

## KNOWLEDGE, ATTITUDES AND PRACTICES OF THE COMMUNITY REGARDING ANIMAL BITES AND RABIES

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### ABSTRACT

**Background:** Rabies mortality ranks number ten in all infectious diseases worldwide and the Philippine has been consistently among the top five countries in the world with 250 to 490 deaths reported yearly. Thus, rabies is one of the major public health problems in our country that needs to be addressed.

**Objectives:** This study describes the epidemiology of animal bites in the community and include the knowledge, attitudes and practices of the community with regard to animal bites and rabies.

**Methods:** A cross-sectional study was conducted at the Out-Patient Department of the Philippine General Hospital. The respondents completed a questionnaire which included the purpose of the study and instructions for self-administration.

**Results:** Of the 300 people given questionnaires for this study, 265 (88.3%) replied and returned the questionnaires. A little more than half of the respondents had known or encountered someone who experienced an animal bite at 54.3%. The majority of the victims were children and adolescents at a total of 68.1%. Only a small number of the study population were aware of the behavior of rabid animals. Only insane behavior (41.1%) and drooling of saliva (50.2%) were correctly cited as rabid behavior by most. Majority of the respondents (84.9%) believed that rabies could lead to death if not treated accordingly. Around one-third (31.7%) were not aware that symptoms of rabies can still be seen even a year after the bite. Two-hundred forty people (90.6%) agreed that there is a vaccine for rabies. However, 32.8% did not know the duration of protection of the vaccine and 70.9% mistakenly assumed that the vaccine was readily available in local health centers. Among respondents who were able to actually encounter an animal bite victim, only 42.4% brought the victim to a doctor. Majority (72.4%) will bring a bleeding bite for consult. But in the other clinical situations presented, many of the respondents did not know what to do. Among the respondents, 36.2% were owners of domestic animals. The dog at 79.2% was the most common animal owned. Of these owners, only 44.8% had their animals vaccinated and all of these were dogs. The most common reason for not having their animals vaccinated was that the respondents did not know about animal vaccination at 26.7%.

**Conclusion:** The respondents were found to have only limited knowledge regarding animal bites and rabies including behavior or rabid animals, post-exposures prophylaxis, when to seek medical help and vaccination of animals. Thus, there is a need to increase public awareness through extensive educational campaign regarding all aspects of rabies.

### INTRODUCTION

Infection with rabies virus is probably one of the oldest diseases affecting mankind. It is a viral zoonosis that is usually transmitted by the bite of an infected animal producing an acute illness with rapidly progressive central nervous system manifestations leading to death in an unprotected individuals. Official World Health Organizations (WHO) data on rabies state that more than 2.5 billion people are at risk in over 100 countries and most affected are the tropical countries in Africa, South America, Oceania and Asia. Rabies mortality ranks number ten in all infectious diseases worldwide<sup>1</sup>, and the Philippines has been consistently among the top five countries in the world with 250 to 490 deaths reported yearly<sup>2</sup>.

Majority (95-98%) of the 60,000 annual human death cases worldwide occur in canine (dog rabies) endemic regions with a large stray dog population.<sup>1</sup> However, it was also reported that most of the cases involve a known dog and many of the attacks involve the family pet<sup>3</sup>. Philippine records show that 88% of cases are due to bites by pet dogs, while 10% of cases are caused by stray dogs and the remaining 2% are secondary to cat bites<sup>4</sup>.

The control of rabies is hampered by cultural, social and economic realities. It had been hoped that with the development of the first rabies vaccine it would be possible to eliminate or at least reduce the incidence of rabies. However, this goal has not been achieved because rabies is maintained in many animal reservoirs and most rabid animals are never vaccinated against rabies. The importance of giving post-exposure prophylaxis using rabies immune globulin and rabies vaccine in preventing rabies following a bite by a rabid animal has already been stressed but not extensively specially in developing countries. No local studies report the level of awareness of the community with regard to the importance of animal vaccination as well as the complications of an animal bite. Since rabies is considered to be one of the major public health problems in our country, a community-based study is in order to help remedy this problem.

