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Housing and feeding management practices of pet Dogs in urban Karnataka

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Abstract

Adopting ex post facto research design, the present study was designed to identify the housing and feeding management practices of pet dogs and the constraints faced by pet owners in housing and feeding management of pet dogs. The study was conducted purposively in Bengaluru district of Karnataka with the total sample size of 240 pet dog owners selected randomly. The results revealed that, majority of the owners housed their dogs indoors (73.75%) without any leashing/controlling dog movements (88.75%). Majority (57.08%) of the respondents left dogs with friends/neighbours when they were out of station. All the female dogs were provided with separate space and bedding during pregnancy/whelping. Regarding feeding management of pet dogs, majority (89.50%) of the owners took advice from veterinarians for feeding, offered two meals a day (49.17%) and fed both vegetarian and non-vegetarian diet (89.58%) where majority (61.10%) fed meat for the first time at 3-6 months of age. Majority (67.08%) of the respondents provided balanced feeding, provided vitamin and mineral supplements (56.67%) and fed bones/chews (91.67%). Majority of the owners (86.15%) provided supplementary ration during pregnancy and lactation. High cost of commercial dog food (74.17%) and lack of proper place for taking the dog out for leisure (87.50%) were the major constraints in feeding and housing management, respectively. Therefore, there is urgent need to enhance the knowledge of the dog owners regarding scientific dog rearing by effective dissemination of the information based on the prioritization of the information needs of the dog owners.

Keywords: Housing, feeding, management, dogs, pet owners, constraints

Introduction

India is the fastest growing economic country in the world and adopting western life style leading to more of nuclear families, which eventually increases the adoption of companion animals. This change in socio-cultural values of humans resulted in change of attitudes towards companion animal ownership, with higher expectations and demands for greater and timely information for management of these companion animals (Basarajappa, 2013) [6]. Indian household dog population is increasing by 26 per cent every year and about 17 per cent of the households own a pet dog (Sudarshan *et al.*, 2006) [2]. Presently, India's dog population is 11.672 million. Out of them, 9.494 million and 2.177 million are present in rural and urban areas, respectively. Among all states in India, Tamil Nadu, Maharashtra and Karnataka stand first (11,13,031), second (10,77,856) and third (10,28,869) in dog population respectively (Basic Animal Husbandry Statistics, 2012). Innovation in veterinary care and a better understanding of canine nutrition management through each phase of dog's life cycle such as growth, maintenance, reproduction, lactation and senility have helped in contributing to welfare and a longer life expectancy for dogs (Vijayakumar *et al.*, 2004) [3]. Pet owners are becoming increasingly more knowledgeable when it comes to pet care. As a result, they have number of enquiries towards veterinarians than ever before and are expecting a greater personal involvement in the care and treatment of their pets. The veterinary services cover three broad areas i.e. animal health care, production and human health protection. Most of the pet dog owners resort to unscientific management practices, because of convenience. In this background, it was felt that in the present scenario there is a need for understanding the housing and feeding management practices adopted by the dog owners which are necessary to identify the strength and weaknesses of the dog rearing system and to formulate suitable intervention policies. Hence, the present study was designed to identify the housing and feeding management practices adopted by pet dog owners and also the constraints faced by them towards housing and feeding management.

Materials and Methods

Adopting ex-post facto research design, the present study was conducted on housing and feeding management practices of pet dogs in Bengaluru district of Karnataka purposively because of considerably high density of pet dog population and pet practitioners. Two hundred and forty pet dog owners were selected randomly from Bengaluru district of which 110 dog owners were involved in breeding activities. Among 110 dog owners, 65 respondents possessed female breeding dogs and 45 respondents possessed male breeding dogs. The interview schedule was developed in consultation with the experts' suggestions to find out the housing and feeding management practices adopted by pet dog owners and also constraints faced by them in housing and feeding management. The data collected were statistically analysed for frequency and percentage and finally, the rankings were given based on it.

