

## Factors behind High Prevalence of Injecting Drug Use in Karbi Anglong District, Assam: A Mixed Method Approach

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### Abstract:

**Background:** Injecting drug use is a global public health issue and about 15.6 million people inject drugs. Both increasing numbers of people who inject drugs (PWIDs) and increasing trend of HIV positivity amongst them is a great concern.

**Objectives:** To determine the factors behind high prevalence of injecting drug use practices in Karbi Anglong district, Assam and to understand the pattern of drug uses and their risk behaviour.

**Methodology:** This cross-sectional study was conducted amongst PWIDs, availing preventive services at a NGO, Kheroni, Karbi Anglong, using mixed method approach. Total 220 PWIDs were selected using simple random sampling method. Quantitative data were collected using predesigned and pretested schedule. For qualitative assessment, two focus group discussion and five in-depth interviews were conducted. Analysis was done by using SPSS-20.

**Results:** Having adequate knowledge on HIV/AIDS, PWIDs still shared needle. Peer pressure, stress/tension, pleasure, unemployment, influence by family member and easy drugs availability were the underlying factors for high prevalence of injecting drug use in this region. Most commonly used injecting drug was brown sugar followed by Spasmoproxyvon and other drugs. Drug peddlers were the main driving force for attracting new users. Self-reported HIV positivity was 4.5%, which was much higher as compared to previous surveillance studies.

**Conclusion:** Context specific programme strategies may be adopted to control HIV/AIDS spread. Young generation may be covered through sensitization programme to mitigate hazardous methods of injecting drug use.

**Keywords:** Assam, Brown Sugar, HIV/AIDS, Injecting Drug Use, PWID.

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### Introduction

Injecting drug use is a serious public health issue and also an addictive method of drug abuse. People who inject drugs (PWIDs) are 22 times more vulnerable to acquire HIV/AIDS than compared to rest of the population [1]. An estimated 11.8 million people globally inject drugs and 13.1% of them are living with HIV/AIDS [2]. Approximately, 10% of new HIV infections are attributable to injecting drug use [3]. Developing nations are predominantly vulnerable to drug addiction and its health hazards [4].

The Northeast region is located geographically remotely from the rest of India and comprised of

linguistically and culturally distinct tribal communities [5]. Injection drug use has been influenced by variety of social and geo-political factors including under-development, civil unrest and conservative social mores [6,7]. PWIDs were initially recognized in the Northeastern regions of Manipur and Nagaland, which is likely because of their proximity to the 'Golden Triangle' i.e., Burma, Cambodia, and Thailand [8]. Karbi Anglong is the bordering district of Assam, adjacent to three high prevalent states of Nagaland, Manipur and Meghalaya. Two major national highways connect

Karbi Anglong to these three states upto the international border with Myanmar. Hence, there are all probable reasons for ease of access and availability to injecting drugs in this region.

Various new initiatives have been taken up by The National AIDS Control Programme (NACP) since 1992. However, the increasing numbers of PWID is a matter of concern. In countries, where injecting drug use practice is a growing phenomenon, transmission of HIV is likely to affect young people who newly initiate drugs [9,10]. Considering these facts, the current study was conducted to determine the factors behind high prevalence of injecting drug use in Karbi Anglong district, Assam.

### Materials and Methods

This cross-sectional study was conducted amongst PWIDs, availing preventive services at a NGO, Kheroni, Karbi Anglong, Assam from 1<sup>st</sup> July, 2022 to 31<sup>st</sup> December, 2022, using mixed method approach. People Who Inject Drug is defined as men and women who use addictive substances or drugs for recreational or non-medical reasons, through injections, at least once in the last three months<sup>11</sup>. Altogether 220 numbers of PWIDs were randomly selected (calculated using default prevalence 50%, at 95% of CI). *Inclusion Criteria:* Any person aged  $\geq$  18 years who met the criteria of PWIDs and those who have given informed consent. *Exclusion Criteria:* any PWIDs aged  $<$  18 years and who did not give consent for participation. The required samples

were obtained using simple random sampling method, using predesigned and pretested schedule, from those PWIDs availing preventive services from the NGO. Qualitative assessment includes two focus group discussions with PWIDs and five in-depth interviews of peer educator and other stakeholder from that NGO. The FGDs were conducted in local language and audio recording of the discussions were taken along with field notes. The recordings, along with the field notes, were transcribed within a few hours and later on translated into English.

