PREVENTION AND CONTROL OF VIRAL HEPATITIS IN BRAZIL...

...and other Latin American countries,

"lessons learned and the way forward"

March 19-21 2014, Brasilia, Brazil
National Program for Control of Viral Hepatitis
Argentina
Dra. Gabriela Vidiella
Hepatitis A: Countries at Risk

Incorporation of hepatitis A vaccine (6/30/2005)

The risk of infection is based on the estimated prevalence rate of antibody to hepatitis A virus (anti-HAV)—a marker of previous HAV infection—among populations. This marker is based on limited data and may not reflect current prevalence.

Countries or areas with moderate to high risk

High: >80% IgG + HAV under 10 years of age
Intermediate: >80% IgG + HAV at 25 years of age
Low: >80% IgG + HAV above 50 years of age

Data Source: World Health Organization.
Map Production: Public Health Information and Geographic Information Systems (GIS)
World Health Organization
CASES OF HEPATITIS A AND REPORTED RATES 2000-2012 IN ARGENTINA
FHF CAUSED BY HAV AND OTHER ETIOLOGIES
1993-2008 IN ARGENTINA
Hepatitis B: Global Prevalence

0.6-1%
Prevalence in Latin America

- **Rep. Dominicana**
  - HBsAg = 4.1
  - Anti-HBs = 55.3

- **Chile**
  - HBsAg = 0.4
  - Anti-HBs = 3.8

- **Venezuela**
  - HBsAg = 2.8
  - Anti-HBs = 11.6

- **Colombia**
  - HBsAg = 1.0
  - Anti-HBs = 25.1

- **Peru**
  - HBsAg = 2.2
  - Anti-HBs = 20.2

- **Argentina**
  - HBsAg = 0.8
  - Anti-HBs = 14.7

- **Ecuador**
  - HBsAg = 2.0
  - Anti-HBs = 29.4

- **Barbados**
  - HBsAg = 1.4
  - Anti-HBs = 9.0

- **Suriname**
  - HBsAg = 2.3
  - Anti-HBs = 28.1

- **Puerto Rico**
  - HBsAg = 0.2
  - Anti-HBs = 9.2

- **México**
  - HBsAg = 1.6
  - Anti-HBs = 11.6

- **Costa Rica**
  - HBsAg = 0.6
  - Anti-HBs = 17.3
# Hepatitis B Screening in Blood Banks NEA, NOA, Center, Cuyo and Patagonia

<table>
<thead>
<tr>
<th>Year</th>
<th>Donors (n)</th>
<th>HBsAg (n)</th>
<th>HBsAg (%)</th>
<th>AntiHBc (n)</th>
<th>AntiHBc (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>405906</td>
<td>1376</td>
<td>0.44</td>
<td>7360</td>
<td>2.36</td>
</tr>
<tr>
<td>2008</td>
<td>484122</td>
<td>1055</td>
<td>0.26</td>
<td>9264</td>
<td>2.33</td>
</tr>
<tr>
<td>2009</td>
<td>502811</td>
<td>1708</td>
<td>0.33</td>
<td>8351</td>
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<tr>
<td>2010</td>
<td>608027</td>
<td>3640</td>
<td>0.59</td>
<td>7265</td>
<td>1.19</td>
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<tr>
<td>2011</td>
<td>611978</td>
<td>921</td>
<td>0.17</td>
<td>9115</td>
<td>1.87</td>
</tr>
<tr>
<td>2012</td>
<td>500955</td>
<td>917</td>
<td>0.18</td>
<td>6872</td>
<td>1.37</td>
</tr>
</tbody>
</table>

HBsAg: National Law No. 22 990/83 Anticore HBV: compulsory from 2006

Source: National Plan of blood. MSAL
## Hepatitis B Screening in Blood Banks

### Year | Det. | Anti Core (%) Misiones | Anti Core (%) Jujuy | Anti Core (%) Salta
--- | --- | --- | --- | ---
2008 | nd | 7.2 | 11.3 |
2009 | 8.76 | 6.3 | 10.54 |
2010 | 5.76 | 7.90 | 10.45 |
2011 | 5.52 | 6.98 | 8.11 |

Source: National Plan of blood. MSAL
HEPATITIS B National Date: Location in ARG with an intermediate ENDEMICITY (HBsAg 2-7% and anti-HBc 10-60%)