Results and Discussion

Housing management practices of pet dogs

The distribution of pet dog owners on different housing management practices was depicted in the Table 1. Higher percentage (73.75%) of the respondents housed their dogs inside the house as the dogs were acquired primarily for companionship and were treated like one among the family members. The findings of Basarajappa (2013) [6] are in agreement with the present findings, who reported that, majority of the owners housed their dogs inside the house. The findings of present study are in contrary to the results of Pfukenyi *et al.* (2010) [7] who revealed that majority of the respondents housed their dogs outside the house. Majority (88.75%) of the respondents did not leash/control movement of their dogs (Table 1) as they regarded dogs as part of their family. Similar findings are reported by Sambo *et al.* (2014) [9], who noticed that majority of the owners allowed their dogs to roam freely without any control on them. Majority (57.08%) of the respondents left their pets with neighbours/friends as their dogs were familiar with them, this was for convenience and non-availability of good and affordable boarding facilities in their area.

Table 1: Housing management practices of pet dogs

Sl. No.	Housing Management practices	Category	Respondents, N= 240	
			F	%
1.	Housing for dogs	i) Inside the house	177	73.75
		ii) Outside the house	4	1.67
		iii) Both inside and outside the house	48	20.00
		iv) Separate kennel	11	4.58
2.	Leash/controlled movement	i) Yes	27	11.25
		ii) No	213	88.75
3	Take care of dogs when out of station	i) Leave pet with neighbours/friends	137	57.08
		ii) Leave pet at home alone	58	24.17
		iii) Take along with them	25	10.42
		iv) Boarding centres	20	8.33

Kennel management practices

It can be observed (Table 2) that, about 72.73 per cent and 27.27 per cent of the respondents provided concrete and asbestos as roof for the kennels. Cent per cent of the respondents provided concrete as wall and floor for kennels. Owners preferred concrete floors, walls and roof due to easy availability of the raw materials, it consumed less time for construction, their strength and durability were reliable and also it facilitates easy cleaning. The data furnished in Table 2 revealed that, majority (63.64%) of the respondents did not

provide any drainage facility in kennel as the owners took their dogs out regularly for leisure and they felt that there is no need for drainage facility in kennels, this was due to lack of awareness. Cent per cent of the respondents facilitated adequate light and ventilation in kennels. The findings indicated the adequate awareness towards provision of light and ventilation prevailed. The present study (Table 2) found that, 45.45 per cent of the respondent's sanitized/disinfected kennels fortnightly followed by once in a week (36.37%) and every alternate day (18.18%).

Table 2: Kennel management practices

Sl. No.	Kennel management practices	Category	Respondents, n=11	
			F	%
1	Housing in kennel	a) Type of roof		
		Concrete	8	72.73
		Asbestos	3	27.27
		b) Type of wall		
		Concrete	11	100
		c) Type of floor		
		Concrete	11	100
		d) Drainage facility		
		i) Yes	4	36.36
		ii) No	7	63.64
		e) Adequate light and ventilation		
		i) Yes	11	100
		ii) No	0	0
		f) Regularity of sanitization		
		i) Every alternate day	2	18.18
		ii) Once in a week	4	36.37
		iii) Fortnightly	5	45.45

The results in Table 3 showed that, cent per cent of the owners provided separate space and bedding during pregnancy/whelping. The exposure of pregnant/lactating dogs to extreme heat and cold leads to physical stress and results in some ill conditions which affects both mother and puppies. Thus in the present study owners had awareness regarding importance of providing separate space and bedding during pregnancy/whelping.

