Overview of surveillance system and the epidemiology of hepatitis B and C in Romania

Dr. Odette Popovici,
National Institute of Public Health (NIPH) Romania,
National Centre for Communicable Diseases Surveillance and Control (NCCDSC)

VHPB-ACHIEVE Romania meeting
"Elimination of Viral Hepatitis in Romania:
lessons learnt and the way forward"

Bucuresti, Romania
17 May 2018

Legal basis for case notification and surveillance system

- Government Decision (GD) No. 589/2007 - only *acute* hepatitis B and C are notifiable to the county public health authorities → NIPH-RPHC → NIPH-NCCDSC
- *Draft* of a new GD - sent to MoH in 2015 - last update in March 2017
- The national surveillance system for hepatitis B and C - implemented in 2012
  - mainly hospital based
  - scarce data about chronic hepatitis B and C

Hepatitis B and C incidence trend

1.Acute hepatitis B
Age group and gender-specific incidence

- 6 cases <5 years old: 5 <1 and 1 = 4 years old
- From the 5 infants: 2 with 1 dose, 3 with zero doses
- The 4 years old child: zero doses

Probable route of transmission for acute hepatitis B

Crt. No.	Probable route of transmission (%)	
1	Heterosexual (no.of sexual partners ≥2)[a]	7.5
2	Nosocomial (surgery interventions / injections in a sanitary unit / dental interventions)[b]	24.1
	Dental interventions (included in Crt.No.2) [b]	*9.8*
	Injections in hospital (included in Crt.No.2) [b]	*6.8*
	Surgery interventions (included in Crt.No.2) [b]	*0.0*
	Injections at family doctor (included in Crt.No.2) [b]	*2.3*
	Injections at a private medical cabinet (included in Crt.No.2) [b]	*0.0*
3	Non-occupational injuries (barber / manicure / pedicure / tattoo / piercing)[b]	4.5
4	Household contact with chronic case/carrier[b]	3.0
5	Injecting drug use[e]	1.5
6	Mother-to-child transmission	0.8
7	Haemodyalisis[b]	0.8
8	Transplant of organs and tissues[b]	0.0
9	Diagnosed with STI[a,c]	0.0
10	Injections at home[b]	0.0
11	Transfusions of blood/blood products[b]	0.0
12	MSM[b,f]	0.0
13	Incarcerated[a]	0.8
14	Occupational exposure (HCW)[b]	2.3
15	Sex worker[a]	0.8
16	UNK	54.9

a exclusion criteria: other risk factors; includes Crt.No.9
b exclusion criteria: ≥ 2 sexual partners (Crt.No.12 excepted) and/or other risk factors
c included in Crt.No. 1
d sexual/other household contact ; exclusion criteria: other risk factors
e no exclusion criteria
f including bisexual

Imported cases of acute hepatitis B

- 8 cases
- The probable route of transmission :

  Heterosexual (2)

  Sexual (1)

  Non-occupational (1)

  UNK (4)

Vaccination status of acute hepatitis B cases

- 5 cases fully vaccinated with 3 doses (4%), but
- Just 1 according to the national vaccination schedule

Interventions for confirmed cases' contacts

- 157 family contacts and 37 sexual contacts identified
- 11 vaccinated (10 family and 1 sexual contact)

2.Acute hepatitis C

Age group and gender-specific incidence

Probable route of transmission for acute hepatitis C

Crt. No.	Probable route of transmission (%)	
1	Heterosexual (no.of sexual partners ≥2)[a]	0.0
2	Nosocomial (surgery interventions / injections in a sanitary unit / dental interventions)[b]	37.3
	Dental interventions (included in Crt.No.2) [b]	*7.5*
	Injections in hospital (included in Crt.No.2) [b]	*16.4*
	Surgery interventions (included in Crt.No.2) [b]	*3.0*
	Injections at family doctor (included in Crt.No.2) [b]	*3.0*
	Injections at a private medical cabinet (included in Crt.No.2) [b]	*0.0*
3	Non-occupational injuries (barber / manicure / pedicure / tattoo / piercing)[b]	3.0
4	Household contact with chronic case/carrier[b]	1.5
5	Injecting drug use[e]	3.0
6	Mother-to-child transmission	0.0
7	Haemodyalisis[b]	1.5
8	Transplant of organs and tissues[b]	0.0
9	Diagnosed with STI[a,c]	0.0
10	Injections at home[b]	0.0
11	Transfusions of blood/blood products[b]	0.0
12	MSM[b,f]	1.5
13	Incarcerated[a]	0.0
14	Occupational exposure (HCW)[b]	3.0
15	Sex worker[a]	1.5
16	UNK	47.8

a exclusion criteria: other risk factors; includes Crt.No.9
b exclusion criteria: ≥ 2 sexual partners (Crt.No.12 excepted) and/or other risk factors
c included in Crt.No. 1
d sexual/other household contact ; exclusion criteria: other risk factors
e no exclusion criteria
f including bisexual

Imported cases of acute hepatitis C

- 3 cases
- The probable route of transmission :

  Nosocomial (1)

  Occupational (sex worker) (1)

  Injecting drug use (1)

Comments regarding probable route of transmission for acute hepatitis B and C

- High frequency of probable nosocomial transmission
- The information should be interpreted with caution:

  Possible **recall bias** – the patient reminds better a dental intervention or a hospitalization

  OR

  Prefers to **hide** other possible risk factors

3.Testing for hepatitis B and C

Initial blood donors

Type of test		TOTAL	Positivity rate (%)
HBsAg	No. of tested donors	156743	
	out of which **positive**	1863	**1.2**
Anti-HCV Ab	No. of tested donors	155832	
	out of which **positive**	1211	**0.8**

Laboratories

Type of test		TOTAL	Positivity rate (%)
HBsAg	No. of tested persons	402486	
	out of which **positive**	24932	**6**
Anti-HBs Ab	No. of tested persons	33411	
	out of which **positive**	13668	**41**
Anti-HBc IgM	No. of tested persons	4905	
	out of which **positive**	605	**12**
Total anti-HBc Ab	No. of tested persons	17330	
	out of which **positive**	6484	**37**
HBeAg	No. of tested persons	7828	
	out of which **positive**	516	**7**
Anti-HBe Ab	No. of tested persons	6678	
	out of which **positive**	4409	**66**
DNA-HBV	No. of tested persons	29115	
	out of which **positive**	11964	**41**
Ac anti-VHC	No. of tested persons	365094	
	out of which **positive**	17437	**5**
ARN-VHC (PCR)	No. of tested persons	21519	
	out of which **positive**	9992	**46**
Imunoblot HCV	No. of tested persons	1864	
	out of which **positive**	290	**16**

4.Seroprevalence studies (1)

2013

Hospitalized population

- **4.2%** HBsAg
- **5.6%** Anti-HCV Ab
- **28%** Total anti-HBc Ab

Post-vaccine immunity compared to natural immunity

4.Seroprevalence studies (2)

2016

Pregnant women

- 5.1% HBsAg overall prevalence → 7.4% HBeAg
- 3.8% HBsAg <20 years old* → 10% HBeAg
- 6.3% HBsAg ≥20 years old → 5.9% HBeAg
- The differences between age groups were not statistically significant

---

*cohort vaccinated at birth

Thank you for your attention!