

Acceptability of point of care finger-stick capillary whole blood and venepuncture hepatitis C virus testing among people who inject drugs in Australia

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Introduction

- Uptake of Hepatitis C virus (HCV) testing remains inadequate globally.
- Although people who inject drugs (PWID) are likely to be tested for HCV antibodies, the majority do not receive HCV RNA confirmatory testing.
- Barriers to accessing testing services among PWID include difficulty of venous access for blood collection.
- The use of finger-stick capillary whole blood collection for a point of care HCV RNA test may enhance testing and linkage to care among PWID.
- Little is known about the acceptability of point of care finger-stick capillary whole blood HCV testing method.

Aims

- To determine the acceptability of finger-stick capillary whole blood and venepuncture HCV testing methods, and factors associated with the preference for finger-stick capillary whole blood HCV testing among PWID.

Methods

Study design and participants

- The LiveRLife Study is an open, observational cohort study. Participants were enrolled at six sites in Australia between June and December 2016.
- Inclusion criteria were age of 18 years or older, written informed consent and a history of injecting drug use. Current pregnancy was the only exclusion criterion.
- Capillary whole blood collected by finger-stick and plasma collected by venepuncture were for point of care Xpert[®] HCV viral load testing. Participants completed a questionnaire on acceptability and preference of blood collection methods for HCV testing.

Statistical analyses

- Baseline characteristics of participants enrolled in the study and have completed HCV testing acceptability questionnaire were tabulated.
- Proportions of participants selecting one of the five-points along the Likert scale for acceptability were calculated. Proportions of participants preferring finger-stick or venepuncture with test results in 2 weeks, 120 minutes or 60 minutes respectively, were calculated.
- An unadjusted logistic regression model with odds ratios and 95% confidence intervals were generated to assess factors associated with preference for finger-stick testing over venepuncture with significance defined at P<0.05.



Figure 1. Point of care finger-stick capillary whole-blood collection for Xpert[®] HCV viral load testing

