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Abstract

Camel rearing is faced with challenges ranging from low growth rates and high mortality in camel calves within the Arid and Semi-Arid Lands (ASALs) Livestock Production systems in Kenya. A study was conducted on the major factors associated with health and production of camel calves in Marsabit district of Kenya. The main objective of the study was to identify important health and production constraints in camel calf production in Marsabit District, which forms part of the ASAL areas in Kenya. The study was conducted for a period of twenty-four months from 2005 to 2006. The study was conducted in seven (7) study sites in three divisions (Laisamis, North Horr and Loyangalani) which were conveniently selected in Marsabit District. Study locations were selected based on accessibility and existence of manyattas for ease of administration of questionnaires and accessibility of camel herds. One on one interviews were conducted for 74 camel keepers with semi structured questionnaires being administered to collect information on camel production system, herd characteristics, ranking of production and disease constraints in camel keeping, preventative and management practices and views of the community on importance of the camel. Camel keepers ranked high calf mortality, inadequate feed resources, low birth rates and water scarcity as some of the most important constraints in calf production. Camel calf health constraints ranked highest in importance. Others included ectoparasite infestation (ticks/fleas), trypanosomosis, diarrhoea, helminthiasis and mange. Ninety seven percent of camel keepers’ supervised camel calving process with 84.9% of these monitoring the process until the calf was suckled. Milking was carried out mainly through a combination of 2 teat milking with the calf suckling the other half during milking process in the wet season. In the dry season all the teats were milked and the calf allowed to suckle after milking. When a dam of a calf died during lactation, 85.3% of camel keepers preferred to adopt the calf to another milking camel. Eighty six percent of the camel calves were kept in a night enclosure made of acacia twigs and branches to fend off wild animals. Ectoparasite control in camel calves was carried out for 89.1% of the calves. The most (93.96%) preferred method of applying acaricides was through hand dressing. Tick control was carried out every one to three months for 77.47% of camel calves with the other 22.5% only receiving tick control when heavy tick load was noticed. The mean age of starting helminth control for camel calves was 3.4 months. Helminth
control was carried out for slightly over half (50.72%) of the calves. Commercial anthelminthic preparations were preferred by 73.61% of camel keepers over ethno veterinary/herbal preparations. Herbal antihelminthics were reported to contain mainly plant extracts of *Abscinia anthelmintica*. The mean age of beginning endoparasite control was 3 months. The prevalences were estimated for both morbidity and mortality events recorded for 558 camel calves studied. Of these 61.11% were females and the rest (38.89%) males. Crude mortality of preweaned camel calves was estimated at 18.6%. There was slightly higher crude mortality rate for female camel calves (20.06%) than that of male camel calves (16.67%). Herd level factors were investigated for association with crude mortality. The results showed that crude mortality was significantly (P<0.01) lower in dewormed calves (13.07%) than in those calves, which were not, dewormed (24.36%). Mortality was significantly (P<0.01) lower for calves receiving ectoparasite control (15.69%) than that in calves with no ectoparasite control (42.62%). Confinement of calves at night in the boma was associated with significantly (P<0.01) lower (14.32%) mortality than those left in the open (46.05%). Watering of calves separate from adult herds was associated with significantly (P<0.01) lower mortality (6.96%) than for calves watered together with adults (40%) during the dry season. The study has demonstrated that carrying out of routine practices in management of calves such as helminth control, tick control, and adequate water and milk provision contributed to reduction in overall mortality of preweaned camel calves.