

Research Article

Awareness Level among School Student Regarding Zoonotic Disease (Rabies): A Study in Siddharthanagar, Rupandehi district, Nepal

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Abstract: Rabies is a zoonotic disease with 100% fatality and affects most of the mammals when exposed. The disease has no treatment but is also 100% preventable through vaccination. According to WHO, every year 59000 cases of rabies are reported globally, among them 95% are from Asia and Africa and 40% are below 15 years of age. The cross-sectional survey was done between 15th to 17th of December 2017 in three different schools of Siddharthanagar of Rupandehi district, Nepal including 76 students (59% male and 41% female). The survey was based on the closed ended questionnaire and the result was analyzed using MS Office 2013. Although most of the students were found to interact with animals (more than 80%) and have heard about Rabies (92%), only 41% know about the Rabies in human and many of them think dog bite (57%) is the cause of Rabies instead of virus (19%). Students were aware about the symptoms of Rabies like Hydrophobia (49%), aggression (41%), salivation (37%) but most of them think treatment is possible (89%). Students have known about the Rabies but still some practices and attitude towards the rabies is to be corrected, and they should be made aware about anti-rabies vaccination.

Keywords: Students, Survey, Rabies, Dogs, Awareness.

INTRODUCTION

Rabies is one of the oldest infection know to human (Fu, 1997). It is disease concerned to all the animals and human and is easily transmitted with no cure. It has only the prevention possible with no treatment. According to WHO, in up to 99% cases, domestic dogs are responsible for rabies virus transmitted to human. Rabies is present in all the continents except in Antarctica (more than 150 countries and territories).

Various research by WHO has found out that, every year 59000 cases of Rabies are reported globally. Among them, 95% of the cases are in Asia and Africa and 99% of the cases are due to dog bite. Above of all these finding, most of the victim are children below 15 years (40%).

The annual cost of expenditure in Rabies in Africa and Asia was estimated to be US \$583.5 million

most of which is due to cost of post exposure prophylaxis (PEP) and annual cost of livestock losses as a result of Rabies is estimated to be US \$12.3 million (Knobel *et al.*, 2005)

According to Department of Health Service, Teku Nepal, Annual report 2072/73, total of 22627 animal bites cases were reported of which 88% were dog bites and 6 death were reported from Rabies. The same report says that 20 districts of Terai is at high risk of Rabies. According to Bulletin 2015, by Veterinary Epidemiology Kathmandu, there were 335 suspected cases of Rabies, of which 154 were confirmed and all 154 were death in Nepal. During that year 44750 dogs were vaccinated against Rabies.

STATEMENT OF PROBLEM

According to Bhim Hospital Rupandehi, during fiscal year 2073/74, total of 1443 cases of animal

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bite was seen (Devkota, 2017). Out of 1443, 1307 cases were from dog bite. The percentage of animal bite cases to children below 15 years was 30.97% and percentage of dog bite to children was 33.66%. This data shows that the children are that group of population that are more likely to get bitten by dog and are more in risk of Rabies

According to DLSO, Rupandehi, during 2073 total of only 224 dogs were vaccinated against Rabies.

OBJECTIVE

The main objective of this research is to evaluate knowledge and awareness level among the children regarding Rabies who has dog or comes in contact with dogs and other animals. The research also aims to aware the children about rabies and possible way of becoming not infected.

LITERATURE REVIEW

Rabies is a zoonotic viral disease caused by lyassavirus of Rhabdoviridae family. It is a bullet shaped virus. The disease affects wide range of animals that includes most of the mammals if exposed. Dogs, foxes, racoons, skunks, coyotes, mongooses and bats are the major reservoirs of rabies(Fu, 1997). With the death of around 59,000 humans a year, rabies is considered as neglected topical disease(Hampson *et al.*, 2015).

The disease is most commonly transmitted via saliva with a bite or scratch of an animal(Pieracci *et al.*, 1960). The main site of action is nervous system and the pre disposing site of virus is salivary gland. The sign of Rabies includes furious and paralytic form. The furious form may include hyperactivity, tremor, hypersensitivity, abnormal vocalization. The paralytic form includes dilated pupils, paralysis of lower jaw and paralysis of tail. Other sign may include hydrophobia, restlessness, and loss of body weight and drooling of saliva.

