

ASSESSING THE STATUS OF PET OWNERSHIP IN THE COMMUNITY OF PUTRAJAYA

DEBBRA M.^{1*}, MASTURA Y.¹, SHARIFFAH N.¹, MUHAMMAD NAZRI K.², AZJEEMAH BEE S.H.², SHARIL AZWAN M.Z.¹ AND FAKHRULISHAM R.¹

1 Division of Research and Innovation, Department of Veterinary Services Malaysia, Putrajaya

2 Department of Veterinary Services, Kuala Lumpur

* Corresponding author: debbra@dvs.gov.my

ABSTRACT. A cross-sectional survey was administered by using questionnaire in order to understand the status of pet ownership in Putrajaya. A total of 594 eligible respondents participated in this study, with most respondents being located at Precincts 9 and 5. The results indicate that almost half (47%) of the households kept animals as their pets. The majority of pets identified were cats (72%), while the next popular pet was fish (14%). About 61% of pet owners reported that their pets were strays found in the vicinity, 24% obtained as gifts, while 15% purchased by the owners. Of the total pets surveyed, 59% were neutered, 86% were not microchipped and 67% were not vaccinated. Veterinary clinic visits were mainly for pet general health check-ups (47%) followed by vaccination (34%). The frequency of visits were mainly 'variable' (36%) and '3 months once' (34%). The monthly household expenses for pets was estimated between RM1 to RM250 (82% of respondents), whereby 46% was spent on pet food and 27% on pet healthcare. As reported by the respondents, the presence and the disturbance of stray animals were 82% and 68%, respectively. Awareness on the veterinary jurisdiction was poor among the respondents (58% have no knowledge about it). However, 62% claimed awareness about

zoonotic diseases. Hence, it is suggested that campaigns and promotions should be held to enhance public awareness and knowledge about the roles and objectives of the local veterinary authorities.

Keywords: pets, Putrajaya, companion animals, pet owners, pet vaccination, pet healthcare, survey and questionnaires.

INTRODUCTION

Federal Territory of Putrajaya (or commonly called as Putrajaya) is a planned city and functions as the federal administrative centre of Malaysia, after the seat of government shifted from Kuala Lumpur due to congestion and overcrowding (Moser, 2009). It was created with a holistic concept as a garden and intelligent city. Putrajaya consists of 40% open spaces and reserve areas for green natural landscape in line with the mission of Malaysia to make it a sustainable city by 2025 (Qureshi and Ho, 2011). It is divided into 20 Precincts with target populations of 65,000 residential units, 55 per cent government quarters and 45 per cent public residences (Moser, 2009). In 2016, the human population in Putrajaya was about 90,000 people or 26% of its maximum capacity by 2025 (Putrajaya Corporation, 2016).

Companion animals (commonly called pets) are formally defined as animals that we live with and represent a category of animals that are assigned a special status by humans without specific function (Amiot, Bastian and Martens, 2016). Pets have become increasingly popular among households in many countries including Malaysia. This can be seen by the mushrooming of pet exhibitions and related events in Malaysia (Oh, 2018). Many of the animal lovers considered their pets as an important part of their family and many also claimed that pets have had a positive impact on their emotions and well-being (McConnell *et al.*, 2011). While the presence of animals in households is expected to grow due to the increase of human population in Putrajaya, there is no information on their population status. Consequently, there is a lack of published data regarding the acquisition and husbandry of pets not only in Putrajaya but also other parts of Malaysia.

This study would like to find answer to questions, such as: what are the most popular pets kept in Malaysia, are the pets given vaccination, and are the pet owners aware about the Veterinary Act practised in Malaysia? Thus, a brief study was devised to collect baseline data on the ownership, population, husbandry and healthcare of the pets. This study also aimed to identify the presence of stray animals in the area as a source of nuisance to the households. The awareness of the community on matters relating to veterinary jurisdiction in Putrajaya was also investigated.