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## OBJECTIVES

### General Objectives

1. To describe the epidemiology of animal bites in the community.
2. To describe the knowledge, attitudes and practices of the community with regard to animal bites and rabies.

### Specific Objectives

1. To describe the usual cases of animal bites encountered by the community.
2. To determine if the community knows how a rabid animal behaves.
3. To determine if the community knows when to seek medical help in cases of animal bites.
4. To determine if the community knows the treatment and prognosis of rabies.
5. To describe the common practices done by the community in the care of people who sustained animal bites.
6. To determine if the community knows animal vaccination.

## METHODOLOGY

### Study Design and population

A cross-sectional study was conducted at the Out-patient Department (OPD) of the Philippine General Hospital. The choice of the OPD was based on the fact that people consulting at the OPD would be representative of the surrounding community that stands to benefit from the Animal Bite Program of the PGH which is in the organization and planning stage at the time of conduct of the study.\* The parents or the patients themselves consulting at the clinics of Pediatrics, Internal Medicine and Surgery were chosen as they comprise the largest populations consulting at the OPD and they would be more representative of the majority of community members seeking consult. Of the 300 people given questionnaires for this study, 265 (88.3%) replied and returned the questionnaires and were thus included.

### Data Collection

The respondents completed a questionnaire which included the purpose of the study and written instructions for self-administration. The questionnaire sought data on the demographic profile of the respondents, knowledge, attitude and practices regarding animal bites and rabies. A pilot survey was conducted

on 20 people consulting at the OPD. The questionnaire was modified further based on blank items and inaccurate answers. The final questionnaire was developed and then distributed to the different parents/patients consulting at the different clinics of the OPD.

### Data Analysis

The data was collated and presented using descriptive statistics. Frequency and percentages were used to report the results.

## RESULTS

### A. Demographic profile

Two hundred sixty-five (265) community members responded to the distributed questionnaires. Table 1 shows the demographic data of the respondents. There were more female respondents at 186 (70.2%) as compared to male respondents at 79 (29.8%). The age range of the respondents was 15 to 84 years old with a mean age of 32.7 years old. Most of the respondents were within the age bracket of 21-30 years old at 46%. Majority of the respondents were married at 75.5% while 6.8% and 8.7% were single men and women, respectively. Almost three-fourths of the respondents have children at 73.1% with most of them having only one child (31.6%). As for the age of their children, 21 respondents (7.9%) did not enumerate the respective ages of their children but for those who answered the question, most of their children were between the ages of 4-6 years old (39.7%). At least one-third (30.6%) of the respondents were able to attain secondary education. A good number of the respondents were able to reach college (18.1%) and respondents who were able to finish a vocational course or were college graduates were tied at 13.2%. Most of the respondents at 14.0% came from the different areas of Manila followed closely at 13.6% by Makati residents. The rest of the respondents came from nearby cities as well as far provinces.

### B. Animal bite

A little more than half of the respondents had known or encountered someone who experienced an animal bite at 54.3%. The highest percentage of known relative who had an animal bite was either a child or a sibling at 21.5%. There were ten people (6.9%) who experienced the animal bite themselves. In general, a little more than one-third of those bitten by an animal were greater than 20 years old at 31.9%. However, it would be noted that the majority of animal bite victims

\*The Anti-Rabies Unit of the PGH was opened in May 2002 after conduct of the study.

