

# Exploring challenges of treating hepatitis C virus infections among people who use drugs in Bangladesh

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## BACKGROUND

In Bangladesh, people who inject drugs (PWID) account for the vast majority of hepatitis C virus (HCV) infections. In Dhaka, the capital city, HCV prevalence among PWID is approximately 40%.

Treatment of HCV infection is challenging, especially in lower-middle income countries like Bangladesh. People who use drugs (PWUD) lack social or family support and lead chaotic lifestyle.

### Objectives:

To undertake a feasibility study to assess adherence to treatment with directly acting antivirals (DAA) in PWUD associated outcomes. More specifically, we measured:

- Sustained viral response (SVR)
- Adherence to treatment
- Underlying factors associated with good adherence and non-adherence to treatment
- Behavioral risk factors associated with new infections in HCV negative PWUD

## METHODS

### Participants:

- Receiving harm reduction services at a drop-in center in old Dhaka, Bangladesh
- HCV RNA positive adult PWUD
- HIV negative and Non-cirrhotic

### Laboratory testing:

- HIV (OraQuick)
- Anti-HCV antibody (ELISA)
- HCV RNA (PCR) and Genotyping (Sanger)
- Cirrhosis (CBC, ALT/AST)
- Kidney function test (eGFR)

### Treatment:

- Directly observed therapy (DOT) or with carries depending on their housing status
- Sofosbuvir and Daclatasvir for 12 weeks

Prior to starting treatment, risk behaviors were ascertained using a semi-structured questionnaire and clinical examination was conducted.

In-depth interviews were conducted subsequently during treatment to identify the reasons for good- or non-adherence to enable immediate modifications, if required, for treatment strategy. Regular follow up of those on treatment are being conducted by outreach workers to monitor treatment adherence.

## RESULTS

**Recruitment started:** March 27, 2017  
**PWUD screened at DIC = 224**

### Exclusions:

- HIV positive 23 (10.3%)
- Absconded 1
- Cirrhosis-15 (6.7%)
- Glomerular disease- 1
- Lost to follow up- 1

### Blood collected: 200

- anti-HCV-Ab: 76 (38%)
- HCV RNA: 68 (34%)
  - Subtype 3 – 98.5%
  - Subtype 1a- 1.5%

### DAA given: 55 PWUD

**DAA completed : 39 (78%)**

**Ongoing: 12 (22%)**

**Adhered: 36 among 39 completed (92.3%)**

**SVR and reinfection analysis: Ongoing**

### Behavioral surveillance survey (BSS)

BSS conducted: 183

Age (mean): 39.1 years

Sex: 97.8% male

Two main risk factors for HCV infection identified as (i) PWUD who were more than 40 years old and (ii) were injecting drugs for more than 15 years.

**In-depth interviews** revealed that good adherence is associated with strong family ties, involvement with OST and influence by peers.



PWUD approached in DIC (NSP/OST)

15% refusal



PWUD screened

Unknown HCV +ve HCV -ve

## Study steps

55 received treatment

First blood tests

HIV OraQuick

BSS

HIV -ve

HCV RNA +ve

Cirrhosis -ve

Treatment

Follow up

1. Adherence

2. Dropout

Second blood tests/BSS

Viral clearance (SVR)

New HCV Infection

HCV RNA -ve

Week 0

Week 12

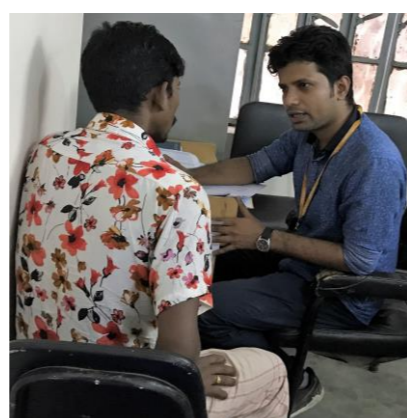
Week 24



Testing HIV using Oraquick kit



Sample Collection



Risk Behavior Assessment



PWUD shooting up on the street of old Dhaka



DAA



Drop in Center

## CONCLUSIONS

The findings of this pilot study identify several facilitators and barriers to adherence with DAAs. Close follow up, counseling by family members, raising awareness amongst PWUD regarding HCV and in the surrounding community facilitated adherence.

Most of the PWUD lead chaotic lifestyles often associated and characterized by mental and physical health problems, unemployment, financial difficulties, criminal activity, unstable housing, and lack of social relationships. These factors contributed to low adherence with the DAAs and therefore, intense follow up was needed to ensure adherence. The findings of the pilot study will help development of strategies for effectively treating PWUD for HCV with DAAs.

## REFERENCES

National AIDS/STD Programme, Ministry of Health and Family Welfare, Govt. of Bangladesh. 2011. National HIV Serological Surveillance, 2011, Bangladesh, 9<sup>th</sup> Round Technical Report. Dhaka, Bangladesh.

## CONFLICTS OF INTEREST

Authors have no financial and other conflicts of interest to declare.

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## Acknowledgment:

This research protocol was funded by World Health Organization (WHO) Grant No. GR-01508; Donor Ref; SEBAN1611922-11. icddr,b acknowledges with gratitude the commitment of WHO to its research efforts. icddr,b is also grateful to the Governments of Bangladesh, Canada, Sweden and the UK for providing core/unrestricted support.

