



Pet owners' awareness on RA 9482 (Anti-Rabies Act of 2007) in Magalang, Pampanga Philippines

Remedios San Jose^a, Patricia Joy Magsino^{b,*}, Reynaldo Bundalian Jr.^c

^a College of Veterinary Medicine, Pampanga State Agricultural University, Magalang, Pampanga, 2011, Philippines

^b Center for Research and Development, Angeles University Foundation, Angeles City, 2009, Philippines

^c Public Health Program, Graduate School, Angeles University Foundation, Angeles City, 2009, Philippines

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ABSTRACT

Background: Rabies remains a significant public health problem in the Philippines. An acutely fatal viral infection, it results in the death of 200–300 Filipinos annually affecting mostly children less than 15 years old. The disease is endemic in Magalang which ranks fifth in the number of dog rabies positive cases among the 19 municipalities of Pampanga. In spite of the enactment of the Anti-Rabies Act of 2007 (RA 9482), the control of rabies in Magalang has been a major challenge for the municipality. Thus, this study investigated the awareness of pet owners in Magalang, Pampanga on the Anti-Rabies Act of 2007 (RA 9482).

Methods: This study was a cross-sectional study conducted from April–September 2017 among 380 pet owners from eight urban and rural barangays in Magalang, Pampanga. Data gathered were analyzed using STATA IC (Ver13.0); Bloom's cut-off points were used to categorize the level of knowledge of pet owners on the Anti-Rabies Act; data were further analyzed using Chi-square Test and relationship between variables was determined through logistic regression.

Results: Results revealed that pet owners in Magalang had poor knowledge of the Anti-Rabies Act (65.5%), and majority (71.3%) were unaware of its existence and of penalties imposed by the law to non-compliant pet owners. Moreover, results indicate that pet owners in urban places have higher odds of having above median knowledge on the law compared to those in rural places.

1. Introduction

Rabies is one of the oldest known infectious diseases which have been existent for more than 4300 years. Globally, canine rabies causes approximately 59,000 human deaths, and over 3.7 million disability-adjusted life years (DALYs) (Hampson et al., 2015). The rabies virus targets the nervous system and leads to fatal encephalitis; once clinical symptoms manifest, death of a rabies infected human follows (Meslin and Briggs, 2013). It has an almost 100% case fatality rate, the highest among all infectious diseases (Miranda et al., 2017).

Being a neglected zoonotic disease, rabies is often unreported particularly in resource-poor countries. As a result, reliable data on the actual incidence of human rabies exposure are limited or in most cases non-existent in third world countries. It is believed that the global number of human deaths is significantly under-reported which has led to rabies being ranked a low priority disease in many poor countries (Meslin and Briggs, 2013; Miranda et al., 2017). More than 99% of human rabies

cases occur in Africa and Asia where domestic dogs are the most important sources of infection. Around 45–60% of dog bite injuries and human deaths involve children below 15 years of age (Meslin and Briggs, 2013). Children are four times more likely to be bitten than adults in developed and developing countries (Leung et al., 2007).

Despite its global public health burden, canine rabies has the potential to be eliminated from the human population in the coming years. In 2016, several organizations including the World Health Organization (WHO), the World Organization for Animal Health (OIE), and the Food and Agriculture Organization (FAO) agreed to mobilize to eliminate dog-mediated human rabies by 2030 (Wallace et al., 2017). Based on the wide-ranging experiences in industrialized countries and existing programs in Latin America and even in African and Asian countries, elimination of canine rabies is an attainable goal (Franka et al., 2013). Many developing countries are still at the early stages of their control efforts. Presently, many are still overcoming barriers to rabies prevention and elimination. In Southeast Asia, the region has come up with a rabies

* Corresponding author.

E-mail address: magsino.patriciajoy@auf.edu.ph (P.J. Magsino).

