

# **A Matched Case Control Study to Identify the Risk Factors Associated with Arthritis in Dairy Cattle in Chittagong Region**



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# A Matched Case Control Study to Identify the Risk Factors Associated with Arthritis in Dairy Cattle in Chittagong Region



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## ABSTRACT

Arthritis is one of the most common economic disease of cattle in dairy farms characterized by lameness, pain and swelling of the joint. It can be caused by several means such as direct trauma, joint contamination or hematogenously. Though naval infection considered as the most common cause of arthritis, many others potential factors are also associated with this. A matched case control study was conducted on animals belonging to 14 dairy farms (13 private farms and 1 military farm) during the dairy farm rotation to determine the potential risk factors associated with animal level arthritis. Animal level arthritis and risk factor data were collected using the pretested questionnaire through farmers' interview, farm recording reviewing and observation during 2 time period: 1)14 January to 30 January and 2) 22 April to 22 May 2018. A total of 70 arthritis cases and 70 healthy animals were used for the study. The cases and controls were matched by source, time and age. Arthritis cases were diagnosed by clinical signs of lameness, pain and swelling of the joints. Univariable analysis followed by conditional logistic regression model was performed to identify risk factors. The results revealed that there were no factors significantly associated with arthritis in the study population. However, one factor "injury" was found to have some role in arthritis as the statistical association was borderline significant (Odds ratio (OR) 1.7 (95% Confidence interval (CI) 0.8-3.4,  $p=0.15$ ). Another factor "Male animal" was found to be a protective factor (OR=0.2, 95% CI 0.07-0.6,  $p=0.006$ ).

**Keywords:** Arthritis, Risk factors, Cattle