Ghazi Yehia
Regional representation for the ME

Rabies in the Middle East

World Rabies day
28 September 2019
Cairo Egypt
Introduction.

On the occasion of World Rabies Day, the OIE is mobilizing its forces, and invites the international community to join the fight against one of the world's most deadly zoonotic disease.

Every ten minutes, somebody somewhere in the world dies of rabies. That tragic statistic still holds true today. Each year, rabies claims around 70,000 human victims, mainly children in developing countries. However, rabies can be eliminated. Over 95% of human rabies cases are due to bites by infected dogs and, unlike many other diseases, we have all the necessary tools to eradicate it. That is why, today, every rabies victim is one victim too many.

it is essential to inform populations on the ravages brought about by this devastating disease,“. Declares "Rabies is a disease that is all too often under-estimated, and it is urgent for all to become aware of the fact that there are solutions.
Rabies worldwide

- Children in underserved, rural populations are particularly vulnerable, and face a daily threat of rabies.
- Of all the neglected tropical diseases, rabies ranks as one of the highest, with as many as an estimated 59,000 estimated deaths worldwide.
- Rabies is 100% vaccine-preventable in animals and humans. Most cases can be prevented by vaccinating dogs, avoiding dog bites and raising awareness among communities. There is no cure for rabies once symptoms develop, and bite victims invariably die a slow, painful death unless post-bite treatment is promptly administered.
Rabies distribution map

WAHIS 2018
Global elimination of Rabies

▪ Global freedom from the threat of dog-mediated human rabies is feasible within our lifetime.
▪ An integrated investment strategy is needed to make this vision a reality.
▪ The tools, vaccines and evidence are available: investment Funds can go directly towards rabies control and elimination.
▪ WHO-OIE-FAO + stakeholders combine efforts through international health mechanisms, (rabies vaccine banks, reporting systems, control tools…)
Animals, Humans and Diseases

- Diseases of animal origin that can be transmitted to humans, such as avian influenza, rabies, Rift Valley fever and brucellosis, pose worldwide risks to public health. Other diseases which are mainly transmitted from person to person also circulate in animals or have an animal reservoir, and can cause serious health emergencies, such as the recent epidemic of Ebola virus. These risks increase with globalisation, climate change and changes in human behaviour, giving pathogens numerous opportunities to colonise new territories and evolve into new forms.
Protecting animals to preserve our future

- Controlling zoonotic pathogens at their animal source – that is, pathogens that can be transmitted from animals to humans and vice versa – is the most effective and economic way of protecting people.

- Consequently, **global strategies** to prevent and control pathogens must be developed if we are to **protect public health**. These should be **coordinated at the human–animal–ecosystems interface** and applied at the national, regional and global levels, through the implementation of appropriate policies.
Domestic animals, wildlife and humans face similar health threats
60% of existing human infectious diseases are zoonotic

At least 75% of emerging infectious diseases of humans (including Ebola, HIV, and influenza) have an animal origin

5 new human diseases appear every year. Three are of animal origin

80% of agents with potential bioterrorist use are zoonotic pathogens
Rationale for a global strategy

1- Rabies is a major public health problem that disproportionately burdens poor rural communities,
2- Rabies is preventable yet continues to kill,
3- Dog-mediated rabies can be eliminated by vaccinating dogs,
4- Comprehensive vaccination across large areas is the most effective approach to achieve elimination,
5- Rabies elimination is feasible
6- Prevention of rabies is cost effective.
# Global Strategy

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<td>by raising awareness of rabies among at-risk populations</td>
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<td>VACCINATE</td>
<td>by implementing large-scale dog vaccination and ensuring prompt delivery of post-exposure treatment to humans in areas at risk of rabies</td>
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<td>ELIMINATE</td>
<td>by targeting a world free from dog-mediated human rabies deaths by 2030</td>
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Rabies Strategy

1.

- **EDUCATE.** A cornerstone of rabies elimination is raising public awareness of rabies as an entirely preventable disease.

