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A CHILD, A DOG, A VIRUS, AND AN ANTHROPOLOGIST: NOTES ABOUT RABIES IN INDIA

By Deborah Nadal

Rabies as a Worldwide Threat

Globally, zoonoses (i.e., infectious diseases of animals transmissible to humans) account for 61 percent of all infectious diseases and 75 percent of all emerging pathogens (Taylor, Latham, and Woolhouse 2001). With a case-fatality rate of 99.9 percent and no effective cure at the onset of clinical signs, rabies is undoubtedly a zoonosis that merits applied research. Transmission typically occurs through bites from infected animals, with dogs being the main source of human infections.

Rabies kills more than 59,000 people globally each year, and 95 percent of these deaths occur in Asia and Africa (Hampson et al. 2015). Worldwide rabies costs \$8.6 billion and over 15 million people receive post-exposure prophylaxis annually (Hampson et al. 2015). Thus, according to the World Organization for Animal Health, the World Health Organization, and the Food and Agriculture Organization (OIE, WHO, and FAO 2015), rabies control should be a priority for global public health. Sadly, Rabnet, a rabies-dedicated website created in the late 1990s by the WHO was closed in 2011 because of incorrect reporting and fear of misrepresentation.

Rabies remains a disease that disproportionately affects poverty-stricken, marginalized, and politically underrepresented communities whose health issues do not represent a priority in the public health policies of the countries where they live and, consequently, of the international community.

Rabies in India, a Matter of Neglect and Priorities

With 20,800 human deaths a year, India bears the highest burden of rabies deaths globally (Hampson et al. 2015).



Figure 1. An Eight-Year-Old Street Child in New Delhi and His Newly-Adopted Puppy

On June 7, 2012, India was declared by the WHO as a high-risk, rabies-endemic country. In India, a person is bitten by a potentially rabid animal every two seconds and dies of rabies every thirty minutes (Abdul Rahman 2012). Nonetheless, no official rabies reporting or records are mandated at the state and national levels. Falling in the gap between the human and animal health sectors, rabies is rarely prioritized by either in a truly synergic way (Abbas and Kakkar 2013). From the perspective of the veterinary sector, rabies does not represent a priority since it mainly

affects dogs, animals with a trifling economic value compared to livestock. Other impeding factors include India's size and decentralized political structure where states are given significant freedom in setting their priorities.

Despite the country's world burden of rabies cases, Indian research represents only 4.4 percent of the global research on rabies (Kakkar et al. 2012). This has hindered the effective control and management of rabies by the Indian government, which based its policies on this limited body of research. Furthermore, Kakkar and colleagues (2012)

demonstrate that most of the studies focused on the rabies virus from a genetic and biological perspective. Very little research has given adequate attention to the social, political, ecologic, and economic aspects of rabies and the public health policies that can be implemented to prevent the disease. Finally, only 8 percent of the papers focused on animal rabies, and no more than 1 percent showed a multi-species (human and animal) approach towards this pathology. Paradoxically, even if rabies is transmitted through *direct* contact with an infected animal, this fundamental relational dimension was rarely considered in these publications.

Connecting Dots to See the “Big Picture”

According to the “Roadmap to Combat Zoonoses in India” issued by the Public Health Foundation of India (2008), “current strategies targeted towards prevention and control of zoonoses fail to recognize the ‘big picture,’ and are limited by the traditional paradigms of pathogen-specific measures.” In other words, the Indian scientific community has failed to meet the information needs of policymakers and to propose “actionable policy-relevant research” (Kakkar et al. 2012).

Among the social sciences, anthropology is well poised to understand, analyze, and outline the big picture. Anthropologists are trained to think in a reflexive, integrated, and holistic way, searching for broader connections, even those which initially may seem to have limited relevance. Compared to other disciplines, the advantages for anthropologists to recognize the multiplicity of factors is our immersion in the broader sociocultural context. This enables anthropologists not only to draw connections that others may not consider but to identify factors that may otherwise be overlooked.

Context is crucial when studying a complex disease like rabies, especially when outlining the most effective ways to control it. Dogs are the main carriers of rabies in India. Most of them, whether owned or unowned, wander unrestricted on the street, underlining the fundamental importance in understanding their

relationship with the people with whom they share the streets. Elsewhere, these dogs would easily be labelled as “stray,” implying that they could be removed from the streets, shut in kennels, or euthanized. In India, for cultural and religious reasons which have influenced animal welfare laws, the expression “stray dog” is improper and has been replaced by “street dog” to underline the right of these animals to remain where they are.