Rabies has no treatment but is 100% preventable. The only way to prevent the rabies is vaccination. It can be done to all the species. Vaccination of dog is very much effective in preventing the spread of rabies.

MATERIALS AND METHOD

1. Study Area

The study was conducted from December 15 to December 17 2017 in three different school of Siddharthanagar Municipality of Rupandehi district. Siddharthanagar is headquarter of Rupandehi district in western Terai of Nepal. It is 265km west of Kathmandu, capital of Nepal. The latitude of Siddharthanagar is 27°30' N and longitude is 83°27' E and covers the area of 36.03 sq. km. It is 110m above the sea level.

2. Study Design

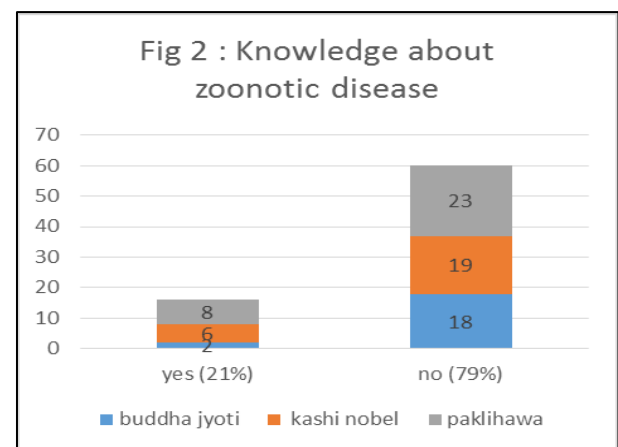
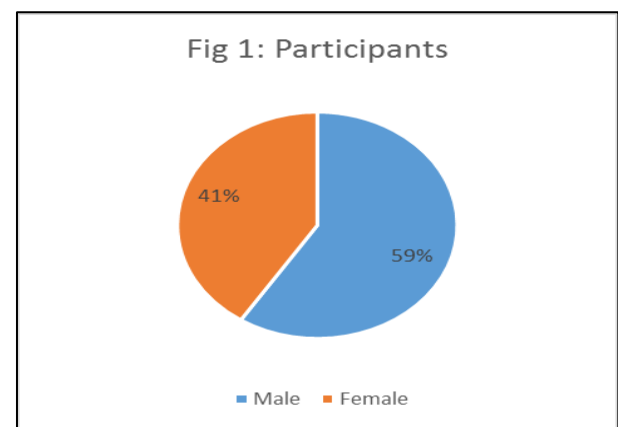
The closed ended questionnaire was used for 76 randomly selected students from three different school of Siddharthanagar. The study design was cross sectional.

DATA ANALYSIS

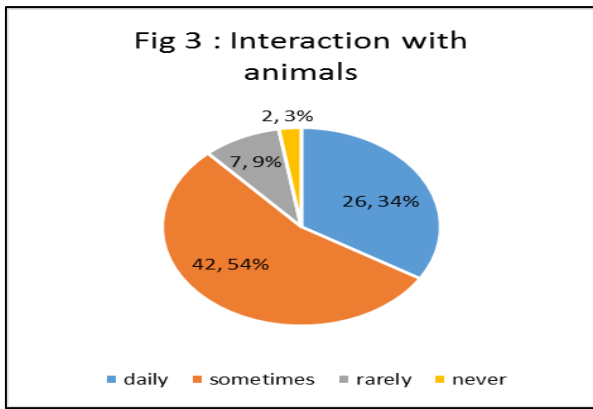
The data analysis and presentation were done using MS Office 2013 using bar graph and pie chart.

RESULTS

As in the **Figure 1**, male students participating in the survey were 45 in number and female were 31 in number which is 59% and 41% respectively. Out of those students, 21% said that they know about zoonotic disease and rest 79% said that they don't know about zoonotic disease (**Figure 2**).



As in **Figure 3**, regarding the interaction of student with animals, 34% students surveyed interact with animals daily. Student interacting with animal sometimes were 54%. 9% students come in contact with animals rarely and 3% never interact with animals.



