26 YEARS RETROSPECTIVE STUDY: CAUSE OF RABIES DEATH IN THAILAND

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ABSTRACT

The prevalence of canine and human rabies in Thailand has decreased significantly during the last decade. This has been associated with an increasing number of human post-exposure treatments. Educational efforts, mass vaccination of dogs and cats and the use of safe and effective vaccines have all made an impact. Thailand had established five-year strategic national plans for rabies control programmes which improved rabies surveillance and data collection, initiate measures to phase out nerve tissue vaccines and replace them with modern tissue culture vaccines, promote rational use of TCVs for PEP and encourage the introduction of cost-effective intradermal human rabies vaccination schedule in every hospital in Thailand, strengthen inter-ministerial and intersectoral collaboration for rabies control in canine population through mass vaccination, dog population management and active community participation. However statistics since 1990-2016 show that rabies is still a major public health threat in Thai community because of many reasons. The proportion of fluorescent antibody positive dogs, among those examined for rabies averaged as high as 54%. Canine rabies often found in dogs less than 3 year old which are not usually vaccinated. This is the age group most likely to interact with humans and other dogs. Some death case even has no history of dog bite. All human rabies death during the past 5 year was because of neglect vaccination. Our study also supports the World Health Organization’s recommendation that observing suspected rabid dogs for 10 days is an adequate and safe practice, and supports the need of pre exposure rabies vaccination.

Key word: epidemiology, cause of death, rabies

INTRODUCTION

Rabies is considered a major violent public health problem. Mortality rate of clinically ill patients are 100 percent. But rabies is a vaccine preventable disease if whom are completely vaccinated. World Health Organization (WHO) statistics show that there are 55,000 human rabies deaths in each year from 150 countries around the world. In Asia continent, there are over 31,000 death and more than 56 percent or 20,000 of the rabies cases are in India. Second or 3000 cases are in China and 2490 are in Pakistan. Dog is the main vector of human rabies virus that transmitted to human through the bite wound. Actually, WHO and Office International des Epizooties (OIE) target all the countries in the ASEAN region including Thailand eliminate human rabies death within the year 2020 under the Rabies Elimination Strategic Framework1. In order to accomplish the substantial goal, authors design an long term 26 years retrospectively study from the surveillance secondary data or the report 506 of Department of disease control, Ministry of Public
Health Thailand that every death need to be investigated and record and analysis for future strategic plan for prevention and control

METHODOLOGY

Descriptive retrospective clinical research study was conducted using secondary data of secondary information from the report 506, a specific disease investigation report of office of epidemiology within 26 year period from 1990 - 2016 and from related rabies prevention and control research. Analyze data use statistical percent.

RESULT OF STUDY

Researchers have studied the disease surveillance reports annual 1990-2016 from department of epidemiology and disease control, Ministry of public health and related documents by using the theory of epidemiological data for analysis and prepare a proposal of measures in rabies eradication of the country. The study found that

Place Factor: Rabies distribute almost all regions of the country. But most patients found dead in central and district metropolitan area and the eastern part of the country. It found that in each region there are areas where repeated exposure disease i.e. Central districts are in suburban of Bangkok, Pathumthani, Samutprakan, Ayutthaya. Eastern districts are in Prachinburi, Sakaeo, Rayong, Chonburi, Chachoengsao province. Southern district is in Songkhla Northeastern districts are in Surin province and Western districts are in Kanchanaburi, and Tak province.

Person factor: 1452 death of rabies were found during the year 1990-2016. Number of patients classified annually are 370,171,113,93,78,58,55,68,50,32,30,20,19,20,26,17,9,24,15,7,5,9 6, 8, 24, 15, 8, 5, 5, 6 cases, respectively. The trend is down. Most are male rather than female and as a teen working age 35 - 44 years. Characteristics of injury are bleeding wound, mostly is bitten on the hands and feet but some case are even scratch and some has no history of bite. The majority of patient does not receive the rabies vaccine or immunoglobulin and did not see doctors because of the incorrect understanding that dog’s age less than 3 months will not be rabies, including a confident dog whose owners are not likely to be rabies so they do not give priority to vaccinations.