- **Epidemiology and Clinical Review of Patients with Viral Hepatitis in Jujuy.** Remondegui, C et al. *Act Gastroen Lat* 2006. 36 Sup 03

- **Intermediate Prevalence of HBV Infection in Salta, Argentina.** Garay, M et al, *Act Gastroen Lat* 2006. 36 Sup 03

<table>
<thead>
<tr>
<th>City</th>
<th>N:788</th>
<th>Anticore(%)</th>
<th>HBsAg(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORAN</td>
<td>102(41.8)</td>
<td>10 (4.1)</td>
<td></td>
</tr>
<tr>
<td>EMBARCACION</td>
<td>85 (33.8)</td>
<td>9 (3.5)</td>
<td></td>
</tr>
<tr>
<td>TARTAGAL</td>
<td>43 (14.6)</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

PREVALENCE OF HBV IN HIV PATIENTS IN ARGENTINA

  Anti core(+) 58.5% HBsAg(+): 14.5%

  N174, Anticore (+): 15.1%.

- Fay et al, XV Congr Arg Hep.2008
  N 892. BA city and 8 provinces
  Anti core(+) 36% HBsAg(+): 4.3%

- Laufer et al, Sex Transm Dis. 2010 May; 37(5): 342–343
  N593
  Genotype A: 85% of the VHB VIH cases
  HBs Ag (+): 3.3%
Genotypes in Chronic Hepatitis HBeAg +

HEPATITIS B: FULMINANT HEPATIC FAILURE

Fulminant Hepatic Failure: A Multicenter Experience of six Argentinian Transplant Centers (n: 132 adults; 2005-2011)

SUSPECTED CASES OF HBV. DISTRIBUTION BY AGE
2000 - 2012
¿Ya te vacunaste contra la hepatitis B?

Acórdate que son 3 dosis y que está disponible para todos.

Vacunación universal contra hepatitis B

1992 - Health professionals
2000 - Newborn
2003 - Catch up 11 years
2012 - Universal vaccination
Hepatitis C: Global Prevalence

Note: Estimates are derived from a meta-analysis of data from 244 studies published between 1997-2007. Mean regional prevalence are calculated using regional population age weights.

Source: WHO/PHO, data as of 25 January 2012
HEPATITIS C SCREENING IN BLOOD BANKS

<table>
<thead>
<tr>
<th>Year</th>
<th>Donors (n)</th>
<th>IgG VHC (n)</th>
<th>IgG VHC (%)</th>
</tr>
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<tbody>
<tr>
<td>2004</td>
<td>405906</td>
<td>2614</td>
<td>0.63</td>
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<tr>
<td>2005</td>
<td>365313</td>
<td>3580</td>
<td>0.98</td>
</tr>
<tr>
<td>2006</td>
<td>345502</td>
<td>3282</td>
<td>0.95</td>
</tr>
<tr>
<td>2008</td>
<td>484122</td>
<td>2390</td>
<td>0.76</td>
</tr>
<tr>
<td>2009</td>
<td>502811</td>
<td>2351</td>
<td>0.46</td>
</tr>
<tr>
<td>2010</td>
<td>608027</td>
<td>1944</td>
<td>0.32</td>
</tr>
<tr>
<td>2011</td>
<td>611978</td>
<td>2061</td>
<td>0.42</td>
</tr>
<tr>
<td>2012</td>
<td>500955</td>
<td>1815</td>
<td>0.36</td>
</tr>
</tbody>
</table>

Resolution 1077/93. Beginning in 1993. From the year 2005 100% screening performed.

Source: National Plan of blood. MSAL
HEPATITIS C DATA
INTERMEDIATE-HIGH PREVALENCE

- *Act Gastroen Lat* 2006. 36 Sup 03. Cruz del Eje, Córdoba. N 1870. Seroprevalencia HCV 5.78%. Genotype 2 90%


- *Liver International* 2006:26.;660-665. N 1637. 5.7% HCV seroprevalence. O'Brien, Bragado. PCIA de Bs As. 100% Genotype 1 B.