Table 3: Housing management practices of female dogs during pregnancy and lactation

Sl. No.	Housing management of female dogs during pregnancy and lactation	Category	Respondents, n=65	
			F	%
1	Separate space and bedding during pregnancy/whelping	i) Yes	65	100
		ii) No	0	0

Feeding management practices of pet dogs

The feeding management practices followed by pet dog owners were depicted in the Table 4. The results revealed that, majority (89.50%) of the owners took advice from veterinarians followed by pet shops, internet and friends. Pet owner's perception on veterinarian as a valid and authentic source of information, education status of the owners and sense of feeling regarding dog as a family member may be the possible reason for the dog owners to seek advice from

various sources on feeding their dogs which in turn results in their welfare. Suarez *et al.* (2012) [1] reported similar findings in their study that, majority of the owners perceived veterinarian as the most important source of information on dog nutrition whereas partially in agreement with the findings of Aptekmann *et al.* (2013) [5] who reported that most of the owners obtained information from pet stores followed by consulting veterinarian, internet, magazines, friends and TV/radio. The findings of the study is not in agreement with the findings of Vijayakumar *et al.* (2004) [3] who revealed that majority of the respondents fed their dogs as per convenience without any external source advice.

The data presented in Table 4 revealed that, majority (49.17%) of the respondents fed their dog's two meals a day as they were well educated and had access to different sources for information on feeding. The results are in conformity with the findings of Vijayakumar *et al.* (2004) and Aptekmann *et al.* (2013) [3, 5]. Majority (89.58%) of the respondents fed combination of both vegetarian and non-vegetarian diet (Table 4) as they were a well-educated community exposing to different media had an idea regarding dog feeding habits as a carnivore animal. The results of the study are in full agreement with the findings of Basarajappa (2013) [6]. The findings are in partial agreement with vijayakumar *et al.* (2004) [3] who found out that majority of the dogs were fed with non-vegetarian diet.

Table 4: Feeding management practices of pet dog owners

Sl. No.	Feeding Management practices	Category	Respondents, N=240	
			F	%
1	Advice on feeding	i) From Veterinarian	215	89.50
		a) Veterinarian only	45	18.75
		b) Veterinarian, friends and internet	74	30.83
		c) Veterinarian, friends and pet shops	96	40.00
		ii) From other sources	25	10.50
		a) Friends	5	2.01
		b) Internet	2	1.00
		c) Pet shops	4	1.66
2	Frequency of feeding	d) Friends, internet and pet shops	14	5.83
		i) One meal	20	8.33
		ii) Two meal	118	49.17
		iii) Three meal	99	41.25
		iv) Four meal	3	1.25
		i) Only vegetarian	25	10.42
		ii) Only non-vegetarian	0	0
		iii) Both	215	89.58
3	Type of diet	a) Meat fed as food for the first time		
		Less than 1 month	2	1.00
		1-2 months	69	32.70
		3-6 months	129	61.10
		More than 6 months	11	5.20
		i) Only home made	72	30.00
		a) Commercial food costly	44	18.34
		b) Homemade food safe and nutritious	20	8.33
4	Type of food preparation	c) Pet does not like commercial food	5	2.08
		d) Pet is allergic to commercial food	3	1.25
		ii) Only commercial food	5	2.08
		a) Commercial food is wholesome	5	2.08
		iii) Both	163	67.92
		a) Combination ratio of homemade and commercial food		
		90:10	72	30.00
		65:35	64	26.67
		50:50	20	8.33
		35:65	7	2.92
		b) Rice/cereal fed as food for the first time		
		Less than 1 month	3	1.25

		1-2 months	97	40.42
		3-6 months	123	51.25
		More than 6 months	12	5.00
5	Impact of feeding on longevity of the dogs	i) Yes	180	75.00
		ii) No	60	25.00
6	Balanced feeding	i) Yes	161	67.08
		a) Provided balanced ration to the dogs	151	62.92
		b) Did not provide balanced ration to the dogs	10	4.16
		ii) No	79	32.92
7	Supplementation of vitamins and minerals	i) Yes	136	56.67
		ii) No	104	43.33
8	Feeding of bones/chews	i) Yes	220	91.67
		a) Bones	168	70.00
		b) Chews	5	2.09
		c) Both	47	19.58
		ii) No	20	8.33

Higher percentage (61.10%) of the respondents fed meat as food for the first time at 3 to 6 months of age (Table 4) as advised by the veterinarian. Similar findings are expressed by Vijayakumar *et al.* (2004) [3]. The study also revealed that, majority (67.92%) of the owners fed combination of both homemade and commercial food as they felt it is nutritious for their dogs. The results are in line with the findings of Basarajappa (2013) [6] whereas differed with the findings of Aptekmann *et al.* (2013) [5] who reported that, majority of the owners fed commercial diet. Rohlf *et al.* (2010) [8] found out that, majority of the respondents provided homemade diet.

