



Kirby Institute

Seroprevalence and risk factors of exposure to SARS-CoV-2 among people who use drugs in Tehran, Iran

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COI and acknowledgements

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Background

- In Iran, in Sep 2021, the death toll from COVID-19 has surpassed 116,000
- People who use drugs are vulnerable to COVID-19 due to co-morbid conditions, structural challenges, and stigma and discrimination
- However, vulnerable populations are less likely to present for testing or report symptoms
- There is limited knowledge about COVID-19 prevalence and risk factors among people who use drugs in Iran
- Further, changes in socioeconomic indicators of marginalisation, patterns of drugs use, and prevalence of BBVs during the pandemic is unknown



Methods

- Open longitudinal cohort study
- Enrolment through homelessness shelters, community-based drop-in centres, a public OAT clinic, and mobile outreach units at six sites/locations across 3 Tehran districts

**Tehran, larger metropolitan population
~14 million**

N West Patoq

Farah-zad

Shoush

S West Patoq

Kholazir

**Public OAT &
Harm
reduction
network**



Methods

- Four rounds of data collection planned; first occurred in Feb 2021 (data presented)
- All adults (≥ 18 years old) attending study sites are invited to participate
- At enrolment, participants complete a questionnaire collecting information: socioeconomic characteristics, health risk behaviours, COVID-19 and BBVs knowledge, and experiences of stigma and discrimination
- Enrolment assessment also include on-site venepuncture sampling for SARS-CoV-2 IgG antibody testing and rapid hepatitis C and HIV antibody testing



Results: Demographic characteristics

Characteristics, n (%)	All		Inner city				Outskirts			
			Public DIC/OAT		NGO harm reduction network		North West Patoq		South West Patoq	
	n=263	%	n=46	%	n=129	%	n=42	%	n=46	%
Age, median (IQR)	44		46		44		40		44	
	(37, 51)		(39, 61)		(37, 51)		(36, 47)		(38, 49)	
Male sex	206	78	46	100	78	60	39	93	43	93
Higher education	41	16	11	24	21	16	4	10	5	11
Income from scrap collection	83	32	4	9	34	27	15	36	30	65
Scrap collecting for ≤1 yr	31	37	2	50	14	41	6	40	9	30
Homelessness	186	72	16	37	107	84	28	67	35	76
Homeless for ≤1 yr	100	54	10	63	65	61	12	43	13	37
Ever incarcerated	151	58	32	70	68	53	24	57	27	60
Incarcerated in past yr	28	19	8	25	16	24	1	4	3	11

Results: Drug use and HIV and hepatitis C prevalence

Characteristics, n (%)	All		Inner city				Outskirts			
			Public DIC/OAT		NGO harm reduction network		North West Patoq		South West Patoq	
	n=263	%	n=46	%	n=129	%	n=42	%	n=46	%
Ever used drugs	245	93	44	96	117	91	41	98	43	93
Used drugs within the last 30 days	190	78	15	34	95	81	37	90	43	100
Main drug										
Heroin	122	64	5	33	54	56	28	76	35	81
Crystal methamphetamine	29	15	6	40	16	17	3	8	4	9
Ever injected drugs	48	20	16	36	20	17	7	18	5	12
Last time injected >1 yr ago	46	96	16	100	19	95	7	100	4	80
Main drug, heroin	30	64	10	63	12	63	4	57	4	100
Currently on OAT	98	37	41	89	34	26	16	38	7	15
Ever admitted to compulsory drug addiction treatment centres	140	57	23	52	62	53	31	76	24	56
Admitted in the past yr	33	24	9	39	15	24	7	23	2	8
HIV antibody prevalence	5	2	0	0	4	3	1	2	0	0
HCV antibody prevalence	47	18	14	33	18	14	8	20	7	15

Results: Factors associated with SARS-CoV-2 seroprevalence

Characteristics, n (%)	SARS CoV-2, n=50	aOR	95% CI	95% CI	P
Study site					
Public DIC/OAT	15 (33)	1.00			
NGO harm reduction	23 (19)	0.53	0.20	1.41	0.201
North West Patoq	4 (10)	0.34	0.09	1.25	0.104
South West Patoq	8 (17)	0.68	0.21	2.21	0.518
Sex					
Male	35 (18)	1.00			
Female	15 (26)	3.37	1.35	8.39	0.009
Median age, years					
<44	15 (12)	1.00			
≥44	34 (26)	2.42	1.20	4.85	0.013
OAT					
Never	10 (14)	1.00			
Ever, not now	12 (13)	1.61	0.57	4.50	0.367
Now	28 (29)	3.66	1.34	10.04	0.012

Other variables considered for inclusion in the adjusted analysis:

- Level of education
- Current source of income
- Current homelessness
- Incarceration in the last year
- Admission to compulsory addiction treatment centres in the last year

Results: COVID-19 and BBV knowledge

About COVID-19:

- **23%** believed drug use protects them against infection
- **>90%** were aware wearing a face mask and washing hands are important for prevention
- **61%** also knew about the importance of physical distancing in preventing transmission
- **59%** had received COVID-19 information from mainstream media
- **39%** were willing to practice COVID-19 prevention, but had limited access to resources

About hepatitis C and HIV:

- **33%** could not correctly identify how these infections transmit
- **37%** had received BBV information from the harm reduction network
- **2%** considered OAT among methods of harm reduction



Results: Stigma and discrimination

Compared to before, my experience of stigma and discrimination has increased during the pandemic. I try to:

	All		Inner city				Outskirts			
			Public DIC/ OAT		NGO harm reduction network		North West Patoq		South West Patoq	
	n=263	%	n=46	%	n=129	%	n=42	%	n=46	%
Spend most of my time in Patoqs	105	57	8	44	49	56	25	71	23	52
Avoid interaction with people in public	148	58	19	45	69	54	28	67	32	73
Avoid DICs or homeless shelters	35	23	0	0	27	27	6	19	2	17
Avoid OAT clinics	16	20	6	16	4	17	5	42	1	20
Avoid the law enforcement	158	61	27	64	73	57	27	66	31	67



Conclusions and next steps

- Sex work among women, increased susceptibility to transmission among older adults, and older people on OAT (median 46 years vs 42 among those not on OAT) likely accounted for higher risk of SARS-CoV-2 transmission
- Second round of data collection in Aug/Sep 2021. Third and fourth rounds will be scheduled every 3-6 months, depending on restrictions
- To improve COVID-19 and BBV knowledge, new communication and engagement methods are used to develop a series of short puppet videos
- Greater collaborative efforts among public and private agencies providing services to people who use drugs is essential to improve health outcomes among vulnerable populations.



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- Site PIs and collaborators from Rebirth Charity Society and Tehran University of Medical Science who have contributed to this study
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