Therapy dogs’ salivary cortisol levels vary during animal-assisted interventions

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Abstract

Beneficial effects of human-animal contact on human health have contributed to the wide distribution of animal-assisted interventions (AAIs). While considerable effort has been devoted to the study of human welfare during AAIs, potential effects on therapy animals have been addressed less frequently. The aim of this study was to determine baseline and work-related levels of cortisol, a glucocorticoid hormone that mediates physiological responses to arousal, in certified therapy dogs and therapy dogs in training. All dogs (n = 21) participated in weekly group-AAIs in adult mental healthcare. Saliva samples were collected over the course of AAIs and on non-working days and analysed with a cortisol enzyme immunoassay. Analysis of the results revealed that according to their cortisol responses, both therapy dogs and therapy dogs in training were not stressed by AAIs. However, cortisol levels during work in certified therapy dogs performing AAIs on- and off-lead varied significantly, suggesting that further investigation into the use of a lead or other methods of giving therapy dogs opportunities to approach or avoid human contact is needed.

Keywords: animal-assisted interventions, animal welfare, cortisol, dogs, lead, therapy

Introduction

The prevalence of mental health problems, including anxiety disorders, substance abuse and neurodegenerative disorders, has increased in recent years, posing a serious threat to future public health (Olesen et al. 2012). Consequently, the need for suitable treatment and rehabilitation programmes has created socio-economic challenges for society. A considerable body of complementary therapies and interventions has emerged out of the growing need for supporting psychosocially vulnerable people (Hart 2010). The therapeutic use of animals in animal-assisted interventions (AAIs) aims to improve the psychosocial and emotional state in human patients who participate in the programme (Barker et al. 2003). Even healthy humans can benefit from positive interactions with dogs by a decrease in cortisol along with an increase in oxytocin (Odendaal & Meintjes 2003). Investigating the effects of AAIs that use dogs’ assistance to treat human patients, it has been demonstrated that animal contact can lower levels of anxiety, catecholamines, pulmonary capillary wedge and systolic pulmonary artery pressure (Cole et al. 2007) and reduce the cortisol awakening response (Viau et al. 2010). Moreover, acute post-operative pain, perceived physical pain and emotional distress were found to be lower in patients who had contact with a therapy dog (Sobo et al. 2006). In psychosocial rehabilitation, AAIs for prison inmates have been developed to provide offenders social and emotional comfort through interaction with a dog (Strimple 2003; Britton & Button 2006; Hennessy et al. 2006; Turner et al. 2011). Despite the compelling evidence that dogs can support humans in various ways, one must not overlook that dogs have been bred primarily for assisting humans in hunting, herding and guarding; hence, they were supposed to recognise family members and be suspicious of unfamiliar individuals and/or intruders (Butler 2004). Accordingly, being approached, petted and hugged by strangers in unfamiliar environments, which is commonly featured in AAIs, may elicit comprehensible discomfort in dogs (Serpell et al. 2010). To become an AAI working team, therapy dogs have to complete special training and a temperament screening to meet the criteria established by institutions that certify animal handlers and dogs (Haubenhofer & Kirchengast 2006b; Serpell et al. 2010). Certification requires therapy dogs to remain calm and