1240

Hepatitis A in Latin America and the Caribbean: A systematic literature review on endemicity patterns and immunization programs

Cintia I. Parellada, MD, PhD[1]; Emilia Prieto, MD, MSc[2]; Martha Carolina Valderrama, MD, MSc[3]; Daniel Samacá-Samacá[3]; Cristina Maria Carias da Silva, PhD[4]; Fabian Hernandez, MSc[3]; Homero Monsanto, PhD[5]

[1]Center for Observational and Real-World Evidence (CORE), MSD Brazil, São Paulo, Brazil; [2]Global Medical & Scientific Affairs, MSD Colombia, Bogota, Colombia; [3]IQVIA, Real World Insights (RWI), Bogota, Colombia; [4]Vaccines, Merck & Co., Inc., Rahway, NJ, USA; [5]MSD (IA) LLC, Guaynabo, Puerto Rico

Contact information: Cintia I. Parellada; cintia.parellada@merck.com

Background

- Improvements in sanitation and vaccination policies over the last two decades may have impacted epidemiological patterns of hepatitis A virus (HAV) infection in Latin America and the Caribbean (LAC)[1,2]
- The shift from high to intermediate/low endemicity is associated with increase in symptomatic cases in adolescents and adults and localized outbreaks[2]
- In these situations, the World Health Organization (WHO) recommends that vaccination against HAV be integrated into the national immunization schedule for children aged ≥1 year[2]

Objective

- To assess the endemicity patterns and HAV immunization programs in 33 countries of LAC

Methods

- We conducted a systematic literature review using MEDLINE, Embase, CENTRAL, CDRS, Lilacs, and Scopus from January 2005 to December 2021
- Additional searches were carried out on Pan American Health Organization/ WHO country profiles and official government websites in March 2022
- HAV Endemicity was classified using HAV seroprevalence (proportion of population with anti-HAV IgG antibodies) based on WHO criteria

Results

- 43 records containing data on HAV seroprevalence and HAV immunization programs were included

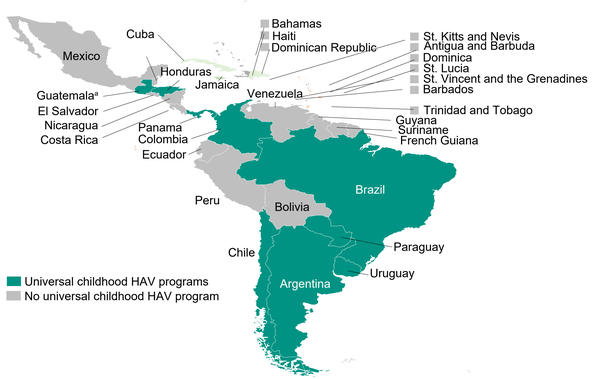
Hepatitis A vaccination programs (Figure 1 and Table 1)

- 9 countries have public universal childhood HAV immunization programs: 8 nationwide and 1 partial (Guatemala)
- 12 countries have programs for at least one at-risk population
- 24 countries/territories do not have universal childhood HAV vaccination programs

Hepatitis A seroprevalence and endemicity level (Figure 2)

- Among 7 countries with seroprevalence data:
  - Argentina, Brazil, and Colombia have already introduced nationwide vaccination policies
  - Bolivia, Mexico, and Peru have an intermediate endemicity level
  - Haiti has a high endemicity level
- No data on seroprevalence were reported for 25 countries/ territories

Figure 1. Hepatitis A Universal Childhood immunization programs in Latin America and the Caribbean, 2022



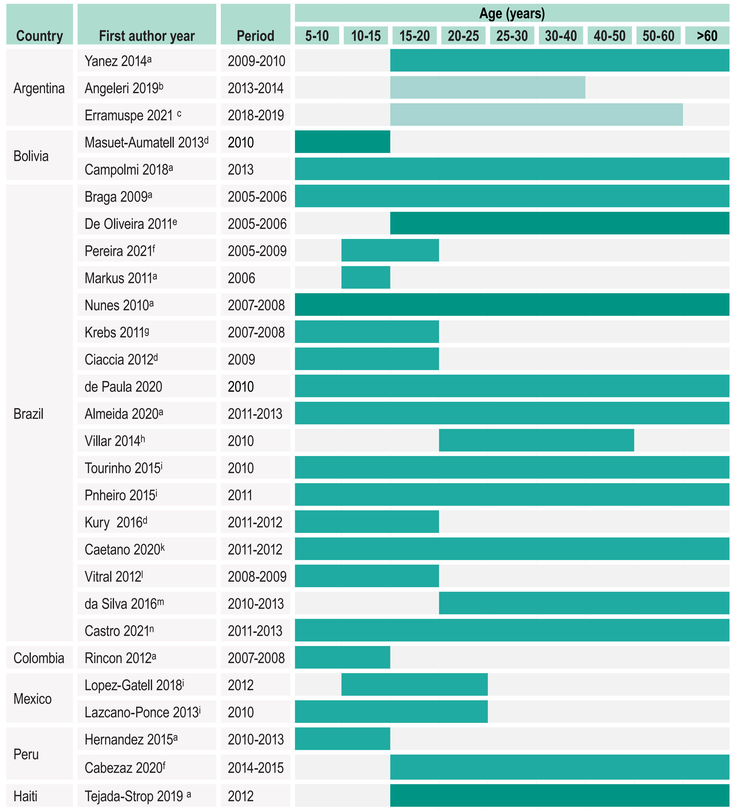
[a]Available for Guatemalan Social Security Institute (employed people in formal sector), which represents 17% of total population.