- Rabies awareness campaigns adapted to the local situation are essential to motivate responsible dog ownership, including vaccination of dogs against rabies, prevent dog bites and administer first aid for bite victims including wound washing and rabies post-exposure injections. Awareness raising encourages communities to fight rabies and fosters political commitment at local, national, regional and international levels for allocating the needed resources.
Rabies Strategy

2

- **VACCINATE.** Vaccination of dogs prevents rabies at its animal source and stops the rabies virus from circulating. Human vaccines reduce fatalities induced by bites of possible rabies-infected dogs.

Wider access to safe, efficacious and accessible dog and human vaccines and immunoglobulins is needed in all communities at risk of rabies. Mass vaccination of dogs in at-risk areas has proven the most cost–effective, long-term intervention for interrupting transmission of human rabies transmitted by dogs.

Since 2012, the OIE dog Rabies Vaccine Bank has provided a secure supply of quality-assured vaccines manufactured in accordance with OIE international standards. To match the OIE-led dog Rabies Vaccine Bank, WHO plans to create a human rabies vaccine stockpile. These initiatives are intended to accelerate rabies elimination programmes in member countries worldwide.
Rabies Strategy

3

- **ELIMINATE.** Achieving zero human deaths from dog-transmitted rabies by 2030 is feasible but relies on political commitment and support. The [2015 Global Rabies Framework](https://www.oie.int/eng/sante_animaux/rapports/rapport_rabies.htm) promotes a stepwise approach to assist countries to successfully eliminate rabies, by prioritizing actions and allocating resources.

WHO, OIE and FAO together with countries and partners target the elimination of rabies through education and vaccination, contributing to the United Nations Sustainable Development Goals, by ensuring healthy lives and promoting well-being for all,
Rabies in the Middle East

WAHIS 2018
Rabies in the Middle East

In the MENA region, rabies is mainly urban, transmitted to humans by free roaming dogs, the population density of which is highly correlated to the evolution of enzootics and possible epizootic outbreaks. More than 50% of the free-roaming dogs are under one year age. The density of the stray dog population is around 0.6 to 1.5/km² in urban area and more than 2.6 in rural areas. (80% Rabied dogs cases) National strategies include accination, control of stray dog populations and raising awareness among at risk human populations. These strategy are partially implemented (lack of Funds, human resources, lack of coordination).
The OIE: Who we are today...

Improving animal health and welfare worldwide

STANDARDS
for international trade of animals and animal products

TRANSPARENCY
of the world animal disease situation

EXPERTISE
Collection and dissemination of veterinary scientific information

SOLIDARITY
between countries to strengthen capacities worldwide

under the mandate given by the WTO

including zoonoses

animal disease prevention and control methods

Capacity building tools and programmes

World Organisation for Animal Health · Protecting animals, Preserving our future | 17
Today and tomorrow
OIE Intergovernmental Standards regularly updated

- Plan and surveillance
- Veterinary legislation
- Quality of Veterinary Services
The OIE international Standards

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The good governance of Veterinary Services

The OIE has adopted and published international standards to ensure the quality of the Veterinary Services:

» Section 3: Quality of Veterinary Services
  • Chapter 3.1. Veterinary Services
  • Chapter 3.2. Evaluation of Veterinary Services
  • Chapter 3.3. Communication
  • Chapter 3.4. Veterinary legislation

Terrestrial Animal Health Code
mammals, birds and bees
http://www.oie.int/eng/normes/mcode/en_sommaire.htm
CHAPTER 8.14.

INFECTION WITH RABIES VIRUS


General provisions

Rabies is a disease caused by neurotropic viruses of the Genus Lyssavirus in the family Rhabdoviridae of the order Mononegavirales and is transmissible to all mammals. Populations of the orders Carnivora and Chiroptera are considered to be the main reservoir hosts.

