

Commentary

World Rabies Day (September 28, 2008) - The second official global initiative to increase awareness, improve preventive efforts, and reduce mortality from this uniformly fatal disease

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World Rabies Day (WRD) 2008 is scheduled for September 28, 2008. Sponsors include The Centers for Disease Prevention and Control, USA (CDC), the Alliance for Rabies Control (ARC), The World Health Organization (WHO), and several others mentioned below. The principal web site is: www.worldrabiesday.org. WRD 2007 reached over 54 million individuals, about 400,000 people from 74 countries participated in various activities to increase awareness and raise financial support, and approximately 600,000 animal vaccinations were given. Government and community agencies, volunteers, and a number of veterinary organizations and schools supported this global effort. Much work remains in order to ultimately 'Make Rabies History'. Educational efforts, resources, and recent developments are reviewed.

Keywords: Rabies, rabies education, World Rabies Day (WRD).

The first World Rabies Day (WRD) was instituted on September 7, 2007 and was organized by the Center for Disease Control and Prevention (CDC), Atlanta USA, and the Alliance for Rabies Control (ARC), A U.K.-based charity. Several other organizations supported this effort, including The World Health Organization (WHO), The Pan-American Health Organization (PAHO), The World Organization for Animal Health (OIE), WHO collaborating centers, various veterinary organizations and schools, including Kansas State University, and local volunteer educators. In Thailand, the Thai Ministry of Health, the Thai Red Cross, the Department of Livestock Development, Chulalongkorn University and the municipalities (Bangkok Metropolis) all co-sponsored events [1, 2].

As a result of these and other significant global efforts, about 400,000 people in 74 countries participated, over 54 million people were reached, and

603,869 animal immunizations were administered (Costa, P. Personal communication, 21 MAY 2008). Further details are available on the WRD web site (www.worldrabiesday.org).

These landmark efforts were a good start, but the effort needs to be continued and grow at the global, national, and community levels. Opportunities for 2008 listed on the Alliance for Rabies Control (ARC) web site (www.rabiescontrol.net) include:

- 1) Work experience placements on projects for young medical or veterinary graduates,
- 2) Content writing on the web,
- 3) Event Planning, and
- 4) Fundraising.

WRD logos and other educational materials are available in various languages on the WRD web site. This site is updated regularly, so those interested should stay 'tuned-in'!

Currently, most human rabies deaths occur in Africa and Asia, and about half of these in children under age 15. Stray dogs remain the principal problem in these areas [3], while bats top the list in North America. The CDC web site contains excellent

information about rabies in bats, as well as detailed information on pre- and post-exposure immunization protocols approved in the USA (www.cdc.gov/rabies). For those in Asia, Europe, Latin America, and other locales, the WHO guidelines for both intramuscular (IM) and intradermal (ID) are quite detailed. These have recently been reviewed by Wilde et al [3].

An impressive example of the effectiveness and inverse relationship between dog vaccinations and human rabies in Mexico has been published by PAHO and is available on the ARC web site (www.rabiescontrol.net/programs_projects_en.php). Samples of web sites are summarized in **Table 1**.

Table 1. Samples of Rabies Educational Websites.

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1. WRD (www.worldrabiesday.org)
 2. ARC (www.rabiescontrol.net)
 3. WHO (www.who.int/topics/rabies/en/)
 4. CDC (www.cdc.gov/rabies)
 5. Thailand (www.soonak.com)
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Educational activities and resources at the local community level have been recently described [2]. In addition, a recent presentation to a local Midwest Rotary Club (85-90 attendees, 1 May 2008) in Wisconsin confirms the need for continuing public health educational outreach. Especially important are the concepts of what constitutes an exposure, what is the difference between pre- (PEP) and post-exposure (PET) treatment, how to handle a sick or dead bat, and the importance of prompt wound cleansing with soap and water after a bite! Continuing professional education remains crucial.

In 2007, only two human rabies cases were reported from North America, and both died as a result of bat bites. The first was a 73-year-old man from Alberta [4], and the second was a 46-year-old man from Minnesota [5]. The CDC has declared the USA free of canine rabies, but rabies in other animals continues to be a challenge (bats, cats/kittens, foxes, raccoons, skunks in North America) [6]. An example of this is the exposure to a rabid kitten at a South Carolina softball tournament. This exposure resulted in the state health departments of South Carolina, North Carolina, Georgia, and Tennessee to track and identify team members and others who may have been exposed. This is described in detail on the CDC website

(www.cdc.gov/rabies/news/2007-07-27_softball.html). Not all states require cat rabies immunization. For example, Wisconsin has only a requirement for dogs, but not for cats or ferrets, although the Division of Health recommends rabies vaccination for all such pets. One encouraging note is that Hawaii remains rabies-free as a result of their very strict animal import policies (Rupprecht C, Hanlon C. Personal communication, 20 May 2008).

In areas where rabies and malaria are both endemic, such as Malawi, rabies encephalitis has been misdiagnosed as cerebral malaria, and one case occurred in a child who had both rabies, and falciparum parasitemia. Three of 26 fatal cases (11.5 %) originally diagnosed as cerebral malaria were caused by the rabies virus [7].

Another example of the need for increasing professional awareness is that of the transplant professional community, due to several rabies cases which have occurred after organ transplantation [8].

Proper wound care, modern vaccines and rabies immunoglobulin remain the cornerstone of rabies prevention. And both patients and providers must be on the watch for fake/counterfeit products. Nerve tissue vaccines are both dangerous and poorly immunogenic, and should be avoided [9, 10].

Finally, rabies remains a neglected, enigmatic, tragic, under-reported, and untreatable disease [11]. There is only one known unvaccinated survivor [12], and the reason for her survival remains unknown. She had clinical rabies in 2004, survived, and at present is a college freshman in her home town.

Two other recent items of concern, especially for travelers to endemic areas, and students entering veterinary school, are:

- a) The recent shortage/unavailability (hopefully temporary) of rabies vaccine for pre-exposure immunization in the USA (www.cdc.gov/rabies),
- b) The recent resurgence of rabies in some parts of France (www.hpa.org.uk and www.nathnac.org).

The entire WRD effort has the potential to make ongoing inroads toward rabies eradication. Much work remains. The vaccination and sterilization of stray dogs in the developing world, more effective regulation of pet vaccination (e.g. dogs, cats, ferrets) everywhere, the increased availability and reduced cost of modern vaccines, new monoclonal antibodies to replace current antisera (HRIG/ERIG-human rabies immunoglobulin/equine rabies immunoglobulin), and ongoing public and professional education are of critical importance.

Proper immediate wound care cannot be over-emphasized-thorough washing with soap and water and avoiding primary wound closure whenever possible.

As previously noted [13], the paradigm has shifted to stronger involvement of both governmental agencies and community resources. World Rabies Day 2007 was a watershed event. WRD 2008 has great potential. If we can eradicate smallpox and put a man on the moon, with continued resolve 'Make Rabies History' is both possible and worthwhile.

In summary, I encourage each of our readers to support and participate in this most worthwhile effort to eradicate rabies. In large measure WRD is also an effort to 'Save the Children' and 'Make Rabies History'! And remember to be wary of stray kittens and cat bites! First-line treatment is always thorough cleansing with soap and water!

Your help is both needed and appreciated!

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