



## Screening for viral hepatitis among immigrants in Barcelona: Comparison of two recruitment strategies. A pilot study of the HEPscreen Project

M. Fernández Quevedo<sup>1</sup>, S. Manzanares<sup>1</sup>, C. Jacques<sup>1</sup>, J. Ospina<sup>2</sup>, B. Treviño<sup>2</sup>, S. Garcia<sup>3</sup>, H. Ouaraab<sup>2</sup>, J. Gómez<sup>2</sup>, T. Clusa<sup>3</sup>, I. Veldhuijzen<sup>4</sup>, S. Hahné<sup>5</sup>, J. Caylà<sup>1</sup>,

<sup>1</sup>Epidemiology Department, Public Health Agency of Barcelona (ASPB), Spain; <sup>2</sup>Tropical Medicine and International Health Unit of Drassanes (UMTSID), Barcelona, Spain. <sup>3</sup>Primary Health Care Center Raval Sud, Institut Català de la Salut (PHCC Raval Sud), Barcelona, Spain; <sup>4</sup>Division of Infectious Disease Control, Municipal Public Health Service Rotterdam-Rijnmond, Rotterdam, The Netherlands, National Institute of Public Health and the Environment, Bilthoven, The Netherlands; <sup>5</sup>National Institute of Public Health and the Environment, Bilthoven, The Netherlands

### Introduction

In Europe, about 14 million people have chronic hepatitis B and nine million people are chronically infected with hepatitis C virus. While hepatitis B is on the decline in some EU countries, it is not in others, with migration being a determining factor.

Many patients are not yet ill and do not seek treatment. Case detection could be improved by screening risk groups. The burden is especially high among migrants from endemic areas.

### Objectives

To explore two different approaches for viral hepatitis screening among migrants: an outreach or active strategy (AS), and a passive strategy (PS).

Secondary objectives are:

- to determine the number of individuals who attend ES and which factors are associated with not going to the screening
- to know the number of people infected and the prevalence of hepatitis C/B by region of origin and strategy
- to analyse factors associated with becoming infected.

### Methods

**AS:** organized by community health workers (CHW) through educational sessions (ES) by two centers (ASPB and UMTSID) and referred to the screening centre.

**PS:** based by opportunistic screening by GP in UMTSID & PHCC Raval Sud.

Cross-sectional, prospective study (October 2012 to July 2014)

A health survey and hepatitis B and C tests were conducted to participants of both strategies.

**Study Population:** Migrants from Latin America (LA) and Central and Eastern Europe (ECE), aged 18 or more.

360 people were estimated to be contacted through ES (250 LA/110 ECE)

300 people were expected to be contacted through the PS.

For comparison Chi-square test was used for categorical variables and t-test for continuous. Risk factors associated for the completion of the screening and of being infected were determined by OR and 95% CI estimated by multivariate logistic regression

### Results

Table 1: Chronic HBV infection by strategy and region of origin

	AS	PS	p value
	171	234	
<b>Age mean (IQR)</b>	40.5 (32-50)	41.7 (31-51)	0.134
<b>Sex</b>			0.017
Women	94 (55%)	156 (67%)	
<b>Region of origin</b>			0.004
LA	125 (73%)	198 (85%)	
ECE	46 (27%)	36 (15%)	
<b>Civil Status</b>			0.031
Married or in relationship	95 (56%)	128 (55%)	
Single	48 (28%)	78 (33%)	
Others	6 (3.51%)	5 (2.14%)	
<b>Educational level</b>			0.031
No studies	2 (1%)	5 (2%)	
Primary	27 (16%)	56 (24%)	
Secondary	87 (51%)	119 (51%)	
Upper	51 (30%)	42 (18%)	
<b>Residence permit</b>			0.013
Yes	128 (75%)	202 (86%)	
<b>Health card</b>			0.002
Yes	147 (86%)	224 (96%)	
<b>Occupation status</b>			<0.001
Jobless	97 (57%)	39%	

**AS**  
45 ES were conducted and 337 people participated (93%). 316 signed informed consent, 218 from LA and 98 from ECE. 210 got to the GP appointment (66.5%). Finally 171 were screened (54.1%).

Characteristics of losses: women, ECE, participants divorced or widowed compared with married or in a relationship, a lower percentage of participants with no residence permit neither health card, and from the ASPB, (p<0.05).

Factors related to not going to test were being women, ECE participants, from the ASPB, and participants with secondary educational level (p<0.005)

**PS**  
246 people were contacted (82% of the initial sample).

Table 2: Chronic HBV infection by strategy and region of origin

	Total	Outreach strategy	Opportunistic strategy	p value
<b>Region of origin</b>	6/394 (1.52%)	3/165 (1.82%)	3/229 (1.31%)	0.684
LA	2/312 (0.64%)	1/119 (0.84%)	1/193 (0.52%)	0.729
ECE	4/84 (4.68%)	2/46 (4.35%)	2/36 (5.56%)	0.801

Table 3: HCV infection by strategy and region of origin

	Total	Outreach strategy	Opportunistic strategy	p value
<b>Region of origin</b>	10/395 (2.53%)	6/166 (3.61%)	4/225 (1.78%)	0.243
LA	1/314 (0.32%)	0/125 (0.00%)	1/194 (0.52%)	0.431
ECE	9/81 (11.11%)	6/46 (13.04%)	3/35 (8.57%)	0.526

Related risk factor to Chronic HBV infection is coming from ECE  
Related risk factor to HCV infection are intravenous drug users and coming from ECE (p < 0.005)

Table 4 and 5: Chronic HBV and HCV by region of origin, specialist assessment & indication to treat

	HBsAg+		Assessed by specialist		Treatment indication	
	N	Region	N	%	N	%
AS	3	1 LA / 2 ECE	0	0	0	0%
PS	3	1 LA / 2 ECE	2	66.6	0	0%

	Anti-HCV+		HCV-PCR test		Assessed by specialist	
	N	IDUs	N	%	N	%
<b>Pilot site</b>						
AS	6	3/6 (50%)	6	ECE	1	16.67%
PS	4	3/4 (75%)	1	LA / 3 ECE	1	0%

### Conclusions

There is a higher percentage of participation through PS

There are no differences in the percentage of HBV+ and HCV+ by strategy.

High percentage of losses through AS

AS has come into contact with populations with high social vulnerability

The study shows low prevalence of hepatitis, both B and C, in population of LA, and medium for hepatitis B and high for hepatitis C in ECE population

Factor related to HBV infection: ECE people

Factors related to HCV infection: ECE people and IDU.

Low number of participants with hepatitis have reached the specialist (3/16), due to: change of residence for employment reasons, being waiting to obtain the health card, drug abuse or alcoholism, or loss to follow up.

### Recommendations

Screening in the ES to improve adherence and prevent losses

It is important to consider also risk factors for hepatitis, besides the country of origin

It is necessary to perform tailored strategies to solve specific problems of migrant populations

The mediation of CHW is useful to improve adherence, solve problems, and prevent the loss of participants

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