بسم الله الرحمن الرحيم

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Sero-prevalence and Risk factor of cattle Brucellosis in El fasher city Northern Darfur State,Sudan

معدل انتشار وعوامل الخطر لمرض البروسيلا في الابقار في مدينة الفاشر ولاية شمال دارفور, السودان

This thesis is submitted in partial fulfillment of the requirements for the Degree Master of Preventive Veterinary Medicine (MPVM)

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This research would not been completed without the support of my colleagues and friends.

Dedication

To my father and mother

To my uncle Abass & Faisal

To my sister Samira

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Abstract

Brucellosis is one of the bacterial zoonotic disease that affects both man and animal and has considerable impact on public health and economy.
This Study was carried out to update information about prevalence of brucellosis in cattle in the north Darfur state, Sudan.
The study was extended from April to November 2019. The objective was to estimate the prevalence of brucellosis in cattle and to investigate risk factor associated with the disease .

Two hundred and thirty blood for serum samples, were collected from cattle to be tested for *Brucella* antibodies using the Rose Bengal Plate test (RBPT). Descriptive statistics of the variables were obtained, for each variable (age, sex, breed, body condition and location) , frequencies (number of observation within variable)were obtained . Hypotheses of differences of risk factor between test-positive and test negative animals were tested by Ch-square test .The overall prevalence of brucellosis in cattle was 10.9%.

In this study, the distribution of brucellosis according to age of cattle was 2.2% in calf (< 3 year) , 2.6% in adult from (4-7 year) and 6.1 % in old (>7 year) . The distribution of brucellosis according to sex of animal was 1.7% in male and 9.1% in female.The distribution of brucellosis according to breed of animal was 3.0% in cross breed and 7.8% in local breed. The distribution of brucellosis according to body condition was 3.9% in good body condition and 7.0% in poor body condition. The distribution of brucellosis according to localities (origin) was 7.4% in South, 0.4% in North and 3.0% in West.
Using the Ch-squre for analysis, This study found significant association between cattle brucellosis and each of the following risk factors: localities of

animal (p-value 0.000), and body condition (p-value 0.005). Other risk factors investigated were not found significant.

It could be concluded that the prevalence of brucellosis in cattle in El fasher is similar to its prevalence reported in other parts of the country. But, the, number of samples used was too small compared to the animal population in the state. Thus, further work is recommended to determine the actual situation of the disease in live stock, taking in consideration the sample size in relation to the population of cattle.

المستخلص

داء البروسيلا هو احد الامراض البكتيرية االمشتركة التى تصيب الانسان و الحيوان معآ والتي لها تأثير كبير على الصحة العامة و الاقتصاد, مع زالك فإنه لم يحظي لعناية كافية في مدينة الفاشر, ولاية شمال دارفور, السودان.الدراسة امتدت من أبريل الى نوفمبر 2019. أهداف الدراسة هو تقييم معدل انتشار مرض البروسيلا في الابقار و تحقيق عوامل الخطر المرتبطة بالمرض. مائتان وثلاثون عينة مصل جمعت من الابقار لكشف وجود الاجسام المضادة بأستخدام الروز بنقال الصحني. الاحصاء الوصفي للمتغيرات يشتمل لكل متغير (عمر, جنس, الفصيلة, حالة الحيوان الصحية والمكان). اختلاف الفرضيات عوامل الخطر بين كل اختبار الموجب والاختبار السالب تم بواسطة مربع كاي. معدل الانتشار الكلي لمرض البروسيلا في الابقار كانت 10.9%.

كان توزيع نسبة مرض بروسيلا 2.2% في العجول أقل من 3 سنة , 2.6% في البالغة من عمر 4-7 سنة و6.1% في الحيوانات الكبيرة أكبر من 7 سنة .

وكان توزيع المرض للجنس 1.7% في الزكور و 9.1% في الاناث .

وتوزيع المرض للفصيلة 3% في الهجين و7% في الفصيلة المحلية .

وتوزيع المرض لحال جسم الحيوان وكان معدل انتشار المرض 3.9% في الحيوانات زات حالة الصحية الجيدة و 7% في الحيوانات الفقيرة .

وتوزيع المرض للمكان (الاصل) كان معدل انتشار 7.4% في الجنوب و0.4% في الشمال و 3% في غرب .

لفصل باستخدام مربع كاي للتحليل وجدت في الدراسة ارتباط معنوي بين الاصابة بمرض البروسيلا في الابقار وكل من عوامل الخطر التالية: مكان الحيوان و (قيمة p=0.000) و حالة الحيوان الصحية قيمته =0.005

ولكن ليس هناك ارتباط معنوي مع عوامل الخطر الاخرى . بناءآ على الدراسة يمكن ان نستخلص ان معدل الانتشار مرض البروسيلا في الابقار في الفاشر مثل تلك التي وجدت في اجزاء من القطر ,لكن عدد العينات التي فحصت قليلة مقارنة بلأعداد الابقار المنزلية الموجودة في الولاية لزالك توصي الدراسة بلأجراء دراسات اخرى لتوضيح نسب الانتشار الحقيقية آخزين الاعتبار حجم العينة مقارنة بتعداد الابقار في الولاية.