MATERIALS AND METHOD

Study Design

In this study, a cross-sectional survey was designed and distributed using two methods: email and personal interview. The survey was carried out between October and December 2017. During the period of study, participants were recruited based on minimum age of 18 years and currently residing in Putrajaya. Each eligible respondent was advised to answer through only one of the survey methods. Only one participant is required to become the respondent representing their household. Each respondent was given a set of questions related to their demographic information, pet ownership status, pet husbandry and healthcare activities, and awareness about veterinary jurisdiction.

Data Management and Analysis

All data obtained from the returned questionnaires were entered into a table in Microsoft Excel 2013, then imported into IBM SPSS (Statistical Package for Social Science) statistical software (version 20, released 2011) to run the statistical analysis. Descriptive statistics was undertaken to describe the basic features of the data obtained which provide summaries about the samples and the measures which form the basis of virtually every quantitative analysis of data. Additionally, spatial variation was generated to represent the response rate of the respondents in the survey.

RESULTS AND DISCUSSION

Respondent Background

As shown in Table 1, a total of 594 respondents participated in this study, females and males were 53.5% (318/594) and 46.5% (276), respectively. It was shown that the majority of respondents were aged between 18-20 years (71.5%, 425/594). Majority were from Malay ethnicity (94.3%, 560/594), which concurs with a report by Department of Information, Ministry of Communications and Multimedia (MCMM, 2015). Number of members in the household of respondents were generally: 5 or more (31.1%, 30/96) and 4 (29.2%, 28/96). In terms of profession, most respondents were students (68.3%, 405/593) and 15.8% (94/593) were government employees. The majority of respondents (53.6%, 52/97) earned a household income of between RM3,000 and RM10,000 per month, while 39.2% (38/97) earned less than RM3,000 a month.

In types of residence (Table 2), majority of them (61.5%, 59/96) stayed in apartments, 30.2% (29/96) stayed in terrace houses, the remainder stayed in bungalows and others types of residence (equally 4/96 each). This concurs with a report by Ministry of Housing and Local Government (KPKT, 2015) whereby 74.1% residences were in apartments/condominiums while 25.9% were in ordinary houses. In house ownership (Table 3), the majority of respondents (75%, 72/96) were residing in government quarters.

Figure 1 presented a spatial variation of response rate whereby majority of the survey respondents were residing at Precinct 9 (20.5%), followed by Precinct 5 (17.9%), while

Precincts 11, 14 and 18 were equally 12.8%. There was no data reported in the survey for the grey coloured areas in Figure 1 as these areas were mainly government institutions, offices and commercial buildings.

Pet Ownership

This study gives preliminary information about the status of care of pets in Putrajaya. However, there were several limitations to the study because some residents in government quarters were reluctant to provide information about their pets. This is because according to General Order Chapter E page 3, government residences were prohibited to keep pets within their compound (Property Management Division of Ministry of Prime Ministry Department). As mentioned in Table 2 and Table 3, 46.6% (277/594) pet owners participated in this study. Table 2 showed that 54.3% (25/46) pet owners were staying at apartments, 34.8% (16/46) pet owners were staying at terrace houses, 4.3% (2/46) pet owners were staying at bungalows while 6.5% (3/46) stayed at other types of residences. Besides that, Table 3 suggests that 71.7% (33/46) of pet owners resided in government quarters, while 10.9% (5/46) stayed in privately-owned houses and 17.4% (8/46) stayed in rented houses.

During the period of study, cats were recorded as the most popular pets (71.5%, 218/305), followed by fish (14.4%, 44/305), and the rest were less than 10%, respectively (Table 4). Table 5 shows that from 218 cats that were owned in the households in Putrajaya, 56.9% (124/218) were females and 43.1% (94/218) were males. Most of these cats (60.9%, 28/46) were collected from