- *Act Gastroen Lat*. 2006. 36 Sup 03. N 1912. 5 Villa Maria care centres: anti HCV (+) 2.45%. Genotype 2 (62%) and 1 (55%)
HCV PREVALENCE IN ARGENTINA

Córdoba
Genotype 2

Rufino 2.2%
Wheelwright 4.9%

O’ Brien 5.7

HCV: 2.2 - 5.7 %
PREVALENCE OF HCV IN HIV PATIENTS IN ARGENTINA

- Fainboim et al, J Viral Hepat 1999;6:53-7
  58.5% Anti VHC + (N484)

  88.3% anti-VHC+ (77 IDU patients)

  32% anti- VHC+ (174 patients)

- Fay et al, XV Congr Arg Hep. 2008. BA city and 8 provinces
  30% anti- VHC+ (N 892)

- Fay et al XIII Congr Arg Hep. Sta. Fe province
  48% anti- VHC+ (N250)

- Laufer et al, Sex Transm Dis. 2010 May; 37(5): 342–343
  N593 21% anti –VHC (84 patients)
• Treatment of chronic viral hepatitis for people co-infected with HIV has been available since 2007 by the Department of AIDS and STDs.

• July 2011: incorporation of mono-infected people into the program.

• July 13, 2012: creation of the program via government resolution within the structure of the AIDS and STDs department.
Framework for global action on world day of viral hepatitis 2012

Specific actions promoted by WHO, 4 strategic points:

1: increasing awareness, promoting partnerships and mobilizing resources
2: evidence-based policies
3: prevention of transmission
4: detection, care and treatment
Creation of the National Program for the Viral Hepatitis Control

WHO global survey, 2013

Figure 1. Responses to the question, “Is there a written national strategy or plan that focuses exclusively or primarily on the prevention and control of viral hepatitis?”
Programs Objectives

- **Encourage promotion and prevention activities** at different jurisdictional levels in accordance with the guidelines issued by the program in order to:

  - **Strengthen the epidemiological surveillance of viral hepatitis.**

- **Promotion:** Disseminate information about Viral Hepatitis to the general community through flyers, advertising spots, seasonal campaigns, school education and commemoration of related celebrations.

- **Prevention:** Propose and implement policies for the prevention of Viral Hepatitis among the general population and other vulnerable populations. **Stimulate and promote the testing and promote access to vaccination against hepatitis A and B.**
Programs Objectives

To provide:

• Diagnostic and follow-up studies, and treatment at the national level.

• Accurate training about the care of hepatitis nationwide for health professionals.

• Written recommendations / policies for the diagnose and treatment of HBV, HCV, HAV and HEV by the health system.
Reference laboratories PCR VHC HBV and HCV genotype

- Service for Hepatitis and Gastroenteritis
  Virology department INEI-ANLIS
  “Dr. Carlos Malbrán”
- Laboratory of Virology Unit Hospital Muñiz
- Central Laboratory of Córdoba
Drugs available for the treatment of chronic Viral Hepatitis of mono and Co-infected Patients with HIV

**Hepatitis C**
- Pegylated Interferon alpha-2 b / alpha 2 a
- Ribavirin
- Boceprevir and Telaprevir.

**Hepatitis B**
- Entecavir
- Tenofovir
- Pegylated Interferón alpha
- Lamivudine

*For side effects*
- EPO GM - CSF
Authorized treatments

**Co-infected HIV-HCV**
- Patients treated: 475 (2007-2011)
- Total authorized: 142 (2012-2013)

Patients on current treatment: 68

**Monoinfected patients**
- Total authorized: 287 (2012-2013)

Patients on current treatment: HCV: 110, HBV: 84
National Program for the Viral Hepatitis Control

- Members of the general Advisory Committee:

  Ministry of Health (Department of Epidemiology, PRONACEI, National Plan of blood)

  Scientific societies (AAEEH, SAT, SADI, SAP, SADIP)

  Civil Society (ONG Hepatitis)

  OPS for the Argentina.

- Specific work through reduced working subcommittees.
RESEARCH AND PUBLICATIONS

• Multicenter research study with the objective to estimate the prevalence of hepatitis A, B and C and syphilis in adult males and females who attend the prenuptial studies *

• Drafting of the document "State of the art of Viral Hepatitis in Argentina"*

*with the support of OPS.
Materials available at www.msal.gov.ar/sida

WHO global survey, 2013

Figure 4. Responses to the question, “Are there national clinical guidelines for the management of viral hepatitis?” (N=27)
Materials available at www.msal.gov.ar/sida
Con un análisis podés saber si tenés hepatitis

La hepatitis es una inflamación del hígado producida, entre otras cosas, por un grupo de infecciones virales. Existen tratamientos efectivos que son gratuitos en hospitales públicos y vacunas contra las hepatitis A y B que forman parte del Calendario Nacional de Vacunación.

