Factors associated with HCV test uptake in heroin users entering substitution treatment in Greece

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Background

- People who inject drugs (PWID) represent the main high risk group for HCV infection

- Regular HCV testing for PWID is suggested as one of the main prevention measures by international guidelines with frequency of testing not less than once a year

- Compliance with recommendations varies significantly not only among countries, but regions and settings within the same country

- Identifying individual factors related to testing history may provide crucial information for policies aiming to reduce barriers to testing access both at individual and public health level.

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Some "Greek statistics"

- Prevalence of problem opioid use (*estimate*) :

  2.4/1000 people aged 18-64 years

  17000 persons

  — 5000 injectors (2000 of them in Athens)

- 10000 under substitution treatment (OST) (OKANA)

- 70% antiHCV(+)

- 8% antiHIV(+) but 15% in Athens

Greek National Monitoring & Documentation Centre for Drugs (Greek Reitox Focal Point of the EMCDDA), 2016

Aim of the study

To examine history of HCV testing and its determinants among PWID entering opioid substitution treatment in Greece:

1st question
Who OST entrant has the greatest probability to get HCV testing (based on their socio-demographic, drug use and higher-risk behavioural characteristics)?

2nd question
Which are the differentiating characteristics between those tested recently (last 12 months) from those tested but not in the last 12 months?

Methods

Anonymous behavioural data from heroin users collected upon entering substitution treatment in central and southern Greece in the period 2013-2015 were analysed.

- 38 OST clinics run by OKANA
- at capitals of 14 prefectures in 9 of 13 country regions

Representing
- 70% of the OST clinics and
- 70% of the drug users who entered OST during the same period in Greece

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Methods

- All drug users were interviewed by health professionals upon their entry to OST clinics

- Paper-based data were collected using a standardised structured questionnaire

- Completed questionnaires were subsequently sent to the Reitox Focal Point, where they were checked and analysed

- The procedure of data collection and management has been approved by the Hellenic Personal Data Protection Authority (Decision number: 2186, 1/11/2001)

Dependent variable:
HCV test uptake

	"Have you ever had an HCV test?"	
Group A	a. "Never"	No test
Group B	b. "Yes, in the past 12 months"	Recent test
Group C	c. "Yes, before the past 12 months"	Past test

Note: By definition only group B may include those for whom the international recommendations have been followed regarding the frequency of testing for drug users (every six or 12 months)

Two groups of covariates

SOCIO-DEMOGRAPHICS

- Gender
- Age
- Place of residence
- Place of birth
- Nationality
- Living with parents
- Accommodation
- Education level
- Employment
- History of incarceration

ADDICTION CHARACTERISTICS

- Past treatment attempt
- Source of referral

High-risk drug-use behaviour
- Mode of administration of primary drug
- Frequency of use of primary drug
- Polydrug use
- Past 12 months injection
- Duration of injection history
- Syringe sharing

Descriptive Results (N=2747)
Sociodemographics

Median age (Intequartile Range)		36 years (12)
	N	% (median, IR)
Male	2298	**83.9**
Born in Greece	2323	**88.3**
Did not complete secondary education	1626	**60.9**
Unemployed	1444	**54.4**
History of imprisonment	1545	**57.8**
Living with parents	1438	**53.0**
Homeless or in precarious housing	316	**11.8**

Descriptive Results:
Addiction characteristics

	N	% or median (IR)
Previous treatment attempts	1600	**59.6**
Heroin or other opioids (primary substance)	2438	**89.4**
Median duration **of use** of primary substance (IR)	2677	**16 (11)**
Primary substance mostly sniffed	1545	57.4
Daily use of primary substance	1930	**72.4**
Multiple drug use	2331	**85.4**
Injecting history	2072	**79.7**
Current Injecting (past 30 days)	873	**34.9**
Syringe sharing history	1160	**56.9**
Current sharing (past 30 days)	109	**7.2**
Anti-HCV positive (after entrance to the OST)	1036	**66.1**
Anti-HIV positive	187	**11.6**

HCV test uptake
(N=2299)

		N	%
Group A	No test	380	16.5%
Group B	Recent test (last 12 mo)	1406	61.2%
Group C	Past test	513	22.3%

