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Prevalence of various diseases and health disorders in Murrah buffaloes at organized herd of hot sub-humid eco-region

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Variation in the management, climatic conditions and production level affects the occurrence and morbidity pattern of disease. It is necessary to have the knowledge of occurrence and pattern of the disease for producing more and hygienic milk and meat from buffaloes. The present study was, therefore, undertaken to study the prevalence of various diseases and health disorders in Murrah buffaloes at organized herd of hot sub-humid eco-region.

The data on various diseases and health disorders in buffaloes maintained at cattle and buffalo farm of IVRI, Izatnagar during April 2003 to March 2015 were analyzed to determine the prevalence of diseases, seasonal pattern and distribution of diseases. The prevalence of digestive (enteritis, dysentery, anorexia, indigestion, tympany, impaction, bloat, peritonitis etc.), respiratory (pneumonia, pulmonary emphysema, nasal bleeding, pleuritis etc.), reproductive diseases/calving associated disorders (abortion, dystokia, retention of placenta, prolapse, premature and still birth), nutritional and metabolic diseases (milk fever, downers cow syndrome, post parturient hemoglobinurea, lactation tetany), parasitic diseases (trypanosomiasis, babesiosis, theileriosis and flukes), specific diseases (mastitis, ephemeral fever, eye infection and Foot and Mouth Disease), surgical cases (obstruction/ swelling/wound in teats, sprain, joint ill, abscess, cyst, fracture, dog bites, over grown hooves, hernia etc) and miscellaneous diseases (pyrexia, agalactia, allergy, otitis, hematurea, naval ill) was calculated. The age, sex and parity of the animals were also collected from the records maintained at farm. Data were statistically analyzed using SPSS and Chi-square test to know the association among different groups in respective cases. The disease prevalence and age, sex, season and parity wise disease prevalence and calving associated abnormalities percentage were calculated.

Results on overall prevalence of diseases and various health disorders revealed that digestive diseases (22%) and surgical cases (14.1%) were more prevalent at farm. Similarly, specific disease (6%), nutritional and metabolic disease (5.9%), reproductive diseases/calving associated disorders (4.5%), miscellaneous disease (4.4%), parasitic disease (2.8%) and respiratory disease (0.9%) were rather less prevalent. Sakkariya *et al.* (2011) also observed that most prevalent in Vrindavani cattle was digestive cases (49.1%) but it was restricted mostly to very young age group (0–3 months).The higher cases of digestive disorders in the organized farm could be due to variation in the feeding pattern in different seasons along with availability of fodder and concentrate in that particular period of time. All these surgical cases were mostly related to brick on edge floor in the housing system in adult animal sheds and concrete flooring in the calf unit (Das *et al*. 2016).

Results on age wise prevalence of diseases and various health disorders irrespective of sex indicated that prevalence of diseases in different age groups of 0–6, 6–12 and > 12 months were 57.0, 4.6 and 24.9%, respectively. In 0–6 months age group, prevalence of digestive disease was higher (33.2%) followed by nutritional and metabolic disorders (6.7%). In 6–12 months age group, prevalence of digestive disease was higher (2.0%) followed by nutritional and metabolic disorders (1.2%). In age group above 12 months age, the prevalence of surgical cases were higher (10.9%) followed by specific diseases like mastitis and eye infection (4.4%). The prevalence of digestive diseases in 0–6, 6–12 and >12 months age groups were 33.2, 2.0 and 3.8%, respectively. There was significant difference in prevalence of digestive diseases in different age groups and prevalence was highest in 0–6 month's age group. The trends of disease incidences in present study at various ages were in accordance with the findings of Chaudhary *et al.* (2013) and Lacerda and Loureiro (2015).

There was significant difference in prevalence of diseases in male (67%) and female (52%). Further, male had significantly higher prevalence for digestive, respiratory, nutritional and parasitic diseases than female. However, it is vice-versa for specific, surgical and miscellaneous disease

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conditions. This pattern of prevalence was similar to findings of other workers (Gitau *et al.* 1994, Shah 1997, Dohre 2010) who reported overall higher mortality among the young stocks males.

The prevalence of diseases and various health disorders was higher during rainy season (34.6%) followed by winter (25.3%) and summer (18.8%). Prevalence of various digestive diseases was 12.7% in rainy season, 10.3% in winter and 6.0% in summer. In rainy season, prevalence of digestive diseases was higher (12.7%) followed by miscellaneous (6.5%) and surgical cases (6.3%). This might be due to highly conducive climate for the proliferation of pathogens and more chance of contamination of the surroundings. In winter, prevalence of digestive diseases was higher (10.3%) followed by surgical cases (5.8%). It may be due to the nutritional factors rather than the infectious causes. During winter, the roughage is mainly consisted of the berseem which might have caused bloat and digestive disorders upon its consumption. In summer, prevalence of surgical cases was high (6.7%). In nutritional and metabolic diseases and surgical cases, there was significant difference in associated seasons. These results are in accordance with the findings of earlier studies (Shaikh 2009, Kumar *et al.* 2015a).

The prevalence rate of various diseases/health disorders in first to fifth and above fifth parity groups were 53.5, 48.5, 48.0, 75.5 and 67.3%, respectively. There was significant difference in prevalence of various digestive disorders across various parities, which was highest in fourth parity (11.9%) and least in first parity (6.9%). Prevalence of respiratory diseases was higher in fifth and above parity (1.1%) and least in first parity (0.4%). The prevalence of nutritional and metabolic diseases was higher in fourth parity (7.0%) and least in fifth and above parity (3.4%). Prevalence of specific diseases was higher in fourth parity (13.3%) and least in third parity (4.5%). Prevalence of surgical cases was higher in fifth parity (37.5%) and least in third parity (18.2%). Prevalence of miscellaneous diseases was higher in third parity (10.1%) and least in fifth and above parity (5.2%). The incidence of various disease incidences at different parity had increasing trends as per the increase in parity order of dairy animals (Islam *et al.* 2012, Kumar *et al.* 2015b).

Keeping in view of above mentioned facts, it can be concluded that digestive disorders were more prevalent followed by specific, nutritional and metabolic diseases or associated disorders in buffaloes at organized farm of hot sub-humid eco-region. The prevalence of digestive disorders was higher in younger age group than adult. Prevalence of disease in males was relatively higher than females. The age, sex, season and parity had the impact on the occurrence of various diseases and health disorders in the Murrah buffaloes.

SUMMARY

The data on various diseases and health disorders in buffaloes maintained at cattle and buffalo farm of IVRI, Izatnagar during April 2003 to March 2015 were analyzed to determine the prevalence of diseases, seasonal pattern and distribution of diseases. The prevalence of digestive disorders was higher in younger age group. Prevalence of disease in males (67.0%) was relatively more compared to females (52.0%). Prevalence of diseases in different age groups of 0–6, 6–12 and >12 months were 57.0, 4.6 and 24.9%, respectively. Both 0–6 and 6–12 months age group had higher prevalence of digestive disease and in >12 months age group. The prevalence of diseases and various health disorders were high during rainy season (34.6%) followed by winter (25.3%) and summer (18.7%). It can be concluded that age, sex, season and parity had impact on the occurrence of various diseases and health disorders in the Murrah buffaloes.

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