

# Responsible Dog Ownership Program: Its Effects On Awareness, Beliefs and Quality Dog Care

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## Abstract

This study determined the effects of a responsible dog ownership program on the awareness, beliefs and quality dog care. The study utilized the quasiexperimental design using two group pretest-posttest designs. Eighty dog owners, 40 in the experimental group and 40 in the control group were utilized as participants. After the four weeks intervention and five weeks follow-up, a significant difference was found between the baseline and endline characteristics in the experimental group in terms of awareness, beliefs and quality dog care. However, no significant difference was noted in the control group. The difference in gain score was significant when the experimental and control groups were compared. The experimental group showed a significant improvement in their awareness level, beliefs and quality dog care while the control group did not improve. No significant difference in gain score in both the experimental groups were seen when profile such as age, income, educational attainment, number of owned dogs and breed of dogs were considered. Therefore, the responsible dog ownership program was effective in enhancing awareness, changing false beliefs and improving quality dog care among dog owners exposed to it.

## I. INTRODUCTION

Dogs are considered as man's best friend such that people from all walks of life have allowed dogs into their homes. While owning a pet can be extremely rewarding, it is also a big responsibility (Serpell, 2005). The benefits of pet ownership come with obligations. The burden of ownership intensifies when owners have inappropriate care expectations and when the amount of effort, time and expenses required in caring for the dog becomes more than what is expected. (Wallerstein, 2012).

Dogs often have frequent, close interactions with household members, such as licking of hands and sleeping on beds. These practices can increase pet-associated disease risks. Many of the disease risks that occur with dog contact can be eliminated or reduced through simple measures, such as hand hygiene, proper animal husbandry and altered animal-contact behaviors. Individuals in contact with animals must be aware of disease risks in order for infection prevention to be successful (American Veterinary Medical Association, 2010). However, studies have shown that there is inadequate knowledge on the immediate measures to be carried out after a bite exposure. Dog owners do not know the

crucial need to wash wounds with soap and running water and apply antiseptics. Knowledge of post-exposure prophylaxis and where vaccine is available are also limited. People also contact local traditional healers for treatment instead of a medical doctor, thus losing precious time and increasing the danger of infection and death. In addition, the full course of vaccine is not taken because of financial constraints or other reasons. There is also a belief that bites by small puppies are not harmful or are less so (Wallerstein, 2012).

Pet dogs may be taken cared for but stray dog populations are a major source of rabies exposure. A lack of public awareness is a reason why so many people die every year from rabies. Many dog owners are not aware of the importance of rabies vaccination which leads to nonvaccination of dogs. Further, misconceptions such as the belief of pouring vinegar on the dog bite and the belief on *tandok* increase the occurrence of rabies (WHO, 2011).

The World Health Organization (WHO) (2011) reports that it is estimated that 55,000 deaths caused by rabies occur every year. About 56 percent of these deaths occur in Asia and 44 percent in Africa. Being almost 100 percent fatal, rabies ranks the tenth among the causes of mortality globally.

Rabies is a prominent public health concern in developing countries like the Philippines. The Philippines ranks sixth worldwide in incidence of rabies cases (CDC, 2012). In 2010, the Department of Health (DOH) reported that over 7,000 Filipinos sought emergency treatment for dog bites each day. The DOH National Rabies Prevention Control program further reported that the number of dog bite incidents in 2010 was around 266,000 with 257 deaths because of rabies infection. Based on statistics in 2011, half of these cases affected children aged five to 14 years old. The DOH recorded 209 deaths, lower than 257 in 2010. However, the incidence of bites has been increasing, with a total of 329,000 incidences in 2011, much higher than 266,000 bite incidences in 2010 (Wallerstein, 2012). The lack of awareness, false beliefs and poor quality dog care have made rabies a public health concern. Therefore, a program on responsible dog ownership is deemed appropriate. People who own dogs have a wide variety of views about their responsibilities. Some individuals view dogs as disposable items that can be abandoned at any sign of trouble or expense. Once a community establishes acceptable standards for responsible ownership, dog owners must be informed of these expectations and related ordinances, and rules must be enforced. Owners must be educated about their responsibilities, which include appropriate pet selection, providing quality nutrition, housing, and medical care, compliance with confinement and licensing requirements, appropriate behavioral training, and supervision of interactions between dogs and children. Dog owners must understand that pet ownership is an ongoing responsibility, not a passive activity (Beaver, 2006). Taking responsibility for the care and well-being of a child can help people to develop a sense of being needed. It can provide meaning to their lives, and help people to develop a sense of being needed. It can provide meaning to their lives, and help them sustain commitment to personal goals. By virtue of their resemblance to children, pets can undoubtedly provide their owners with comparable psychological rewards. Many behavior patterns in dogs, like those of children, seem especially designed to elicit care in the human owner (Askew, 2008). Like a child, the dog must be continually cared for, fed, watered, bathed, groomed, and protected. This study determined the effects of a