**Table 1. Demographic profile of the respondents**

		Number	Percentage
SEX	Female	79	29.8%
	Male	186	70.2%
AGE	15-20 y/o	17	6.4%
	21-30 y/o	122	46.0%
	31-40 y/o	67	25.3%
	41-50 y/o	42	15.8%
	51-60 y/o	14	5.3%
	> 60 y/o	3	1.5%
STATUS	Married	200	75.5%
	Live-in	9	3.4%
	Widowed	7	2.6%
	Separated	8	3.0%
	Single Male	18	6.8%
	Single Female	23	8.7%
NUMBER OF CHILDREN	Without children	66	24.9%
	With children	199	75.1%
	Number 1	63	1.6%
	2	38	19.1%
	3	40	20.1%
	4	18	9.0%
	5	13	6.5%
	>= 6	17	8.5%
AGE OF CHILDREN	<1 y/o	40	20.1%
	1-3 y/o	77	38.7%
	4-6 y/o	79	39.7%
	7-9 y/o	47	23.6%
	10-12 y/o	46	23.1%
	13-15 y/o	28	14.1%
	16-18 y/o	31	15.6%
	19-21 y/o	31	15.6%
	> 21 y/o	57	28.6%
EDUCATIONAL ATTAINMENT	Unschooling	2	0.8%
	Elementary	21	7.9%
	Elementary graduate	9	3.4%
	High school	34	12.8%
	High school graduate	81	30.6%
	Vocational	35	13.2%
	College	48	18.1%
	College graduate	35	13.2%
PLACE OF RESIDENCE	Manila	37	14.0%
	Makati	36	13.6%
	Pasay	25	9.4%
	Cavite	19	7.2%
	Quezon City	18	6.8%
	Rizal	18	6.8%
	Bulacan	15	5.7%
	Paranaque	11	4.1%
	Laguna	10	3.8%
	Muntinlupa	7	2.6%
	Pasig	6	2.3%
	Caloocan	6	2.3%
	Batangas	6	2.3%
	Malabon	6	2.3%
	Pampanga	3	1.1%
	Marikina	2	0.8%
	Mandaluyong	2	0.8%
	Valenzuela	2	0.8%
	Nueva Ecija	1	0.4%
	Quezon	1	0.4%

were children and adolescents at a total of 68.1%. Of the animals who were known to have caused the bite, the dog had the highest percentage at 87.5%. See Table 2.

**Table 2. Animal Bites**

Table 2A. Has anyone in your household been bitten by an animal?		
	Number	Percentage
YES	144	54.3%
NO	121	45.7%

**Table 2B. Of what relation to you was the person bitten by the animal?**

	Number	Percentage
Spouse	11	7.6%
Child	31	21.5%
Mother	11	7.6%
Father	3	2.1%
Sibling	31	21.5%
Uncle	2	1.4%
Aunt	3	2.1%
Nephew/Niece	26	18.1%
Cousin	18	12.5%
Grandparent	1	0.7%
Grandchild	2	1.4%
Friend	4	2.8%
Neighbor	3	2.1%
Househelp	2	1.4%
Self	10	6.9%

**Table 2C. Age distribution**

	Number	Percentage
0-4 y/o	29	20.1%
5-9 y/o	39	27.1%
10-14 y/o	17	11.8%
15-19 y/o	13	9.0%
> 20 y/o	46	31.9%

**Table 2D. Type of animal**

	Number	Percentage
Dog	126	85.7%
Cat	15	10.4%
Rabbit	2	1.4%
Rat	1	0.7%
Snake	2	1.4%
Monkey	1	0.7%

### C. Knowledge on behavior of a rabid animal

Of the respondents who actually encountered a rabid animal, almost half at 48.6% just isolated and observed the animal. One-third of the respondents (30.5%), however, did not know what happened to the animal because the animal escaped before they could be captured and isolated. A small number of respondents at 8.3% said that they killed the animal. Table 3 records the different responses of the study population.

**Table 3. Actual observed behavior of a rabid animal by the respondents**

	Number	Percentage
Do not know/Escaped	44	30.5%
Isolated and Observed	70	48.6%
Died within two weeks	11	7.6%
Died after two weeks	1	0.7%
Animal was killed	12	8.3%
Remained alive	3	2.1%

The respondents were asked theoretically what they would observe in a rabid animal. Half of the respondents said that rabid dogs would have drooling of saliva (50.2%). Forty one percent said that the animal would have sudden change in behavior from mild to vicious temperament or behavior described as insane. The other common answers were hydrophobia at 14.7%, biting when provoked at 17.7% and blank gaze and inability to recognize owner at 19.2%. The rest of the answers were almost of the same percentages as listed on Table 4.