Most of the student come in contact with dogs (88%) followed by cats (29%), cattle/buffalo (18%), sheep/goat (16%), pigs (16%), horse (4%), wild animals (2%), and other animals accounts (14%) (Figure 4). 53% of the students have dogs in home and most of them are vaccinated. (Figure 5) 96% of the students think, it is good to vaccinate the dogs. (Figure 6)

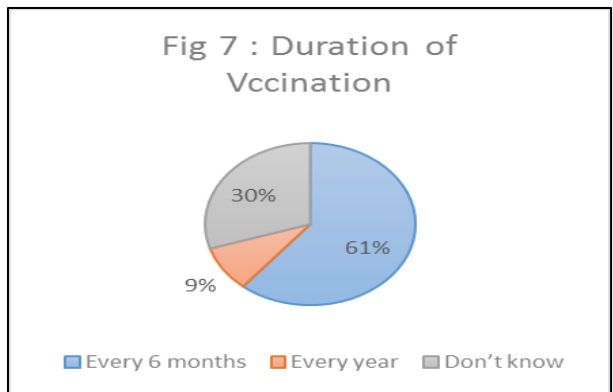
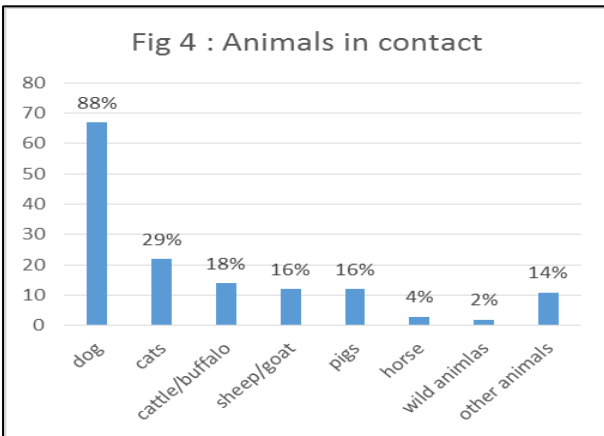
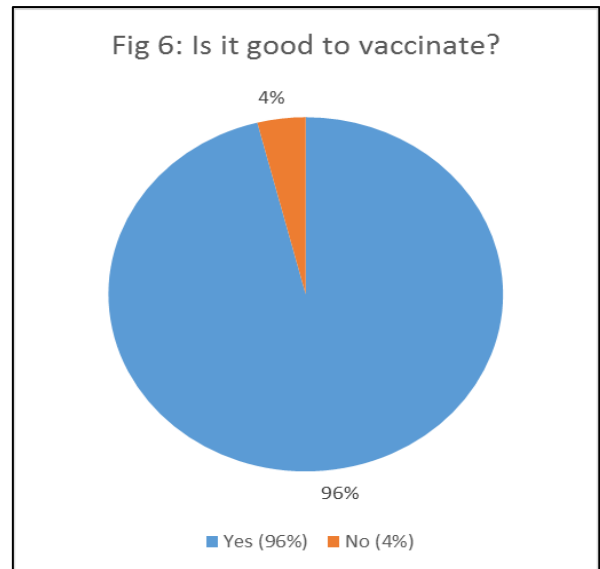


Figure 7, Most of the students (61%) think that the dogs should be vaccinated against Rabies every six months, 9% students think that it should be done every year and 30% of the student don't have idea about the duration of vaccination

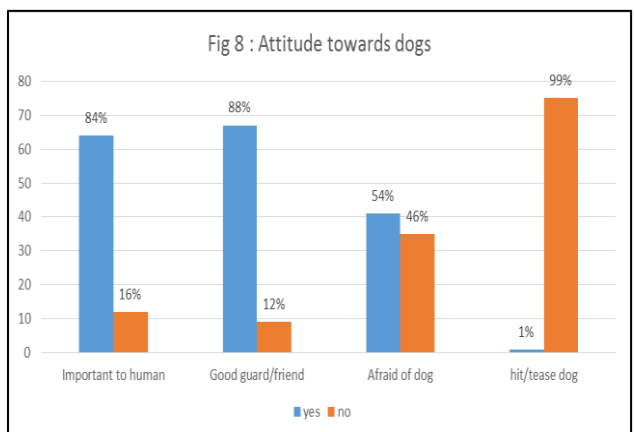
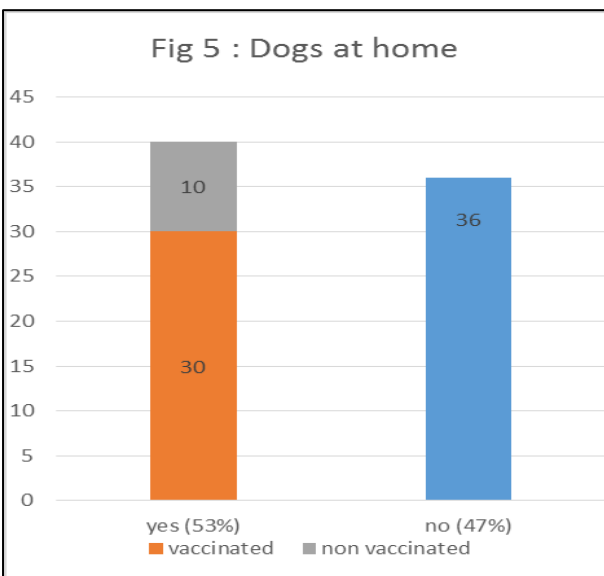