responsible dog ownership program on the awareness of the nature of rabies, signs and ways of transmission, and prevention of dog bites. It also determined the effects of the program on beliefs related to dog bite injuries and quality dog care.

## II. METHODS

### Research Design

This study used a quasiexperimental design as it had pre- and post-intervention tests and comparisons between experimental and control groups. The research design aimed to determine the effects of a four-week responsible dog ownership program that was to educate and guide the participants to make better lifestyle choices when it comes to their dogs with the purpose of making change in terms of the following: their awareness of the nature of rabies, signs and ways of transmission and prevention of dog bites, beliefs related to dog bite injuries and quality dog care. Afterwards post-test was conducted to gauge their awareness level, beliefs and quality dog care. Statistical analysis thereafter determined whether or not the program had a significant effect.

### Population and Sampling Techniques

The population of this study was composed of dog owners residing in Barangay, Buklod, Bahayan, Tartaria, Silang, Cavite. The respondents were dog owners from Barangay Pulong Sta. Cruz with a study sample of 80 dog owners, 40 in the control group and another 40 in the experimental group. Purposive sampling technique was used to identify the respondents for this study. The researcher selected the participants based on the criteria that the respondents should be dog owners, willing and available to participate in the study.

### Instrumentation

The researcher prepared a self-constructed questionnaire on awareness, belief and quality dog care. Eight experts validated the questionnaire. For the pilot study, 40 dog owners from Barangay Puting Kahoy were asked to answer the questionnaire. After the retrieval of the questionnaires, the data underwent the test of reliability with the following results;

awareness= .72, beliefs= .73, and quality dog care= .87.

### Data Gathering Procedure

The permission to conduct the study was secured from the Barangay Captain of the two barangays. The participants of the control group were gathered at the Barangay Health Center and they were given the questionnaire to answer. The researchers and the two health workers were present to clarify doubts and answer inquiries.

For the experimental group, 40 participants were gathered at the multi-purpose hall in Barangay Buklod. After the four-week session of learning instruction, a posttest was done on the last session of the intervention. As for the control group, the same data gathering procedure was used (pretest and posttest) except for the four-week session of learning. A few days after the administration of the posttest to the experimental group, participants from the control group were gathered at the Barangay Health Center and they were given the posttest questionnaire to answer.

### Statistical Treatment

Frequency count and percentage were used to determine the demographic profile of the respondents. Central tendency measures such as mean and measure of dispersion and standard deviation were used to determine the extent of the participants' awareness, beliefs and quality dog care. Paired t-test and independent t-test were used to determine the difference between the pretest and posttest and the difference in gain score between the control group and experimental group. These also determined significant difference in the gain score between the experimental and control group when demographic variables were considered.

## III. RESULTS

The study determined the effects of responsible dog ownership program on the awareness of the nature of the rabies, signs and ways of transmission, and prevention of dog bite. It further determined the beliefs of the respondents related to dog bite injuries and quality dog care.

### Baseline Characteristics

The baseline characteristics in terms of awareness, beliefs and quality dog care are

presented.

