

## Rabies and Its Present Situation in Iran

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### Abstract

Rabies is one of the infectious diseases, highly fatal and true zoonoses. The disease occurs in most countries. In Iran, rabies is endemic and a major public health Problem. The most warm-blooded animals are susceptible to rabies. The methods of transmission is almost always by the bite of an infected animal to human and animals. The saliva of rabid animal contains the rabies virus. The main source animals are dog, wolf, wild carnivores and fox. Today, there are three hundred anti rabies treatment centers in Iran for Post-exposure treatment. During the year 2004, 113542 Persons have been treated in anti rabies Post-exposure centers. According to Pasteur institute of Iran, 418 Positive cases of animal rabies and 3 cases of human rabies in 2001, 350 positive cases of animal and 6 cases of human in 2002, 309 positive cases of animal and 10 cases of human in 2003, and 320 positive cases of animal and 5 cases of human rabies in 2004 have been confirmed in all parts of country. Due to the increasing trend of animal bite and positive cases of animal and human, it is important that the responsible authorities of the government do effective control measures in rabies combat.

**Key words:** Rabies, Iran, Animal, Human.

### Introduction

Rabies is a fatal viral zoonosis and a serious health problem (3). Rabies is caused by the rabies virus of the genus lyssavirus of the family Rhabdoviridae. The genus is composed of at least six genotypes (4, 5). The warmest blooded species, including human are susceptible to rabies. The methods of transmission are almost always by the bite of an infected animal to human and animals. The saliva of rabid animal contain the rabies virus (4). The main source animal are dog, wolf, fox and wild carnivores.

Rabies does not presently occur in Scandinavia, GRAET Britain, Ireland, Australia and New Zealand (6).

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The disease is endemic in other parts of the world, including the United States, Canada, Europe, Asia and Iran also (5, 6). This situation is related to areas surrounded with water.

Rabies have been diagnosed 2300 years (BC) and believed that the dog is the main vector. Iranian researchers as Avicenna, Sayed Esmail Jorjani described rabies (7, 8). Loui Pasteur in 1885 open the way for an effective post-exposure treatment and vaccination (2).

### Materials and methods

In this study data collection has done from center for reference and research on Rabies Pasteur Institute of Iran, Veterinary organization of Iran, ministry of health and medical education (Zoonosis control department) and analysis of the questioner form all provinces of Iran about human and animals' rabies during 2001-2004.

and 2004, 86421, 93216, 99861 and 113542 persons have been treated respectively in anti-rabies post-exposure centers. In these years 421,350,319,325 positive cases of animal rabies have been confirmed in all parts of country respectively and 24 positive cases of human rabies in four years (Table 1). According to veterinary organization, Vaccination of dogs has been shown in Table 2.

**Results**

Today there are more than three hundred anti rabies treatment centers in Iran involving in post-exposure treatment right now. During the years 2001, 2002, 2003

Table 1. Positive cases of animal and human rabies and persons which have been treated in anti-rabies post-exposure centers.

Reference: Pasteur Institute of Iran.

Year	Total numbers of samples	Total positive cases	Dog	Cattle	Sheep	Cat	Wolf	Fox	Jackal	Donkey and horse	Unknown	Total individuals have been treated	Total positive cases human rabies
2001	616	421	83	248	22	2	21	13	6	15	8	86421	3
2002	559	356	87	180	32	2	27	7	7	7	1	93216	6
2003	524	319	73	162	32	0	16	3	8	10	5	99861	10
2004	531	325	79	146	32	4	16	11	10	16	4	113542	5

Table2- Vaccination of dogs (2001-2004). Reference: Control office of animal diseases of veterinary organization.

Year 2001	171409 dog
Year 2002	219423 dog
Year 2003	236894 dog
Year 2004	216193 dog

**Discussion**

Rabies occurs in the most countries especially in Africa and Asia Continents. Annually 10 million *IJHR (2016), 1(2): 32-34*

individuals treat and near about 50000 death persons are reported in the world (5, 6) The incidence of the disease gradually declined in some areas of the world during 20 year ago specially in western Europe (5, 6) Regarding to table 1 in these four years (2001- 2004), 1397 positive

cases of animal and 24 cases of human rabies have been due to dogs and ruminants in north part of the country. Although dog, fox and jackal are the most vectors of the disease, but wolf is the main vector in the west and north – west part of Iran. Sylvatic and Urban forms are the different features of the disease in Iran (5).

Animal rabies in north, north- east parts and in addition, Fars and Kerman provinces have the most prevalent area in the country (1, 5).

Due to the increasing trend of animal bite especially positive rabies cases in dogs, the responsible authorities of the government must do effective control measures in rabies combat. Today there are 900000-1100000 Shepard and pet dog in Iran. Which 25-30 percent dogs vaccinated against rabies. Whereas 70-80 percent must be vaccinated until could be controlled it. It could be possible to compensate the economic damages due to rabies in animal and human by increasing the consumption of vaccine and anti-rabies serum.

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## هاری و وضعیت آن در ایران

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هاری یکی از بیماریهای عفونی، شدیداً کشنده و زئونوز واقعی است. بیماری در اکثر کشورها روی می دهد. در ایران هاری به شکل آندمیک و یک مشکل عمده بهداشتی است. اکثر حیوانات خونگرم به هاری حساس هستند. روش انتقال از راه گزش حیوان هار به انسان و حیوانات انجام می گیرد. بزاق حیوان هار حاوی ویروس هاری است. عمده حاملین ویروس هاری، سگ، گرگ، گوشتخواران وحشی و روباه هستند. امروزه بیش از سیصد مرکز درمان ضد هاری در کشور ایران وجود دارد. در خلال سال ۲۰۰۴ میلادی ۱۱۳۵۴۲ انسان در مراکز ضد هاری درمان شده اند. مطابق با اعلامیه انستیتو پاستور ایران در سال ۲۰۰۱ میلادی، ۴۱۸ مورد حیوان هار و ۳ مورد انسان، در سال ۲۰۰۲ میلادی ۳۵۰ مورد حیوان هار و ۶ مورد انسان، در سال ۲۰۰۳ میلادی ۳۰۹ مورد حیوان هار و ۱۰ مورد انسان و در سال ۲۰۰۴ میلادی ۳۲۰ حیوان هار و ۵ مورد انسان هار در تمام کشور تأیید شده اند. با توجه به افزایش حیوان گزیدگی و موارد مثبت حیوانی و انسانی مسئولین دولتی باید روشهای کنترلی مؤثر مبارزه با هاری را به کار بندند.

واژه گان کلیدی: هاری، ایران، انسان، حیوان