Figure 8: Most of the students (84%) think dogs are important to humans and 88% think that dogs are good friend of humans. But 54% students are afraid of dogs and 99% think they shouldn't tease dog.

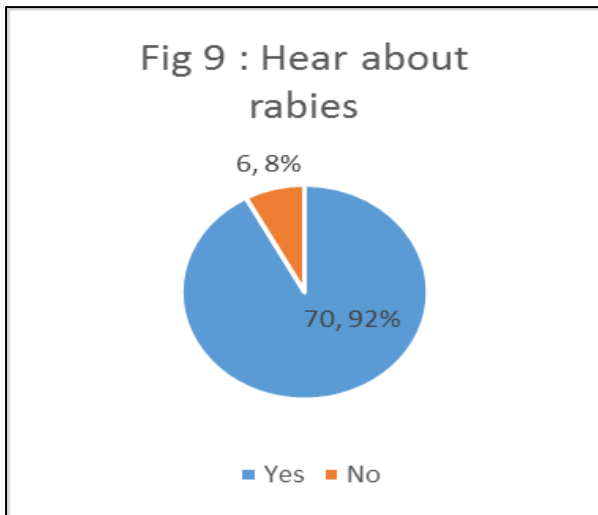
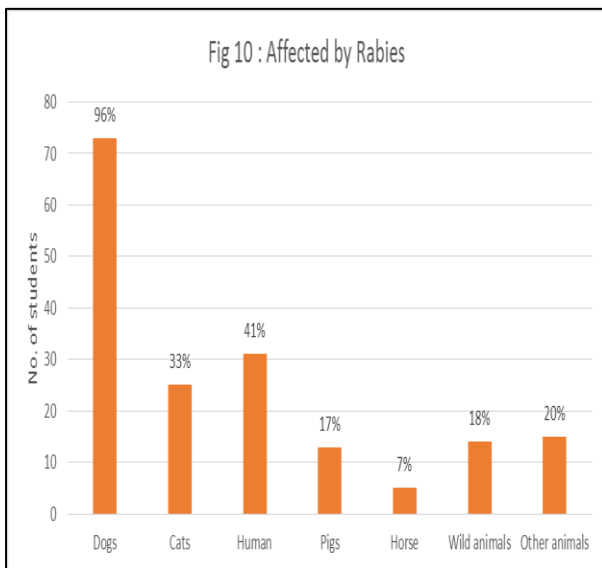
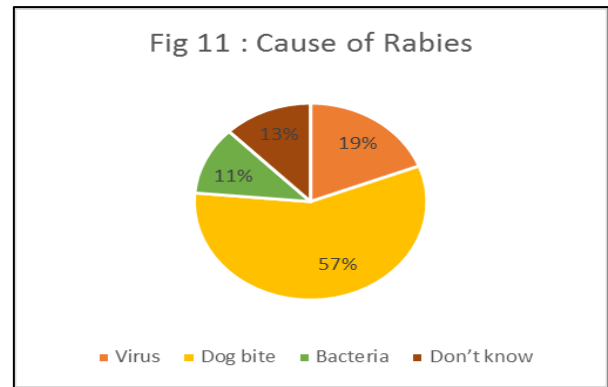


Figure 9: Most of the students (92%) have heard about the Rabies and 8% of them said that they haven't heard about rabies.