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elimination strategy developed based on socio-cultural, technical, organizational, political, and resources (S.T.O.P-R) pillars. Among the many component activities of said elimination strategy are dog mass vaccination, dog population control, reporting and surveillance, information and education campaigns on rabies, responsible pet ownership, and animal welfare (OIE ASEAN Rabies Elimination Strategy). The SEA Rabies strategy, likewise, underlines the value of political support and a legal framework that will guarantee financial assistance and sustainability of all anti-rabies campaign activities (Franka et al., 2013).

The Philippines is among the top 10 countries worldwide with highest human rabies deaths (Miranda et al., 2017). As much as 200–300 Filipinos die from rabies each year with one third of the casualties being children (Davlin et al., 2014). Since rabies poses a significant public health problem, the Anti-Rabies Act of 2007 (RA 9482) was enacted to address the country's growing concerns on the disease. The act mandated for the creation of a national policy to control, curtail the spread, and eradicate human and animal rabies and established the need for responsible pet ownership (Medina et al., 2016; Miranda et al., 2017). Rabies elimination activities in the country include mass dog and cat immunization, creating a data-base system for vaccinated dogs and cats, impounding, education campaign on the control and prevention of rabies, provision of PEP to animal bite victims, and responsible dog and cat ownership (Española, 2015).

Magalang, a first-class municipality¹, is one of the 19 municipalities of Pampanga. The municipality, through its Agriculture Office, conducts mass dog vaccination. However, in spite of said massive vaccination campaigns, there has been an increase in animal bite cases from 2015 to 2016 and recent cases of rabies positive dogs which placed Magalang among the top five municipalities with the highest number of rabies positive cases in the whole of Pampanga.

This study investigated the level of awareness of pet owners in Magalang, Pampanga on the different provisions of the Anti-Rabies Act ten years after it was promulgated.

2. Methodology

2.1. Research area

The study was conducted in Magalang, Pampanga, a progressive primarily agricultural first-class municipality, which has 27 barangays (7 urban and 20 rural) and a total land area of 97.32 km². From the 27 barangays², four urban (San Nicolas 1, Sta. Cruz, San Francisco and San Pedro 2) and four rural (Turu, La Paz, San Agustin and Sta. Lucia) barangays were randomly selected. The PSAU (formerly Pampanga Agricultural College), considered the oldest agricultural school, is situated in this municipality. The University offers Veterinary Medicine and Animal Science courses that engage in the production of healthy farm and companion animals through promotion of proper herd and pet health management and disease control and prevention. The municipality also houses a district hospital, a municipal health center and a private animal bite center.

2.2. Study design and sampling

This study was a cross-sectional study that described pet owners' demographic profiles (occupation, age, sex, educational attainment, etc.), number of pets owned, reasons for owning pets, and their level of knowledge on the Anti-Rabies Act. Based on the record of the Municipal Agriculturist Office (MAO) of 3620 pet owners in 2016, a sample size of

348 pet owners was obtained using Raosoft Sample Size Calculator (Raosoft, Inc.) at 95% confidence interval and 5% margin of error. The sample size was rounded off to 380 dog and cat owners from eight (out of 27) randomly selected urban and rural barangays, with participants equally allocated from each barangay.

2.3. Study participants

Members of pet owning households (those with either dog or cat and those with both dog/s and cat/s), aged 18–81 years old, regardless of gender, and able to read and understand the questionnaire during the conduct of the study were included in the survey.

2.4. Questionnaire design

A survey questionnaire, patterned from questionnaires used in similar studies (Digafe et al., 2015; Dzikwi et al., 2012; Nilsson, 2014; Tenzin et al., 2012; Wera et al., 2015) was utilized to gather data. Content was validated by an independent veterinarian and statistician.

The questionnaire consisted of two parts: the first part was on the demographic profile of pet owners (employment, sex, educational level), number of dogs/cats owned and reason/s for owning dogs; the succeeding part contained nine questions on the assessment of pet owners' knowledge on the Anti-Rabies Act. The questionnaire used was translated in Filipino.