Results

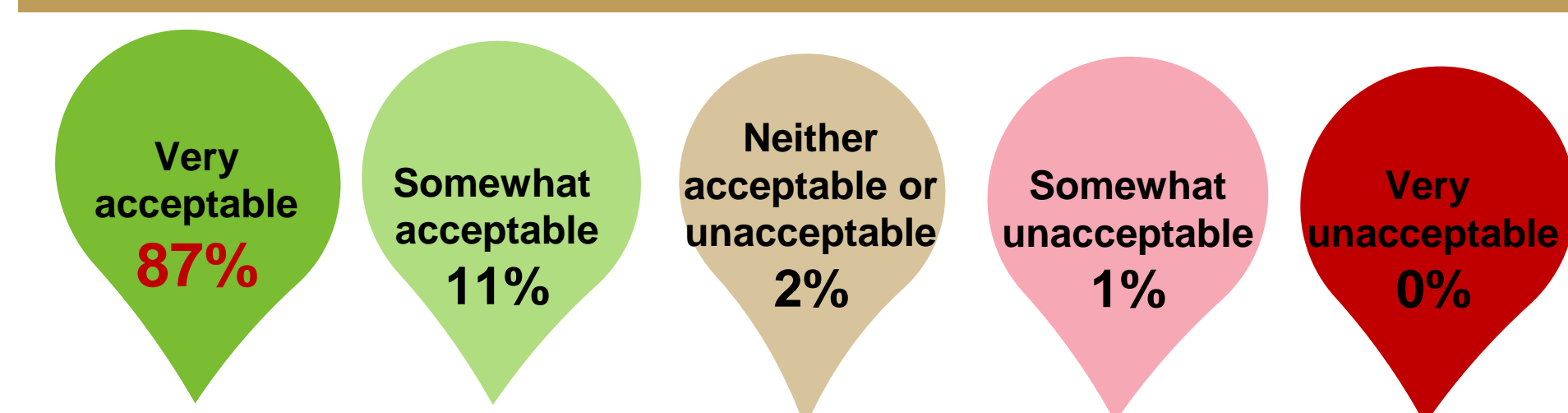


Figure 2. Acceptability of finger-stick testing among participants

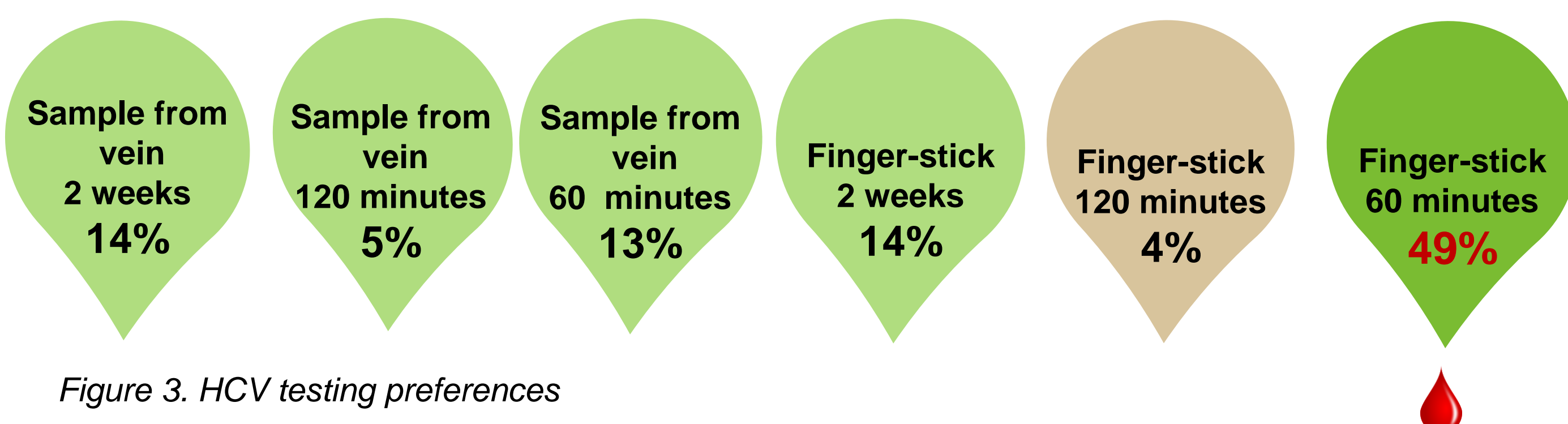


Figure 3. HCV testing preferences

Results continued

Table 1. Baseline characteristics of participants enrolled in LiveRLife study and completing acceptability questionnaire

| Characteristic | Overall (n=207), n (%) |
|---|------------------------|
| Age, mean (SD) | 44 (10) |
| Male | 162 (78%) |
| Aboriginal/Torres Strait Islander ethnicity | 31 (15%) |
| High school or higher education | 70 (34%) |
| Housing | |
| Unstable | 84 (41%) |
| Stable | 123 (60%) |
| Incarceration | |
| Ever (not in past 12 months) | 88 (43%) |
| Last 12 months | 34 (16%) |
| Never | 85 (41%) |
| Injected drugs in past one month | 149 (72%) |
| Frequency of injection in past one month¹ | |
| Daily or more | 50 (30%) |
| <Daily | 99 (60%) |
| None in the past month | 17 (10%) |
| Last drug injected² | |
| Methamphetamines | 72 (48%) |
| Heroin | 38 (26%) |
| Cocaine | 2 (1%) |
| Buprenorphine/Buprenorphine-Naloxone | 7 (5%) |
| Methadone | 3 (2%) |
| Other opioids | 27 (18%) |
| Opioid substitution treatment | |
| Current treatment | 103 (50%) |
| Previous treatment, not current | 37 (18%) |
| Never | 67 (32%) |
| Self-reported HCV RNA status | |
| Positive | 114 (55%) |
| Negative | 63 (30%) |
| Unknown | 30 (14%) |

¹Among participants who injected drugs in the past 6 months (n=166)

²Among participants who injected drugs in the past one month (n=149)

- 77% preferred to receive HCV test results on the same day, with 92% indicating that they would be willing to wait up to 120 minutes to receive test results.
- 74% indicated venepuncture testing to be very acceptable, 19% as somewhat acceptable, 2% as neither acceptable nor unacceptable, 3% as somewhat unacceptable, and 1% as not at all acceptable.
- Overall, 67% of participants preferred finger-stick testing over venepuncture (33%).
- Most common reason for preferring finger-stick testing over venepuncture was because it was quick (61%), followed by venous access difficulty (20%). Most common reason for preferring venepuncture was because it was quick (62%), followed by knowing that results would be accurate (29%).
- Female participants were more likely to prefer finger-stick testing method than male participants (Table 2.)

Table 2. Unadjusted logistic regression model assessing factors associated with preference for finger-stick HCV testing among participants (n=207)

| | Finger-stick preference, n (%) | Unadjusted model OR (95% CI) | P | P overall |
|--|--------------------------------|------------------------------|-------------|-----------|
| Age | | | | |
| 18 – 45 years | 76 (64%) | 1.00 | | |
| ≥46 years | 63 (72%) | 1.43 (0.77, 2.59) | 0.24 | |
| Gender | | | | 0.01 |
| Male | 103 (64%) | 1.00 | | |
| Female | 36 (82%) | 2.54 (1.12, 5.91) | 0.02 | |
| Transgender | - | - | - | - |
| Recent injecting | | | | 0.77 |
| Not in the past 6 months | 28 (68%) | 1.00 | | |
| In the past 6 months | 2 (50%) | 0.46 (0.06, 3.67) | 0.47 | |
| In the past 1 month | 109 (67%) | 0.95 (0.46, 1.99) | 0.90 | |
| OST treatment | | | | 0.15 |
| Never | 40 (60%) | 1.00 | | |
| Yes, previously received | 26 (70%) | 1.68 (0.76, 3.74) | 0.20 | |
| Yes, currently receiving | 73 (70%) | 1.68 (0.96, 2.94) | 0.07 | |
| High school or higher education | | | | 0.53 |
| No | 90 (66%) | 1.00 | | |
| Yes | 49 (70%) | 1.09 (0.84, 1.40) | 0.53 | |
| Incarceration | | | | 0.12 |
| Never | 57 (67%) | 1.00 | | |
| Not in the past 12 month | 64 (73%) | 1.31 (0.68, 2.51) | 0.42 | |
| Yes, in the past 12 months | 18 (53%) | 0.55 (0.25, 1.24) | 0.15 | |

Conclusion

- Finger-stick capillary whole blood collection is highly acceptable to PWID.
- Finger-stick capillary whole blood collection with test results received in 60 minutes was preferred over venepuncture.
- The further evaluation of simplified point of care HCV testing as a single-visit opportunity to engage people in care is crucial for HCV treatment scale-up to achieve HCV elimination.

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