**Statistical Methods:** SPSS.20 was used for data analysis which includes ANOVA and other inferential statistics.

**Ethical Consideration and Consent:** Before conducting the study, ethical approval was taken from the Institutional Ethics Committee, Diphu Medical College & Hospital, Karbi Anglong, Assam. Written informed consent was obtained from study participants. Confidentiality was strictly maintained.

### Results

Quantitative data showed that, majority of respondents (52.7%) were in the age group of 18 - 25 years. Overall mean age of study participants were 25.8 years. Only 26.8% of PWIDs were currently married. Most of the respondents (47.7%) have studied upto 6<sup>th</sup> to 10<sup>th</sup> standard and only 0.9% were illiterate. 38.2% of PWIDs belong to class III socio-economic status.

**Table 1: Awareness and Practices of PWIDs.**

| Awareness and Practices                                 | No of Respondents (N = 220) | Percentage (%) |
|---|-----------------------------|----------------|
| <b>Condom use to reduce HIV/AIDS</b>                    |                             |                |
| Yes   | 184                         | 83.6%          |
| No  | 23                          | 10.5%          |
| Don't know  | 13                          | 5.9%           |
| <b>HIV/AIDS in healthy looking person</b>               |                             |                |
| Yes   | 176                         | 80.0%          |
| No  | 29                          | 13.2%          |
| Don't know  | 15                          | 6.8%           |
| <b>HIV infection by sharing needle</b>                  |                             |                |
| Yes   | 188                         | 85.5%          |
| No  | 18                          | 8.2%           |
| Don't know  | 14                          | 6.3%           |
| <b>Age of initiation (in completed years)</b>           |                             |                |
| 15 – 19 years   | 39                          | 17.7%          |
| 20 – 24 years   | 110                         | 50.0%          |
| 25 years & above  | 71                          | 32.3%          |
| <b>Needle sharing practices by PWIDs</b>                |                             |                |
| Yes   | 68                          | 30.9%          |
| No  | 143                         | 65.0%          |
| Don't remember  | 09                          | 4.1%           |
| <b>Injecting drug use with female partner</b>           |                             |                |
| Yes   | 14                          | 6.4%           |
| No  | 206                         | 93.6%          |
| <b>Number of new PWIDs met in last 3 months (N =92)</b> |                             |                |

|                       |    |       |
|-----------------------|----|-------|
| 1 – 2 new PWIDs       | 72 | 78.3% |
| 3 – 4 new PWIDs       | 13 | 14.1% |
| More than 5 new PWIDs | 07 | 7.6%  |

Table 1 depicts awareness level on HIV/AIDS and their practices. Majority of study participants were aware that condom use decreases the risk of HIV/AIDS transmission and healthy-looking person may suffer from HIV/AIDS. More than 85% of the participants were aware that sharing needle

increases the risk of HIV/AIDS transmission, still 30.9% shared needle. 6.4% injecting drug users had experience of using injecting drugs with female partners. 92 study participants stated that, they met new injecting drug users in last 3 months.