**Table 4. Theoretical behavior of a rabid animal**

	Number	Percentage
Insane behavior	109	41.1%
Hydrophobia	39	14.7%
Lethargic/Lies Quiescent	24	9.1%
Biting when provoked	47	17.7%
Drooling of saliva	133	50.2%
Blank stare/inability to recognize owner	51	19.2%
Characteristic Hoarse Howl	2	0.8%
Restless/Pacing	2	0.8%
Marked excitability	1	0.4%
Decreased appetite	1	0.4%
No change	1	0.4%
Died	2	0.8%
Do not know	6	2.3%

### D. Knowledge on seeking medical help in animal bite cases

Table 5 shows the tabulation of the answers of the respondents regarding when to bring animal bite victims to the local health center or any other medical center. Five questions should have the answer that the respondents should bring the animal bite victim to the health center, namely cases 1,2,3,5 and 6. Of the six questions, only three questions were answered correctly by the majority of the study population, namely: cases 1,2, and 4. Of the three questions that had the right answers, only 1 case showed that the majority (72.4%) of the respondents were correct while the cases 2 and 4 showed only a minority (39.2% and 49.1%) were able to give the correct answer.

On cases of bites that bleed, 72.4% of the respondents were right that they will bring the victim to the health center. For bites that did not produce a deep wound, 39.2% of the respondents answered correctly that they will bring the victim to the health center for consult. However, in cases of licking of the wound, 40.8% answered that they do not know if they will seek consult. For cases of licking of skin without a wound, only 49.1% of the respondents were correct in saying that they do not need to bring the victim to a local health center. Almost the same percentage at 41.1% of the community did not know the answer. A little more than half of the respondents did not know whether to bring cases of licking the mouth and the eyes to the health center at 54.3% and 55.8% respectively.

**Table 5. Knowledge on seeking medical help in animal bite cases**

	Will bring to health center		Will not bring to health		Do not know	
	Number	%	Number	%	Number	%
1. Bite that produce bleeding	129	72.4%	21	7.9%	52	19.6%
2. Bite with no wound	104	39.2%	82	30.9%	79	29.8%
3. Licking of the wound	88	33.2%	69	26.0%	108	40.8%
4. Licking of skin without a wound	26	9.8%	130	49.1%	109	41.1%
5. Licking of the mouth	52	19.6%	69	26.0%	144	54.3%
6. Licking of the eyes	45	17.0%	72	27.2%	148	55.8%

\*Case number 1,2,3,5 and 6 should be brought to the health center

### E. Knowledge on treatment and prognosis of rabies

The respondents were given statements and asked whether they agree or disagree or do not know the answers to the questions. Statements 1, 2, 6 and 7 are true statements. Of the eight questions given, seven questions (statements 1, 2, 3, 4, 5, 6 and 7) were answered correctly by the respondents. However, only five questions (statements 1, 2, 3, 4 and 5) were answered correctly by at least two-thirds of the respondents while the remaining two (statements 6 and 7) were answered correctly by only an average of 47.3% of the study population.

Two hundred forty people or a high percentage agreed that there is a vaccine for rabies. Only a small number of people at 1.1% did not agree regarding availability of rabies vaccine.

While 84.9% of the respondents believed that rabies could lead to death if not treated accordingly, twenty seven people (10.2%) did not know about the fatality of the disease.

Two thirds of the respondents (60.4%) were right in disagreeing that there was no need to have vaccination against rabies if the animal was already vaccinated. However, around one fourth of the respondents (26.8%) believed otherwise.

Majority of the respondents at 68.2% were correct in not agreeing to the statement that they do not have to treat a wound that was licked by a rabid animal. The percentages of the respondents who agreed to the statement and who did not know the answer were almost near each other at 14.7% and 17.0%, respectively.