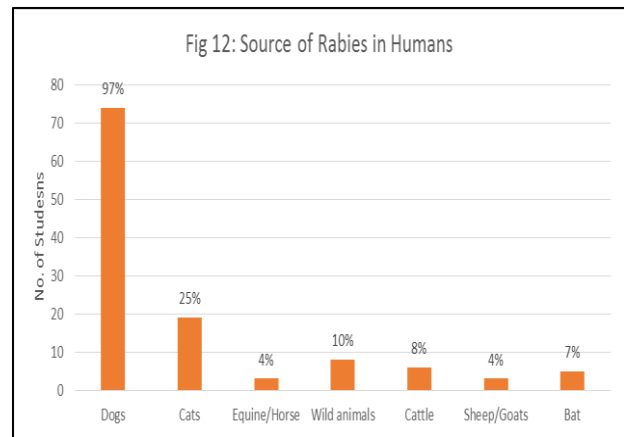
According to 96% of the student surveyed, dogs are affected by Rabies. Not only dogs, 33% of them think cats are also affected, 41% have view that humans are also affected, 17% gave answer to pigs as well, 7% for horse 18% for wild animals and 20% student think beside above other animals may also be affected (**Figure 10**).



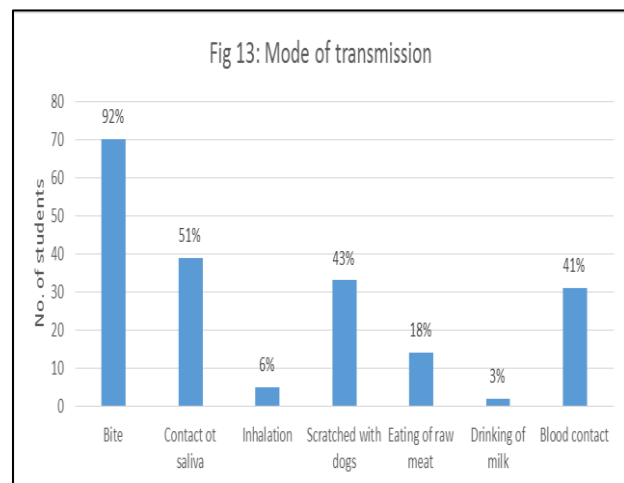
Regarding the cause of Rabies more than half of the student (57%) think dog bite is cause of Rabies. Only 19% think virus is the cause of rabies. According to 11% student bacteria is the cause and rest 13 % don't have idea about the cause of Rabies (**Figure 11**).



When asked about the source of Rabies to human, 97% student think that dog is the source. Beside dogs, student think cats (25%), horses (4%), wild animals (10%), cattle (8%), sheep/goat (4%) and bat (7%) are also the possible source of rabies (**Figure 12**).