**Table 2: Association between who heard about HIV/AIDS along with Education and Age.**

| Awareness about HIV/AIDS |  | Have ever heard about HIV/AIDS |                    | Total (%)<br>(N = 220) |
|--------------------------|--|--------------------------------|--------------------|------------------------|
|                          |  | Yes (%)<br>(N = 211)           | No (%)<br>(N = 09) |                        |
| Age Group                | 18 – 25 years                                | 110 (94.8%)                    | 06 (5.2%)          | 116 (100%)             |
|                          | 26 – 35 years                                | 96 (98.0%)                     | 02 (2.0%)          | 98 (100%)              |
|                          | 36 – 45 years                                | 02 (100%)                      | -                  | 02 (100%)              |
|                          | 46 – 55 years                                | 03 (75.0%)                     | 01 (25.0%)         | 04 (100%)              |
| Education                | Illiterate                                   | -                              | 02 (100.0%)        | 02 (100%)              |
|                          | Literate & till 5 <sup>th</sup> standard     | 28 (82.4%)                     | 06 (17.6%)         | 34 (100%)              |
|                          | 6 <sup>th</sup> to 10 <sup>th</sup> standard | 104 (99.0%)                    | 01 (1.0%)          | 105 (100%)             |
|                          | 11 <sup>th</sup> to graduation               | 79 (100.0%)                    | -                  | 79 (100%)              |
|                          | Post-graduation and above                    | -                              | -                  | -                      |
| ANOVA                    | <b>Factors</b>                               | <b>Df</b>                      | <b>F</b>           | <b>P</b>               |
|                          | Educational Qualification                    | 3                              | 32.775             | 0.000*                 |
|                          | Age group                                    | 3                              | 1.997              | 0.115                  |

Note: \* = significant at 95% confidence level

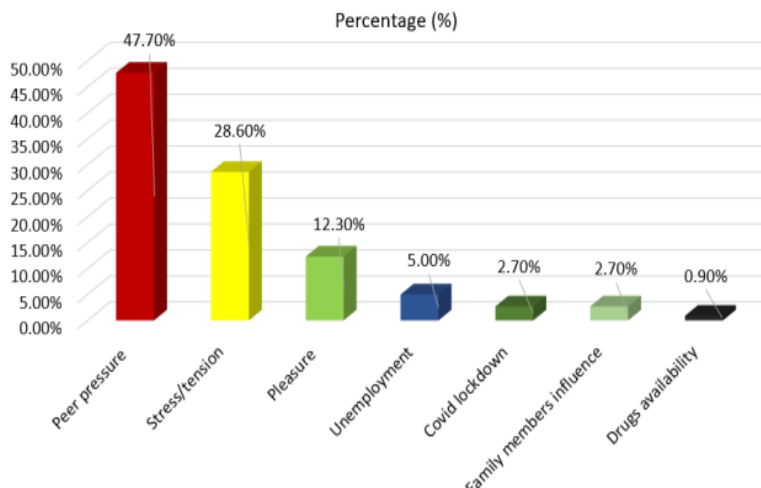
In table 2, significant association found between educational qualification and who ever heard about HIV/AIDS ( $p = 0.000$ ). However, statistically no significant difference seen with age group ( $p = 0.115$ ).

**Table 3: Patterns of Drug Use by PWIDs**

| Types                         | No of Respondents drugs (N = 220) | Percentage (%) |
|-------------------------------|-----------------------------------|----------------|
| <b>Injecting Drugs</b>        |                                   |                |
| Heroin                        | 08                                | 3.6%           |
| Brown sugar                   | 181                               | 82.3%          |
| Spasmaproxyvon                | 95                                | 43.2%          |
| Amphetamine                   | 06                                | 2.7%           |
| Cocaine/Crack                 | 04                                | 1.8%           |
| Pethidine                     | 28                                | 12.7%          |
| Diazepam/Calmpose/Nitrazepam  | 03                                | 1.4%           |
| <b>Oral Substances</b>        |                                   |                |
| Alcohol                       | 02                                | 0.9%           |
| Dendrite                      | 04                                | 1.8%           |
| Cough syrup                   | 45                                | 20.5%          |
| Tobacco (smoking/non-smoking) | 70                                | 31.8%          |
| Bhang/Ganja                   | 107                               | 48.6%          |
| Oral tablets                  | 27                                | 12.3%          |
| No such habits                | 08                                | 3.6%           |

Note: Multiple responses

Table 3 indicates patterns of drug use. Common injecting drugs were brown sugar (82.3%) followed by spasmaproxyvon (43.2%) and other opiates. PWIDs were also used other oral substances when injecting drugs were unavailable. Most common oral substances were Bhang/Ganja (48.6%) followed by tobacco (31.8%), cough syrup (20.5%) and other substances.



