

# PAKISTAN

## I.) BACKGROUND INFORMATION

Pakistan covers 796,095 sq. km and shares its borders with Afghanistan, China, India and Iran. Pakistan's population is estimated at around 196 million (2014), with about 36.2 percent living in urban areas (2011). Its GDP per capita (PPP) amounts to 3,100 USD (2013). However, 22.3 percent of the population lived below the poverty line in 2006. With a high income inequality it is ranked according to the Human Development Index of 2013 in 146th place, amongst the countries with low human development.<sup>i ii</sup>

Rabies is endemic in Pakistan. The most common lyssavirus present is Genotype 1 (Rabies virus, RABV), with human infections being mostly due to the canine biotype<sup>iii</sup>. Since bat lyssavirus specific surveillance is limited, no information to the presence of lyssaviruses in bats is available.

Human rabies is not a notifiable disease in Pakistan. There is also no national coordinated response to the diseases and its surveillance, since the 18th constitutional amendment in 2011, which resulted in the closure of the Ministry of Health. However, greater autonomy was granted to the provinces, some of which have started to put rabies control mechanisms in place, such as dog vaccination campaigns and ensuring the availability and accessibility to rabies post-exposure prophylaxis (PEP) at public hospital.<sup>iv v</sup>

## II.) HUMAN RABIES EPIDEMIOLOGY

Human rabies cases are mostly diagnosed on clinical grounds only. Since human rabies is not a notifiable disease in Pakistan, no data on human rabies cases is available<sup>vi</sup>. However, on study estimated that 2,000 to 5,000 people die of rabies every year<sup>vii</sup>. A more recent publication indicates that annually approximately 570 people might die of rabies<sup>viii</sup>.

## III.) RABIES VECTORS

The main vector for rabies in Pakistan is the domestic dog. Since there is no rabies surveillance system in place, Pakistan has not reported any cases of rabies in dogs or other domestic animals to the OIE for the period of 2011 to 2013. However, 8,751 dogs were routinely vaccinated in 2011, 10,419 in 2012, and 5,032 in the first half of 2013.<sup>ix</sup>

## IV.) RABIES BIOLOGICS AVAILABILITY

PEP treatment is available in some regions of the country<sup>x</sup>. The use of outdated and less safe nerve tissue vaccine (NTV) will be discontinued in 2014.

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- <sup>i</sup> CIA (2013). The World Factbook: Pakistan. <https://www.cia.gov/library/publications/the-world-factbook/geos/pk.html> [accessed 24.04.2014]
- <sup>ii</sup> UNDP (2013). The Rise of the South: Human Progress in a Diverse World. Human Development Report 2013. New York: UNDP. [http://hdr.undp.org/sites/default/files/reports/14/hdr2013\\_en\\_complete.pdf](http://hdr.undp.org/sites/default/files/reports/14/hdr2013_en_complete.pdf) [accessed 24.04.2014]
- <sup>iii</sup> Pant GR (2013). Rabies Control Strategy in SAARC member countries. <http://www.oie.int/doc/ged/D12940.pdf> [accessed 23.04.2014]
- <sup>iv</sup> AREB (2012). Meeting report. Rabies prevention and control: Projects, progress and future steps discussed at the 8th AREB Meeting. [http://www.areb.info/sites/default/files/files/Meetings/8th%20AREB%20Meeting%20Report\\_14%20mai%202012.pdf](http://www.areb.info/sites/default/files/files/Meetings/8th%20AREB%20Meeting%20Report_14%20mai%202012.pdf) [accessed 23.04.2014]
- <sup>v</sup> Zaidi SMA, AB Labrique, S Khowaja, I Lotia-Farrukh, J Irani, et al. (2013). Geographic Variation in Access to Dog-Bite Care in Pakistan and Risk of Dog-Bite Exposure in Karachi: Prospective Surveillance Using a Low-Cost Mobile Phone System. *PLoS Negl Trop Dis*; 7(12): e2574. doi:10.1371/journal.pntd.0002574.
- <sup>vi</sup> OIE World Animal Health Information System. Pakistan. [http://www.oie.int/wahis\\_2/public/wahid.php/Countryinformation/reporting/reporthistory](http://www.oie.int/wahis_2/public/wahid.php/Countryinformation/reporting/reporthistory) [accessed 23.04.2014]
- <sup>vii</sup> Pant GR (2013). Rabies Control Strategy in SAARC member countries. <http://www.oie.int/doc/ged/D12940.pdf> [accessed 23.04.2014]
- <sup>viii</sup> Hampson K and Partners for Rabies Prevention (in prep). Estimating the global burden of endemic canine rabies.
- <sup>ix</sup> OIE World Animal Health Information System. Pakistan. [http://www.oie.int/wahis\\_2/public/wahid.php/Countryinformation/reporting/reporthistory](http://www.oie.int/wahis_2/public/wahid.php/Countryinformation/reporting/reporthistory) [accessed 23.04.2014]
- <sup>x</sup> AREB (2012). Meeting report. Rabies prevention and control: Projects, progress and future steps discussed at the 8th AREB Meeting. [http://www.areb.info/sites/default/files/files/Meetings/8th%20AREB%20Meeting%20Report\\_14%20mai%202012.pdf](http://www.areb.info/sites/default/files/files/Meetings/8th%20AREB%20Meeting%20Report_14%20mai%202012.pdf) [accessed 23.04.2014]