The information provided in Table 4 revealed that, considerable number of the respondents (30.00%) fed homemade and commercial diet in the ratio 90:10 followed by 26.67 per cent fed in the ratio 65:35, 8.33 per cent in the ratio 50:50 and 2.92 per cent in the ratio 35: 65 respectively. This may be due to pet owner's opinion towards commercial food as supplementary diet and commercial food as expensive. Majority (51.25%) of the respondents fed rice/cereal for the first time at about 3 to 6 months of age. The results of the present study are well supported with the findings of Vijayakumar *et al.* (2004) [3], where majority (66.60%) of the owners fed rice/cereal for the first time at about 3 to 6 months of age.

The information depicted in Table 4 revealed that, majority (75.00%) of the owners felt that feeding has an impact on longevity. The trend observed is because feeding has impact on quality health status which in turn has impact on life expectancy. The data collected regarding balanced feeding showed that majority of the owners (67.08%) were practiced balanced feeding (Table 4) as they were aware of balanced ration which must be fed based on physiological needs of the animal to ensure optimal growth and productivity. Out of

67.08 per cent who knew about balanced feeding, majority (62.92%) practised feeding balanced diet whereas 4.16 per cent did not feed balanced diet to their dogs due to selective feeding of dogs.

Majority (56.67%) of the respondents had the practise of feeding vitamin and mineral supplements to their dogs due to the knowledge regarding importance of feeding vitamin and mineral supplements during different stages (growing, pregnancy etc) of dogs and also as the majority of the dogs suffered from various skin diseases during which feeding of vitamin and mineral supplementation is followed/advised may be the possible reason for the pet owners to provide vitamin and mineral supplementations. These results are in agreement with the findings of Basarajappa (2013) [6] but differed with the findings of Vijayakumar *et al.* (2004) [3] who observed that majority did not feed vitamins and mineral supplements. The study revealed that, majority (91.67%) of the respondents provided bones/chews as they had sufficient knowledge regarding importance of feeding bones/chews to minimize various dental problems like dental tartar. These results are in consonance with the findings of Vijayakumar *et al.* (2004) [3] but contrary to the findings of Rohlf *et al.* (2010) [8] where 22.53 per cent and 20.33 per cent of the owners fed bones and chews respectively.

Feeding of supplementary ration During pregnancy and lactation in female dogs

The present study (Table 5) revealed that, majority (86.15%) of the respondents fed their dogs with supplementary ration during pregnancy and lactation as they were aware that stages like pregnancy and lactation require more additional nutrients, which can be met through supplementary feeding.

Table 5: Practices on feeding supplementary ration to breeding dogs by pet dog owners

Sl. No.	Feeding supplementary ration to breeding dogs	Category	Respondent, n=65	
			F	%
1	Feeding of supplementary ration	i) During pregnancy and lactation in female dogs		
		a) Yes	56	86.15
		b) No	9	13.85
		ii) During breeding in male dogs		
		Respondents, n=45		
		a) Yes	0	0
b) No	45	100		

During breeding in male dogs

None (100%) of the male dogs were fed with any supplementary ration during breeding (Table 5) due to lack

knowledge on supplementary feeding owners were not feeding supplementary ration during breeding.

Constraints faced in housing and feeding management of pet dogs

The constraints faced by pet dog owners on feeding management were depicted in the Table 6. The results revealed that majority (74.17%) of the respondents expressed that high cost of commercial dog food as the major constraint.

The results of the present study are similar with the findings of Vijayakumar *et al.* (2006) [4]. The results revealed that, no proper place for taking dog out for leisure (87.50%) and non-availability of boarding facilities (66.25%) as the major constraints. Similar constraints are observed by Vijayakumar *et al.* (2006) [4].