**Fig 1: Reasons for Injecting Drug Use by PWIDs**

Reasons for injecting drug uses were because of peer pressure (47.7%) followed by stress/tension (28.6%), pleasure (12.3%), unemployment (5.0%), lockdown effect (2.7%), Family members influence s (2.7%) and easy drugs availability (0.9%) as shown in Fig 1.

**Table 4: Risk behaviour and Treatment Services availed by PWIDs**

| Risk behaviour and Treatmentavailed                 | No of Respondents (N = 220) | Percentage (%) |
|---|-----------------------------|----------------|
| <b>Exposure to Sexual Intercourse</b>               |                             |                |
| Yes   | 201                         | 91.4%          |
| No  | 19                          | 8.6%           |
| <b>Use of condom during last sexual intercourse</b> |                             |                |
| Yes   | 136                         | 67.7%          |
| No  | 60                          | 29.8%          |
| Don't remember                                      | 05                          | 2.5%           |
| <b>Sexual partner of PWID</b>                       |                             |                |
| Regular female partner                              | 152                         | 75.6%          |
| Commercial female partner                           | 25                          | 12.4%          |
| Casual partner                                      | 21                          | 10.4%          |
| Male partner  | 02                          | 1.0%           |
| Hijra/transgender partner                           | 01                          | 0.5%           |
| <b>HIV test done by PWID</b>                        |                             |                |
| Yes   | 182                         | 82.7%          |
| No  | 38                          | 17.3%          |
| <b>Status of HIV test result</b>                    |                             |                |
| Positive  | 10                          | 4.5%           |
| Negative  | 171                         | 77.7%          |
| Did not collect test result                         | 01                          | 0.5%           |
| Do not know   | 38                          | 17.3%          |
| <b>ART received by Positive PWID (N = 10)</b>       |                             |                |
| Yes   | 10                          | 100%           |

Table 4 depict that, 91.4% PWIDs had sexual exposure and 67.7% of them used condom during last sexual intercourse. Most of the PWIDs were found to have high-risk sexual exposures. Majority of them tested for HIV/AIDS (82.7%) and self-reported HIV positivity was 4.5%.

The purpose of analysing qualitative data was to supplement the findings from the above-mentioned quantitative data to enhance understanding about the possible reasons for high prevalence of PWIDs.

Analysis of these qualitative data provided clues to explain some of the findings of quantitative data. Most of the drug users used to take oral substitute therapy (OST) when injecting drugs were not available. Needle sharing practices were still common amongst PWIDs, as quoted below:

**PWID/29 y/Karbi Anglong:**

“It is difficult to manage syringes and it is not available in all the places i.e. in hotspot...wash the

needle only for reusing can't afford to buy full dose. That's why share same injections by multiple persons to use the remaining drugs in the syringe".

Female injecting drug user were also available and the number varies from area to area. Some PWIDs had experience of using injecting drugs with female partners. However, high-risk sexual exposure is very less as per in depth interview and FGD which is contrary to quantitative findings. Probably long-term use of injecting drug decreases sexual attraction, as some of the PWID commented as shown below.

#### **PWID/34 y and 37 y/Karbi Anglong:**

"they did not notice any high-risk sexual behaviour after taking drugs it decreases level of sexual interest" "some of the users used to visit commercial sex workers".

