Journal of Equine Veterinary Science 35 (2015) 510–517

Contents lists available at ScienceDirect

Journal of Equine Veterinary Science

journal homepage: www.j-evs.com

Original Research

Equine Nutrition: A Survey of Perceptions and Practices of Horse Owners Undertaking a Massive Open Online Course in Equine Nutrition

Jo-Anne M.D. Murray [a,*], Carmen Bloxham [b], Joan Kulifay [b], Anne Stevenson [c], Jayne Roberts [d]

[a] Faculty of Veterinary Medicine, University of Glasgow Veterinary School, Glasgow, UK
[b] Royal (Dick) School of Veterinary Studies, University of Edinburgh, Midlothian, UK
[c] Nottingham Trent University, Nottingham, UK
[d] EquiJay, Queensland, Australia

ARTICLE INFO

Article history:
Received 26 November 2014
Received in revised form 2 February 2015
Accepted 3 February 2015
Available online 11 February 2015

Keywords:
Equine nutrition
Horse owner
Online course

ABSTRACT

An online survey was designed to ascertain the following information: demographics, current feeding practices, and perceptions and knowledge of equine nutrition, including nutrition-related disorders. Response rate was 34% (6,538 respondents). More than 80% of respondents were horse owners or caretakers, with the majority owning between one and five horses (75%) aged 5 years and older (74%). Most kept their horses for pleasure (54%), with 33% using them mostly for competition and 13% using them for an equal mix of both pleasure and competition. Concentrates were fed by the majority (87%), and more than 70% stated that their horses had some access to pasture. Over half of respondents (60%) regularly monitored their horses' weight, with most doing this monthly. Weight tapes were most commonly used (62%), although many reported to guess the weight of their horse(s) with very few (5%) using weight scales. Under half (46%) stated that they regularly used body condition scoring (BCS), many did not use BCS at all (24%), and some did not know what BCS was (10%). Of those that did use BCS, most (36%) did this monthly, with others weekly (25%), daily (14%), and when they remembered (15%). Overall knowledge of nutrition was reported by most as average (median, 3 on Likert scale—average); however, respondents were less knowledgeable on the management of nutrition-related disorders.

1. Introduction

Equine nutrition, and the importance of implementing correct diets for horses, is becoming increasingly significant to ensure good health and welfare. There are a number of equine ailments that are commonly seen that could be prevented if dietary rations were better understood by those who administer them [1]. However, despite the growing recognition and evidence of the impact of poor nutrition on equine health, widespread inappropriate feeding management still exists [2–4]. There is evidence to suggest that many horse owners have a poor understanding of equine nutrition [2], and decisions regarding nutritional management are often based on tradition, folklore, and misinformation [5]. Equine nutritional issues are a growing concern as there is an increase in horses suffering from nutrition-related disorders such as obesity, colic, laminitis, and equine metabolic syndrome (EMS) [2]. Such issues often occur because of a lack of knowledge and understanding of how nutritional management can impact the development of several equine clinical conditions [6], and indeed, it has been reported that many horse owners have been identified as incorrectly feeding their horses [3].

* Corresponding author at: Jo-Anne M.D. Murray, Faculty of Veterinary Medicine, University of Glasgow Veterinary School, Bearsden Rd, Glasgow G61 1QH, UK.
E-mail address: Jo-Anne.Murray@glasgow.ac.uk (J.-A.M.D. Murray).

0737-0806/$ – see front matter © 2015 Elsevier Inc. All rights reserved.
http://dx.doi.org/10.1016/j.jevs.2015.02.005

However, although there have been some studies undertaken to evaluate the nutritional practices of horse owners [2–4], all of which have yielded valuable information, further information on the nutritional perceptions and practices of a widespread population of horse owners or caretakers would be extremely useful. Consequently, the aim of this study was to investigate the knowledge and confidence and perceptions and practices of equine nutrition by a global population of horse owners or caretakers registered on a free online course in equine nutrition.

