

Quality of Life in Obese Dogs

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ABSTRACT

Obesity in dogs is gaining interest in the research field due to similarities in the detrimental health effects associated with obesity as in humans. Health-related quality of life is compromised in people with heart disease, and many clinical signs of congestive heart failure (CHF) in dogs, such as weakness, dyspnea, anorexia, exercise intolerance, and syncope, are thought to adversely affect health-related quality of life. Such changes in quality of life are important because quality of life can affect survival time. The study was undertaken to determine the quality of life in 35 obese and 35 normal Labrador retriever dogs in relation to cardiac symptoms presented at SKUAST-J in Jammu, J&K through a validated functional evaluation of cardiac health (FETCH) questionnaire. The questionnaire was developed by Tufts university on the basis of widely accepted clinical signs of cardiac disease in dogs. A FETCH score was calculated by summing responses to questionnaire items; possible scores ranged from 0 to 85. The common cardiac diseases affecting obese dogs were dilated cardiomyopathy, atrial and ventricular enlargement. The study revealed that Higher FETCH score was observed in obese dogs (11-50) than normal dogs (0-10), hence indicating poor quality of life and cardiac health in obese dogs. Based on fetch questionnaire the severity of clinical signs that are panting, increased heart rate, drowsiness, lethargy, exercise intolerance, limping, syncope, coughing, increase sleeping patterns, isolation, increased appetite, difficulty in climbing stairs, making and recreational past times difficult was more in obese dogs than normal dogs.

Keywords: Obesity, QoL, Dogs, FETCH questionnaire, Signs

INTRODUCTION

Dogs have been an indispensable part of human civilization since time immemorial. In the developed countries, public is conscious of their responsibilities related to the health and wellbeing of companion animals. Overweight and obesity are a growing problem in distinct

companion dog populations and can cause discomfort and disease, and/or reducing the quality of life (QoL) of affected dogs (Schneider et al., 2010). Obesity can promote the development of a number of diseases that reduce the animal's QoL and life span (Klinkenberg et al., 2006).

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Sedentary lifestyles as well as supply of flavourful, hypercaloric foods contribute to energy imbalances leading to excess weight (Markwell & Edney, 2000). Urbanization has led to indoor lifestyle which confines the dog and limits its physical activity (McGreevy et al., 2005). Health-related quality of life can be a key measure of the success or failure of medical or surgical treatment in patients, and measures of health-related quality of life may complement typical clinical measures of disease status. In fact, health-related quality of life has become such an important measure of the outcome of various therapeutic interventions in clinical trials that it, in conjunction with mortality rate, is now considered one of the standard primary end points in human clinical trials and is preferred to surrogate end points (Calvert & Freemantle, 2004). The general concept of QoL takes into account the physical, mental, and social needs of the animal, and meeting these needs is considered to reflect a positive status. Therefore, QoL assessment can be used to assess improvements in conditions that adversely affect QoL, such as prolonged discomfort and disease. Aim of the current study was to use this questionnaire to determine changes in obese dogs.

MATERIALS AND METHODS

Location of the study

1.1 Source of animals

The present study was conducted on the dogs presented to small animal OPD, Teaching Veterinary Clinical Complex, Faculty of Veterinary Science and Animal Husbandry, Sher-e-Kashmir University of Agricultural Sciences and Technology, Jammu and Private Veterinary Clinics in Jammu with signs of obesity between May 2015 –April 2016.

Healthy/Control dogs

Irrespective of gender and age 35 healthy Labrador retriever dogs with no apparent signs of obesity/overweight and heart disease brought for routine clinical examinations were selected as control dogs. These animals were

found to be healthy, active, alert and had normal appetite, defecation and urination.

Obese Dogs

Obesity was assessed using body weight and BCS. The body weight of the dogs was measured using electronic weighing machine. The approximate body weight of Labrador retrievers was set as 65 to 80 lb (29.48–36.28 kg) for males and 55 to 70 lb (25–31.75 kg) for females as per Burr *et al.*². The dogs having body weight in excess of 10–15% of ideal body weight were considered as overweight whereas those having body weight in excess of 20–25 % were considered as obese (Burkholder & Toll, 2000; Mawby et al., 2004). Body condition score of dogs were assigned as a whole number value from 1 to 5 using 5- point scale as described by Lund et al. (1999). A BCS of 1 indicated the animal was excessively thin, 3 was ideal, and 5 was obese. Categorization of 35 Labrador retrievers was done into obese animals irrespective of age and gender.

