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The animal bites cases in Meybod and Ardakan cities of Iran

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Abstract

Rabies is one of the most common diseases between humans and animals and is an important public health priority. This study was performed to investigate the epidemiological features of animal bites referred to rabies prevention centers in Meybod and Ardakan towns (Iran) in 2018 and 2019. The present research was a cross-sectional descriptive study. All cases of animal bites registered in the rabies prevention center of Meybod and Ardakan cities during 2018 and 2019 were investigated. The data was analyzed for demographic and epidemiological information using descriptive and inferential statistical methods. Finally, was analyzed by SPSS version 20. The results of the study showed that 848 cases of animal bites have occurred in two cities, which is more common in adolescents and males. The most common animals causing bite were cats and dogs in these areas. Because of the large number of animal bites in the mentioned cities, the need for planning for educational and care activities to reduce the cases of bites is recommended.

Keywords: Epidemiology, Animal bites, Meybod and Ardakan.

INTRODUCTION

A bite or claw injury from a farm, pet, or wild animal such as a dog or cat is considered an animal bite [1, 2]. Because of the related psychological and physical distress, wound infection by many bacterial types, and the probability of rabies virus transmission, bites and cuts are the most severe public health problem involving cats and dogs [3-6].

Animal injuries are most usual in children, with 5-9 year old boys having the uppermost occurrence. Men are more frequently bitten by dogs, while women are more repeatedly bitten by cats as home animals [1, 7, 8]. Despite the fact that animal bites are avoidable, they remain a public health problem in many countries, particularly in Africa and Asia [9, 10].

Yearly, the animal bites (almost 140 subjects/100 000 population) are assessed to happen in Iran; in excess of 85% of them are bites related to dogs [11-13]. Therefore, this study was performed to determine animal bites cases in Meybod and Ardakan cities (Iran) during two years (2018 and 2019).

MATERIALS AND METHODS

This descriptive cross-sectional study was performed retrospectively. After approval by the University Ethics Committee, the files of all those who referred to the anti-rabies unit of Meybod and Ardakan health centers in 2018 and 2019 were reviewed.

The variables of age, sex, place of residence (city or village), occupation, type of invasive animal, organ of the bite site, tetanus and rabies vaccination status, type of treatment and bite season were extracted from the information in the files or by telephone with people.

Sampling method was as available method. The files of patients whose information was incomplete were excluded from the study. Among the limitations of the study was the lack of proper classification of files and thus increasing their review time.

After collection, the data were entered into SPSS software version 20 and analyzed.

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RESULTS

The number of patients was 428 patients referred to Ardakan Hospital and 420 patients referred to Meybod Hospital. Most individuals were men (324 men in Ardakan and 317 men in Meybod).

Most of the patients in both cities were over 18 years old and the age range of less than 6 years had the lowest rate of animal bites.

More than 70 individuals in both cities were city resident in terms of location (Figure 1).

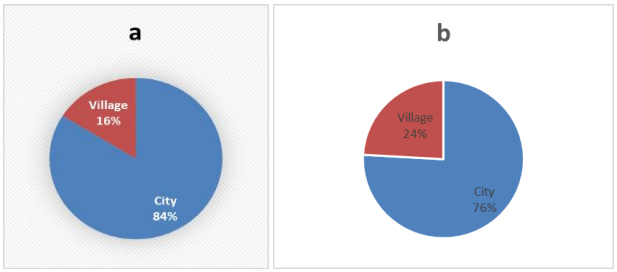

Figure 1: The animal bit frequency based on residence place (a. Ardakan, b. Meybod)

In both cities, the highest number of clients was either a student or a self-employed person, and military employment had the lowest number of clients.

In both cities, cats and dogs were the most common type of animal bite.

In both cities, the trunk and upper limbs were the most affected and the head and neck were the least injured.

Most patients did not need tetanus vaccine in terms of tetanus vaccination in both cities.

The three-dose vaccine was the most common rabies vaccine.

The study of the frequency of cases in terms of seasons showed that in both cities the number of referring people in all four seasons of the year is not significantly different and winter had the lowest number of affected individuals (Figure 2).

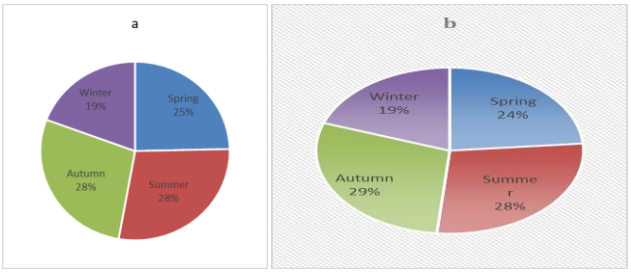

Figure 2: The frequency of animal bite cases in terms of season (a. Ardakan, b. Meybod)

DISCUSSION

At present study, the age range of less than 6 years had the lowest frequency of animal bites. More than 70 individuals in both cities were city resident. In both cities, cats and dogs were the most common type of animal bite. Also, the trunk and upper limbs were the most affected and the head and neck were the least injured. Finally, winter had the lowest number of individuals.

The aim of a study was to investigate the animal bites epidemiology in Tehran, Iran. Of almost 8800 cases, almost 20% were females and 79% were males. Bites were more common among the individuals with 20-29 years age. The majority of the cases involved were self-employed. The most common bite site was the upper extremities. The most frequent animals were dogs and cats [1].

Another study in Ahvaz, Iran showed that dogs and scorpions were the most frequently complicated animal species, causing damages in the individuals. Feet and hands were the most affected places in the body [4].

A study in Isfahan, Iran (2015) indicated that almost 67% of cases (children) were boys, and 68% were resident in urban parts. The cases were mostly bitten by cats, and the most frequent sites of the bite by animals were hands. The bite occurrences were occurred more commonly in spring with the frequency of 32% [14].

In another study in Nahavand (a city in Hamadan province of Iran), cases who characterized among 16 to 30 age group have qualified the maximum proportion (402 cases) in assessment to other age groups in the mentioned study. The biting frequency varied based on season during the research and a maximum of biting was happened in spring season, whereas the lesser rate were detected in winter season. Also, more cases happened via dogs and cats [15].

Final study in Mashhad, Iran was performed. The bite cases in urban zones and in men were high. The most bitten persons were in the age group of 20-29 years. The seasonal dissemination of cases presented that the most of bite cases happened in summer season. Hands and legs were bitten members in more individuals. Based on the cause animal type, more cases in the mentioned research occurred by dogs [16].

CONCLUSION

The most common animal bites are caused by cats and dogs in two areas. Due to the enormous number of animal bites in two mentioned cities, the need for planning for educational and care activities specially collecting the wild animals to decrease the frequency of animal bites is recommended.

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Conflict of Interest

We declare that we have no conflict of interest.

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