In order to assess pet owners' knowledge on the Anti-Rabies Act, a scoring system was used. Respondents' answers to the questions were classified as either true or false based on the implementing rules and regulations of the Act. The level of pet owners' knowledge on the Anti-Rabies Act was categorized based on Bloom's cut-off points (Abeje et al., 2016) as good (80.0%–100.0%), moderate (60.0%–79.0%) and poor ($\leq 59.0\%$).

2.5. Ethical considerations and informed consent

An ethics clearance was secured from the Institutional Ethics Review Committee of the Pampanga State Agricultural University in Magalang, Pampanga. Dog owners were required to read and sign an informed consent which was translated in Filipino to facilitate the understanding of its contents. Only those who voluntarily signed the consent were included in the study. The informed consent was prepared according to the prescribed information required by the institutional review board. Full details of the purpose and objectives of the study, nature and extent of involvement of the participants, and possible direct/indirect benefits (gain knowledge on rabies and the Anti-Rabies Act) were mentioned during the survey. The consent also explicitly stated voluntariness of participation, confidentiality of information, and data management.

3. Analysis

Retrieved questionnaires were checked for completeness and were encoded using Excel. Verification, analysis, and calculation of the mean, median, and frequency distribution were done using STATA IC (Ver.13.0.) Pearson's Chi-square was used for analysis of bivariate data and logistic regression analysis using backward selection was used to identify factors associated with the dependent variable (categorized based on median; 0 = score index ≤ 3 and 1 = score index > 3); statistical significance was defined as p-value < 0.05 .

4. Results

4.1. Socio-demographic characteristics of pet owners in Magalang, Pampanga

Table 1 summarizes the socio-demographic profiles of the pet owners in Magalang. Of the 380 pet owners included in the survey, 212 were dog

¹ First-class municipality-municipality with average annual income of 55M PHP (1.1 USD in 2019) or more.

² Barangay – refers to the basic community/unit in municipalities. Each municipality is comprised of several barangays and an elected barangay captain with councilors acts as local governing body in each barangay.

owners, 44 were cat owners, and 124 were both dog and cat owners. Majority were females (66.8%), from urban barangays (61.8%), 42 years old and above (64.5%) with age range of 18–81 and a mean age of 47, 27.6% were high school graduates, and 38.4% were housewives. Around 36.6% of dog owners had only one dog while among cat owners, 25.5% owned only one cat.

4.2. Knowledge of pet owners in Magalang on the Anti-Rabies Act (RA 9482)

4.2.1. Knowledge of pet owners in Magalang on the existence of the Anti-Rabies Act (RA 9482) and on some of its components

Table 2 presents the bivariate analysis on the knowledge of pet owners in Magalang on the existence of the Anti-Rabies Act (RA 9482) and some of its components. Majority of pet owners did not know of the existence of a law on rabies control (71.3%); 92.1% knew that dog registration is needed in order to determine whether a dog was vaccinated or not; and 90.3% were aware that slaughtering and selling dog meat were prohibited. Further, Table 2 shows significant association between pet ownership status and pet owners' knowledge on the prohibition of slaughtering and selling dog meat ($p = 0.034$). There was also significant association between pet owners' area of living (urban and rural barangays) and their awareness of a law on rabies control ($p < 0.0001$) and on slaughtering and selling dog meat as a prohibited practice ($p = 0.036$).

4.2.2. Knowledge on penalties for violation of the Anti-Rabies Act (RA 9482) among pet owners and urban and rural dwellers in Magalang

The bivariate analysis on the knowledge of pet owners and urban and rural dwellers in Magalang on penalties for violation of the Anti-Rabies Act (RA 9482) is shown in Table 3. Data show that pet owners were unfamiliar of the corresponding penalties prescribed under the law to

those: who fail to have their dog/cat registered and vaccinated (68.7%), who do not leash/cage their pet (70.8%), who refuse to put their pets under observation after a biting incident (63.2%), who refuse to confine their pets for observation and do not shoulder the medical expenses of the bite victims (61.6%), and that any person caught slaughtering and selling dog meat may be imprisoned (64.2%) or fined (62.2%).

