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"Awareness of the Health Risks Associated with Inhaling Pet Urine and Feces Among Pet Owners in Sampaloc, Manila"

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Abstract:
This study investigates the awareness levels of pet owners in Sampaloc, Manila, regarding the health risks associated with inhaling pet urine and feces. As pet ownership continues to rise globally, the bond between humans and their animal companions has become increasingly significant; however, everyday interactions with pets also introduce potential exposure to harmful pathogens and chemical irritants like ammonia. Through a descriptive quantitative research design, this study surveyed 30 pet owners to evaluate their current knowledge, perceptions, and waste management behaviors.
The findings reveal a significant gap between baseline awareness and deep understanding of the associated health hazards. While a majority of respondents (73.7%) acknowledged that exposure to pet waste poses health risks, a substantial 66.7% described themselves as only "slightly aware," indicating a superficial understanding of the specific medical implications. Interestingly, social media was identified as the primary source of health information for 78.9% of participants, raising concerns regarding the accuracy and evidence-based nature of the information being consumed.
In terms of clinical associations, 91.7% of respondents linked exposure to chest tightness, and 62.7% reported personal or indirect experience with health issues they believed were caused by pet waste. Despite these concerns, actual management practices were found to be suboptimal: 52.3% of owners cleaned pet waste only once a week, and 68.4% reported that their pets primarily relieved themselves indoors. Furthermore, a critical lack of hygiene protocol was observed, with 73.1% of respondents rarely practicing essential steps such as handwashing or changing clothes after waste disposal.
Encouragingly, the study found a unanimous (100%) willingness among pet owners to improve their current practices after being educated on the potential health risks. Respondents strongly supported the implementation of community education programs and indicated that local government and health agencies should take the lead in these initiatives. These results underscore the urgent need for targeted public health messaging and standardized hygiene protocols to mitigate the risk of respiratory illnesses, zoonotic infections, and the adverse effects of ammonia inhalation within the pet-owning community.

Keywords: Pet Owner Awareness, Zoonotic Diseases, Ammonia Inhalation, Waste Management Practices, Public Health, Sampaloc Manila, Respiratory Health, Pet Hygiene Protocols.

1. Introduction

The bond between pets and their owners is undeniably special, offering companionship, emotional support, and joy. However, amidst the joys of pet ownership, it is crucial to recognize and address potential health risks that can arise from everyday interactions with pets. One such risk is the inhalation of pet urine and feces, which may contain pathogens, allergens, and other harmful substances that can impact the health of both pets and their owners (Rinaldo et al., 2015). As pets become integral members of households worldwide, understanding the potential health hazards associated with their waste becomes imperative for public health and safety.

Pet urine can cause significant health problems in people, especially if it has permeated carpets and other porous surfaces over time. Urine, particularly cat urine, contains hazardous levels of ammonia. This ammonia evaporates into the air over time, producing poisonous vapors that can cause respiratory sickness as well as skin and eye irritation (Anubis SceneClean Inc., 2022). Inhaling these fumes over a long period may lead to chronic respiratory problems, such as bronchitis and asthma, and in severe cases involving reduced ventilation, it could even trigger pneumonia or asphyxiation (Cheerble, 2023; Removal, 2023). Beyond chemical vapors, pet feces constitute a serious biohazard, serving as a breeding ground for bacteria and parasites. Exposure to dog feces can transmit Salmonella and parasites like hookworms or tapeworms, while cat feces can leave individuals vulnerable to Toxoplasma gondii, a parasite that causes toxoplasmosis (Mayo Clinic, 2022). These infections are particularly dangerous for vulnerable populations, including pregnant individuals, the elderly, and those with weakened immune systems. When pet waste is not managed properly within the home, these pathogens can become airborne through dust particles, leading to systemic health issues (Jacob & Lorber, 2016).