The quality of life and cardiac health status in obese dogs was assessed by FETCH questionnaire. Functional Evaluation of Cardiac Health (FETCH) Questionnaire as developed by Tufts university (2003) was used to analyse the impact of heart disease on quality of life (QoL).

RESULT AND DISCUSSION

Results of the present study suggest that the FETCH questionnaire is a valid and reliable method for assessing quality of life in obese dogs. Previous Study has suggested that QoL assessment was useful to raise awareness about obesity, heart diseases and associated comorbidities in patients (Yeates & Main, 2009). Obesity had adverse effect on the quality of life and longevity of dogs (Kealy et al., 2002, Zentek, 2008; Grassi et al., 2014). A total of 70 respondents i.e. owners of 35 obese and 35 normal dogs filled the FETCH questionnaire. The obese dogs comprised of 18 males and 17 females whereas normal dogs comprised of 30 males and 5 females. Out of

total 48 males, 14 were neutered and 34 were intact. Out of 22 females, 15 were neutered and 7 were intact. The common cardiac diseases affecting obese dogs were dilated cardiomyopathy, atrial and ventricular enlargement.

Higher severity of clinical signs was observed in obese dogs affecting the quality of life. The main clinical signs presented by obese dogs were: panting, increased heart rate, lethargy, exercise intolerance, drowsiness, limping, difficulty in climbing stairs, increased appetite, increased sleeping time, syncope, coughing, isolation recreational pastime difficulty (Table 1). Similar symptoms were reported by Sanderson (2007) and Priyanka and Boswood (2012). Exercise intolerance, persistent nocturnal coughing, upright posture, dyspnea were reported to be important clinical signs presented by dogs with heart disease (Gupta et al., 2007). German et al. (2012) reported that obese dogs had lower vitality and higher emotional disturbance scores and reduced quality of life. It was also recorded that none of the dogs were on exercise restriction. It was seen that in obese dogs, the severity of clinical signs was higher than normal dogs (Fig. 1). The fetch score of

these dogs ranged from 0 to 50 (Fig. 2). The dogs (n=35) having an ideal body shape (normal) and having BCS 3.0 had least FETCH score i.e. 0 to 10 whereas obese dogs (n= 35) had higher FETCH score ranging between 11 to 50 as compared to normal dogs. Six obese dogs (3 males and 3 females) having body weight between 31 – 40 kg had FETCH score of 11-20. Ten obese dogs (8 males and 2 females) having body weight of 31-40 kg (6) or > 40 kg (4) had FETCH score from 21-30. Similarly, 12 dogs (3 males and 9 females) weighing 31-40 kg (4) or >40 kg (8) had FETCH score of 31 to 40. The FETCH score of 7 obese dogs (4 males and 3 females) weighing more than 40 kg was highest ranging from 41 to 50 (Fig. 3). It was found that the quality of life in obese dogs was low as compared to ideal shape dogs. These were in close accordance with Freeman et al. (2005) who reported FETCH score of 10-60 in dogs with cardiac diseases. It was observed that with increasing weight the FETCH score increased indicating poor quality of life and cardiac health in obese dogs. Therefore, it was concluded that obesity adversely affected quality of life in dogs.

Table 1: Clinical signs in normal and obese dogs

Clinical signs	% Normal dogs (n=35)	% Obese dogs (n=35)
Panting	5.71(2)	68.57 (24)
Increased heart rate	28.57 (10)	65.14 (23)
Letharginess	14.28 (5)	80 (28)
Exercise intolerance	2.85 (1)	62.85 (22)
Synocopes	0	8 (22.86)
Coughing	22.86 (8)	34.28 (12)
Drowsiness	14.28 (5)	68.57 (24)
Limping	2.85 (1)	22.86 (8)
Increased sleeping time	28.57 (10)	65.14 (23)
Isolation	25.71(9)	57.14 (20)
Difficulty in climbing stairs	20 (7)	80 (28)
Recreational pastime difficulty	17.14 (6)	85.71 (30)
Increased appetite	64.71 (23)	95 (34)