Furthermore, if we analyze the reasons behind the presence of dogs in public spaces (e.g., availability of food because of inadequate waste management, poor implementation of dog ownership norms), this phenomenon becomes anthropic and linked to the sociocultural context within which it is embedded. Any measure to manage and control rabies cannot ignore this background. Rabies is 100 percent preventable through post-exposure prophylaxis, but in low-income countries most victims do not have access to it. Therefore, controlling rabies at its source, in dogs, is the logical alternative. In India, this measure encounters many obstacles, implicating the need for a joint effort by all involved stakeholders.

Bridging Gaps among People through the One World One Health Approach

The One Health framework (see Healy et al. in this volume) maintains that human, animal, and environmental health are entwined and that their improvement requires inter-disciplinary and inter-sectoral cooperation. Despite the challenges it poses, the benefits of this strategy have been recognized by many (Gibbs 2014), and it is considered the most effective method to eliminate rabies worldwide.

According to the international scientific community, the most effective and long-term way to control canine and human rabies is vaccinating 70 percent of the dog population of a given area over a short time frame (Davlin and Vonville 2012). Unfortunately, in India the implemented practices do not always follow this approach systematically but are rather disjointed and ineffective. The absence of a shared objective and lack

of communication between the human and animal health sectors, policymakers, animal welfare advocates (e.g., NGO managers, activists, etc.), and the general public are illustrated through the following example from my ethnographic research.

Under significant pressure from the many Indian animal welfare organizations, in 2001 the Government issued the Animal Birth Control (Dogs) Rules. This law mandates that street dogs cannot be removed, relocated, or killed but have to be sterilized, vaccinated, and returned to where they were found. Paradoxically, sometimes municipal authorities proceed with indiscriminate mass killings, or “clean-ups” of dogs, killing even those for which they have already paid vaccination and sterilization. These practices are often spurred by the complaints of citizens who do not accept the presence of dogs on the streets.

On the basis of my experience as an anthropologist working within this web of misunderstanding, mistrust, and lack of cooperation, I found that anthropologists can also be useful as mediators. Undoubtedly, this is a role that goes beyond our training as scientists, yet it can be equally important. During my research, often characterized by sharp factions and counterproductive prejudices between parties, I was usually considered impartial and detached from the heated debate, thus able to have an unbiased and “objective” opinion. Nevertheless, I was usually considered well informed by my interlocutors, more than their opponents who were blamed to be misinformed and biased by “irrational” factors (e.g., personal ethics, cruelty towards animals, or “irrational” love for them). As an allegedly neutral source of information, my research participants and collaborators suggested that they learned things about viewpoints and drivers of practices from opposing parties from me that they never had the chance to discover on their own because of a lack of dialogue.

Applied anthropology goes beyond research that is an end in itself and acts as a bridge between volatile theory and workable practice. Moreover, I argue that the interventions proposed by anthropologists are more likely to produce positive results because they are inclusive of the perspectives of major stakeholders. During

the preparatory phase, we listen to the voices of both those who are eventually going to implement and participate in the projects. This double attention is pivotal. In the development of a workable project, the converging or diverging opinions can be collated, considered, and harmonized from inception, avoiding waste of time and resources.

The concept of One Health was extended on a global scale by the trademark protected expression One World One Health to describe a single bio-communicable planet where greater coordination is required to prevent and control disease (McCloskey et al. 2014). With reference to rabies, the global commitment fostered by this agenda is of massive importance, especially because it keeps this pathology in the public eye of the international community and of those countries where it otherwise risks being neglected.

The contribution of anthropology to this concept is fundamental. Anthropology efficaciously brings One Health back to the local, situated, contextualized setting of the health issue under consideration. International standards are undoubtedly necessary for providing guidelines grounded in evidence, practical experiences, and fruitful comparisons. Nonetheless, they need to be tailored to local social worlds. Taking rabies in India as an example, it has proven challenging to adhere to the recommendation of vaccination over sterilization because citizens find street dogs to be more of a nuisance and may not consider as a priority their role in spreading rabies. Sterilization and vaccination are not mutually exclusive and are carried out simultaneously in India, but as per WHO guidelines, only vaccination has a *direct* effect on rabies control.

Conclusions

This paper briefly outlined the complex situation of rabies in India by pointing out not only the hindrances to the effective management of the disease but also the various efforts that have been made to reach it. These efforts have not yet achieved all over India their anticipated results, in part because of the lack of contextual strategies that take into account the knowledge, attitudes, and priorities of the Indian people

(who prefer sterilization to reduce, and eventually eliminate, the nuisance of dogs) which should be combined with best practices for rabies prevention and eradication (vaccination). Anthropologists with their in-depth knowledge of the communities they work with are well placed to be an intermediary in One Health efforts to mitigate rabies in India.

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