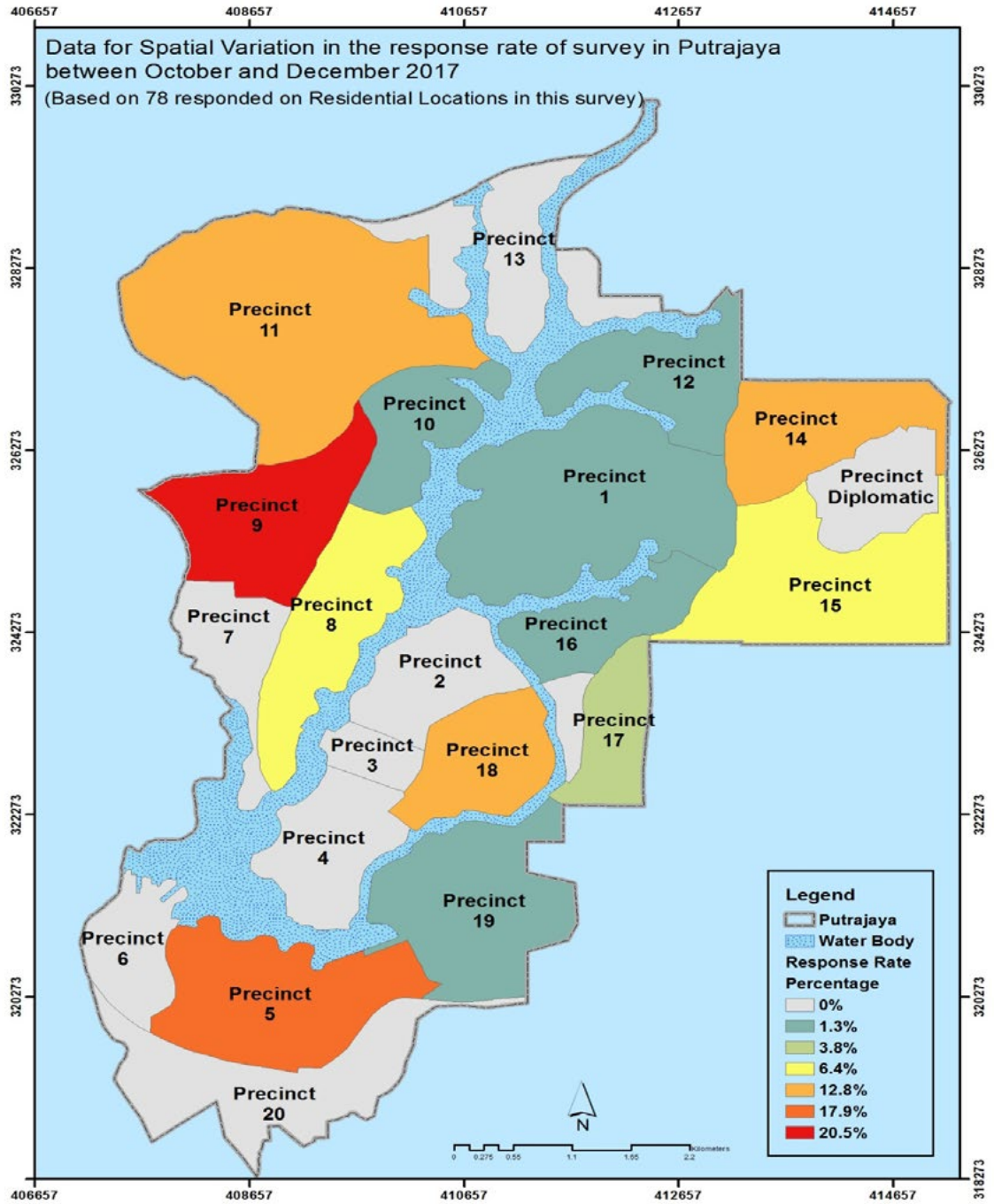


Figure 1. Spatial variation of residential locations of respondents in Putrajaya between October and December 2017.

