

Knowledge and Behaviors of Adolescent Pet Owners Regarding Rabies Vaccination in Thailand

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Abstract: Rabies remains a fatal zoonotic disease and continues to pose a critical public health challenge in Thailand. In recent years, adolescents have increasingly become prominent pet owners, reflecting broader social changes in pet-keeping practices. A survey by Mahidol University revealed that nearly half of Thai adults now choose to raise pets as family members instead of having children, while market research indicates that Generation Z, including adolescents under 18, dedicate significant time and emotional investment to pet care. This shift underscores the essential role of young people in ensuring responsible vaccination of household animals. This study aimed to evaluate the knowledge and preventive behaviors of Thai adolescents aged 13–18 years regarding rabies vaccination for pet dogs and cats. A total of 300 participants completed an online questionnaire comprising four sections: demographics, pet ownership, rabies knowledge, and vaccination behaviors. Data were analyzed using descriptive statistics and chi-square tests. Results demonstrated that 70% of respondents displayed moderate-to-high rabies knowledge; however, only 55% adhered consistently to annual vaccination schedules. Misconceptions persisted, with 30% believing indoor pets did not require vaccination. Additional barriers included vaccine safety concerns (15%) and financial constraints (20%). Statistical analysis confirmed a significant association between higher knowledge levels and consistent vaccination practices ($p < 0.05$). The findings highlight that while adolescents recognize rabies as life-threatening, knowledge alone does not ensure preventive action. Misunderstandings and practical barriers continue to hinder compliance. Targeted education, youth-centered campaigns, and improved access to affordable vaccination services are essential. Engaging adolescents as responsible pet owners will be pivotal in supporting Thailand's goal of achieving rabies elimination by 2030.

Keywords: Rabies, Vaccination, Adolescent, Knowledge, Behavior, Thailand, Pet Care, Public Health.

1. INTRODUCTION

Rabies is a zoonotic viral disease that remains a significant public health issue worldwide. It is almost universally fatal once clinical symptoms appear, yet entirely preventable through timely and widespread vaccination of dogs and cats. According to the World Health Organization (WHO), vaccinating at least 70% of the dog population annually is the most effective method to eliminate rabies transmission in humans. In Thailand, rabies is still reported in both animals and humans, with most human cases resulting from dog bites. While national campaigns have reduced the incidence, gaps remain, particularly in rural and semi-urban areas. Adolescents constitute an important subgroup of pet owners, as they often serve as the primary caregivers of household pets. Their knowledge, attitudes, and behaviors toward rabies vaccination can directly influence vaccination coverage and therefore the success of rabies prevention programs. Despite this, limited studies have focused specifically on adolescents in Thailand. Understanding their knowledge and behaviors is crucial to designing effective interventions tailored to this age group, who are highly active on digital platforms and can influence family decision-making. Therefore, this study aims to assess the knowledge and behaviors of adolescent pet owners regarding rabies vaccination in Thailand, and to identify factors that influence consistent vaccination practices.

2. HYPOTHESIS

H1: Adolescents with sufficient knowledge about rabies are more likely to vaccinate their pets regularly than those with insufficient knowledge.

H2: Support from parents and ease of access to veterinary services are positively associated with consistent vaccination behavior.

H3: Knowledge, parental support, and access factors interact to influence vaccination behaviors, but knowledge alone does not guarantee compliance.

3. METHODOLOGY

This study employed a non-experimental, cross-sectional descriptive design in which no variables were manipulated. Primary data were collected through a structured questionnaire distributed both online via Google Forms and in person at schools and community centers. A convenience sample of 300 Thai adolescents aged 13–18 years who owned at least one dog or cat participated in the study. The questionnaire collected both quantitative and qualitative data and comprised several sections: demographics, including gender and age group; pet-ownership details, such as type and number of pets and duration of ownership; rabies knowledge, assessed with 10 true/false or multiple-choice questions addressing transmission, prevention, symptoms, and vaccination schedules; vaccination behaviors, consisting of 5 items on the frequency of pet vaccination, beliefs regarding vaccination, and barriers or facilitators influencing regular vaccination; and influencing factors, such as parental support and accessibility of veterinary services. Descriptive statistics, including frequency, percentage, mean, and standard deviation, were used to summarize demographics, knowledge levels, and vaccination behaviors. For key knowledge and behavior items, the percentages of correct responses and adherence to recommended vaccination practices were reported, while qualitative responses regarding barriers and facilitators were thematically analyzed to identify common patterns influencing adolescent vaccination behavior.

