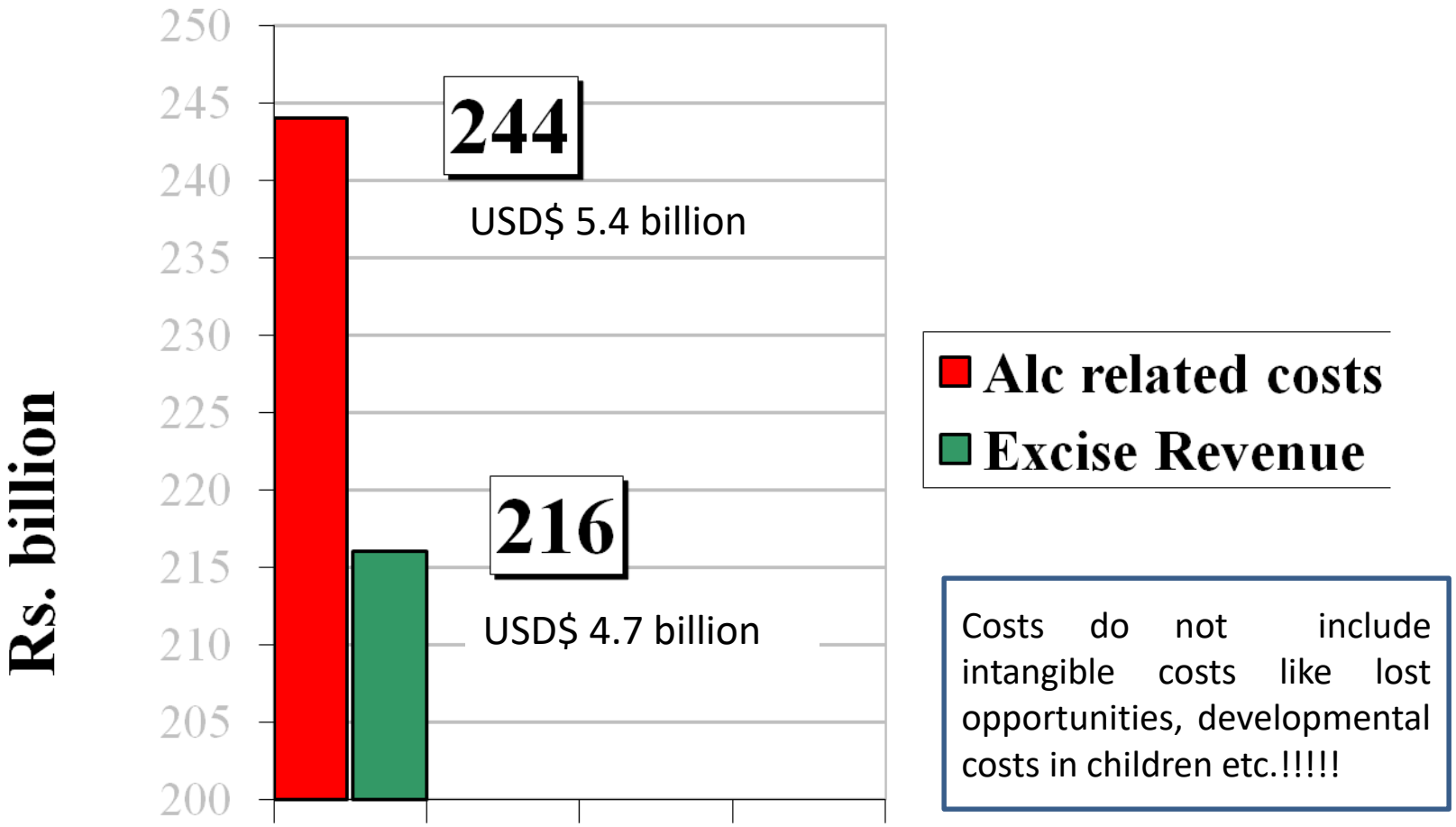


Source: Manickam and Basil, 2006



Alcohol related profits & losses in 2003-04

Projected national estimate

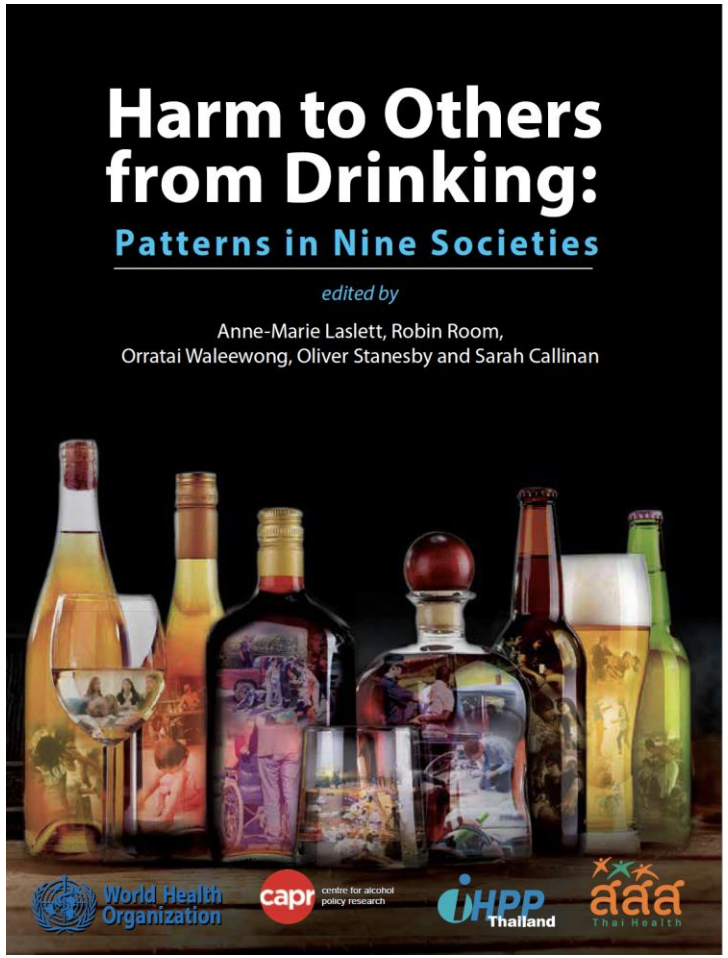


Costs do not include intangible costs like lost opportunities, developmental costs in children etc.!!!!!

- Gururaj, Girish & Benegal (2006) Burden & Socioeconomic Impact of Alcohol; WHO-SEARO

HARM PERCEPTION AND CURRICULA

Category	Total
Percent who think smoking is definitely harmful to their health	82.0
Percent who think that chewing / applying is definitely harmful to their health	80.6
Never smokers who definitely think smoke from others is harmful to them (%)	79.8
Taught dangers of smoking (%)	68.0
Discussed tobacco and health as part of a lesson in class (%)	50.9
Taught the effects of tobacco use in class (%)	42.7
Discussed reasons why people their age smoke or chew (%)	31.6



The “Hidden Story” about Change in Alcohol use in india over the Past Two Decades: insights from a Secondary Analysis of Data from the National Family Health Survey

- **Results**: There was a significant decline (P < 0.001) of around 8% and 45% for the current use of alcohol among men and women from NFHS-3 to NFHS-4. There was a decline in the proportion of men reporting alcohol use across all but one state in NFHS-5 compared to NFHS-3. The decline was statistically significant (P < 0.001) for all but one state. There was a decline in the proportion of women reporting alcohol use in 12 states and an increase in three states. Also, there was a significant(P < 0.001) decline in the proportion of men reporting al as an increase in cally significant i ons were more than
- **Conclusio** r the past two decade elp better plan the fut

However, it is difficult to attribute this decrease to one or more programs or interventions, as the impact of the same has not been studied systematically in the country.