Table 1. Demographic data of the respondents.

| | Frequency, n (%) |
|---------------------------------|------------------|
| Gender | n = 594 |
| Male | 276 (46.5) |
| Female | 318 (53.5) |
| Age (years) | n = 594 |
| 18-20 | 425 (71.5) |
| 21-60 | 169 (28.5) |
| >60 | 0 (0) |
| Race/Ethnicity | n = 594 |
| Malay | 560 (94.3) |
| Indian | 18 (3.0) |
| Chinese | 12 (2.0) |
| Bumiputera (S&S) | 4 (0.7) |
| Number of household | n = 96 |
| 1 person | 11 (11.5) |
| 2 people | 9 (9.4) |
| 3 people | 18 (18.8) |
| 4 people | 28 (29.2) |
| 5 or more people | 30 (31.1) |
| Profession | n = 593 |
| Student | 405 (68.3) |
| Government staff | 94 (15.8) |
| Private company staff | 55 (9.3) |
| Self-employed | 25 (4.2) |
| Unemployed | 14 (2.4) |
| Monthly Household Income | n = 97 |
| No income | 5 (5.2) |
| < MYR3k | 38 (39.2) |
| MYR3k – MYR10k | 52 (53.6) |
| > MYR10k | 2 (2.1) |

Abbreviations: S&S = Sabah & Sarawak; k = thousand ringgits. Some numbers may differ from text due to omitted responses from survey from participants. Percentages may not equal 100% due to rounding.

Table 2. The relationship between types of residence and pet-ownership.

| | Pet Owner, n (%) | | Total n (%) |
|---------------------------|-------------------|-------------------|------------------|
| | Yes | No | |
| Types of residence | *231 | *267 | *498 |
| Apartment | 25 | 34 | 59 |
| Terrace | 16 | 13 | 29 |
| Bungalow | 2 | 2 | 4 |
| Others | 3 | 1 | 4 |
| Total | 277 (46.6) | 317 (53.4) | 594 (100) |

From 594 respondents, 277 were pet owners, while 317 not pet owners. 96 responded on "Types of residence", while the rest (*) did not provide their answer for this question.

Table 3. The relationship between house ownership and pet ownership.

| | Pet Owner, n (%) | | Total n (%) |
|------------------------|-------------------|-------------------|------------------|
| | Yes | No | |
| House ownership | *231 | *267 | *498 |
| Government quarters | 33 | 39 | 72 |
| Privately-owned house | 5 | 8 | 13 |
| Rented house | 8 | 3 | 11 |
| Total | 277 (46.6) | 317 (53.4) | 594 (100) |

From 594 respondents, 277 were pet owners, while 317 not pet owners. 96 responded on "House Ownership", while the rest (*) did not provide their answer for this question.

street/stray animals, while 23.9% (10/46) were received as gifts and 15.2% (7/46) were purchased by the pet owners (Table 5).

This study shows that Putrajaya residents are inclined to have pets in their household. Many studies have found that owning pets can provide social supports as well as improve psychological and physiological health of the pet owners (Allen, Blascovich and Mendes, 2002; Harter, 2003; Staats, Wallace and Anderson, 2008; McConnell *et al.*, 2011). It was also not

surprising that cats were the most popular pets because they are considered cleaner than other animals such as dogs in this Malay (Muslim) dominated community (Campo, 2009). Besides that, cats were also easy to care and more independent compared to other companion animals (Toribio, 2009; Potter and Mills, 2015).

Table 4. Pets kept by 277 pet-owning households in Putrajaya between October and December 2017.

| Types of pet | Frequency, n (%) |
|--------------|--------------------|
| Cats | 218 (71.5) |
| Fish | 44 (14.4) |
| Hamster | 14 (4.6) |
| Rabbit | 9 (3.0) |
| Tortoise | 8 (2.6) |
| Dog | 4 (1.3) |
| Bird | 4 (1.3) |
| Hedge hog | 3 (1.0) |
| Iguana | 1 (0.3) |
| Total | 305 (100.0) |

Table 5. The ownership of cats in households according to gender in Putrajaya between October and December 2017.

| | Frequency, n (%) |
|-------------------------------|------------------|
| Gender | n = 218 |
| Male | 94 (43.1) |
| Female | 124 (56.9) |
| How cats were acquired | n = 46 |
| Purchased | 7 (15.2) |
| Received as gift | 10 (23.9) |
| Adopted from street/strayed | 28 (60.9) |

Some numbers may differ from text due to omitted responses from survey from participants. Percentages may not equal 100% due to rounding.