In the Philippine context, particularly in densely populated urban districts like Sampaloc, Manila, pets often share limited living spaces with their owners. This proximity increases the frequency of exposure to waste-related pollutants. Despite the known risks, there remains a scarcity of community-based research focusing specifically on how pet owners perceive and manage these respiratory hazards. This study assessed the demographic profile and levels of awareness, perceived risks, and practices regarding pet waste inhalation among residents of Sampaloc, Manila. The results are intended to guide local health agencies in developing targeted educational materials and responsible pet care protocols.

Statement of the Problem

This research study focuses on quantifying the awareness of pet owners regarding inhaling the pet urine and feces in Sampaloc Manila.

Specifically, it sought to answer the following questions.

1 Demographic profile

1.1 Age

1.2 Sex

1.3 What Pet do they Own (e.g., Dog, Cat, or both)

1.4 Educational Attainment

2. What is the level of awareness among pet owners regarding the potential health risks of inhaling pet urine and feces?

3. What specific health risks do pet owners associate with exposure to pet urine and feces?

4. How do pet owners manage pet waste within their households or living environments?

2 Methodology

2.1 Research Design

The adopted method in this research is descriptive quantitative research concerning the pet owners regarding the health risks of inhaling pet urine and feces as dependent variables. The descriptive method is used in evaluating the variables, and inferences are drawn, which further upholds the results of the tests.

2.2 Research Instrument

The distribution of a survey questionnaire to specified respondents would serve as the basis to assist the researchers in acquiring the necessary data or information. Questionnaire would be the major data collection instrument. The research instrument is made up of three components. The first section includes the respondents' statistical profile, such as age and gender. The second part contains on how the pet owners handle their pet's urine or feces, and the third part covers the respondents' awareness on health risks of inhaling pet urine and feces. The researchers employed a survey questionnaire to collect data.

2.3 Population and Sampling

The respondents of the study were the pet owners in Sampaloc Manila specifically to dogs and cats. The factors employed in choosing the category of respondents were directed at significantly defined categories, such as those: Aged 18 years old and above, Male and Female, and what pet they own, either cat, dog or both.

2.4 Data Analysis

Quantitative data were analyzed using frequency counts and percentages for demographic variables. Awareness and practice levels were interpreted using descriptive statistics, including ranking and percentage distribution, to identify common trends in the community. The study employed frequency and percentage distribution to ascertain the average replies given by the participants and to identify the most frequently reported responses. The collected data were processed using descriptive statistics to provide a clear overview of the participants' profiles, awareness levels, and behaviors. The table below summarizes the key findings from the survey of 30 pet owners in Sampaloc, Manila.

Table 1

Summary of Respondent Profile and Key Awareness		
Demographic Profile	**f (n=30)**	**Percentage (%)**
Age (25 - 34)	**18**	**60%**
Education (Postgraduate)	**19**	**63.3%**
Gender (Female)	**16**	**53.3%**
Awareness & Sources		
General Awareness of Health Risks	**22**	**73.7%**
Level of Awareness (Slightly Aware)	**20**	**66.7%**

Primary Info Source: Social Media	**24**	**78.9%**
Practices & Attitudes		
Cleaning Frequency: Once a Week	**16**	**53.3%**
Pets Relieving Inside the House	**21**	**68.4%**
Willingness to Change Habits	**30**	**100%**

3 Results

3.1 Demographic Characteristics

The majority of respondents were aged 25–34 years (60%), female (51.7%), and had attained a postgraduate education (62.3%). In terms of pets, 50% owned dogs, with the remainder owning cats or a combination of both.

Table 2

Demographic Profile		
Statement	**Mean**	**Interpretation**
Age	**60%**	**25-34 years old**
Gender	**51.7%**	**Female**
What type of pet(s) do you own?	**50%**	**Dog**
Educational Attainment	**62.3%**	**Postgraduate**

3.2 Awareness and Perceived Risks

While 73.7% of respondents were aware that exposure to pet waste poses health risks, 66.7% described themselves as only "slightly aware." Interestingly, 91.7% specifically associated exposure with chest tightness, and 78.9% identified social media as their primary information source.