### Level of Awareness

As seen in Table 1, the overall baseline awareness score of the experimental group was 7.62 (perfect score of 13), with a standard deviation of 2.30 indicating that at baseline, the participants had an *average* level of awareness on the nature, causes/risk factors, symptoms, treatment and prevention of rabies. Among the control group participants, the overall mean baseline awareness score was 9.50 (perfect score of 13), with a standard deviation of 2.07; indicating that at baseline, the control group had a *high* level of awareness on the nature, causes/risk factors, symptoms, treatment and prevention of rabies.

Table 1  
Overall Baseline Awareness of Experimental and Control Groups

| Groups       | Mean | SD   | Verbal Interpretation |
|--------------|------|------|-----------------------|
| Experimental | 7.62 | 2.30 | Average               |
| Control      | 9.50 | 2.07 | High                  |

### Beliefs

Table 2 shows the overall baseline beliefs of the participants in both the experimental and control groups. A mean score was computed based on the response to the items. A higher score implied more acceptable beliefs. The overall mean of the experimental group is 2.54 which show that they have *acceptable beliefs*. Although the 2.54 mean is near the borderline of acceptable and not acceptable. The standard deviation was 0.29 indicating that the extent of beliefs of the participants was similar to one another or homogenous. The overall mean of the control group is 3.12 which is also classified as *acceptable* and the standard deviation of 0.42 indicated that the extent of beliefs of the participants was homogenous or similar to one another.

Table 2  
Overall Baseline Beliefs of the Experimental and Control Groups

| Groups       | Mean | SD   | Verbal Interpretation |
|--------------|------|------|-----------------------|
| Experimental | 2.54 | 0.29 | Acceptable            |
| Control      | 3.12 | 0.42 | Acceptable            |

### Quality Dog Care

Table 3 shows the baseline quality dog care of the experimental group and

control group. The experimental group had a mean score of 2.91 and a standard deviation of 0.76. The control group had a mean score of 2.97 with a standard deviation of 0.32. This implies that before the intervention was given, the dog care given by the owners to their dogs, both in the control and experimental groups fell under the category of fair.

Table 3  
Overall Baseline Quality Dog Care of the Experimental and Control Groups

| Groups       | Mean | SD   | Verbal Interpretation |
|--------------|------|------|-----------------------|
| Experimental | 2.91 | 0.76 | Fair                  |
| Control      | 2.97 | 0.32 | Fair                  |

### Difference in Baseline Characteristics

As shown in Table 4, the experimental and control groups had an *average* ( $M=7.62$ ;  $SD=2.30$ ) and *high* ( $M=9.50$ ;  $SD=2.07$ ) awareness, respectively. Both the experimental and control groups had *acceptable* beliefs with a mean of 2.54 and 3.12, respectively. These show that the difference is statistically significant. The experimental and control groups had a *fair* quality dog care with mean of 2.91 and 2.97, respectively. This shows that the difference is not statistically significant ( $p=.635$ ).

Table 4  
Baseline Differences in Experimental and Control Groups

|                  | M    | SD   | t     | df | p    | V.I |
|------------------|------|------|-------|----|------|-----|
| Awareness        |      |      |       |    |      |     |
| Experimental     | 7.62 | 2.30 | -4.11 | 78 | .000 | S   |
| Control          | 9.50 | 2.07 |       |    |      |     |
| Belief           |      |      |       |    |      |     |
| Experimental     | 2.54 | 0.30 | -7.03 | 78 | .000 | S   |
| Control          | 3.12 | 0.42 |       |    |      |     |
| Quality dog care |      |      |       |    |      |     |
| Experimental     | 2.91 | 0.77 | -.477 | 78 | .635 | NS  |
| Control          | 2.97 | 0.39 |       |    |      |     |

### Endline Characteristics

The endline characteristics in terms of awareness, beliefs and quality dog care are presented.

### Awareness

Table 5 shows the level of awareness after the intervention of the experimental group and control group. The experimental group had a

mean score of 11.0 with a standard deviation of 1.73 while the control group had a mean score of 9.07 with a standard deviation of 2.01. This is verbally interpreted under the category of *high*. Although both are classified as high the experimental group is at the higher range.