Table 6. The status of pets in the households in Putrajaya between October and December 2017.

| Status | Yes, n (%) | No, n (%) | Unknown, n (%) | Total, n (%) |
|------------------------------|------------|------------|----------------|--------------|
| Kept by main owners | 224 (74.7) | 76 (25.3) | - | 300 (100) |
| Neutered | 20 (58.8) | 13 (38.2) | 1 (2.9) | 34 (100) |
| Veterinary clinic visitation | 125 (46.5) | 144 (53.5) | - | 269 (100) |
| Microchipped | 36 (13.6) | 227 (86) | 1 (0.4) | 264 (100) |
| Vaccinated | 81 (30.7) | 178 (67.4) | 5 (1.9) | 264 (100) |

Table 7. Veterinary clinics visitation by pet owners in Putrajaya between October and December 2017.

| Description | Particulars | Frequency, n (%) | Total n (%) |
|-----------------------------|----------------------|------------------|-------------|
| Purpose of visit | General check-up | 103 (47.0) | 219 (100) |
| | Vaccination | 74 (33.8) | |
| | Surgery | 29 (13.2) | |
| | Microchip placement | 9 (4.1) | |
| | Pet passport making | 4 (1.8) | |
| Frequency of visit | Varies (not fixed) | 16 (36.4) | 44 (100) |
| | Once a year | 11 (25) | |
| | Once in three months | 15 (34.1) | |
| | Once a month | 2 (4.5) | |
| Location of visited clinics | Putrajaya | 32 (66.7) | 48 (100) |
| | Cheras | 4 (8.3) | |
| | Kajang | 2 (4.2) | |
| | Bangi | 5 (10.4) | |
| | Others | 5 (10.4) | |

Husbandry and Healthcare of Pets

Table 6 shows that pets in Putrajaya were mostly kept by the main owners (224/300, 74.7%). Majority of these pets (58.8%, 20/34) were neutered (castrated). Most of the pet owners in Putrajaya (53.5%, 144/269) have never brought their pets to veterinary clinics. 67.4% (178/264) of the pets have not been vaccinated. 86% (227/264) have no microchip.

For the pets that were brought to the veterinary clinics, the main purpose of the pet owners' visitation was for general health examination (47.0%, 103/219), 33.8% (74/219) for vaccination, 13.2% (29/219) for surgery, 4.1% (9/219) for microchip placement and 1.8% (4/219) for making Pet Passport. It was found that most pet owners did not fix

regular veterinary clinic visits (36.4%, 16/44), 34.1% (15/44) brought their pets to the clinics once in three months, followed by once a year (25%, 11/44) and the least frequent was once a month (4.5%, 2/44). The most visited veterinary clinic (Table 7) were in Putrajaya (66.7%, 32/48), Bangi and other places were equally second most visited clinics (10.4%, 5/48, both), followed by clinics in Cheras (8.3%, 4/48) and the least visited clinics were in Kajang (4.2%, 2/48).

Although more than half of the pets in Putrajaya were neutered, there were still many others which were sexually intact and therefore needed to be monitored and preferably neutered as well. Neutering of pets especially the cats and dogs will prevent overpopulation or unwanted pregnancies of the pets, while microchipping of pets also

important to ensure traceability of the pets to their owners (Sánchez-Vizcaíno *et al.*, 2017). Vaccination of pets helps to protect and reduces the chance of infection (Bohm, 2009). As the majority of pets in Putrajaya were never brought to veterinary clinics, it is important for the local veterinary authorities to educate and encourage the pet owners to have their pets checked as pets may also develop the same chronic diseases as humans, including arthritis, cardiovascular diseases and diabetes (Ledford, 2016).