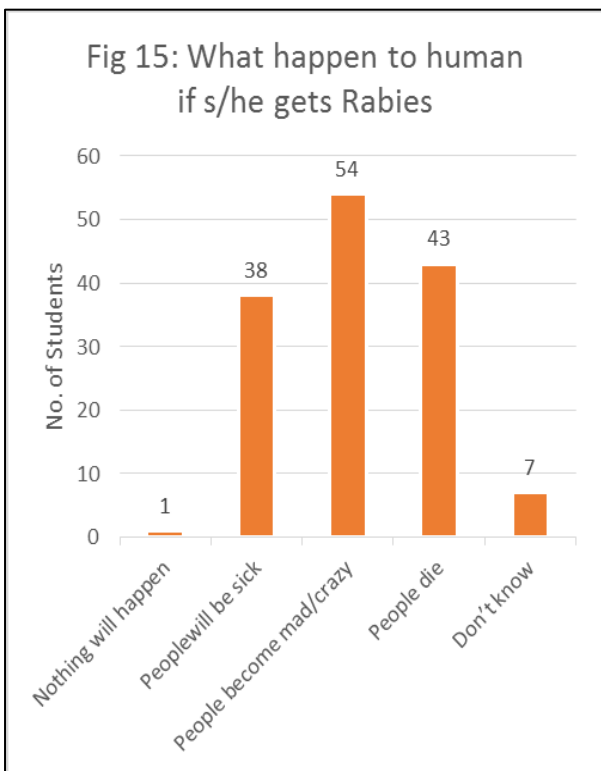
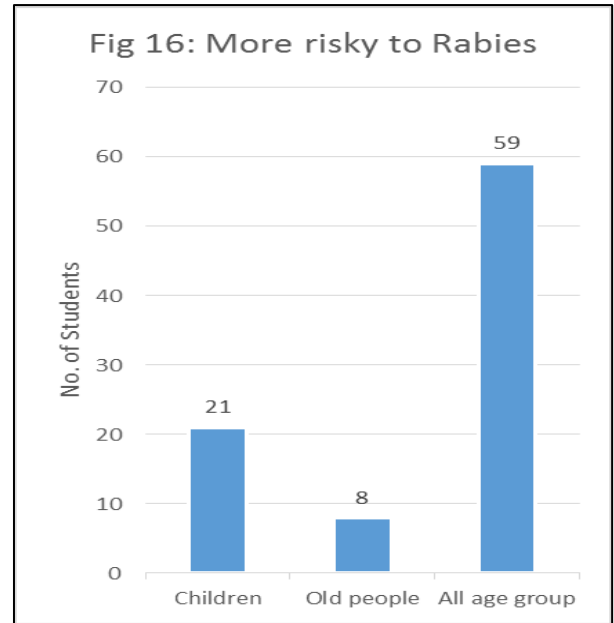
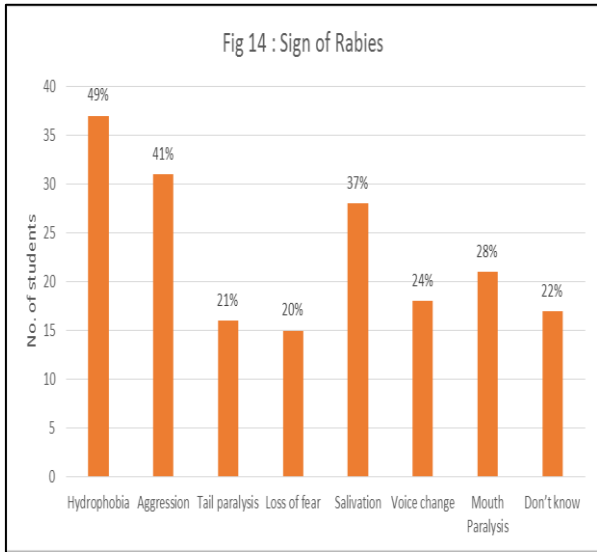


Most of the students (92%) think bite is the main mode of transmission followed by contact to saliva (51%), scratched by dogs (43%), blood contact (41%), eating of raw meat (18%) and drinking of milk (3%) (**Figure 13**).

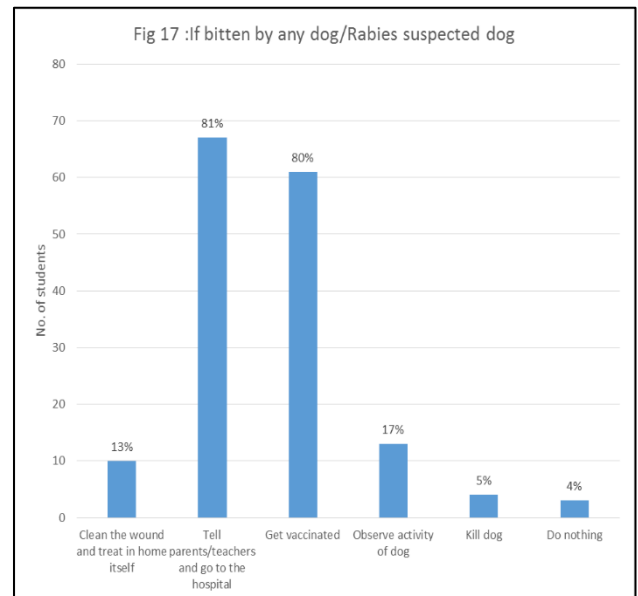


Hydrophobia was pointed out as major sign of animal suffering from Rabies by 49% of the students, followed by aggression (41%), salivation (37%), mouth

paralysis (28%), voice change (24%), tail paralysis (21%), loss of fear (20%). 22% of the student don't know about the sign of the rabies (**Figure 14**).



When asked, what you will do if bitten by dog, most of the students said that they will tell parents/teachers and go to hospital (81%) and get vaccinated (80%). Only 17% student said that they will observe dog. But 4% student said that they will do nothing (**Figure 17**).



