A STUDY OF ANIMAL BITES AMONG CHILDREN IN LADY RIDGEWAY HOSPITAL

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INTRODUCTION

Animal bites among children is a serious public health problem world wide (Overall and Love 2001). An animal bite is a break, tear, bruise or a puncture in the skin from an attack of any kind of animal to a child (Garth, 2012). The animal bites to the children can vary from small insects, cats, dogs, monkeys, raccoons, foxes and bats. It leads to so many health problems such as wound infection, deformities, organ damage, hospitalization and rabies [World Health Organization (WHO), 2009]. However, previous studies regarding this topic were mainly focused on dog bites, since it can cause so many health problems including rabies (Keuster, *et al.*, 2006; Rosado *et al.*, 2004; Kreisfeld and Harrison, 2005; Sudarshan *et al*., 2006). At present, approximatly 400,000 American children receive treatment for dog bites annualy (Davis *et al*., 2011).

In Sri Lanka, statistics and studies on animal bites have mainly focused on rabies. According to WHO (2011), 377 deaths were reported due to rabies in 1973 and now it has been reduced up to 50-60 deaths. The Ministry of Health (2011) pointed out that, 320,000 animal bites were reported and 43 persons had died from rabies in 2010. However, detailed studies on animal bites among children are a current need of the society, because there is a lack of studies regarding this topic in Sri Lanka. Therefore, this study was designed to identify the common animal bites in children which can help to develop preventive methods for such incidence. Specific objectives of this study were assessment of knowledge and attitude of parents regarding this topic that can be used as a tool for developing education programmes. Furthermore, identification of the vulnerable age group for animal bites, which will provide ideas and suggestions to control animal bites in future. Finally, evaluation of the existing health practices in Sri Lanka related to animal bites will explore the gap of current practices.

METHODOLOGY

Quantitative approach was used for this study and data were collected numerically (Polit and Hungler, 1999). A survey was conducted using the purposive sampling method at Lady Ridgeway Hospital (LRH). The sample consisted of 300 children (age between 01 year to 12 years) who were referred to the Accident Service Unit (ASU) for treatment of animal bites during one month period from 25th December 2012 to 25th January 2013. A close ended self administrative questionnaire was used as a tool for collection of data from the parents of the victims . The questionnaire was designed in four sections. First three sections were designed to identify the vulnerable age group and gender of the children, to gather information related to the animal bites, to identify the knowledge and attitudes of the parents regarding animal bites. These three sections were completed by the guardian of the children. Fourth section was designed to identify the existing health practices in Sri Lanka related to animal bites and rabies which was completed by the researcher. This questionnaire consisted of 23 questions. Data were analysed by using descriptive statistical analyzing technique.

RESULTS AND DISCUSSION

According to the study, gender of the sample (n= 300) mainly affected the animal bites. From the sample, boys proportion was significantly high (Z =3.70, Z at α =0.05 is 1.96) when compared to the girls proportion of the sample. From the sample 60.7% were boys and 39.3% were girls proving that boys were at a higher risk of animal bites than girls. The age of the children significantly affected (x^2=20.026 > $x^2_{0.05,3}$ =7.81) to the animal bites. Findings showed that (Figure 1) when age increased patient numbers decreased, and the most vulnerable age group was 04-06 years (32%). Probably children who are in this age group are more prone to playing outside and they have no comprehension about accidents.

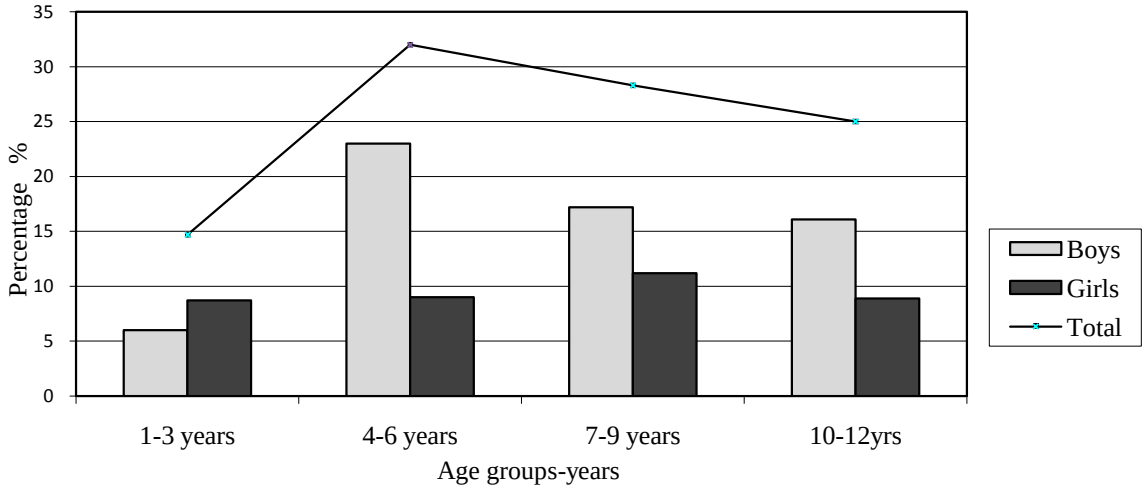

Figure 1- Relationship of animal bites with different age groups and gender of the sample