Univariate multinomial logistic regression analysis

	sig var	Recent test (vs. never)				Past test (vs. never)			
		RR	95% CI Lower	95% CI Upper	Sig.	RR	95% CI Lower	95% CI Upper	Sig.
Female (vs male)	<0.001	1.9	1.4	2.7	<0.001	1.0	0.6	1.5	0.896
35+ years (vs ≤24 years)	<0.001	7.2	5.2	9.9	<0.001	13.9	8.2	23.5	<0.001
25-34 years (vs ≤24 years)		9.5	6.6	13.6	<0.001	12.1	6.9	21.3	<0.001
Athens (vs other areas)	0.005	0.9	0.7	1.2	0.528	0.7	0.5	0.9	0.006
Not living with parents (vs living with parents)	<0.001	1.6	1.3	2.0	<0.001	1.6	1.2	2.1	0.001
Stable accomodation (homeless / precarious)	0.074	0.9	0.7	1.3	0.735	1.4	0.9	2.2	0.141
Homeless in the past 12 months (vs. no)	<0.001	1.9	1.4	2.6	<0.001	1.3	0.9	1.9	0.118
Born in Greece (vs other country)	0.971	1.0	0.7	1.5	0.814	1.0	0.7	1.6	0.911
Greek nationality (vs other)	0.020	1.8	1.2	2.7	0.005	1.8	1.1	3.0	0.023
University or come university years (vs. elementary or lower)	0.003	1.5	1.0	2.4	0.060	1.4	0.9	2.3	0.174
Completed lower or upper secondary education (vs. elementary or lower)		0.8	0.6	1.0	0.041	0.7	0.5	0.9	0.020
Full-time employment (vs unemployed)	0.000	0.6	0.5	0.9	0.010	1.0	0.7	1.4	0.967
Part-time job/student/on benefit/other (vs unemployed)		0.7	0.5	0.8	0.001	0.5	0.3	0.6	<0.001
Past treatment attempt (vs no)	<0.001	5.9	4.6	7.6	<0.001	4.9	3.7	6.6	<0.001
Past incarceration (vs no)	<0.001	1.9	1.5	2.4	<0.001	2.2	1.7	2.9	<0.001
Self referral to drug treatment (vs other source)	<0.001	2.1	1.4	3.0	<0.001	2.9	1.8	4.5	<0.001
Family referral to drug treatment (vs other source)		0.4	0.2	0.6	<0.001	0.3	0.2	0.5	<0.001
Peer referral to drug treatment (vs other source)		1.2	0.8	1.7	0.426	1.8	1.1	2.8	<0.001
Injection as the main mode of administration (vs smoke)	<0.001	7.8	5.4	11.2	<0.001	8.1	5.0	13.2	<0.001
Sniffing / eating (vs smoke)		5.0	3.8	6.7	<0.001	7.2	4.8	10.9	<0.001
Daily use of primary drug (vs less frequently)	<0.001	2.1	1.7	2.7	<0.001	2.3	1.7	3.1	<0.001
Polydrug use (vs no)	<0.001	3.5	2.6	4.7	<0.001	2.6	1.8	3.6	<0.001
Past month injection (vs no)	<0.001	3.0	2.3	3.8	<0.001	2.1	1.6	2.8	<0.001
≥5 years injection history (vs never injected)	<0.001	9.9	7.5	13.1	<0.001	9.3	6.6	13.2	<0.001
2-4 years injection history (vs never injected)		4.5	2.7	7.5	<0.001	4.3	2.4	7.9	<0.001
0-1 year injection history (vs never injected)		2.4	1.3	4.5	0.004	1.4	0.6	3.4	0.473
Syringe sharing in the past 12 months (vs never injected)	<0.001	7.7	5.1	11.6	<0.001	5.1	3.1	8.5	<0.001
Syringe sharing but not in the past 12 months (vs never injected)		16.0	10.5	24.5	<0.001	17.1	10.6	27.6	<0.001
Never syringe sharing (vs never injected)		5.9	4.3	8.0	<0.001	6.0	4.2	8.8	<0.001

Summary of univariate analysis

- Education level, country of birth and stable accommodation status were not associated with HCV uptake

- Many variables were associated with history of HCV testing, both recent and past

- Female gender, homelessness and very short injection history were associated ONLY with recent test