The husbandry and healthcare of pets require commitment and expense to ensure their wellbeing. Table 8 shows that the monthly expenses for keeping pets was mostly allocated between RM1 to RM250 a month (82% or 201/245), 13.5% (33/245) was allocated between RM251 to RM500 a month and the rest were less than 10% of the monthly spending. This shows that pets of Putrajaya were cared with minimum spending. Meanwhile, it was also reported that most of the expenses were for food (45.5%, 231/508), followed by healthcare of pets (27%, 137/508), accessories (16.3%, 83/508), grooming (7.9%, 40/508) and shelter (2.8%, 14/508).

Community Responses

The understanding of the community residing in Putrajaya about veterinary jurisdiction is equally important with the husbandry and healthcare of their pets. This study shows that more than half (57.4%, 341/594) of the respondents in Putrajaya knew about the existence of animal jurisdiction. In contrast, Table 9 shows most of the respondents did not know about the

most common legislated acts for animals i.e. 7.6% (45/594) knew about Animal Welfare Act; 5.6% (33/594) knew about the Animals Act 1953; and 2.5% (15/594) knew about the Animal Feed Act. Moreover, only 34.4% (32/94) knew about the Five Principles of Animal Freedom which were the pillars of animal welfare.

Consider that all the respondents in this study represented the community of Putrajaya, more than half of them claimed to be aware about the existence of animal jurisdiction available in our country. Ironically, this study revealed that community awareness about animal welfare was very low as less than ten per cent of them had knowledge about the important acts for animals applicable in Malaysia, such as Animal Welfare Act 2015, Animals Act 1953, and the Animal Feed Act 2009. Besides that, most of the respondents did not know about the Five Principles of Animal Freedom which were the pillars of animal welfare, i.e. the relevant and appropriate measures of welfare applicable for any animal species (Webster, 2016).

Table 10 shows the responses related to issues with other the animals in Putrajaya between October and December 2017. 81.6% (80/96) of the community in Putrajaya reported the presence of roaming animals within their residential areas, 27 and 18 respondents specified these roaming animals as cats and dogs, respectively. Roaming animals is defined as animals (owned or unowned) that is not placed in a confined house or property (Slater, 2005). 32.3% (31/96) reported on the disturbance created by these animals. Even though the disturbance of roaming animals was not

Table 8. Expenses of keeping pets in Putrajaya between October and December 2017.

| Description | Particulars | Frequency, n (%) | Total n (%) |
|------------------------------------|----------------|------------------|-------------|
| Monthly Expenses | RM1 – RM250 | 201 (82.0) | 245 (100) |
| | RM251 – RM500 | 33 (13.5) | |
| | RM501 – RM750 | 6 (2.4) | |
| | RM751 – RM1000 | 1 (0.4) | |
| | > RM1000 | 4 (1.6) | |
| Distribution (purpose) of expenses | Food | 231 (45.5) | 508 (100) |
| | Healthcare | 137 (27) | |
| | Accessories | 83 (16.3) | |
| | Grooming | 40 (7.9) | |
| | Shelter | 14 (2.8) | |
| | Others | 3 (0.6) | |

Table 9. Knowledge and awareness of the community in Putrajaya about veterinary jurisdiction between October and December 2017.

| Knowledge and awareness | Yes, n (%) | No, n (%) | Total, n (%) |
|--|------------|------------|--------------|
| Existence of animal jurisdiction | 253 (42.6) | 341 (57.4) | 594 (100) |
| Animal Welfare Act (Akta Kebajikan Haiwan) | 45 (7.6) | 549 (92.4) | 594 (100) |
| Animal Act 1953 (Akta Binatang 1953) | 33 (5.6) | 561 (94.4) | 594 (100) |
| Animal Feed Act (Akta Makanan Haiwan) | 15 (2.5) | 579 (97.5) | 594 (100) |
| 5 Principles of Animal Freedom | 32 (34.4) | 61 (65.6) | 93 (100) |

Table 10. Other issues related to the animals among the community in Putrajaya between October and December 2017.