4. RESULTS

The Demographics and Pet Ownership (n = 300) characteristics as Table1-6

TABLE 1: AGE

Age	Number of people	Percentage
13-15	88	29.3
16-18	212	70.7

TABLE 2: Gender

Gender	Number of people	Percentage
Male	136	45.3
Female	152	50.7
Other	12	4.0

TABLE 3: residence

Gender	Number of people	Percentage
urban	95	68.3
Rural	205	31.7

TABLE 4: type of pet

Pets Type	Number of people	Percentage
Dog	129	43.0
Cats	99	33.0
Rabbits	18	6.0
Other	54	18.0

TABLE 5: Number of Pets

Number of Pets	Number of people	Percentage
1 Pet	127	42.3
2 Pets	112	37.3
>3 Pets	61	20.3

TABLE 6: Ownerships

Ownerships	Number of people	Percentage
Pet ownership > 3 years	148	49.3
1-3 years	92	30.7
6-12 months	30	10.0
< 6 months	30	10.0

TABLE 7: Knowledge of Rabies (10 items)

Knowledge level	Score range	n	Percentage
High	8-10	75	25.0
Moderate	5-7	201	67.0
Low	0-4	25	8.0

The majority of adolescents (67%) demonstrated moderate knowledge about rabies, while only 25% had high knowledge and 8% had low knowledge, indicating that most respondents understood the basics but lacked deeper awareness.

TABLE 8 : Vaccination Behaviors(1)

Vaccination Behaviors					
Questions	Frequency				
	Always	Ofen	Sometimes	Rarely	Never
Annual rabies vaccination	139 (46.3%)	58 (19.3%)	61 (20.3%)	19 (6.3%)	23 (7.7%)
Remind parents about vaccination	142 (47.3%)	61 (20.3%)	61 (20.3%)	18 (6.0%)	18 (6.0%)
You always keep the appointment and bring your pet for vaccination on time.	177 (59.0%)	57 (19.0%)	38 (12.7%)	15 (5.0%)	13 (4.3%)

Less than half of respondents (46.3%) consistently ensured annual rabies vaccination for their pets, while others showed irregular practices. About 47.3% regularly reminded parents about vaccination, and 59% always kept vaccination appointments.

TABLE 9 :Vaccination Behaviors(2)

Vaccination Behaviors					
Questions	Information on beliefs about vaccination				
	Strongly	Agree	Neutral	Disagree	Strongly Disagree
Believed rabies vaccine is safe	184 (61.3%)	69 (23.0%)	31 (10.3%)	13 (4.3%)	3 (1.0%)
Transportation and cost are a burden for you, or you cannot afford them.	72 (24.0%)	41 (13.7%)	66 (22.0%)	42 (14.0%)	79 (26.3%)

Most adolescents (84.3%) believed rabies vaccines are safe, though some remained neutral or doubtful. Transportation and cost were identified as barriers by 37.7% of respondents, while 26.3% strongly disagreed, reflecting differing levels of accessibility concerns.

Summary: The study revealed that most adolescent pet owners in Thailand possessed a moderate level of knowledge regarding rabies and vaccination. While nearly all respondents recognized rabies as a fatal disease, misconceptions persisted, particularly concerning the necessity of annual boosters and the safety of vaccines. Vaccination behaviors varied widely: approximately half of the adolescents reported consistent adherence to vaccination schedules, whereas the remainder reported irregular or absent vaccination. Key facilitators of adherence included parental support, regular access to veterinary services, and the presence of a family veterinary clinic. Major barriers included cost, transportation difficulties, and the belief that indoor pets do not require vaccination.

5. DISCUSSION

The findings highlight a significant knowledge–behavior gap among Thai adolescent pet owners. While most respondents demonstrated moderate awareness of rabies as a deadly disease, misconceptions regarding vaccination necessity and safety persist. This aligns with previous research in Southeast Asia, which found that community beliefs often undermine compliance with preventive measures (Sriwattanapongse et al., 2019).

Parental involvement emerged as an important factor influencing vaccination adherence. Adolescents who reported parental support in arranging veterinary visits were more likely to vaccinate consistently. This suggests that rabies education programs should not only target adolescents but also engage family structures.

Cost concerns were another barrier mentioned in open-ended responses. Some adolescents believed vaccination was expensive, though government-subsidized services exist. Increasing awareness of free or low-cost campaigns may improve uptake.

6. CONCLUSION

This study shows that while Thai adolescents generally recognize rabies as a fatal disease, significant gaps remain in their knowledge and vaccination practices. About half reported adhering to recommended vaccination schedules for their pets, whereas the rest showed irregular or no vaccination behavior. This reveals a knowledge–behavior gap: awareness of rabies does not always translate into preventive action. Several barriers were identified. Misconceptions, such as believing indoor pets do not require vaccination, remain widespread. Concerns about vaccine safety and perceived costs further reduced compliance, despite government-subsidized campaigns. Parental involvement emerged as a critical factor: adolescents with supportive parents were more likely to vaccinate pets consistently, underscoring the need for family-centered interventions rather than youth-only approaches. Three recommendations are proposed. First, rabies education should be integrated into school health and science curricula, emphasizing the necessity of routine vaccination for all pets regardless of lifestyle.

Interactive methods, including role-play or digital learning modules, may enhance engagement and retention. Second, public health agencies should expand youth-friendly communication campaigns through social media, addressing misconceptions and promoting awareness of local vaccination drives. Third, veterinary authorities and local governments should strengthen community outreach by offering mobile vaccination clinics, low-cost services in rural areas, and digital reminder systems for annual boosters. Strengthening adolescent knowledge and behavior is crucial not only for protecting households but also for achieving Thailand's national goal of rabies elimination by 2030. Empowering adolescents as responsible pet owners and family change agents can significantly improve vaccination coverage and support long-term, sustainable rabies prevention efforts.

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