2. Materials and Methods

2.1. Participants

This study involved a global survey designed to ascertain participants' knowledge of equine nutrition. Nineteen thousand participants were registered in an open-access online equine nutrition course that ran in January 2013. The course was open to anyone to join, with the only requirements being Internet access and the ability to communicate in English. The course content included anatomy and physiology of the equine digestive tract, equine nutrient sources, and dietary management for horses and ponies, particularly those with nutrition-related disorders. Ethical approval was sought and received from the University's School of Veterinary Studies' Ethics Committee.

2.2. Survey Design

An online survey (Bristol Online Surveys, 2011) was designed to assess participants' knowledge of equine nutrition. All 19,000 participants were asked to complete the survey at the start of the online course. The survey consisted of three sections: demographics, current feeding practices, and perceptions and knowledge of equine nutrition (a copy of the survey can be obtained from the author). The survey mainly consisted of Likert scale questions, where there was a choice of a number of fixed alternatives. A number of questions were similar to some of those asked by Hoffman et al [2] in their survey of horse owners' feeding practices and knowledge of nutrition. As the study population was global, it was particularly important to ensure clarity of questions to reduce the impact of differences in language and culture within the survey results [7]. Survey questions were kept short to increase participant understanding and response rates (RRs) [8]; specific terms rather than generalized ones were used where possible, again to aid in respondents understanding [9]. Vague terms such as "maybe" or "probably" were avoided to improve clarity and validity of answers as recommended by Dillman [10]. Questions were designed to encourage participants to think about what they currently do and not about past behavior; research has shown that more accurate responses are obtained when people are asked to consider something that has occurred recently, within the last month, as opposed to a further back event [7]. Pretesting via a pilot survey was carried out as recommended by Robson [11]. The final survey was a 28-question, multipart survey and e-mailed to all participants of the online nutrition course.

2.3. Data Analyses

Data were gathered in the Bristol Online Survey tool and were downloaded into an Excel spreadsheet in a coded form with a key. Quantitative data were analyzed for descriptive statistics and nonparametric statistical tests using SPSS statistical software. All data were analyzed for median and measures of variation.

3. Results

3.1. Response Rate and Demographics

The survey RR was 34%, with 6,538 of the 19,000 course participants responding. The majority of respondents (90%) were female aged between 25 and 54 years (65%). Respondents were predominantly from the UK and the United States, followed by Canada and Australia (Fig. 1). The remaining respondents were from more than 100 countries across the globe. Less than 5% of respondents had taken an online course previously, although more than 80% had undertaken either further or higher education since leaving school, with more than 50% having either a graduate or postgraduate degree. The amount of experience of with horses varied from less than 1 year to more than 25 years (Fig. 2), with more than 75% of respondents having more than 6 years of experience and more than 30% having more than 25 years of experience. More than 80% of respondents were horse owners or caretakers. The majority of horse owners had between one and five horses (75%) aged 5 years and older (74%). Most horse owners kept their horses for pleasure (54%), with 33% using them mostly for

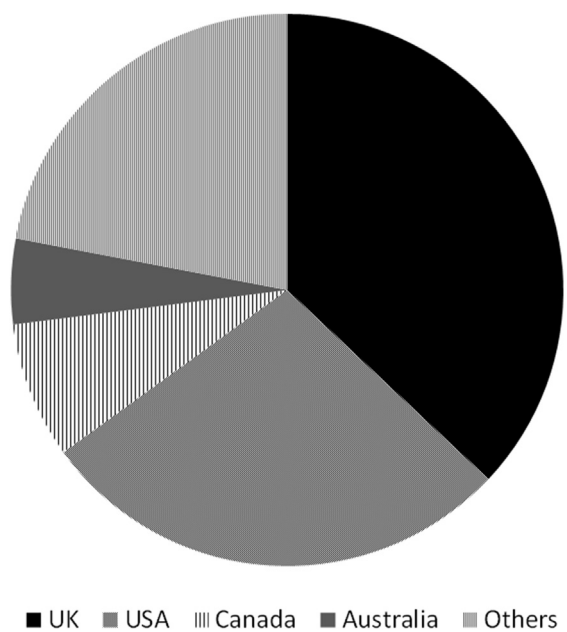

Fig. 1. Respondents' country of residence.