Significant association (Table 3) was observed between pet owners' knowledge on penalties prescribed by the Anti-Rabies Act and the area of living particularly on pet owners who refuse to put their pets under observation after a biting incident ($p = 0.023$), who refuse to shoulder the medical expenses of the bite victims ($p = 0.011$), on imprisonment of persons caught slaughtering and selling dog meat ($p < 0.0001$) or on fines for the same violation ($p < 0.0001$).

4.2.3. Factors associated with knowledge of pet owners on the Anti-Rabies Act

Table 4 presents the initial full logistic regression analysis model of socio-demographic variables which may have significant relationship with the knowledge of pet owners on the Anti-Rabies Act. The location was observed to be a significant factor in pet owners' awareness of the Anti-Rabies Act ($p = 0.001$).

The final logistic regression model of factors affecting pet owners' knowledge on the Anti-Rabies Act is shown in Table 5. Among the demographic characteristics subjected for multivariate regression analysis, only the location (urban or rural) showed to be a significant factor ($p = 0.002$) on knowledge of the Anti-Rabies Act among pet owners in Magalang. Moreover, said results indicate that pet owners in urban barangays have higher odds of having knowledge on the Anti-Rabies Act compared to pet owners in rural barangays (OR = 1.964; CI = 1.284–3.005).

4.2.4. Level of knowledge of pet owners in Magalang on the Anti-Rabies Act

Table 6 is a comparison on the level of knowledge of pet owners in Magalang on the Anti-Rabies Act. Majority of the pet owners (65.5%) had poor knowledge, (15%) had moderate knowledge and (19.5%) had good knowledge of the existence and different provisions of the Anti-Rabies Act. Percentage of poor knowledge is high in dog owners (67.0%) and respondents from rural barangays (73.1%).

The level of knowledge on the existence and provisions of the Anti-Rabies Act was further compared between pet owners from urban and rural barangays in Magalang (Table 6). Findings showed significant association on the level of knowledge of pet owners and their area of living ($p = 0.005$). Pet owners from rural barangays had poorer knowledge on the Anti-Rabies Act than pet owners from urban barangays in Magalang.

5. Discussion

Rabies is considered a significant public health problem being one of the most acutely fatal infections known to be responsible for the death of 200–300 Filipinos annually (Miranda et al., 2017). The Republic Act 9482 (RA 9482 or Anti-Rabies Act) was signed into law in 2007 in response to the country's burgeoning concerns on rabies and mandated the creation of the National Rabies Prevention and Control Program (NRPCP). The program identified various government agencies (DOH, BAI of the DA, DepEd, LGU, etc.) and non-government agencies tasked to implement and oversee activities that will facilitate the control and elimination of rabies in the Philippines by year 2020.

The RA also specifies the responsibilities of the different government agencies, non-government organizations, and pet owners themselves. Pet owners who fail to comply with the RA are given the following penalties: 2,000.00 PHP (38.59 USD)³ for failure to have dog vaccinated and registered; 10,000.00 PHP (192.94 USD) for refusal to confine dog for observation after a biting incident; 25,000.00 PHP (482.35 USD) for refusal to confine dog for observation after a biting incident and provide

Table 1
Summary of socio-demographic characteristics of respondents in Magalang.

Category	n (%)	Category	n (%)
Sex		Location	
Male	126 (33.2)	Urban	235 (61.8)
Female	254 (66.8)	Rural	145 (38.2)
Age		No. of Dogs Owned	
18–29	63 (16.6)	1	139 (36.6)
30–41	72 (18.9)	2	100 (26.3)
≥42	245 (64.5)	3	52 (13.7)
Educational Attainment		4	15 (3.9)
Grade school undergraduate	29 (7.6)	5	11 (2.9)
Grade school graduate	66 (17.4)	6	7 (1.8)
High school undergraduate	57 (15.0)	7	3 (0.8)
High school graduate	105 (27.6)	8	1 (0.3)
College undergraduate	34 (8.9)	≥8	8 (2.1)
College graduate	68 (17.9)	None	44 (11.6)
Others (Vocational)	21 (5.5)	No. of Cats Owned	
Occupation		1	97 (25.5)
Farmer	22 (5.8)	2	37 (9.7)
Laborer/Farm Caretaker	7 (1.8)	3	12 (3.2)
Professionals	11 (2.9)	4	5 (1.3)
Self-employed/Business Owner	48 (12.6)	5	9 (2.4)
Housewife	146 (38.4)	6	5 (1.3)
Retired	62 (16.3)	≥6	3 (0.8)
Student	15 (3.9)	None	212 (55.8)
Others (Driver, Housemaid etc.)	69 (18.2)	Owned both dog and cat	124 (32.6)