Table 3

Awareness of Health Risks Related to Pest Waste		
Statement	**Mean**	**Interpretation**
Are you aware that exposure to pet urine and feces can cause health risks?	**73.7%**	**Yes**
If yes, how would you rate your level of awareness about	**66.7%**	**Slightly Aware**

these risks?		
How did you become aware of these health risks?	**78.9%**	**Social Media**

Table 4

Perceived Health Risks		
Statement	**Mean**	**Interpretation**
Which of the following health risks do you associate with exposure to pet urine and feces?	**91.7%**	**Chest tightness**
How serious do you believe these health risks are?	**78.7%**	**Somewhat serious**
Have you or someone you know experienced health problems believed to be caused by pet waste exposure?	**62.7%**	**Yes**

3.3 Waste Management Practices

Results showed that 52.3% of owners clean pet waste only once a week, despite 68.4% of pets relieving themselves inside the house. Furthermore, 75.9% admitted they believe their current handling methods are not safe for their health, and 73.1% rarely practice additional hygiene steps like handwashing after cleaning.

Table 5

Waste Management Practices		
Statement	**Mean**	**Interpretation**
How often do you clean your pet's waste (urine/feces)?	**52.3%**	**Once a week**
Where do your pets usually relieve themselves?	**68.4%**	**Inside the house (e.g., litter box, designated area)**
What methods do you use to clean or dispose of pet waste?	**61.1%**	**Immediate disposal in garbage bin**
Do you think your current method of handling pet waste is safe for your health?	**75.9%**	**No**
Do you take additional steps after cleaning pet waste (e.g., washing hands, changing clothes)?	**73.1%**	**Rarely**

4 Discussion

The findings of this study reveal a complex relationship between the knowledge held by pet owners in Sampaloc, Manila, and their daily waste management behaviors. Although the demographic data shows a highly educated respondent base—with over 60% holding postgraduate degrees—this academic achievement does not automatically translate into specialized health literacy regarding zoonotic risks. The "awareness-practice gap" observed here suggests that while pet owners are generally cognizant of the need for hygiene, they lack a technical understanding of the chemical and biological mechanisms through which pet waste impacts indoor air quality.

A primary concern highlighted by the data is the reliance on social media as the leading source of information (78.9%). While social media provides accessibility, it often lacks the clinical depth found in veterinary or public health consultations. This explains why, despite 73.7% of respondents acknowledging health risks, 66.7% remain only "slightly aware" of the specific dangers. This lack of depth is particularly dangerous concerning ammonia exposure. As noted by Anubis SceneClean Inc. (2022), ammonia from pet urine evaporates into poisonous vapors that can cause chronic respiratory distress. Without a precise understanding of these vapors, owners may underestimate the danger of "indoor relief," which was reported by 68.4% of the participants.

The frequency of cleaning—reported at only once a week by 52.3% of respondents—is insufficient to mitigate the risks of airborne pathogens. When feces and urine are left in a domestic environment for an extended period, they dry out, allowing microscopic particles of bacteria and parasites to become aerosolized. As Jacob and Lorber (2016) emphasize, these airborne particles can lead to systemic infections. The high reporting of "chest tightness" (91.7%) among respondents may be a direct physiological consequence of this infrequent cleaning schedule and the subsequent accumulation of ammonia and bio-aerosols in the densely populated living conditions typical of Sampaloc.

The study identified a significant lapse in personal hygiene protocols. Even though 75.9% of respondents admitted their current waste handling methods were potentially unsafe, a staggering 73.1% rarely practiced basic self-protection, such as handwashing or changing clothes immediately after cleaning. This indicates that the risk is perceived as "external" (related to the pet) rather than "internal" (affecting the owner's own health). However, the 100% willingness to change habits after being informed of the risks presents a major opportunity for public health intervention. It suggests that the current poor practices are a result of a lack of guidance rather than a lack of concern for health, making the community of Sampaloc a prime candidate for targeted respiratory health and pet hygiene education programs.