Table 6: Housing and feeding constraints faced by pet owners

Sl. No.	Constraints faced by pet owners	Respondents, N=240		Ranking
		F	%	
Feeding constraints				
1	High cost of commercial dog foods	178	74.17	I
2	Insufficient information about balanced feeding	62	25.83	III
3	Selective feeding of dogs	106	44.17	II
Housing constraints				
1	Lack of adequate space for construction of kennel	9	3.75	IV
2	Non-availability of boarding facilities	159	66.25	II
3	Lack of sufficient walking space in and around the house	11	4.58	III
4	No proper place for taking dog out for leisure	210	87.50	I
5	Difficult to maintain hygiene in kennel	1	0.50	V

Conclusion

Majority of the respondents were housing their dog within house and provided bedding material to pregnant and lactating dogs. Majority of the respondents fed mixed food i.e. both vegetarian and non-vegetarian diet of both homemade and commercial food to their dogs along with feeding vitamins and minerals as additional feed supplements and provided supplementary ration during pregnancy and lactation but breeding male dog owners had no awareness regarding feeding of supplementary ration during breeding so feeding supplementary ration during breeding in male dogs need to be popularized among the dog owners by the feed industries and extension organisations. In general there is a need to improve communication skills communication aids in disseminating better information dissemination to dog owners for dog rearing. Therefore, there is urgent need to enhance the knowledge of the dog owners regarding scientific dog rearing by effective dissemination of the information based on prioritization of the information needs of the dog owners. Development of need based information and expert system using more interactive ICT tools for pet owners is the need of the hour.

References

1. Suarez L, Peña C, Carreton E, Juste MC, Montoya-Alonso JA. Preferences of owners of overweight dogs when buying commercial pet food. *J. Anim. Physiol. Anim. Nutr.* 2012;96:655-659.
2. Sudarshan MK, Mahendra BJ, Madhusudhana SN, Ashwoath Narayana DH, Rahman A, Rao NS. An epidemiological study of animal bites in India: results of a WHO sponsored national multi-centric rabies survey. *J. Commun. Dis.* 2006;38(1):32-39.
3. Vijayakumar P, Xavier F, Anil L. Feeding management of pet dogs in Central Kerala- A report. *Anim. Nutr. feed Techn.* 2004;4:77-81
4. Vijayakumar P, Xavier F, Anil L. Socio-economic profile, selection, training and constraints of dog keeping in Central Kerala. *Indian J. Anim. Prod. Mgmt.* 2006;20:52-56.
5. Aptekmann KP, Junior MAF, Suhett WG, Guberman UC. Feeding patterns of dogs and cats in the Holy Spirit-Brazil. *Braz. J. Vet. Anim. Sci.* 2013;65(2):455-459.

6. Basarajappa AD. Knowledge level and information needs of dog owners about scientific dog rearing practices in India. M.V.Sc. Thesis, Department of Veterinary and Animal Husbandry Extension, Indian Veterinary Research Institute, Izatnagar, Uttar Pradesh; c2013.
7. Pfukenyi DM, Chipunga SL, Dinginya L, Matenga E. A survey of pet ownership, awareness and public knowledge of pet zoonoses with particular reference to roundworms and hookworms in Harare, Zimbabwe. *Trop. Anim. Hlth. Prod.* 2010;42(2):247-52.
8. Rohlf VI, Toukhsati SA, Grahame J, Coleman A, Bennett PC. Dog obesity: can dog caregivers (owners) feeding and exercise intentions and behaviours be predicted from attitudes. *J. Appl. Anim. Welf. Sci.* 2010;13(3):213-236
9. Sambo M, Lembo T, Cleaveland S, Ferguson HM, Sikana L, Simon C. Knowledge, attitudes and practices (KAP) about rabies prevention and control: A community survey in Tanzania. *PLoS Negl Trop Dis.* 2014;8(12):1-10.