Table 1. Characteristics of hepatitis A immunization programs in Latin America and the Caribbean

Country	Universal childhood program			At-risk population vaccination[a]
	Year of introduction	Number of doses	Target age	
Argentina	2005	Single dose	12 m	MSM, food handlers, lab HAV handlers, nursery workers, chronic liver disease, clotting disorders, liver transplantation recipients
Bahamas	—	—	—	Travelers
Brazil	2014	Single dose	15 m	HIV, chronic liver disease, clotting disorders, deposit disease, immunosuppressed/immunocompromised, trisomies, cystic fibrosis, transplantation recipients
Chile	2018	Single dose	18 m	HIV, cystic fibrosis, chronic liver disease, transplantation recipients
Colombia	2013	Single dose	12 m	MSM, transgender women, persons who reported drug use or experimenting, homelessness, people deprived of liberty, clotting disorders, hemodialysis/transplantation recipients
Costa Rica	—	—	—	Pregnant women at risk
French Guiana	—	—	—	MSM, nurseries, cystic fibrosis, chronic liver disease, children ≥1 year who have a family member from a highly endemic country; occupational risk
Guatemala	2018	Single dose	15 m	
Honduras	2020	Single dose	12 m	Health workers
Mexico	—	—	—	Children attending nurseries and sons of agricultural laborers
Panama	2007	First dose Second dose	12 m 18 m	MSM, HIV, health workers, food handlers, sex workers, chronic liver disease, immunocompromised, clotting disorders, garbage/ hazardous waste collectors
Paraguay	2013	Single dose	15 m	MSM, chronic liver disease, occupational risk
Uruguay	2008	First dose Second dose	15 m 21m	HIV, health workers at risk, chronic liver disease, occupational risk, liver transplantation recipients

[a]No data on publicly funded programs for hepatitis A were found in the systematic review, including official government websites, for countries not listed in this table.

Figure 2. Hepatitis A endemicity level reported in studies conducted in Latin America and the Caribbean based on WHO classification criteria



[a]General population; [b]Premarital exam; [c]Health-care workers; [d]Children in school; [e]Liver cirrhosis; [f]National survey; [g]Samples from labs, [h]Beauticians; [i]Population-based survey; [j]Chronic HCV infection; [k]Rural settlement; [l]Low socioeconomic groups; [m]Chronic HCV infection; [n]Men who have sex with men/transgender women

Note: Mantovani 2015 and Pereira 2016 were included in this review, but not included in this table (they described only prevalence <5 years). The green bars represent the age groups evaluated by the study.

Low	≥50% by age 30 years, with <50% by age 15 years
Intermediate	≥50% by age 15 years, with < 90% by age 10 years
High	with ≥90% by age 10 years

Limitations

- The results should be interpreted with caution due to the limitations of the retrieved studies. Notably, the difference in the sampling methodology in the seroprevalence studies from patient convenience sample to random population-based sample as well as settings restricted to cities or states that limit data extrapolation for the whole country

Conclusions

- Nine countries have universal childhood HAV immunization program and 12 offered for at least one population at risk
- Bolivia, Mexico, and Peru transitioned to intermediate endemicity and would benefit from introduction of universal hepatitis A vaccination as recommended by WHO
- Countries transitioning to low endemicity, such as Argentina and Brazil, should reinforce HAV vaccination for at-risk population
- In countries without recent data, surveillance of acute cases/outbreaks and seroprevalence studies are needed to guide the HAV vaccination policies

References

1. Tanaka J. *Vaccine.* 2000;18 (Suppl 1):S57-S60.
2. World Health Organization. *Wkly Epidemiol Rec.* 2012;87(28/29):261-276.

Disclosures

This study was funded by Merck Sharp & Dohme LLC, a subsidiary of Merck & Co., Inc., Rahway, NJ, USA. CIP, MC, and HM are employees of Merck Sharp & Dohme LLC, a subsidiary of Merck & Co., Inc., Rahway, NJ, USA, who may own stock and/or hold stock options in Merck & Co., Inc., Rahway, NJ, USA.

https://bit.ly/3PKzvvg

Presented at IDWeek; Washington, DC; October 19-23, 2022.