Hepatitis A prevention in Chile

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Global hepatitis A Meeting,
Miami, December 1st, 2007
Chile, general context

- Population: 15 millions inhabitants
- Per capita income:
  - USD 4,346 (2006)
- Alphabetization rate (older than 10): 98.5%
- Population under poverty line:
  - 38.6% in 1990
  - 18.8% in 2003
- Coverage of drinkable water:
  - Urban areas: almost 100%
  - Rural areas: over 90%
Chilean hepatitis A rates, 1975-2006

Tasas de Incidencia Hepatitis A (*). Chile, 1975 -2006.

80s: high endemicity
High incidence rates
High seroprevalence in children
Low numbers of outbreaks
Low number of cases in adolescents/adults

90s: intermediate endemicity
Intermediate incidence rates
Reduction in seroprevalence
Increase of numbers of outbreaks
Increase of cases in adolescents/adults

Epidemiology Unit, Ministry of Health
80s: high endemicity

Endemicity indicators:
- Rates 80-100 /100,000
- High seroprevalence in children (School age children 8 years old low SEL 97% sero(+), 1980, Zacharías et al)
- Low numbers of outbreaks
- Low % of cases in adolescents and adults (20% 10-24 years old, v/s 40% 2002)

Control policy:
- Surveillance system: notification of cases
- Secondary prophylaxis: immunoglobulin (not provided by MOH)
1991: Cholera campaign

- Substitution of ground fruits and vegetables fields watered with contaminated water
- Community education
- Prohibition of consumption of both raw sea food and vegetables
- Water chlorine content surveillance
Achievements of cholera campaign on enteric diseases

Cholera prevention campaign

Epidemiology Unit, Ministry of Health
Endemicity indicators:
- Rates 40/100,000
- Reduction in seroprevalence School age children 8 years old low SEL 50% sero (+) (1990, Vial et al), 30% (1996, Lagos et al)
- Increase of numbers of outbreaks
- Increase of cases in adolescents/adults (40% 10-24 years old 2002)

Control measures:
- Safe food and water
- Basic sanitation improvements (water treatment plants)
- Immunoglobulin in outbreaks
Sewage water treatment, Chile

Coverage %

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<td>5.0%</td>
<td>20.9%</td>
<td>26.6%</td>
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Environmental National Commission, Chile, 2002
Fecal coliforms in Valparaíso sea water

Environmental National Commission, Chile, 2002
2002-2003: last national outbreak

- More than 20,000 notified cases
- National hepatitis A rate 70/100,000
- Working group recruited by MoH

Epidemiology Unit, Ministry of Health
Hygiene – environmental intervention
Advocacy arguments:
• Broad effect on enteric diseases
• Long term effect
• Only initial investment
• Recurrent benefits

Universal vaccination intervention
Advocacy arguments:
• High efficacy and rapid effect on rates
• High safety profile
• Herd protection
• Good cost-effectiveness ratio
• Reduction on social inequities
• No broad effect on enteric diseases
• Recurrent cost (annual budget)
Cost-effectiveness of universal childhood hepatitis
A vaccination in Chile

Fig. 1. Net societal cost of vaccination over time (in US$) expressed as present values in 2004 US$.
2002-03 national outbreak: Policy adopted on hepatitis A control

- Hygiene campaign
- No universal immunization program implemented
- Outbreak control:
  - Compulsory notification of outbreaks
  - In field epidemiologic and environmental evaluation from health service team
  - Vaccine for contacts
  - Education
  - Guidelines for solving detected problems
2007 situation

- After outbreak low rates:
  2006: 5.9/100,000
  2007: 4.0/100,000

- Reduction in outbreaks:
  2005 (31), 2006 (6), 2007 (10)

- Some local outbreaks in poor areas Northern Chile
  - Tarapacá: Rate 39/100,000
  - Pozo Almonte (6% poverty)
  - Alto Hospicio (22% poverty)

Tasa de Incidencia Acumulada de Hepatitis A y Hepatitis Viral Sin Especificación, según Región de Ocurrencia. Chile, año 2006.

Casos por 100,000 hab.
Summary, hepatitis A Chile

• Intermediate endemicity 90s

• Progress in water and food safety

• 2006-07:
  – Very low rates (after national outbreak 2002-03)
  – Outbreaks persists in very poor localities

• No universal immunization incorporated

• Policy focused on hygiene education and outbreak control
Thank you for your attention