Rabies virus, the taxonomic prototype species in the Lyssavirus Genus formerly referred to as ‘classical rabies virus, genotype-1’, is found in most parts of the world, and is responsible for the vast majority of reported animal and human rabies cases. The most common source of exposure of humans to rabies virus is the dog.

Other Lyssavirus species can cause clinical signs similar to those caused by rabies virus, but have more restricted geographical and host range, with the majority having been isolated only from bats, thus having limited public and animal health implications.

The aim of this chapter is to mitigate the risk to the public and animal health posed by infection with rabies virus and to prevent the international spread of rabies virus.

Official control programmes to reduce the economic and public health burden of rabies are recommended, even in those countries where only bat-mediated rabies or wild carnivore-mediated rabies are present.

The incubation period for rabies is highly variable depending on viruses, hosts and sites of entry, and the majority of infected animals will develop disease within six months of exposure.

The infective period for rabies virus is variable and can start before the onset of clinical signs. In dogs, cats and ferrets virus shedding can start up to ten days before the onset of the first clinical signs and last until death.

For the purposes of the Terrestrial Code:

a case is any animal infected with rabies virus;

dog-mediated rabies is defined as any case caused by rabies virus maintained in the dog population (Canis lupus familiaris) independently of other animal reservoir species, as determined by epidemiological studies;

the incubation period of infection with rabies virus shall be six months.

Standards for diagnostic tests and vaccines are described in the Terrestrial Manual.
CHAPTER 7.7.

STRAY DOG POPULATION CONTROL

Preamble: The scope of these recommendations is to deal with stray and feral dogs, which pose serious human health, animal health and animal welfare problems and have a socio-economic, environmental, political and religious impact in many countries. Human health, including the prevention of zoonotic diseases, notably rabies, is a priority. Dog population management is an integral part of rabies control programmes. Furthermore, the OIE recognises the importance of controlling dog populations without causing unnecessary animal suffering. Veterinary Services should play a lead role in preventing zoonotic diseases and ensuring animal welfare and should be involved in dog population control, coordinating their activities with other competent public institutions and/or agencies.

Article 7.7.1.

Guiding principles

The following recommendations are based on those laid down in Chapter 7.1. Some additional principles are relevant to these recommendations:

The promotion of responsible dog ownership can significantly reduce the numbers of stray dogs and the incidence of zoonotic diseases.

Because dog ecology is linked with human activities, control of dog populations has to be accompanied by changes in human behaviour to be effective.

Article 7.7.2.

Definitions

Carrying capacity: means the upper limit of the dog population density that could be supported by the habitat based on the availability of resources (food, water, shelter), and human acceptance.

Dog population control programme: means a programme with the aim of reducing a stray dog population to a particular level and/or maintaining it at that level and/or managing it in order to meet a predetermined objective (see Article 7.7.3.).

Person: this can include more than one individual, and could comprise family/household members or an organisation.

Article 7.7.3.

Dog population control programme objectives

The objectives of a programme to control the dog population may include the following:

improve health and welfare of owned and stray dog population;
reduce numbers of stray dogs to an acceptable level;
promote responsible ownership;
assist in the creation and maintenance of a rabies immune or rabies free dog population;
reduce the risk of zoonotic diseases other than rabies;
manage other risks to human health (e.g. parasites);
Responsibilities and competencies

Veterinary Authority

The Veterinary Authority is responsible for the implementation of animal health and animal welfare legislation, in coordination with other competent government agencies and institutions. Control of endemic zoonotic diseases such as rabies and parasitic infections (e.g. Echinococcus spp.) would require technical advice from the Veterinary Authority, as animal health and some aspects of public health are within this Authority’s competence but organising and/or supervising dog control schemes can be the responsibility of non-governmental organisations and governmental agencies other than the Veterinary Authority.

Other government agencies

The responsibilities of other government agencies will depend on the risk being managed and the objective/nature of the dog population control measures employed.