28 de julio
Día Mundial de las Hepatitis

Programa Nacional de Control de las Hepatitis Virales
Source: PNH, MSAL, Nov 2013
Population characteristics of monoinfected patients (hepatitis B and C) Since December 2011

N: 141

N: 89

VHC

VHB

Fuente: PNH, MSAL, Nov 2013
Characteristics of the population with hepatitis B (n 89)

Source: PNH, MSAL, Nov 2013
Characteristics of the population with hepatitis B (n 89)

Source: PNH, MSAL, Nov 2013
Characteristics of the population with hepatitis B (n 89)

Vaccination for hepatitis A

Source: PNH, MSAL, Nov 2013
Characteristics of the population with hepatitis C

Vaccination for hepatitis B

Fuente: PNH, MSAL, Nov 2013
Characteristics of the population with hepatitis C (n 141)

Source: PNH, MSAL, Nov 2013
Characteristics of the population with hepatitis C Genotype 1

Features of the population with hepatitis C Genotype 1

- **Ev Fibrosis**
  - **F0-1**
  - **F2**
  - **F3-4**

- **Fibrosis**
  - **SI**

*Fuente: PNH, MSAL, Nov 2013*
Characteristics of the population with hepatitis C, genotype 2 and 3 (n 63)

Source: PNH, MSAL, Nov 2013
Features of the population of Co-infected HCV - HIV
Characteristics of the population of co-infected HCV – HIV N = 122

Source: PNH, MSAL, Nov 2013
Characteristics of the population of co-infected HCV – HIV N = 122

- Fibrosis:
  - F0-1: 20%
  - F2: 60%
  - F3-4: 20%

- HAART: yes

- CD > 250: yes

- HIV viral load < 50 UI/ml: yes

Fuente: PNH, MSAL, Nov 2013
Characteristics of the population of co-infected HCV – HIV N = 122

Distribution by genotype

- G4: 37%
- G2: 20%
- NR: 10%
- 1a: 23%
- 1b: 67%

Source: PNH, MSAL, Nov 2013
Candidates for treatment with TRIPLE THERAPY on patients with hepatitis C and genotype 1

- Without contraindications for Peg IFN RIB
- HIV negative patients
- Advanced Fibrosis:
  Biopsy: METAVIR F3-F4

Elastography with more than 9.5 kPa

Endoscopy or doppler ultrasound

Recomendaciones para el tratamiento de la hepatitis C crónica. Genotipo 1 .MSAL
Strategic points proposed by WHO

National program in Argentina:

1. **Awareness campaign:** with the support of Civil Society organizations.

2. **Evidence based policies:**
   - The epidemiological surveillance for Viral Hepatitis.
   - National registry of attributable mortality due to Viral Hepatitis, HCC.
   - National registry of liver transplant.
Strategic points proposed by WHO.

3. Transmission prevention:

✓ National policy of vaccination against Hepatitis.
✓ Written recommendations / policies for the prevention of HBV, HCV, HAV and HEV by the health system.
✓ Systematic screening of blood units nationwide.
✓ Perinatal HBV prevention policy.
✓ National strategy with the objective - goal of elimination of HBV.
4. Screening, monitoring and treatment:

- Clinical recommendations for treatment of monoinfected and co-infected HIV-HBV and HIV-HCV people.

- Diagnostic and follow-up studies, and treatment are available at the national level.
Challenges

• **Increase awareness about viral hepatitis in the general community.**
• **Improve the accessibility to the national registries for the medical community.**
• **Digitalization of logistics for treatment requests and viral loads authorizations.**
• **Optimize and increase the communication channels between the program and the effectors.**
Challenges

• Improve the access to diagnostic tools and treatment.

• Provide accurate training about the care of hepatitis nationwide for health professionals.

• Strengthen and intensify epidemiological surveillance with the integration of the existing monitoring tools and registry systems.

• Implement a national policy of prevention of viral hepatitis among injecting drug users (IDU).

• Facilitate access to liver transplant.
Argentine Team of the National Program for the Viral Hepatitis Control. Ministry of Health

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Thank you very much for your attention!