³ Exchange rate as of April 2019: 52.63 PHP = 1 USD.

Table 2

Knowledge on the existence of the Anti-Rabies Act (RA 9482) and some of its components among pet owners and urban/rural dwellers in Magalang.

Variable/Category	n (%)	Pet Ownership Status [n (%)]			p-value	Area of Living [n (%)]		p-value
		Dog	Cat	Dog and Cat		Urban	Rural	
Aware that there is a law on rabies control					0.498			<0.0001*
Yes	109 (28.9)	56 (26.4)	15 (34.1)	38 (30.7)		84 (35.7)	25 (17.2)	
No	271 (71.3)	156 (73.6)	29 (65.9)	86 (69.3)		151 (64.3)	120 (82.8)	
Dog registration is required to determine whether dog was vaccinated or not.					0.761			0.861
True	350 (92.1)	194 (91.5)	40 (90.9)	116 (93.5)		216 (91.9)	134 (92.4)	
False	30 (7.9)	18 (8.5)	4 (9.1)	8 (6.5)		19 (8.09)	11 (7.6)	
Slaughtering dogs and selling dog meat is prohibited.					0.034*			0.036*
True	343 (90.3)	193 (91.0)	35 (79.5)	115 (92.7)		218 (92.8)	125 (86.2)	
False	37 (9.7)	19 (9.0)	9 (20.5)	9 (7.3)		17 (7.2)	20 (13.8)	

*Statistical significance was defined as p-value <0.05.

for the medical expenses of the victim; 500.00 PHP (9.65 USD) for failure to put dog on a leash when outside the owner's premises; and 5,000.00 PHP (96.47 USD) and 1–4 years imprisonment for persons caught slaughtering and selling dog meat.

The survey included dog and cat owning households. During the actual house-house survey, any member of the dog/cat owning households (18–81 years old) was invited to be part of the survey. In most of the households approached, the female household members who kept house and attended to young or elderly family members were available for interview which explains the predominance of female respondents who were mostly housewives or housekeepers in this study.

Findings of this study revealed that pet owners in Magalang had poor knowledge of the RA because majority (71.3%) were unaware that such a law even existed. It follows that they were also unfamiliar of penalties imposed to persons who violated or failed to comply with the law. Although 92.1% are aware that dog registration is required, only 31.3% knew that there is a fine for failure to register/vaccinate dogs. In a study in Ilocos Norte, Philippines in 2012, the residents are willing to pay, on the average, 69.65 PHP (1.32 USD) for dog vaccination and 29.13 PHP (0.55 USD) for dog registration. Moreover, 86% of the respondents are willing to pay the said amount annually for the vaccination of each of their dogs. Participants who are willing to pay for vaccination are more

Table 3

Knowledge on penalties for violation of the Anti-Rabies Act (RA 9482) among pet owners and urban and rural dwellers in Magalang.