A large number of respondents at 64.9% were right in believing that they still have to treat the animal bite victim if the animal remained alive and well. Twenty percent of the respondents believed otherwise and 15.1% of the study population did not know the answer.

Almost half of the respondents at 46.4% agreed that symptoms of rabies can still be seen even a year after the bite. However, around one third (31.7%) did not know the answer.

One hundred twenty eight people or 48.3% responded correctly when asked if they agreed that rabies vaccine can provide protection for up to two years. However, quite a number of people at 87 or 32.8% did not know the answer.

Almost three-fourths of the respondents at 70.9% thought that rabies vaccine is available at health centers. Only a small number of the study population at 6% knew that vaccines were not regularly available at

health centers and the remaining 23% did not know the answer.

**Table 6. Knowledge on the treatment and prognosis of rabies**

	AGREE		DISAGREE		DO NOT KNOW	
	Number	%	Number	%	Number	%
1. Vaccination is available to prevent rabies	240	90.6%	3	11.1%	22	8.3%
2. Rabies, if un treated is fatal	225	84.9%	13	4.9%	27	10.2%
3. I do not have to have treatment if the biting animal was vaccinated	71	26.8%	160	60.4%	34	12.8%
4. Licking of a wound by a rabid animal will not need treatment	39	14.7%	181	68.3%	45	17.0%
5. If the biting animal is alive and well, I will not need treatment for the bite	53	20.0%	172	64.9%	40	15.1%
6. Symptoms of rabies can appear as late as one year after the bite	123	46.4%	58	21.9%	84	31.7%
7. Prior vaccination will protect a person from rabies within 2 years of vaccination	128	48.3%	50	18.9%	87	32.8%
8. Vaccination against rabies is available at local health centers	188	70.9%	16	6.0%	61	23.0%

\* Statements # 1, 2, 6 and 7 are true statements.

### F. Common practices in the care of animal bite victims

Among respondents who were able to actually encounter an animal bite victim, majority of them answered that they let the wound (caused by the bite) bleed at 48.6%. Only 42.4% brought the victim to a doctor for medical help. The same percentage of people at 42.4% washed the wound with soap (65.6%) or water (42.6%). Only 28.5% applied medication on the wound, with garlic at 51.2% as the most frequently used.

Of those respondents who answered theoretically (without actually encountering animal bites), letting the wound bleed was again the number one intervention they would do to an animal bite victim at 45%. Only 24.1% will apply medication to the wound and they will most frequently use garlic (42.2%). Only few ( 2.3 %) will bring the victim to a doctor for consultation. See Table 7.

**Table 7. Common practices in the care of an animal bite victim**

Table 7A. Actual Practices		
	Number	Percentage
Observe Animal	28	19.4%
Wash Wound	61	42.4%
Soap	40	65.6%
Water	26	42.6%
Alcohol	7	11.5%
Calamansi	2	3.3%
Apply Medication	41	28.5%
Garlic	21	51.2%
Betadine	13	31.7%
Herbal meds	5	12.2%
Antibiotic	1	2.4%
Bleed Wound	70	48.6%
Consult Doctor	61	42.4%
Consult "Albularyo"	8	5.6%

Table 7B. Theoretical practices		
	Number	Percentage
Observe Animal	37	14.0%
Wash Wound	109	41.1%
Soap	63	57.8%
Water	43	39.4%
Alcohol	16	14.7%
Hydrogen Peroxide	3	2.7%
Vinegar	1	0.9%
Apply Medication	64	24.1%
Garlic	27	42.2%
Betadine	13	20.3%
Herbal meds	2	3.1%
Antibiotic	4	6.2%
Charcoal	1	1.6%
Snake Venom	2	3.1%
Bleed Wound	120	45.0%
Consult Doctor	6	2.3%
Consult "Albularyo"	15	5.7%

**G. Knowledge and attitudes regarding animal vaccination**

The respondents were asked if they had a pet animal at the time of the study. Almost two-thirds of the study population at 63.8% did not own any animal 36.2% were owners of domestic animals. The most common animal owned by the respondents was the dog at 79.2%, followed by the cat at 45.8%. The third most common was the pig at 4.2%, the others were almost of the same percentages. See Table 8 for the enumeration..