Table 5  
Overall Endline Awareness of the Experimental and Control Groups

| Groups       | Mean | SD   | Verbal Interpretation |
|--------------|------|------|-----------------------|
| Experimental | 11   | 1.73 | High                  |
| Control      | 9.70 | 2.01 | High                  |

### Beliefs

Table 6 presents the endline beliefs of experimental and control groups. The experimental group had an endline mean score of 3.36 and a standard deviation of 0.24, which is verbally interpreted as *acceptable* in accordance with the rating scale. The endline mean for the control group in the area of beliefs was 3.12 and a standard deviation of 0.42, and this too was verbally interpreted as *acceptable*.

Table 6  
Overall Endline Beliefs of the Experimental and Control Group

| Groups       | Mean | SD   | Verbal Interpretation |
|--------------|------|------|-----------------------|
| Experimental | 3.36 | 0.24 | Acceptable            |
| Control      | 3.12 | 0.42 | Acceptable            |

### Quality Dog Care

Table 7 shows the overall endline quality dog care of the experimental and control groups. The experimental group had a mean score of 3.48 and a standard deviation of 0.63 while the control group had a mean score of 2.97 with a standard deviation of 0.38. The result obtained pertaining to quality dog care showed similar results as in the baseline characteristics which is *fair*. However, the mean in the endline characteristics in the experimental group is in the high bracket of the scale.

Table 7  
Overall Endline Quality Dog Care of the Experimental and Control Groups

| Groups | Mean | SD | Verbal Interpretation |
|--------|------|----|-----------------------|
|--------|------|----|-----------------------|

|              |      |      |      |
|--------------|------|------|------|
| Experimental | 3.48 | 0.63 | Fair |
| Control      | 2.97 | 0.38 | Fair |

### Difference in Baseline and Endline Characteristics

The results of the experimental group indicated in Table 8 shows that the posttest had a higher mean score than the pretest. The difference in the scores was deemed to be significant. The significant difference between the pretest and posttest could be attributed to the effect of the Responsible Dog Ownership Program that was administered to the experimental group. The result implies that the program helped the participants increase their level of awareness, beliefs, and quality dog care.

Table 8  
Comparison of the Baseline and Endline Characteristics of the Experimental Group

|                  | Pre  | Post | Mean Difference | t-value | pvalue | V.I |
|------------------|------|------|-----------------|---------|--------|-----|
| Awareness        | 7.62 | 11   | 3.37            | 10.30   | .000   | S   |
| Belief           | 2.54 | 3.36 | 0.81            | -18.81  | .000   | S   |
| Quality dog care | 2.91 | 3.48 | 0.57            | -6.109  | .000   | S   |

For the control group, Table 9 shows that there is no significant difference in the pre and post intervention characteristic in terms of awareness. The result for the difference in beliefs and quality dog care cannot be computed due to a standard error of the difference of 0.

Table 9  
Comparison of the Baseline and Endline Characteristics of the Control Group

|                  | Pre  | Post | Mean Difference | t-value | pvalue | VI |
|------------------|------|------|-----------------|---------|--------|----|
| Awareness        | 9.5  | 9.8  | -.20            | -1.75   | .088   | NS |
| Belief           | 3.12 | 3.12 | 0               |         |        |    |
| Quality dog care | 2.98 | 2.98 | 0               |         |        |    |

### Difference in Gain Score of the Experimental and Control Groups

The groups were comparable at baseline. After five weeks of follow up, the intervention groups showed significant increase. There was no significant difference between the pretest and posttest of the control group participant's awareness, beliefs and quality dog care.