| Questions | Yes, n (%) | No, n (%) | Total, n (%) |
|---|------------|-----------|--------------|
| Presence of roaming animals at the residential areas in Putrajaya (specified: cats=27; dogs=18) | 80 (81.6) | 17 (17.3) | 98 (100) |
| Disturbance of roaming animals at the residential areas in Putrajaya | 31 (32.3) | 65 (67.7) | 96 (100) |
| Knowledge about communicable (zoonotic) diseases in pets | 58 (62.4) | 35 (37.6) | 93 (100) |
| Agreement to open government veterinary clinics in Putrajaya | 573 (97.0) | 18 (3.0) | (100) 591 |

severe in Putrajaya, the high presence of roaming animals would cause nuisance, predation, spread of diseases to the other animals, public health threats as well as other issues related to the welfare of the animals themselves (Slater, 2002).

Responding on the awareness of zoonotic diseases, 62.4% (58/93) knew that pet illnesses can infect humans (zoonotic), while 37.6% (35/93) did not. There are quite a number of diseases transmissible from animals to humans (zoonotic diseases) which create public health concerns including rabies, leishmaniasis, toxocariasis and toxoplasmosis that are acquired from animal bites, urine or faeces in the environment (Slater, 2005). Hence, veterinary authorities need to play significant roles in giving education and awareness to the public regarding the zoonotic potentials of the animals especially pets. Pet owners and the veterinary authorities need to work together to tackle the issues regarding roaming animals to ensure the wellbeing of both animals and humans living in Putrajaya

This study found that a majority of respondents agreed to a government veterinary clinic in Putrajaya. The establishment of a government veterinary clinic in Putrajaya was considered the best option for middle-income earners in Putrajaya such as government employees as an alternative to the health care services provided by the private veterinary clinics within the 15 km radius of Putrajaya. As the awareness on the functions and objectives of the Department of Veterinary Services was relatively low in the community, campaigns and promotions should be held more proactively and continuously with

the participation of the department in local events.

CONCLUSION

In a nutshell, this study provided an insight into the general status and welfare of pets in Putrajaya. It is suggested that the information that emerges from this study will be a "door opener" to more detailed studies or surveys of pet-keeping activities especially related to the issues of healthcare and animal welfare. With this, more concrete decisions and recommendations on pet ownership as well as rational veterinary strategies can be implemented to improve the understanding of human-animal relationships in Malaysia. Future research to obtain more information is also needed to determine the correlation between the health status of both pets and the communities relevant to each local needs.

REFERENCES

1. Allen K., Blascovich J. and Mendes W.B. (2002). Cardiovascular reactivity and the presence of pets, friends, and spouses: the truth about cats and dogs. *Psychosom Med.* **64**(5): 727-39.
2. Amiot C., Bastian B. and Martens P. (2016). People and companion animals: it takes two to tango. *BioScience.* **66**(7): 552-560.
3. Bohm M. (2009). Current vaccination strategies in dogs and cats. *In Practice* **31**(1): 2-7.
4. Campo J.E. (2009). *Encyclopedia of Islam*. Infobase Publishing. p131. ISBN 1438126964
5. MCM (2015). *Population by States and Ethnic Group in 2015*. Department of Information, Ministry of Communications and Multimedia Malaysia. Accessed December 15, 2018, <https://web.archive.org/web/20160212125740/http://pmr.penerangan.gov.my/index.php/info-terkini/19463-unjuran-populasi-penduduk-2015.html>
6. Harter S. (2003). The development of self-representations during childhood and adolescence. In *Handbook of self and identity*. Leary M.R. and Tangney J.P. (Eds.). New York, NY: Guilford Press. pp. 610-642.