Figures in parenthesis indicate number of dogs

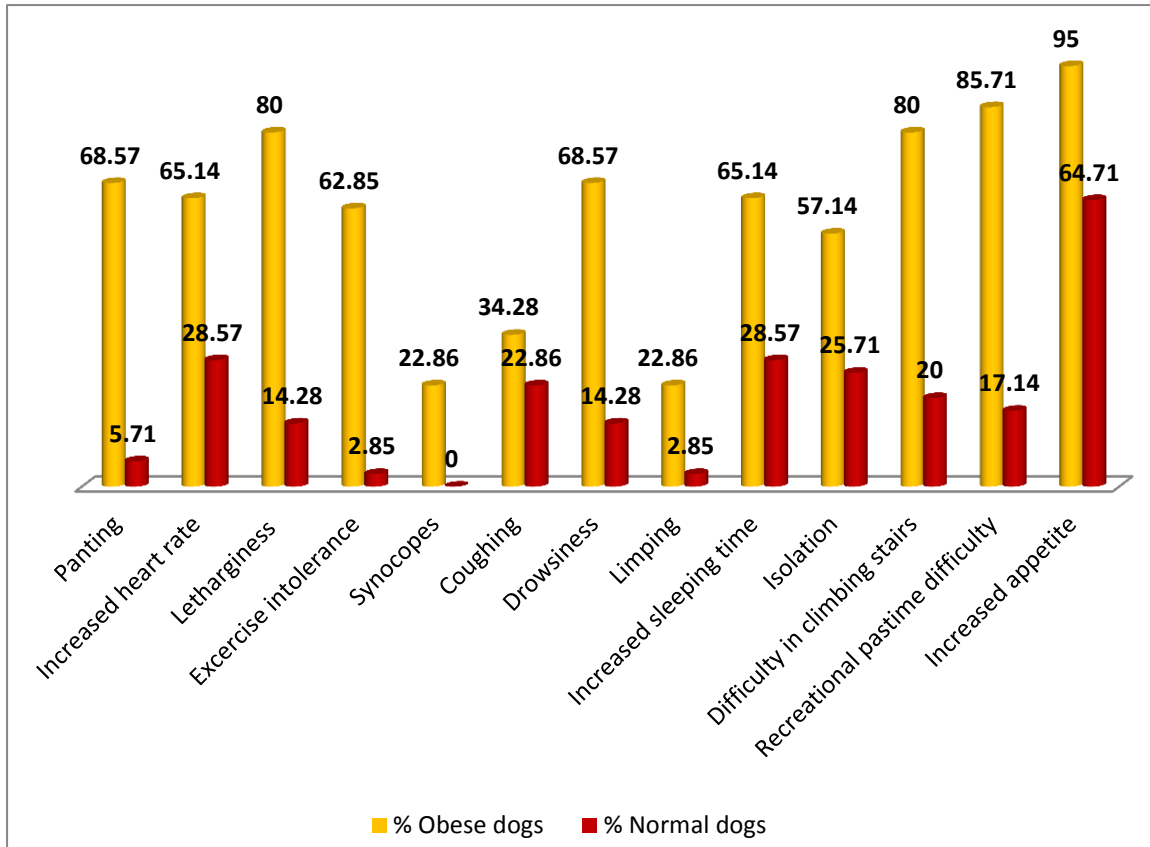


Fig. 1: Comparison of clinical signs in normal and obese dogs

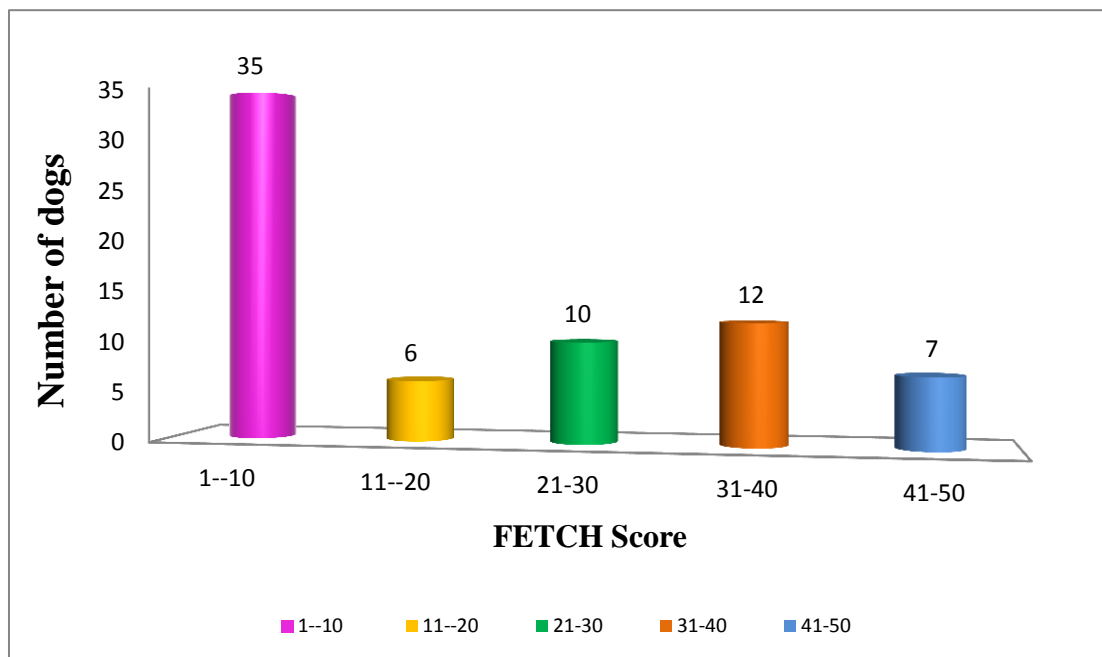


Fig. 2: Range of FETCH score

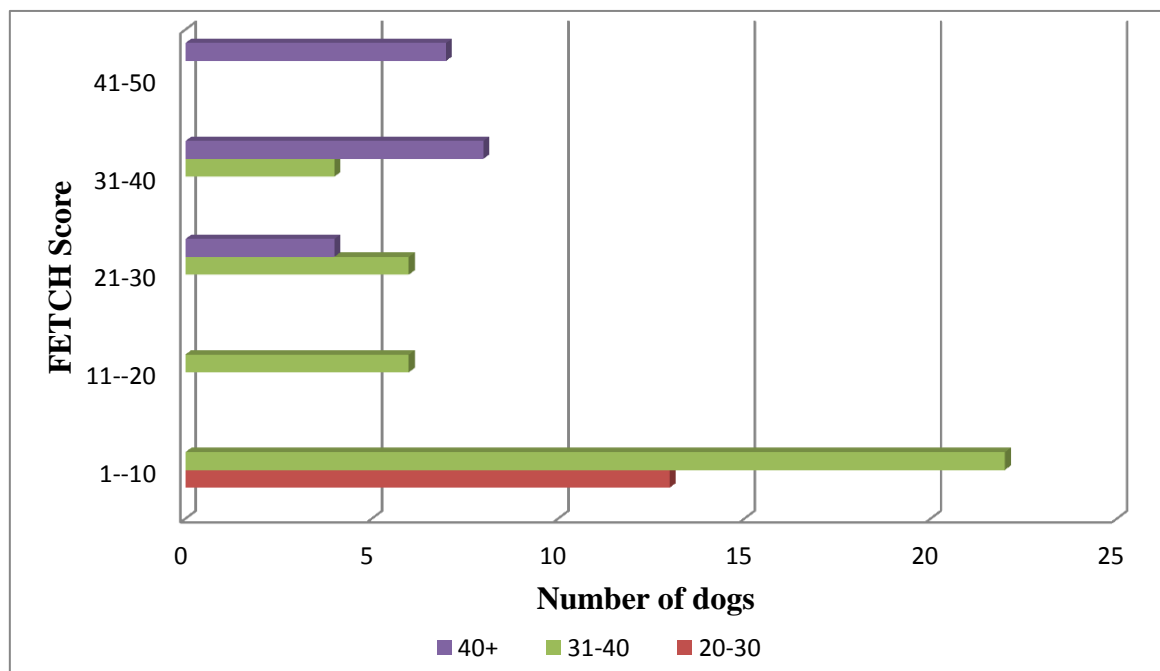


Fig. 3: Weight wise distribution of FETCH score

CONCLUSION

A total of 70 respondents filled the FETCH questionnaire. Normal dogs BCS 3.0 had least FETCH score i.e. 0 to 10 whereas obese dogs had higher FETCH score ranging from 11 to 50. It was observed that with increasing weight the FETCH score increased indicating poor quality of life and cardiac health in obese dogs.

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