Table 10  
Experimental and Control Group Difference in Gain Score

|                          | Mean Gain | SD   | t-value | df | Sig(2tailed) | V.I |
|--------------------------|-----------|------|---------|----|--------------|-----|
| Awareness                |           |      |         |    |              |     |
| Experimental             | 3.37      | 2.07 | 9.151   | 78 | .000         | S   |
| Control                  | 0.20      | 0.72 |         |    |              |     |
| Belief                   |           |      |         |    |              |     |
| Experimental             | 0.81      | 0.27 | 18.808  | 78 | .000         | S   |
| Control Quality dog care | 0.00      | 0.00 |         |    |              |     |
| Experimental             |           |      |         |    |              |     |
| Control                  | 0.57      | 0.59 |         |    |              |     |
|                          | 0.00      | 0.01 | 6.090   | 78 | .000         | S   |

The result in Table 10 indicates that the gain score of the mean is higher in the experimental group than control group. The respondents showed a significant improvement in their awareness level, beliefs and quality dog care characteristics. The results of the study revealed that the intervention program was successful. The significant difference in the gain score between the experimental and control groups signified that the responsible dog ownership program was effective in enhancing awareness, changing false beliefs and increasing quality dog care of the dog owners in the experimental group. The above result confirms the study of Crawford (2010).

## IV. DISCUSSION

A responsible dog ownership program implemented for seven weeks in Barangay Comprá, Liloí Zamboanga del Norte, supports this study. The comparison of the results of the pretest and posttest after the intervention shows a significant increase in knowledge, and improvement in their attitudes. As for the practices, 75 percent of the respondents responded to the call of immunizing their dogs and all dog owners included in the study were convinced to tie up and secure their dogs that they had previously left astray in the streets. Therefore, health education indeed has a beneficial and significant effect on the knowledge, attitude and practice of dog care (Sharifaani, 2007).

The cross-sectional study in Sri Lanka (Sepe, 2007) contrasts the findings of this study. The Sri Lanka study found that the age of the respondents had a relationship with dog care. The younger the age of the respondents, the more they consult doctors while the older respondents seek traditional healers.

Studies by Ayalew (2007); Rease & Clark (2010) revealed that the educational

attainment of the pet owners had a direct influence on the care and handling of dogs and fulfilling their requirements in terms of food, shelter, and medical care. The American Veterinary Medical Association (2010) also states that higher educational level typically leads to quality dog care.

The results of this study is also in disagreement with the findings of Hsu (2005) which showed that owners who had fewer dogs spent more hours daily on their dogs compared to those with more dogs.

A study in Indonesia (Harahap, 2007) has the same finding with the present study which showed that there is no relationship between the breed of dog and quality dog care given. Likewise, the study of Bennett & Rohlf (2007) also supports the finding that income was not related to dog care.

## V. CONCLUSION

The responsible Dog Ownership Program was deemed effective in enhancing the level of awareness, changing false beliefs and increasing quality dog care among those exposed to the program as manifested by significant difference in the gain scores on the characteristics of the experimental group as compared with the control group. Dog owners were receptive to health program if they were properly motivated and supported. Age, educational attainment, income, number and breed of dog did not have an impact to the owners' dog care practices. This suggests that programs can be equally attractive to people of different ages, educational attainment, income, number and breed of dog.

Participants should continue to provide their dogs' quality nutrition, housing, and medical care and compliance with confinement and licensing requirements. They should also give appropriate behavioral training, and always have supervision of interactions between dogs and children. Proper wound care should be given when a dog bite occurs and seek further medical care.

Barangay officials and health workers should strengthen their efforts at influencing the mentality of the community towards responsible dog ownership. They should work hand and hand with the members of the responsible dog owners club encourage and help them to creating more effective plans, and enacting appropriate laws, polices and ordinances.

Future researchers can get direct insights of the

need to educate dog owners in other populations. Furthermore, investigation is recommended to assess the long-term effectiveness of this responsible dog ownership program.

Public health educators must be aware that the ultimate goal of programs such as this to have zero morbidity and mortality rabies cases and also to equip existing pet owners and potential pet owners with the necessary information on caring for a pet. One of the most important steps in preventing rabies is educating those at risk about responsible dog ownership and how to avoid exposure to rabies. Public health education is the long term solution to problems such as pet abandonment and irresponsibility of dog owners.

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