Most common reasons for drug use were peer pressure, stress in the family, unemployment, wanted to escape from reality and for enjoyment purposes. Drugs were supplied by drug peddler who act as a middle man. To get monetary benefit, drug peddler used to attract new users. Sometimes, PWIDs cannot afford full dose of drugs and they have to share drugs to save money. For sharing, they need partners for which they motivate new users. In this perspective, the statements given below:

#### **PWID/(26 y; 32y and 48 y )/Karbi Anglong:**

"New users were increasing because of peer pressure drug use require capital to spent drug peddler's (chance taker) policy to attract new users" "for getting new users, drug peddlers motivate and brainstorm new users" "initially they supply drugs free of cost after getting addicted (new users), it's easy for them to sell the drugs"

#### **Discussion**

It has been noticed that, majority of the PWIDs were aware about HIV/AIDs and sharing needles increases the risk of HIV transmission, still shared needle. Statistically, significant association found between PWIDs education and awareness level of HIV/AIDs. National Integrated Biological and Behavioural Surveillance (IBBS) 2014-15 stated that, 96% of PWIDs were aware of HIV/AIDs [12]. Similarly, good knowledge of PWIDs on HIV/AIDs stated in various studies [13,14]. In this study, it has been found that more than 30% of PWIDs still shared needles even being aware. Similarly, Nguyen TMT et al in their study stated that, sharing needles cause HIV/AIDs transmission [15]. The current study showed that, half of the study participants were initiated injecting drugs between age group of 20 – 24 years and their mean age was 18.03 years. Karmode M et al also stated initiation of injecting drug use around 20 years [16]. In contrary to our finding, a study conducted in north-eastern region

which stated that, an average age of first initiation of drugs was 22 years [17].

PWIDs from both Manipur and Nagaland inject heroin and other injecting opiates since last four decades [18,19]. In this study, more than 80% of PWIDs were injecting brown sugar. Brown sugar is a type of low-grade heroin which colour turns to be brown and low cost compared to heroin. Majority of PWIDs belong to lower socio-economic status and so, option of injecting drug use was brown sugar in this geographical location. A study cited that, spasmoproxyvon (SP) a synthetic opioid, which was common preference for PWIDs in the Nagaland state [20]. In this present study, SP was second injecting drug option available for PWIDs after brown sugar.

This study aimed to find out the factors behind high prevalence of injecting drug use. Both the quantitative and qualitative findings of this study showed peer pressure attract new users followed by stress or tension, pleasure and unemployment. Few users started using drugs because of covid lockdown, which may be because of social isolation or loss employment/earnings. A few users stated that, they were influenced by their family members who were using drugs regularly. Peer at first initiate alcohol among new users and gradually convert alcohol consumption into injecting drugs. Initially, they provide drugs free of cost to the new users. The common sources of getting injecting drugs were from peers and drug peddlers. Similarly, Roy E et al and Frajzyngier V et al showed that peers influence new users for injecting drugs [21,22]. Other studies cited various factors behind injecting drug use such unemployment [23], pleasure seeking [24] and economic issues [25].

In this study, 41.8% (n=92) of PWIDs expressed that they met new drug users in last three months. These new users were not availing any existing programme services. New drug users were more vulnerable to get infected with HIV/AIDs, because of their lack of knowledge [9,10]. In our study, self-reported HIV positivity was 4.5%. IBBS 2014-15 survey data showed, HIV positivity amongst PWID was 1.4% in Karbi Anglong district [12]. This indicates increasing trend of HIV positivity in this region.

#### **Conclusion**

Although adequate knowledge and awareness on HIV/AIDs was demonstrated, still significant numbers of PWIDs shared needle. Peer pressure, stress/tension, pleasure, unemployment, influence by family member and easy drugs availability were the underlying factors for which new users indulge themselves in drug dependence. Increasing HIV positivity is also a great concern. Context specific programme approach is utmost necessary to create awareness amongst PWIDs to control HIV/AIDs spread. Sensitization programme is also needed

targeting young generation and other stakeholders to mitigate hazardous method of injecting drug use.

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