7. Oh O.Y. (2018). *Growing world of pets*. Accessed January 13, 2019, <https://www.thestar.com.my>.
8. Ledford H. (2016). Stem cells for Snoopy: pet medicines spark a biotech boom. *Nature*. **534(7607)**: 303-304.
9. McConnell A.R., Brown C.M., Shoda T.M., Stayton L.E. and Martin C.E. (2011). Friends with benefits: on the positive consequences of pet ownership. *J. Pers. Soc. Psychol.* **101(6)**: 1239-1252.
10. KPKT (2015). *KPKT Selected Statistics Up to March 31, 2015*. Ministry of Housing and Local Government. Accessed December 24, 2018, http://www.kpkt.gov.my/resources/index/user_1/galeri/pdf_penerbitan/perangkaan%20terpilih/buku_perangkaan_31mac2015.pdf.
11. Moser S. (2009). Putrajaya: Malaysia's new federal administrative capital. *Cities* **27(4)**: 285-297.
12. Potter A. and Mills D.S. (2015). Domestic cats (*Felis silvestris catus*) do not show signs of secure attachment to their owners. *PLoS ONE* **10(9)**: e0135109. doi:10.1371/journal.pone.0135109
13. Property Management Division, the Prime Minister's Department (n.d.). *Perintah Am Bab E page 3*. Accessed December 15, 2018, <http://www.bph.gov.my/sbbphv2/y/bph.mobile.module.MobileSubNaziran>
14. Putrajaya Corporation (2017). *Annual Report of 2016*. Accessed November 24, 2018, <http://www.parlimen.gov.my/ipms/eps/2017-11-21/ST.75.2017>
15. Qureshi S. and Ho C.S. (2011). Towards Putrajaya Green City 2025 Implementing Neighbourhood Walkability In Putrajaya. In: *14th International Asian Planning Schools Association Congress*. (APSA 2011). Accessed December 21, 2018, <http://asialeds.org/sites/default/files/resource/file/towards-putrajaya-green-city-2025-implementing-neighbourhood-walkability-in-putrajaya.pdf>.
16. Reynolds C.A., Oyama M.A., Rush J.E., Rozanski E.A., Singletary G.E., Brown D.C., Cunningham S.M., Fox P.R., Bond B., Adin D.B., Williams R.M., MacDonald K.A., Malakoff R., Sleeper M.M., Schober K.E., Petrie J.P. and Hogan D.F. (2010). Perceptions of quality of life and priorities of owners of cats with heart disease. *J. Vet. Intern. Med.* **24(6)**: 1421-1426.
17. Sánchez-Vizcaíno F., Noble P.M., Jones P.H., Menacere T., Buchan I., Reynolds S., Dawson S., Gaskell R.M., Everitt S. and Radford A.D. (2017). Demographics of dogs, cats, and rabbits attending veterinary practices in Great Britain as recorded in their electronic health records. *BMC Veterinary Research*, **13(1)**: 218
18. Slater M.R. (2002). *Community approaches to feral cats: problems, alternatives and recommendations*. The Humane Society Press, Washington, DC. Accessed January 15, 2018, http://www.humanesociety.org/sites/default/files/archive/assets/pdfs/hsp/PUBS_Slater1.pdf
19. Slater M.R. (2005). The welfare of feral cats. In: *The Welfare of Cats*. Rochlitz I. (Ed.), Springer, Dordrecht. The Netherlands, pp. 141-175.
20. Staats S., Wallace H. and Anderson T. (2008). Reasons for companion animals guardianship (pet ownership) from two populations. *Society and Animals*. **16**: 279-291.
21. Toribio J.L.M., Norris J.M., White J.D., Dhand N.K., Hamilton S.A. and Malik R. (2009). Demographics and husbandry of pet cats living in Sydney, Australia: results of cross-sectional survey of pet ownership. *Journal of Feline Medicine and Surgery*. **11**: 449-461.
22. Webster J. (2016). Animal welfare: freedoms, dominions and "a life worth living". Accessed January 25th, 2019, <https://www.mdpi.com/2076-2615/6/6/35/htm>

ACKNOWLEDGEMENT. The authors would like to thank the Director-General of Veterinary Services, Dato' Dr Quaza Nizamuddin Bin Hassan Nizam for his permission to publish this paper. Utmost gratitude to the Department of Veterinary Services of Kuala Lumpur, as well as the all the staff of that involved in this study.