Conclusion

The findings of this study indicate a significant lack of awareness among pet owners in Sampaloc, Manila, regarding the health risks associated with inhaling pet urine and feces. The survey results reveal significant insights into the awareness, practices, and perceptions of pet owners regarding the health risks associated with pet urine and feces. Although a considerable portion of respondents (73.7%) acknowledges the potential health risks, many report only slightly understanding these risks (66.7%), indicating that while there is a baseline awareness, there may be gaps in knowledge about the full extent of the health impacts. This suggests a need for more comprehensive education on the subject, focusing not only on raising awareness but also on deepening understanding about the specific health conditions associated with exposure to pet waste. Interestingly, the primary source of information for respondents regarding these health risks is social media (78.9%), highlighting the pivotal role that online platforms play in

disseminating health-related information. However, the reliance on social media for health knowledge also raises concerns about the accuracy and reliability of the information being shared. As the survey data shows, 91.7% of respondents associate chest tightness with pet waste exposure, suggesting some recognition of immediate physical effects, yet 78.7% consider these risks as somewhat serious, indicating that the perceived severity might not align with the actual potential risks. This points to the need for clearer, evidence-based public health messaging to help individuals understand the full scope of these dangers.

Despite the awareness of risks, respondents' actual pet waste management practices reveal gaps that could exacerbate health concerns. Over half of respondents clean their pets' waste only once a week, and a large portion (68.4%) allows their pets to relieve themselves indoors. These practices, combined with the fact that 75.9% believe their current cleaning methods are not safe, underscore the importance of revisiting pet waste disposal routines. Furthermore, 73.1% of respondents do not consistently practice important hygiene steps, such as washing hands or changing clothes after cleaning up after their pets. These habits suggest that many pet owners might not fully grasp the extent of the risks involved or are not prioritizing these basic preventive measures.

However, the survey also indicates a strong willingness among respondents to change. 100% of pet owners expressed a desire to improve their current practices upon learning more about the health risks, showing a high degree of openness to adopting healthier behaviors. This is a promising finding, as it suggests that with the right information and guidance, people are willing to take steps to reduce their exposure to pet-related health risks. Additionally, there is overwhelming support (100%) for regular cleaning, wearing protective gear, and educating household members—all of which are recognized as effective practices to prevent exposure to harmful pet waste. Moreover, the overwhelming support for community education programs (100%) and the strong consensus (97.2%) that local governments and health agencies should lead these initiatives reflect the public's recognition of the need for systematic and organized efforts to address pet waste health risks. This highlights an opportunity for local health agencies to collaborate with pet owners and other stakeholders to implement educational campaigns, offer resources, and establish guidelines that can help mitigate health risks associated with improper pet waste handling.

While there is significant awareness of the risks associated with pet waste, there is also clear room for improvement in both knowledge and practice. The willingness to adopt safer behaviors combined with strong support for educational initiatives presents a valuable opportunity for local authorities to intervene and promote better pet waste management practices. By addressing the gaps in awareness and encouraging consistent hygiene and waste disposal practices, it's possible to reduce the health risks posed by pet urine and feces, ultimately improving public health and safety.

Recommendations

Based on the findings, the following recommendations are presented:

1. Educational Campaigns should be launched by authorities and healthcare professionals about awareness programs on the health risks of pet waste inhalation. These campaigns can include informational posters, social media campaigns, and community seminars.
2. Proper waste management training, pet owners should be educated on proper cleaning techniques, including how often to clean litter boxes, disinfect spaces, and use of gloves or masks when handling pet waste.
3. Pet Owner Support Programs, veterinary clinics and pet shops can distribute educational materials and offer workshops on pet hygiene and responsible pet ownership.

4. Policy Implementation, local governments can introduce regulations requiring pet owners to follow hygiene guidelines, such as mandatory disposal protocols for pet waste.

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