The ministry or other agency responsible for public health would normally play a leadership role and may have legislative authority in dealing with zoonotic diseases. Control of stray dogs with regard to other human health risks (e.g. stray dogs on roads; dog attacks within communities) may fall within the responsibility of the public health agency but is more likely to be the responsibility of the local government authorities or other agencies for public safety/security operating at the state/provincial or municipal level.

Environment protection agencies may take responsibility for control problems associated with stray dogs when they present a hazard to the environment (e.g. control of feral dogs in national parks; prevention of dog attacks on wildlife or transmission of diseases to wildlife) or where a lack of environmental controls is giving rise to stray dog populations that threaten human health or access to amenities. For example, environmental protection agencies may regulate and enforce measures to prevent dogs from accessing waste or human sewage.
Private sector veterinarians

The private sector veterinarian is responsible for providing advice to dog owners or handlers consulting the veterinary for advice or treatment of a dog. The private sector veterinarian can play an important role in disease surveillance because he/she might be the first to see a dog suffering from a notifiable disease such as rabies. It is necessary that the private sector veterinarian follow the procedure established by the Veterinary Authority for responding to and reporting a suspected rabies case or a dog that is suffering from any other notifiable disease. Privatesector veterinarians also play an important role (often in liaison with the police and/or local authorities) in dealing with cases of neglect that can lead to problems with stray and mismanaged dogs.

The private veterinarian has competence and will normally be involved in dog health programmes and population control measures, including health testing, vaccination, identification, kennelling during the absence of the owner, sterilisation and euthanasia. Two-way communication between the private sector veterinarian and Veterinary Authority, often via the medium of a veterinary professional organisation, is very important and the Veterinary Authority is responsible for setting up appropriate mechanisms for this action.

Non-governmental organisations

Non-governmental organisations (NGOs) are potentially important partners of the Veterinary Services in contributing to public awareness and understanding and helping to obtain resources to contribute in a practical way to the design and successful implementation of dog control programmes. NGOs can supply local knowledge on dog populations and features of ownership, as well as expertise in handling and kennelling dogs and the implementation of sterilisation programmes. NGOs can also contribute, together with veterinarians and the authorities in educating the public in responsible dog ownership.

Local government authorities

Local government authorities are responsible for many services and programmes that relate to health, safety and public good within their jurisdiction. In many countries the legislative framework gives authority to local government agencies in regard to aspects of public health, environmental health/hygiene and inspection/compliance activities. In many countries local government agencies are responsible for the development and enforcement of legislation relating to dog ownership (e.g. registration, microchipping, vaccination, leash laws, abandonment), the control of stray dogs (e.g. dog catching and shelters) and the alleviation of the problems stray dogs cause in their jurisdiction. This would normally be done with advice from a higher level (national or state/provincial) authority with specialised expertise in regard to public health and animal health. Collaboration with the private sector veterinarians (e.g. in programmes to sterilise and vaccinate stray dogs) and NGOs is a common feature of dog control programmes. Regardless of the legislative basis, it is essential to have the co-operation of local government authorities in the control of stray dogs.

Dog owners

When a person takes on the ownership of a dog, there should be an immediate acceptance of responsibility for that dog, and for any offspring it may produce, for the duration of its life or until a subsequent owner is found. The owner should ensure that the welfare of the dog, including behavioural needs, are respected and the dog is protected, as far as possible, from infectious diseases (e.g. through vaccination and parasite control) and from unwanted reproduction (e.g. through contraception or sterilisation). Owners should ensure that the dog's ownership is clearly identified (preferably with permanent identification such as a tattoo or microchip) and, where required by legislation, registered on a centralised database. All reasonable steps should be taken to ensure that the dog does not roam out of control in a manner that would pose a problem to the community and/or the environment.
Veterinary Services
are at the heart of animal health systems
tasked with preventing and controlling animal
diseases
The good governance of Veterinary Services

Fundamental principles of quality include:

- Ethical Nature
  - Professional judgment
  - Independence
  - Impartiality
  - Integrity
  - Objectivity