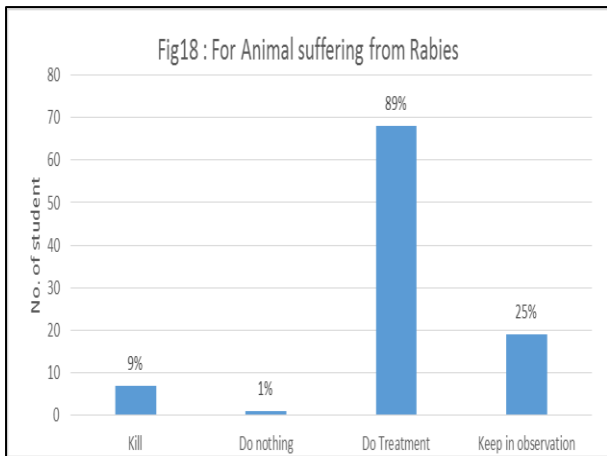


Figure 18: Regarding animal suffering from Rabies, 89% students think that treatment should be done, 25% think should be kept in observation, 9% think it is good to kill those animals but 1% think nothing should be done.

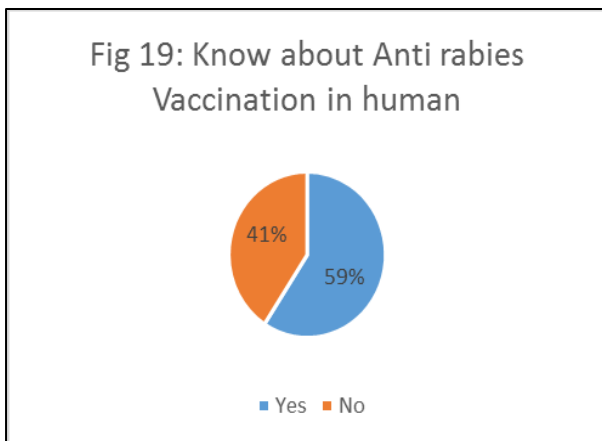
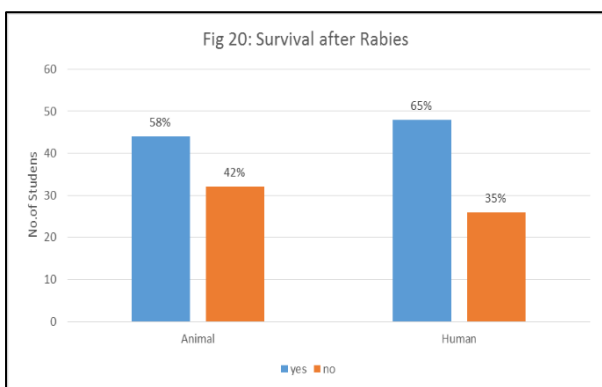


Figure 19: 59% students have known about the rabies vaccination, rest 41% didn't know about the rabies vaccination in human.

58% students think animals survive if they are suffering from Rabies, 65% students think human will survive if they are suffering from Rabies (**Figure 20**).



DISCUSSION

The study revealed that most of the students interact with animals, mainly dogs. The frequency is also very frequent. The students had good attitude towards the dogs. Most of the students have heard about the rabies and think dog are affected most by Rabies and think that dogs are main source of Rabies to human. But when it comes to cause of Rabies, they think dog bite is cause rather than virus. It may be because they don't have knowledge about the causative agent and think that if a dog bites, it will automatically cause the Rabies. Regarding the mode of transmission, they have good knowledge about the mode except for the few who think blood contact may also cause the Rabies. Most of the student know about one or two of the signs of the Rabies which will help them to maintain the precaution but still some need to know more. The students more or less knew about the things to be done if bitten by the dogs. Large number of students think that the treatment is possible if animal is suffering from the rabies, this may be because most of them think that both the animals and humans will survive if they are suffering from the Rabies. Many of them don't know about the anti-rabies vaccination in case of human.

CONCLUSION AND RECOMMENDATION

Rabies is the disease of great zoonotic importance and is significant to public health. The disease has no cure but is 100% preventable through vaccination. The students should be made aware about the rabies vaccination in both humans and animals and pre exposure vaccination should be promoted. The sign and symptoms should also be made familiar to the students. More vaccination program should be done regularly along with public awareness programs.

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