**Table 8: Ownership of animals**

Table 8A: Do you own any animal?		
	Number	Percentage
Yes	96	36.2%
No	169	63.8%

  

Table 8B: Type of Animal		
	Number	Percentage
Dog	76	79.2%
Cat	44	45.8%
Pig	4	4.2%
Chicken	3	3.1%
Goat	2	2.1%
Duck	2	2.1%
Cow	2	2.1%
Horse	1	1.0%

Of those who owned an animal, only 44.8% had their animals vaccinated while 8.3% did not answer the question. Only their pet dogs had vaccination. The reason the respondents gave for not having their animals vaccinated (26.7%). Five respondents (11.1%) of owners said that no vaccine was available at their place. The next most common reason were vaccine were too expensive for them and that their animals were tied at home so there was no need to vaccinate the animals. The other reason are listed in Table 9.

**Table 9. Vaccination of animals**

		Number	Percentage
With Vaccination		43	44.8%
Without Vaccination		45	46.9%
	Not aware of vaccination	12	26.7%
	Unavailability of vaccines	5	11.1%
	Expensive vaccines	4	8.9%
	Animals are tied at home	4	8.9%
	No time for vaccination	2	4.4%
	No veterinarian available	1	2.2%
	The animal is still a puppy	1	2.2%

The respondents were asked when the last time their animal pets had their vaccination and only 81.4% answered this question. Two answers were tied at 13.9% as the most common answer. They were 6 months and a year ago. Of the answers, the longest time from the last vaccination was two years at 2.3% See Table 10.

**Table 10: Schedule of Vaccination**

	Number	Percentage
1 month ago	5	11.6%
2 months ago	2	4.6%
3 months ago	4	9.3%
6 months ago	6	13.9%
1 year ago	6	13.9%
1 year 6 months ago	5	11.6%
2 years ago	1	2.3%
3 years ago	2	4.6%
Can not recall	4	9.3%

## DISCUSSION

Among the people in the community, children are the most vulnerable and they experience the majority of this type of trauma<sup>3</sup>. As stated earlier, most the rabies cases in our country from dog bites most from pet dogs. Most households usually have at least one dog inside their home or at least place inside a cage tied in their backyard. Children usually pet and play with these dogs and at time they provoke them into biting them when the dogs get hurt from way children are handling them. At the Research Institute for Tropical Medicine (RITM) in Alabang, Muntinlupa City, their registry of rabies and exposure for the year 1997 and 1998 posted children posted children from ages 0 to 19 years old (18 years old considered as cut of for the pediatric age group) as the most number of cases seen with dog bite at 66% (1997) and 62% (1998), respectively<sup>5</sup>. The 5 to 9 age group for both years posted the highest percentage among all children at 25.4% and 24.2% respectively. This trend was also seen in the study conducted with the majority of animal bite victims at 68.1% coming from the pediatric age group. The same age at 5 to 9 years old had the highest percentage of animal bite cases.

Although, dogs were identified as the most common source of rabies here in the Philippines, one should also bear in mind that other animals can also produce rabies. All cat bites and bites by wild animals such as monkey should be managed as dog bites. In other countries, such as the United State, the animal reservoir

includes raccoons, skunks, foxes and bats. Secondary human exposure may occur when horses and cow become infected Bites by rats, rabbits and rarely produce rabies<sup>4,6</sup>.

When the respondents were asked regarding the behavior of a rabid animal, only a small number of the study population were aware of the signs and symptoms of rabid animals. Only two answers had a relatively high percentage and these were presence of insane behavior(41.1%) and drooling of saliva (50.2%). WHO recommends that suspected rabid dogs must be subjected to a ten-day observation and one must watch out for the signs and symbols, started in the questionnaire.

