

IDENTIFYING POTENTIAL MODES OF TRANSMISSION OF HEPATITIS-C IN PEOPLE WHO INJECT DRUGS VERSUS THE GENERAL POPULATION IN PUNJAB, INDIA

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INTRODUCTION

- Punjab has higher Anti-HCV antibody prevalence than the rest of India (0.32%) with estimates ranging from 0.54% to 3.6%, along with a high presence of people who inject drugs (PWID)
- In addition to understanding the primary drivers of HCV transmission in the general population, understanding risk factors in PWID is important to inform policy to expand access to prevention, diagnosis, and treatment of the disease.

METHOD

- Inclusion criteria:** Patients referred for anti-HCV antibody screening by their clinician across 10 HCV treatment facilities in Punjab
- Recruitment:** 2,358 patients (with sex and age enrolment targets) were recruited across 10 facilities in Punjab
- Study Tool Deployed:** A 96-point quantitative interview assessing exposure to HCV risk factors was administered
- Analysis:** Risk ratios were calculated to assess risk factors for HCV. Chi-square tests accounting for data clustering by health facility were conducted to compare frequencies of risk factors between PWID and the general population.

RESULTS

Respondent Profile

- DEMOGRAPHIC**
- 57.7% Male, 42.2% Female; Age ranged from 18 years old to 90 years old (median: 40 years)
 - 77.2% of male and 97.2% of female respondents were/had been married; 51.2% of males, and only 25.7% of females were educated up to secondary level or higher; 94.4% were born in Punjab.
 - The most common professions reported among males were farmer (36.74%), labourer (20.5%), and in service (11.0%) while most females were not employed (87.7%).
- ANTI-HCV POSITIVITY**
- Of total study participants, 74.8% tested Anti-HCV positive (1,067 males, 696 females)
 - Injecting drugs was the **strongest risk factor** for testing positive. **13.7% (318 men and 7 women) reported injecting drugs; 97.2% of those reporting injecting drugs were ≤ 50 years of age**
 - The risk of anti-HCV positivity was 12% - 32% higher among persons reporting past or current use of: smoking, smokeless tobacco, alcohol, opium (*afeem, bhuki*), and/or marijuana (*bhang, charas, and ganja*); these patients were also significantly more likely to inject drugs, which may explain this observation.
- DRUG USE**
- 60.3% reported injecting drugs daily, 17.5% injected weekly to monthly and 22.1% injected rarely/in the past
- BEHAVIOUR (N=325)**
- 60.6% of those who injected drugs reported they shared needles, 15.6% reported sharing containers

Risk Factors for HCV

TOP 5 STRONGEST RISK FACTORS IN FULL STUDY POPULATION*			
RISK FACTOR	N	% (N) Anti- HCV +ve	Univariate RR (95% CI)
Injecting drugs, even only once	325	95.3% (310)	1.37 (1.24-1.51)
History of Incarceration	153	88.8% (136)	1.22 (1.12-1.33)
History of acupuncture	115	79.1% (91)	1.20 (1.09-1.33)
Household member with a history of incarceration	201	88.0% (177)	1.17 (1.08-1.26)
History of tattoo	430	85.1 % (366)	1.16 (1.09-1.24)

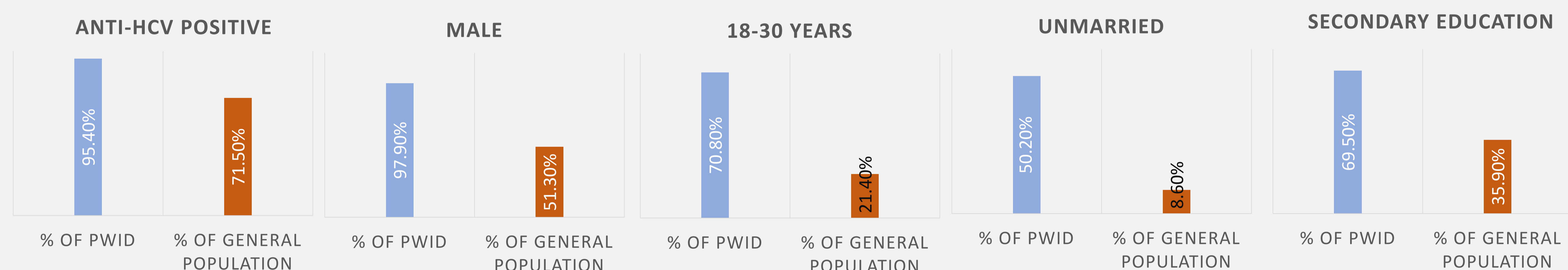
*chi-square p-values for all <0.001

**chi-square p-values for all <0.001 except for females giving birth where p-value = 0.003

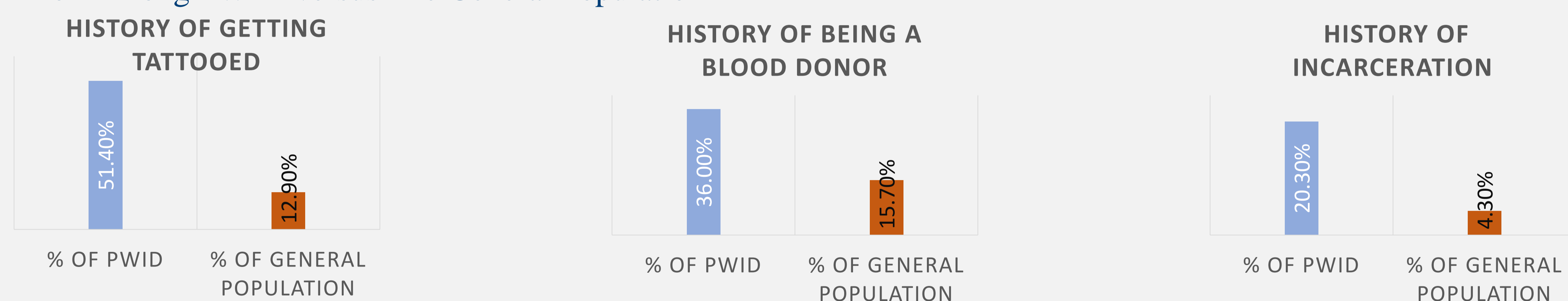
STRONGEST RISK FACTOR BY SEX AND AGE GROUP**			
RISK FACTOR	N	% (N) Anti-HCV +ve	Univariate RR (95% CI)
Males			
Injecting drugs, even once	325	95.3% (310)	1.37 (1.24-1.51)
Females			
Given birth	928	71.6% (665)	1.47 (1.14-1.91)
≤50 years			
Injecting drugs, even once	316	96.2% (304)	1.33 (1.21-1.47)
≥50 years			
History of acupuncture	42	85.7% (36)	1.40 (1.19-1.64)

General Population vs PWID

Demographic Comparison*



Risk Factors More Common Among PWID Versus The General Population***



*chi-square p-values for all <0.001; ***chi-square p-values for all <0.05; Limitation: Confounding could not be accounted for due to limited data

CONCLUSION and RECOMMENDATIONS

Despite ongoing harm reduction programs, PWID continue to be at the highest risk of HCV infection, with other top risk factors for them being a history of tattoos, of being a blood donor and incarceration. It is suggested that the current harm reduction program coverage of high-risk groups in the country is limited and needs to be estimated and intensified. Recommendations include strengthening harm reduction programs through a comprehensive blueprint and dedicated workforce with efforts directed towards complete coverage of the focus population.