Multivariable multinomial logistic regression analysis with HCV testing as dependent variable (N=2014)

	sig var	Recent test (vs. never)				Past test (vs. never)			
		RR	95% CI Lower	95% CI Upper	Sig.	RR	95% CI Lower	95% CI Upper	Sig.
Female (vs male)	<0.001	2.6	1.7	4.0	<0.001	1.5	0.9	2.4	0.147
35+ years (vs ≤24 years)	<0.001	2.6	1.6	4.3	<0.001	3.8	2.0	7.4	<0.001
25-34 years (vs ≤24 years)		3.2	1.9	5.3	<0.001	3.1	1.6	6.3	0.001
Athens (vs other areas)	<0.001	1.1	0.8	1.5	0.598	0.7	0.5	0.9	0.021
Full-time employment (vs unemployed)	0.003	1.5	1.0	2.3	0.078	1.8	1.2	2.9	0.010
Part-time job/student/on benefit (vs unemployed)		1.2	0.9	1.7	0.270	0.9	0.6	1.3	0.474
Past treatment attempt (vs no)	<0.001	3.6	2.6	4.8	<0.001	3.2	2.3	4.5	<0.001
Injecting (vs smoke)	0.001	2.3	1.3	4.0	0.003	2.5	1.3	4.8	0.005
Sniffing / eating (vs smoke)		1.9	1.3	3.0	0.002	2.7	1.6	4.6	<0.001
Polydrug use (vs no)	0.021	1.6	1.0	2.3	0.029	1.0	0.7	1.6	0.901
≥5 y injection history (vs never injected)	0.019	3.0	2.0	4.5	<0.001	3.4	2.1	5.4	<0.001
2-4 y injection history (vs never injected)		1.6	0.9	2.9	0.141	2.1	1.1	4.3	0.033
0-1 y injection history (vs never injected)		1.3	0.6	2.6	0.530	1.0	0.4	2.6	0.956
Recent syringe sharing (in the past 12m) (vs never sharing or never injected)	0.004	1.2	0.7	1.9	0.485	0.9	0.5	1.6	0.822
Syringe sharing but not in the past 12 months (vs never sharing or never injected)		2.1	1.3	3.3	0.001	2.3	1.4	3.7	0.001

I. Factors positively associated with ANU past HCV test

- Age groups-≥25 years
- History of previous addiction treatment
- ≥5 years of injecting history
- Syringe sharing history (but not in the last 12 months)
- Full time employment

		Recent test (vs. never)				Past test (vs. never)			
			95% CI				95% CI		
	sig var	RR	Lower	Upper	Sig.	RR	Lower	Upper	Sig.
35+ years (vs ≤24 years)	<0.001	**2.6**	1.6	4.3	<0.001	**3.8**	2.0	7.4	<0.001
25-34 years (vs ≤24 years)		**3.2**	1.9	5.3	<0.001	**3.1**	1.6	6.3	0.001
Full-time employment (vs unemp)	0.003	**1.5**	1.0	2.3	0.078	**1.8**	1.2	2.9	0.010
Past treatment attempt (vs no)	<0.001	**3.6**	2.6	4.8	<0.001	**3.2**	2.3	4.5	<0.001
Injecting (vs smoke)	0.001	**2.3**	1.3	4.0	0.003	**2.5**	1.3	4.8	0.005
Sniffing / eating (vs smoke)		**1.9**	1.3	3.0	0.002	**2.7**	1.6	4.6	<0.001
≥5 y injection history (vs never)	0.019	**3.0**	2.0	4.5	<0.001	**3.4**	2.1	5.4	<0.001
Syringe sharing but not in the past 12m (vs never sharing or injected)	0.004	**2.1**	1.3	3.3	0.001	**2.3**	1.4	3.7	0.001

II. Factors positively associated with past, but not recent HCV test

- 2-4 years duration of injection history
  (RRR = 2.2, 95% CI: 1.1-4.3, p<0.033)

III. Factors <u>negatively</u> associated with past, but not recent HCV test

- Living in Athens Metropolitan Area

  (RRR=0.7, 95% CI: 0.5-0.9, p=0.0219)

Question:

  Could it be that PWID who still live out of Athens maintain their access to health care system while those who live or have been moved to Athens are more marginalized and excluded from services?

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IV. Factors positively associated only with <u>recent</u> HCV test

- Female gender (RRR = 2.6, 95% CI: 1.7-4.0, p<0.001)
- Polydrug use (RRR = 1.6, 95% CI: 1.0-2.3, p<0.029)

Conclusions

- The majority of heroin users entering OST programmes in Greece report HCV testing in the past, although a considerable proportion have never been tested or have not had a recent test.

- High risk behaviours (injecting, sharing, polydrug use) increase the probability for history of testing but "new" injectors and recent sharing need more attention.

- Prevention efforts should include client convenient and continuous testing opportunities, especially to those living under vulnerable conditions.

Acknowledgements