According to the study, dog bites were the commonest (69.7%, n= 209) animal bite among the children (Figure 2). From the dog bites proportion, a vast majority of dogs (52%, n= 110) were known dogs and 31% (n=65) were own dogs (Figure 2). These findings confirmed the results of the previous studies, that a huge proportion of animal bites were by dogs and the majority of bites were reported from known dogs (Schalamon *et al.*, 2005; Georges and Adesiyun, 2008; Lang and Klassen, 2005). Therefore, these findings will be a tool to educate parents and dog owners.

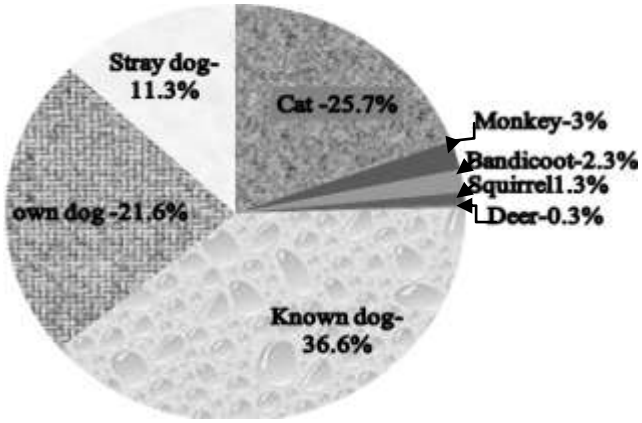

Figure 2 - Identification of common animal bites

Types of the wounds due to dog bites, strengthened previous findings (Georges and Adesiyun, 2008; Lang and Klassen, 2005) since, most of the wounds were reported as superficial wounds (78%). The legs of the children were the most frequently bitten sites (47.6%, n= 141). The majority of victims who had injuries in extremities were caused due to the behavioral patterns of the victims when they were attacked.

According to the study, most of the parents (81%) were aware that animal bites needed immediate treatments and 72.6% knew that it can cause rabies too. A majority (88%) of parents had knowledge that rabies can be prevented by vaccination (76%). Therefore, the overall findings of the study showed that the knowledge and attitudes of the parents of the children regarding animal bites were at a satisfactory level in Sri Lanka unlike in other countries (Rambhau and Dilip, 2011). Majority (80.7%) of cases needed only Anti Rabies Vaccine (ARV) and 6% needed both Anti Rabies Serum (ARS) and ARV (Table 1). Thus, it was proved that health practices are well conducted according to the WHO guidelines.

Table -1: Existing health practices for animal bites

Characteristics	**Persentage**
Type of Wound	
Superficial	78.0%
Multiple	13.7%
Deep	8.3%
Treatment Type	
ARV(Anti Rabies Vaccine)	80.7%
ARS/ARV(Anti Rabies Serum/ Anti Rabies	6.0%
Vaccine)	13.3%
None	
Suture requirement	3.3%
Yes	96.7%
No	
Antibiotic requirement	66.0%
Yes	34.0%
No	
Hospitalization Period	88.7%
Below 1 day	8.0%
1-2 days	3.5%
Above 3 days	

CONCLUSION AND RECOMENDATIONS

Dog bites are the commonest type of animal bites among children and children who are between 04-06 years represent the high-risk group for animal attacks. When considering the girls and boys, boys' proportion is the highest risk group. Among the dogs bites, known dogs are more responsible for attacking the children. The overall knowledge and attitude among parents regarding animal bites are at a satisfactory level and existing health practices are also being practicing well, according to the WHO guidelines.

Educational and public awareness programmes should be held on the prevention of animal bites in the community. Awareness programmes should include pet vaccination, caring for pets

properly, how to protect children from animal bites, and first aid and treatment after the bite incidents. This study recommends education related to dog bites be added to the school curriculum. Further research in all areas in Sri Lanka should be conducted to identify the real situation relating to animal bites among the public which will be very useful to overcome the present barriers related to the prevention of animal bites island wide.

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