- Organizational/technical Nature
  - Intrinsic qualities of VS,
  - To allow proper implementation of all other provisions of the OIE Code

= intrinsic qualities of VS,
The good governance of Veterinary Services

Quality of Veterinary Services can be measured through an evaluation (chapter 3.2)

- the evaluation should demonstrate that the ‘Veterinary Services have the capability for effective control of the sanitary and zoosanitary status of animals and animal products’.
- Key elements to be covered:
  - Adequacy of resources
  - Management capability
  - Legislative and administrative infrastructures
  - Independence in the exercise of official functions
  - History of performance, including disease reporting.
In addition to the OIE's missions of setting standards and promoting international solidarity in order to prevent and control rabies.

The OIE is publishing an interactive infographic on rabies, to help us better to know, understand, and combat the disease. The OIE addresses a broad audience, and encourages it to use and disseminate this infographic as widely as possible. We all have our contribution to make to the global fight against rabies.

At the same time, the OIE will be unveiling its new rabies web portal. This platform brings together a wealth of information on rabies and on action taken worldwide to combat it.

What is rabies? How can it be controlled? How can we react? The answers are here. It contains a page devoted to the OIE's communication tools aimed at various audiences, including disease information summaries, educational material, videos and statements.
RABIES

Every ten minutes, someone in the world dies from rabies. This is the sad reality of the situation even today. Every year, rabies kills nearly 70,000 people, mostly children in developing countries. Over 90% of human cases are caused by the bite of a rabies-infected dog, yet the disease could be eliminated. Indeed, unlike many other diseases, we already have all the tools needed to eradicate it. Each new victim is therefore one too many.

What is rabies?
- 70,000 deaths per year worldwide
- 2/3 of the countries in the world are still affected
- Over 90% of human cases of rabies are due to dog bites

Nearly 100% of human rabies cases are preventable

ERADICATE CANINE RABIES SO THAT NO MORE HUMAN CASES OCCUR
- 70% Vaccinate at least 70% of dogs
- $+10 A cost nearly 10 times lower than that of human prophylaxis

INTERNATIONAL ORGANISATIONS ARE MOBILISING
- FAO, OIE, WHO
- A shared FAO/OIE/WHO commitment
- OIE regional vaccine banks
- The “Blueprint” for rabies prevention and control

YOUR TURN TO GET INVOLVED
- TAKE PART IN THE WORLD RABIES DAY
- SHARE INFORMATION
OIE Rabies Campaign

tools

RABIES ENDS HERE WITH ME

I vaccinated a dog

Dog's name: 
Vaccination done by: 
Date:  
Country:  
City:  
OIE Rabies Campaign

*tools*

Guide to World Rabies Day 2019:
Everything you need to know about the ‘Rabies Ends Here’ campaign
Dog vaccination is the solution to stop rabies at its animal source and prevent ten of thousands of human deaths around the world every years.

The OIE “Rabies ends here” campaign aims to generate a sense of pride in people who have had a dog vaccinated against rabies and create a social trend to increase the number of people involved in the vaccination campaigns.

Veterinary services, dog owners, community members. All have a role to play, because behind each vaccinated dog, there is a man, a woman, a child, who made the move to vaccinate their animal or the one of the community.
Conclusion

▪ Regional and global strategies are needed to support countries’ efforts,
▪ Establishment of coordinated networks that work effectively across national boundaries.
Regional strategy

- Coherence and long term sustainability,
- Coordination of interventions all stakeholders,
- Robust human and animal health systems,
- NGOs collaboration,
- Intersectoral involvement (Ministries, municipalities, education,..)
- International organizations support
Dr. Ghazi Yehia
Regional Representative for the Middle East
g.yehia@oie.int

Regional Representation for the Middle East
18 Damascus St., Ministry of Agriculture bldg
Furn El Chebbak, Beirut
P.O. Box 268 Hazmieh - Lebanon
T: +961 1 280 869
www.rr-middleeast.oie.int

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