Variable/Category	n (%)	Pet Ownership Status [n (%)]			p-value	Area of Living [n (%)]		p-value
		Dog	Cat	Dog and Cat		Urban	Rural	
A pet owner who fails to have his/her dog registered/vaccinated is fined.					0.092			0.145
True	119 (31.3)	64 (30.2)	20 (45.5)	35 (28.2)		80 (34.0)	39 (26.9)	
False	261 (68.7)	148 (69.8)	24 (54.5)	89 (71.8)		155 (66.0)	106 (73.1)	
A dog owner who fails to leash his/her dog outside his/her premises is fined.					0.338			0.088
True	111 (29.2)	60 (28.3)	17 (38.6)	34 (27.4)		76 (32.3)	35 (24.1)	
False	269 (70.8)	152 (71.7)	27 (61.4)	90 (72.6)		159 (67.7)	110 (75.9)	
A pet owner who refuses to put his/her pet under observation after a biting incident will be fined.					0.417			0.023*
True	140 (36.8)	74 (34.9)	20 (45.5)	46 (37.1)		97 (41.3)	43 (29.7)	
False	240 (63.2)	138 (65.1)	24 (54.5)	78 (62.9)		138 (58.7)	102 (70.3)	
A pet owner who refuses to put his/her pet under observation and do not shoulder the medical expenses of the person bitten will be fined.					0.559			0.011*
True	146 (38.4)	78 (36.8)	20 (45.5)	48 (38.7)		102 (43.4)	44 (30.3)	
False	234 (61.6)	134 (63.2)	24 (54.5)	76 (61.3)		133 (56.6)	101 (69.7)	
Any person caught selling dog meat may be imprisoned.					0.703			<0.0001*
True	136 (35.8)	72 (34.0)	17 (38.6)	47 (37.9)		105 (44.7)	31 (21.4)	
False	244 (64.2)	140 (66.0)	27 (61.4)	77 (62.1)		130 (55.3)	114 (78.6)	
Any person caught selling dog meat may be fined.					0.695			<0.0001*
True	142 (37.4)	78 (36.8)	19 (43.2)	45 (36.3)		105 (44.7)	37 (25.5)	
False	238 (62.6)	134 (63.2)	25 (56.8)	79 (63.7)		130 (55.3)	108 (74.5)	

*Statistical significance was defined as p-value <0.05.

Table 4

Full logistic regression analysis model of socio-demographic characteristics associated with the knowledge on the Anti-Rabies Act of pet owners in Magalang.

Variable/Category	Estimate	*SE	p-value	OR (95% CI)
Sex				
Female	(base)			
Male	0.5226	0.2859	0.068	1.686 (0.963–2.953)
Age				
18–29	(base)			
30–41	0.0651	0.3648	0.858	1.067 (0.522–2.182)
42 and above	0.1045	0.3102	0.736	1.110 (0.604–2.039)
Educational Attainment				
Below primary	(base)			
Elementary graduate	-0.1439	0.4337	0.740	0.866 (0.370–2.026)
High school graduate	0.3434	0.4313	0.426	1.410 (0.605–3.283)
College graduate	0.1534	0.4790	0.749	1.166 (0.456–2.981)
Occupation				
Farmer/Farm Caretaker	(base)			
Professionals	0.3780	0.7860	0.631	1.459 (0.313–6.812)
Self-employed/Business owner	-0.7923	0.5384	0.141	0.453 (0.158–1.301)
Housewife	0.2118	0.4993	0.671	1.236 (0.465–3.288)
Others (retired, students, etc.)	-0.2964	0.4483	0.509	0.743 (0.309–1.790)
Location				
Rural	(base)			
Urban	0.7642	0.2377	0.001	2.147 (1.347–3.422)
Pet ownership Status				
Dog owner	(base)			
Cat owner	0.5028	0.3489	0.150	1.653 (0.834–3.276)
Dog and Cat owner	0.0932	0.2375	0.695	1.098 (0.689–1.748)

*Statistical significance was defined as p-value <0.05.

* SE- Standard Error.

likely to be willing to pay also for registration (Birhane et al., 2016).

Very few also were aware of penalties for failure to leash dogs (29.2%), failure to confine a dog for observation after a biting incident (36.8%) and to shoulder victim's medical expenses (38.4%); 35.8% agreed that a person caught selling dog meat may be imprisoned or fined (37.4%).