Time Factor: There are rabies deaths throughout the year, scattered in every season, but the majority are found in the January-April of every year.

The results of the analysis of the data found that the rabies situation in Thailand decline dramatically. Since 1990 the deaths of rabies were 370 that were about 1 death per day. After the transformation of nerve tissue vaccine to tissue culture rabies vaccine and implementation of intradermal vaccination, the incidence reduced to 171 in 1991, 117 in 1992, 55 in 1998 and 15 in 2010. The average prevalence rate was 0.003 per 10,000. The figure shows that the incidence and prevalence rate of rabies death can be controlled. Concerning with disease distribution, finding that there are death of rabies in almost every regions and every season of the country that related to the number of stray dogs and the positive rabid dogs finding. Bangkok, where is in the central part of Thailand has highest density of population, remain a highest rabies deaths at that time. Number of death followed with southern, north east, and west region respectively.

However, up to now, rabies is still remaining as 5-9 cases every year. It cannot be eradicated. Even though many effort has been done. The Ministry of health has accelerated rural areas and urban areas across the country to be a 100 percent rabies free area within 2015 which cannot be done. Collaboration with the Department of livestock development, and local government organizations vaccinated against rabies in dogs between the ages of 3 months to cover no less than 80 percent of dogs in the village which now are only 50 percent. Campaign to do registration of all household dogs, vaccination and sterilization to control the number of stray dogs every year.

DISCUSSION

This study shows that rabies cannot be eradicated because of many reasons:

1. Human factor

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People lack of knowledge and awareness of the severity of the disease. They did not realize the important of post exposure vaccination. They do not receive a proper medical treatment and adequate wound care. Some believed and trust the folk medicine.

2. Host factor
80 percent of the deaths were bitten by rabid dogs. 48 percent were puppy less than 3 month old which vaccination has not yet recommends by vet doctor. 67 percent were own dogs instead of stray dogs. 22 percent of death was bitten by complete vaccination dogs. Many deaths were bitten by their own dogs. Beside that other mammal such as cat, rabbit, monkey, and rat are found rabies. Problems with stray dogs are not know the exact number of dogs cause no disease control plans and migration of dogs are also important problems especially along the neighborhood countries border.

3. Agent factor
From this study, incubation period are average 7 days after bitten but 3 days up to 5.5 year are also found. So median are about 80 days.

4. Environmental factor
The report found that a dirty environment, a lot of garbage and debris, especially in the tropical zone result the rapid increasing number of stray dogs.
CONCLUSION

From this study we learn that:
1. The dog remains continuously the leading cause of rabies vector that came to most people. Almost half of the rabid dogs age less than 3 months and are more own dogs than stray dogs.
2. Although trend and situation of rabies death reduced every year, it cannot eradicate and seem like incidence increase in this year. Distribution is almost all regions of the country and repeat in same area.
3. The patient death by rabies have not yet given priority to or aware of fully vaccination according to the date of the assignment. Mainly are in the labor-age range.
4. Patients mainly found in the first half of each year is January to April.

SUGGESTION

1. Build a correct public knowledge about rabies. People should literate in rabies and aware of dangerous of disease and the importance of vaccinations, both in humans and in animals. Providing news, information about the situation and the knowledge of rabies in the broader.
2. Development of a system of protection, monitoring and surveillance of rabies should be more productive and integrative with department of livestock, department of disease control and local governments. Outdate law and regulation should be edit and reformed.
3. Development of the doctors and medical staff in the care and vaccinations to correctly practice guidelines.
4. Aims to create Rabies Free Zone especially in region that experience repetitive patients by virtue of the principal of the active participation of the people in the community.
5. Present information to on all levels manager, so they will see the significance and severity of the disease, which is the driving force that allows local officials to accelerate action seriously and continuously.

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REFERENCES

1. Tepsumethanont V., Analysis of rabies in dogs from Bangkok city, Proceeding in 60 Years King Bhumibol Adulyadej Anniversary conference and 84 years the snake farm established, Tawanna Hotel November 9-10,2009. Queen Saowapa Memorial Institute 2009.