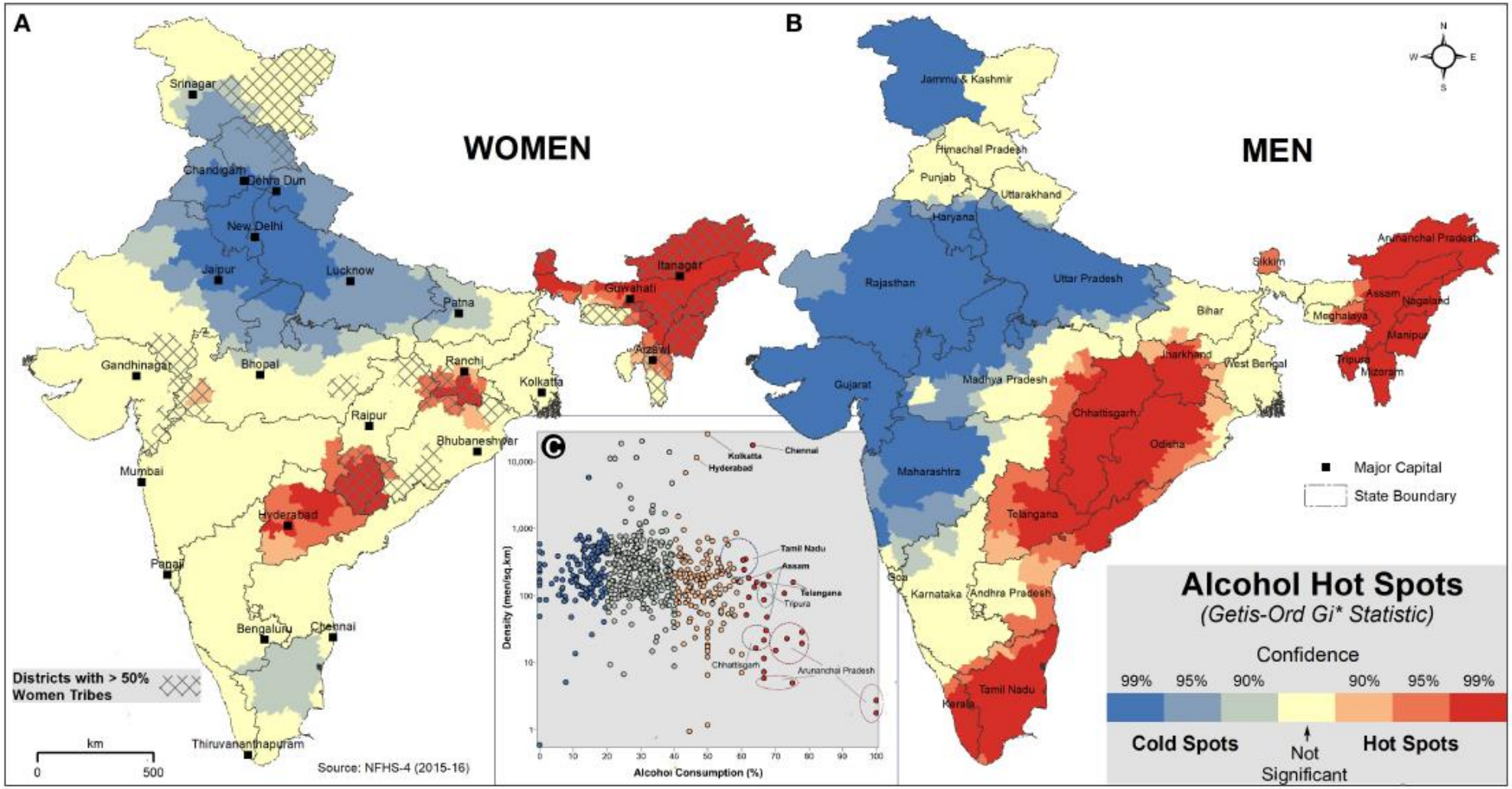


FIGURE 2 | Hot spot analysis of alcohol consumption in India, NFHS-4. The hot (red) and cold (blue) spots of alcohol consumption with three confidence levels (99, 95, and 90%) are shown for women **(A)** and men **(B)**. The light yellow color shows the spatially not-significant districts of alcohol consumption. The overlaid hatches **(A)** indicate that more than 50% of women are ST in that district. Scatter plot **(C)** shows the relationship between alcohol consumption and density. The dots represent district values of alcohol consumption of men (%) and men density per sq.km.

What works

- Control over the distribution and sale of alcoholic beverages
  - limits on the hours and days of sale of alcoholic beverages;
  - limits on the number and placement of places of sale
  - a minimum purchasing age for alcoholic beverages
  - more restricted availability of high- and medium-strength beverages than of low-alcohol beverages
  - training on-premise servers not to serve the already intoxicated, especially when this is backed up by enforcement
  - rationing of the amount an individual can purchase per month.
- Taxation of alcoholic beverages
- Counter measures for drinking and driving
- Brief interventions by health workers or counselors
- Reducing harm from drinking without necessarily affecting drinking behavioral/habit

What does not work

- Alcohol education
- Alcohol public information campaigns
- Alcohol -free activities and events

We know what works but it is important to know how to make it work

Areas of concern

PROHIBITION

- Needs to be universal; has mixed effects; explore partial prohibition

REDUCUING HARM FROM ALCOHOL USE

- High risk users; Abstainers; Occupational settings; Do not drink and drive; Brief intervention

Drug Alcohol Rev. 2020 Oct 7 : 10.1111/dar.13158.
doi: 10.1111/dar.13158 [Epub ahead of print]
PMCID: PMC7675640
PMID: 33029818

Wiley Public Health Emergency Collection

Alcohol controls in the aftermath of the COVID-19 pandemic in India: Commentary on Stockwell *et al.* 2020

Jayant Mahadevan, Lekhansh Shukla, and Vivek Benegal[1]

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Abstract

Go to:

The COVID-19 pandemic and subsequent restrictions have resulted in additional challenges for persons with alcohol use disorders as well as for the effective operation of alcohol controls in different societies.

… recent experience from India, … rapidly shifted between total countrywide prohibition of alcohol and unrestricted sales during this brief period, … we advocate sustained, incremental pressure to develop and enforce alcohol control measures in public health delivery systems, in addition to demand reduction measures.

Wig's five questions

- Can we isolate drinking behaviour from other personal behaviours?
- Can we put a control on drinking behaviour without controlling other aspects of human behaviour?
- Should drinking of alcohol be left only to the discretion of the individual as a private matter or should society set the norm?
- How much alcohol is good for the individual?
- Should this be governed by rules made by science or by rules made by religion?