

Most Common Diseases Impacting Horse Health in the Major Regions of Saudi Arabia

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Abstract: The population of horses in the Kingdom of Saudi Arabia is significantly growing with more people interested in racing, endurance and showing of horses. However, the available data on common management, nutritional and health factors that impact horse industry is limited. The goal of this study was to explore factors that impact horse sports with emphasize on management, nutrition and common diseases. A written survey was carried out between January 2006 and December 2007 that covered 69 farms located in the major regions of the Kingdom of Saudi Arabia. The majority of the farms were racing thoroughbred horses followed by racing, endurance and showing Arabian horses. The housing system was mostly individual stall, 72%, that uses sand flooring, 84%. Deworming programs were either no antiparasitic being used in 28%, equilan 28% or mixed 40%. Feeding was focused on the use of crushed barley (62%) as well as vitamin 27% and dates (12%) supplements prior to racing. Most common disease conditions were colic 85%, cough 46%, lameness 40% and dysuria 13% while least commonly reported conditions were diarrhea in 6%, EIPH 4.5%, tying up in 4.5% and pigmented urine in 4% of examined farms. These findings suggest that management and nutritional protocols are satisfactory. Further attention is required to provide the necessary veterinary care for horses suffering common diseases such as colic that can be fatal and cough and lameness that impact the performance of horses.

Key words: Horse, management, health, Saudi Arabia

INTRODUCTION

Epidemiologic surveys are important element in the understanding of incidence of diseases and factors that play significant roles on the health of the horse. West Nile Virus is a live example of the importance of epidemiologic surveys. This disease has been actively investigated in human in the USA (CDC, 2004) as well as in human and horses in France (Durand *et al.*, 2004). The importance of epidemiologic surveys is not only restricted to infectious diseases. However, other conditions that greatly impact the health of the horse have been also investigated such as colic (Stephen, 2004) and gastric ulcers (Begg and O'sullivan, 2003).

Little information is available regarding common diseases and factors that impact the health of the horse in the Kingdom of Saudi Arabia. Health records at the Veterinary Teaching Hospital, College of Veterinary Medicine and Animal Resources, King Faisal University could be utilized to obtain some of these information. However, lack of organized system in record keeping and shortage in diagnostic parameters used on routine cases render the use of these records. In addition, study

would be limited to horses that were referred to the hospital. Therefore, active seeking of data regarding the health of horses residing on horse farms will provide more reliable information.

The goal of this study was to determine the incidence of common diseases of horses and to explore nutritional and management factors associated with such diseases among horses in farms in the major regions of the Kingdom of Saudi Arabia.

MATERIALS AND METHODS

A written survey was carried out between January 2006 and December 2007 to obtain data regarding the incidence of most common health conditions impacting horses in the major regions of the Kingdom of Saudi Arabia. Nutritional and management factors that might play a role in impacting the health of horses were evaluated. The study population included 69 horse farms located in Al-Ahsa, Dammam, Jeddah and Riyadh. A questionnaire was completed by a veterinarian who were observing farms.

RESULTS

The majority of the farms (64%) were small size farms less than 10 horses/farm that have thoroughbred horses (62%) used for racing. Arabian horses are not uncommonly found (35%) and are used for racing, endurance, showing and pleasure riding. The housing system was mostly individual stall (72%) that uses sand flooring, (84%). Feeding practice was mostly based on the use of barely (62%) that is crushed or (64%) or soaked in water (14%). In addition, date is used in (3%) of farms on regular bases and in (12%) as supplement prior to racing. The age of weaning is mostly (59%) at 5-8 months.

Diseases of the respiratory system that were more commonly reported included cough (46%) and EIPH (4.5%). Most commonly detected gastrointestinal disease was colic that was reported in over (85%) of examined farms. Second most common disease was diarrhea in (6%) of farms. Deworming programs were either no antiparasitic being used in (28%), equan (28%), mixed (40%). Disease of the musculoskeletal included lameness in (40%) and tying up in (4.5%). Finally, Dysuria was most commonly reported disease of the urinary system (13% of farms) followed by pigmented urine in 4% of farms.

DISCUSSION

Estimates of the Ministry of Agriculture, Kingdom of Saudi Arabia have indicated that the total population of horses exceeds 20,000 horse nationwide (Department of Studies, Planning and Statistics, 2007). In this project, the study was limited to only 69 farms. However, these farms were distributed over the Eastern province in Al-Ahsa, Dammam as well as Jeddah and Riyadh. The majority of these farms were small-size farms less than 10 horses/farm that have thoroughbred horses used for racing. However the interest in Arabian horses is remarkable which are used for racing, endurance, showing and pleasure riding. The system of flooring was mostly based on the use of sand since it is easily available and provide healthy and comfortable environment in horse barns. Also, it known that certain parasites such as *Parascaris equorum* survive at low rates in gravel or gravel-like sand (Ihler, 1995).