Out of the 380 pet owners interviewed, only one respondent was able

Table 5

Final logistic regression model of factors associated with pet owners' knowledge on the Anti-Rabies Act.

Variable/Category	Estimate	*SE	p-value	OR (95% CI)
Location				
Rural (base)				
Urban	0.6750	0.2169	0.002	1.964 (1.284–3.005)

* SE- Standard Error.

Table 6

Comparison on the level of knowledge among pet owners from urban and rural barangays in Magalang according to Bloom's cut off points (n = 380).

Level of Knowledge on RA 9482	n (%)	Pet ownership Status [n (%)]			p-value	Area of Living [n (%)]		p-value
		Dog	Cat	Dog and Cat		Urban	Rural	
Poor Knowledge (<60%)	249 (65.5)	142 (67.0)	26 (59.1)	81 (65.3)	0.200	143 (60.8)	106 (73.1)	0.005*
Moderate Knowledge (60–80%)	57 (15.0)	31 (14.6)	4 (9.1)	22 (17.7)		34 (14.5)	23 (15.9)	
Good Knowledge (>80%)	74 (19.5)	39 (18.4)	14 (31.8)	21 (16.9)		58 (24.7)	16 (11.0)	

to confidently answer when asked *how much is the penalty for a pet owner who failed to leash his dog when outside his premises?* The said pet owner shared that she paid P500.00 (\$9.65) when her dog was caught without a leash year back while residing in Marikina City. A study in Bohol showed similar results. Majority of the respondents were aware of the rabies program but failed to identify its important components such as dog registration and dog confinement and were also not well-informed of what to do to a suspected rabid dog (Davlin et al., 2014).

Significant association (Table 3) was noted between pet owners' location (urban and rural) and their awareness on penalties for failure to confine pet for observation, failure to provide for victim's medical expenses, and penalties for slaughtering and selling dog meat. Final logistic regression analysis (Table 5) showed that the location (urban and rural) was a determining factor in pet owners' knowledge of the RA. Further, more dog owners had poorer knowledge on the RA compared to cat owners and owners with both dog and cat. Likewise, more pet owners from rural barangays had poorer level of knowledge of the law compared to those from urban barangays. The poor knowledge on the Anti-Rabies Act among pet owners may be due to the inadequate information campaigns by the national and local governments regarding the law.

Of the nine questions asked to evaluate the level of knowledge of pet owners on the RA, majority of the respondents gave negative (no and false) responses to seven of the questions; only the questions on “dog registration is required to determine vaccination status of dog” (Table 2) and “slaughtering and selling dog meat are prohibited” yielded positive answers (true) from majority of pet owners (92.1% and 90.3%, respectively). The overwhelming positive response on the question on prohibition of slaughtering and selling dog meat again mirrors pet owners' deep-seated fear of rabies. Respondents who were asked if they eat dog meat answered that they used to but because rabies is deadly they have refrained from doing so. The same sentiment was shared by individuals who participated in the focus group discussion in Bali who admitted that dog meat was widely consumed until the rabies epidemic that resulted in fear of the disease (Widyastuti et al., 2015).

6. Conclusions

Results of this study revealed that the knowledge of pet owners in Magalang on the Anti-Rabies Act is poor. Further, the location of the barangay is a significant factor in their knowledge of the said law. Information and education campaigns (IEC) on rabies and the Anti-Rabies Act should be undertaken particularly targeting those in rural barangays. IECs should focus on promoting leashing/confining of dogs, spaying/neutering of pets to control their population and prohibition of slaughtering dogs, dog meat selling, and consumption.

Declarations

Author contribution statement

Remedios San Jose: Conceived and designed the experiments; Performed the experiments; Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data; Wrote the paper.

Patricia Joy Magsino: Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data; Wrote the paper.

Reynaldo Bundalian Jr.: Conceived and designed the experiments; Contributed reagents, materials, analysis tools or data; Wrote the paper.

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Competing interest statement

The authors declare no conflict of interest.

Additional information

No additional information is available for this paper.

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