The nature of the animal bite will determine if one should bring the victim to a local health center or any medical center for treatment. Post-exposure prophylaxis is recommended for people who sustained an open wound with or bleeding, scratch or exposure of mucous membrane (includes eyes, mouth and vagina) to saliva or other potentially infectious material, i.e., brain tissue from a rabid animal. Casual contact with an infected person (by touching) or contact with noninfectious fluids or tissues (urine or feces) alone does not mean exposure thus prophylaxis was not warranted. In this study most of the respondent were not aware of the situations or cases of animal bite to be brought to health centers. These cases included licking of wound, licking of the eyes and mouth. Although, some of the respondents were able to identify the cases that would warrant medical help, only the case of bite that produce bleeding had a high percentage of having a correct answer. For cases of bite with no deep wound and licking of skin without a wound, only a low percentage of the study population were able to give the correct answer.

Post-exposure prophylaxis is administered to develop a high titer of neutralizing antibody as early as possible. There are three components involved. The first component is local wound care. The other two components include immunoprophylaxis, both the active and the passive types. Ideally, immunization should be given within 24 hours from the time of bite. Active immunization would entail of modern purified vaccines. In the Philippines, only purified Vero cell rabies vaccine (PVRV) and the purified duck embryo vaccine (PDEV) are available. These vaccines may be administered either intramuscularly or intradermally with the corresponding schedule of doses. Passive immunization is a necessary part of post-exposure treatment in that they give immediate protection while antibodies from the

vaccine have not yet reached protective levels. One can choose from either Equine Rabies Immune Globulin (ERIG) or Human Rabies Globulin (HRIG). Both provide adequate protection, however, HRIG costs more than ERIG, thus ERIG is being given more frequently. Skin testing is done prior to administration of ERIG because it may produce hypersensitivity reaction. If the skin test becomes positive, a control test is done on the other arm. If the result is still positive, there is no other alternative but to give HRIG. It is good to note that majority of the respondents were aware of the availability of the vaccine. Unfortunately, the respondents were not asked regarding the two types of immunization.

Once clinical signs and symptoms of rabies occur in an exposed person, no drug improves the prognosis and almost always the disease is fatal<sup>6</sup>. A good number of the respondents were of the fatality of the disease if adequate preventive measure are not instituted.

Properly immunized dogs and cats have only a small chance of developing rabies. However, in spite of vaccination, there are instance when rabies can still develop in these vaccinated animals<sup>4,6</sup>. thus, there is still a need to have post-exposure prophylaxis even if the identified animal was know to have been vaccine. Two-thirds of the study population disagreed to the statement that there is no need to treat if the biting animal was vaccinated and thus were right in their belief.

As previously discussed, bites were exposed to the saliva of rabid animal should be given adequate treatment. A good number of respondents were aware of this and thus they disagreed to the statement regarding not giving treatment to wound that was licked by a rabid animal.

The biting animal should be observed for 10 days for any signs and symptoms of rabies, thus even if the animal was alive and well at the time of consult, this same animal may later exhibit the different symptoms and may even die within 10 days, hence exposed person should still be given treatment, more specially in case wherein the victim will no be able to follow up the condition of the animal. A little more than two-thirds of the population were of this and they believe that the animal bite victim will need treatment.

Only a few people at 46.4% were that symptoms of rabies can appear as late as one year after the bite. The incubation period in humans average 4-6 weeks but ranges from 5 days to more than one year. An incubation period of up to 6 years has been confirmed by special tests including antigenic typing and nucleotide

sequencing of strains<sup>6</sup>. Length of incubation period varies depending on the severity of the bite, site of bite in relation to the nerve supply and distance from the CNS, size of the inoculum, protection provided by clothing and age and immune status of the host.