Diseases that were more commonly reported of the respiratory system included cough 46% and EIPH 4.5%. These conditions are easily recognized by horse trainers and owners. But other conditions that have been observed included equine influenza similar outbreak that infected the vast majority of horse farms in the

country (Al-Naeem and Al-Ghamdi, unpublished data). In addition, diseases of the guttural pouches including guttural pouch tympany and guttural pouches empyeemia have been detected in referred cases to the Veterinary Teaching Hospital. These conditions are less described by owners since they require additional diagnostics (Al-Ghamdi, 2006). On the other hand, strangles the most commonly reported respiratory disease in horses has not been detected. It is thought that there is a geographical predisposing factor that affects the incidence of strangles in horses (Timoney, Personal communication). COPD is also a disease that has not been reported despite the fact that similar syndrome is described in human as a leading cause of hospitalization among patients with respiratory disorders in the Kingdom of Saudi Arabia (Alamoudi, 2006). The factors impacted such distribution remain to be examined.

Most commonly detected gastrointestinal disease was colic that was reported in over (85%) of examined farms. However, attribution of colic to sand flooring, feeding practice or use of antiparsitic control program showed no significant relationship. The outcome of colic cases has not been explored however the appropriate veterinary care needs to be available for these cases. Second most common disease was diarrhea that was described in (6%) of farms. Causes of these diarrhea conditions remain to be established.

Disease of the musculoskeletal included lameness in 40% and tying up in (4.5%). Lameness incidence ranged between (28%) in standardbred horses to 90% thoroughbreds yearlings (Preston *et al.*, 2008). Determination of the exact cause of lameness and initiation of the appropriate treatment have not been accurately performed. Finally, Dysuria was most commonly reported disease of the urinary system (13% of farms) followed by pigmented urine in (4%) of farms. The type of feeding and watering are more likely to contribute to these conditions since they tend to have regional clustering.

Deworming programs showed even distribution with farms that apply no treatment around (28%), those using equan (28%) and the use of mixed treatments around (40%). Unfortunately, owners use different brands of ivermectin with the belief they used variety of drugs. The impact of this over time may result in the development of resistance in parasites. Having said that, it seems that the incidence of parasites is low regardless of the program being implemented since fecal counting indicated low prevalence of gastrointestinal parasites in a limited number of horse farms (Al-Qudari and Al-Ghamdi, Unpublished data).

CONCLUSION

In conclusion, management and nutritional procedures were within acceptable range. However, health conditions that require immediate veterinary care need to be further stressed and controlled. Knowing the fact that adequate veterinary care is available in a limited number of facilities.

ACKNOWLEDGMENT

This study was supported by a grant from the Deanship of Scientific Research at King Faisal University (7017). The author would like to thank Drs A. Al-Ankari, S. Al-Sultan for critical discussion of this study.

REFERENCES

- Alamoudi, O., 2006. Prevalence of respiratory diseases in hospitalized patients in Saudi Arabia: A 5 years study 1996-2000. *Ann. Thoracic. Med.*, 1 (2): 76-80.
- Al-Ghamdi, G., 2006. Guttural Pouch Diseases in Three Foals. *J. Anim. Vet. Adv.*, 5 (12): 1172-1174.
- Anonymous, 2007. Department of Studies, Planning and Statistics. Ministry of Agriculture. Agriculture Statistical Year Book, 20: 212.
- Begg, L.M. and C.B. O'Sullivan, 2003. The prevalence and distribution of gastric ulceration in 345 racehorses. *Aus. Vet. J.*, 81 (4): 199-201.
- Centers for Disease Control and Prevention (CDC), 2004. West Nile virus activity. United States, Morb Mortal Weekly Rep., 53 (37): 875-876.
- Durand, J.P., F. Simon and H. Tolou, 2004. West Nile virus: In France again, in humans and horses. *Rev. Prat.*, 54 (7): 703-710.
- Ihler, C.F., 1995. The distribution of *Parascaris equorum* eggs in the soil profile of bare paddocks in some Norwegian studs. *Vet. Res. Commun.*, 19 (6): 495-501.
- Preston, S.A., T.N. Trumble, D.N. Zimmel, T.L. Chmielewski, M.P. Brown and J.A. Hernandez, 2008. Lameness, athletic performance and financial returns in yearling Thoroughbreds bought for the purpose of resale for profit. *J. Am. Vet. Med. Assoc.*, 232 (1): 85-90.
- Stephen, J.O., K.T. Corley, J.K. Johnston and D. Pfeiffer, 2004. Small intestinal volvulus in 115 horses: 1988-2000. *Vet. Surg.*, 33 (4): 333-339.