Knowledge on the protection of rabies vaccine was low about half of the respondents that prior vaccination will protect a person from rabies within 2 years of vaccination. Protection after the booster dose can extend up to 3 years.

Many believed that rabies vaccine is available at local health centers. However, there are only 19 animal Bite Treatment center in the National Capital Region under the Department of Health's National Rabies Prevention and Control Program<sup>9</sup>. Most animal bite cases are referred to either RITM or at San Lazaro Hospital for treatment. The Philippine General Hospital is presently conducting a study on the feasibility and impact of an Animal Bite Program so animal bite cases can be accommodated in this institution.

Only a handful of the respondents who actually encountered animal bite victims were able to do correct care of exposed person attending to the wound by cleaning it properly immediate object of post-exposure treatment is to prevent the rabies virus from entering neural tissue. Early and complete local treatment of all bites and scratches is important as the virus may remain within the area of the bite for an indefinite duration of time. All bite wounds should be flushed thoroughly and cleaned with soap and water. Of those respondents who washed the wound, 65.6% used soap and 42.6% used water. A small number (11.5%) used alcohol for washing the wound. One may apply tincture of aqueous solution of iodine or povidone iodine.

The need for tetanus prophylaxis measures to control bacteria infection should be taken into consideration. In this study only one respondent said that an antibiotic was given to the animal bite victim. However, almost half of the respondent applied garlic over the affected wound area and a small number of people (12.2%) also applied herbal medication. These practice seemed to be popular among the community maybe because of hearsay and belief that these will be able to give a better cure but these do not have a scientific basis.

From the study, one can see that most common practice of the community is to bleed the wound caused by the animal bite. This practice may stem from the idea that if they allow bleeding to occur, the virus may be removed and contamination of tissue will be avoided.



There was no significant difference in the practice in actual bite victims as compared to that of the answer of respondents who were not able to encounter an animal bite victim. Most of the theoretical answer were almost of the same percentage as that of the answer in actual bite cases.

Experimental evidence has shown that some dogs may harbor the rabies virus in their saliva for as long as fourteen days before the appearance of recognizable illness, however, most dogs and cats display symptoms within 4 to 5 days of viral shedding<sup>6</sup>. Unfortunately, for the actual cases of animal bites seen by the respondents, behavior of the rabid animal was not known to one-third of the respondents because the animal escaped.

Among animal owners in this study, only 44.8% had their animals vaccinated. The most common reason was lack of public awareness regarding vaccination. An extensive education campaign should thus be started in our country. In 1993, a mass canine rabies vaccination campaign was conducted in Sorsogon Province. Vaccine coverage was sufficiently high to potentially control rabies transmission among dogs through herd immunity and indicated a successful campaign<sup>10,11</sup>. Other major reason were unavailability and high cost of vaccines. Delays in treatment due to unaffordable and inaccessible vaccine more often than not result in otherwise preventable deaths.

Most of the owners who had their animals vaccinated recalled that their pet animals were given

vaccines as long as 6 months to a year ago. The recommended schedule for dog vaccination is that, as early as 17 weeks the dog should be given immunization against rabies and that vaccination should be done annually.

## CONCLUSION:

Only a small number of the study population were aware of the behavior of rabid animals. Generally, there was poor knowledge regarding when to seek medical help. Majority will bring a bleeding bite for consult but in the other clinical situations presented many of the respondents did not know what to do. Most respondents were aware of the fatality of the disease but were not aware that symptoms could still appear as late as one year after the bite. The large majority know that is a rabies vaccine but do not know the duration of protection afforded and mistakenly assumed that these were readily available in local health centers. Of those respondents who were dog owners, less than half had their pets vaccinated. The most common reason given for not availing of animal vaccination was unawareness of the existence of such. the respondents were found to have only limited knowledge regarding animal bites and rabies, including behavior of rabid animals, post-exposure prophylaxis, when to seek medical help and vaccination of animals. Thus, there is a need to increase public awareness through extensive educational campaign regarding all aspects of rabies.

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