

**Sudan University of Science and
Technology
Collage of Graduate Studies**

**Estimation of bacterial contamination of
carcasses of camel in Elobeid
slaughterhouse, North Kordofan State,
Sudan**

**تقييم التلوث البكتيري في لحوم الابل المذبوحة في سلخانة
الابيض في ولاية شمال كردفان - السودان**

By

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A thesis Submitted to the College of Graduate Studies for Fulfillment of the Requirements for the degree of Master of Preventive Veterinary Medicine.

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December, 2018
2018

Dedication

This work is dictated:

To

My father and my mother

My family

My brothers

My sisters

Acknowledgements

Firstly, praise to Almighty Allah for giving me the strength and stamina to finish this work. With a great touch of pleasure and gratitude, I would like to express thanks to my supervisor, Professor Siham Elias Suliman of Department of Medicine and Surgery, College of Veterinary Medicine, Sudan University of Science and Technology, for her advice, direction and continuous interest and constructive criticism in reviewing the dissertation.

My thanks extend to Elobeid slaughterhouse, North Kordofan staff for assistance during the period of samples collection.

My appreciation is extended to all who helped me in this study.

Finally, I would like to thank my Family for their Support and encouragement.

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Abstract

The study was conducted to evaluate the bacteriological contamination in camel carcasses in El-Obeid slaughterhouse, North Kordofan State, A total of 156 swab samples were collected from 32 carcasses for identification of the isolates and bacterial total viable counts (TVCs). The mean total viable count of bacteria after skinning, evisceration and washing operations at shoulder site were 7.52 ± 0.08 , 7.49 ± 0.9 and $7.51 \pm 0.12 \log_{10} \text{CFU/cm}^2$, in the neck site were 7.49 ± 0.12 , 7.50 ± 0.18 and $7.47 \pm 0.15 \log_{10} \text{CFU/cm}^2$ and in brisket site were 7.48 ± 0.12 , 7.54 ± 0.07 and 7.48 ± 0.11 respectively with statistically significant difference ($P < 0.05$). In addition, in the rump site, the TVCs in these operations were 7.45 ± 0.16 , 7.45 ± 0.18 and $7.48 \pm 0.07 \log_{10} \text{CFU/cm}^2$ in three points of operation with statistically significant difference ($P < 0.05$). Also, there were statistically significant difference ($P < 0.05$) in TVCs between knives and worker hands during the three operations. Three species of bacteria were isolated and the highest average prevalence was *Staphylococcus* spp 56.22%, *Salmonella* 28.89% and *Escherichia coli* 22.88%. It is concluded that the level of bacterial contamination in camel carcasses at El-Obeid slaughterhouse, North Kordofan State was very high and constituted a real public health hazard as pathogenic and toxicogenic. It is recommended that proper washing of camel carcasses using treated water should be applied during slaughtering processes to reduce the level of contamination with microorganism, increasing the awareness of the workers of the slaughterhouse about the importance of public health in their work.

الملخص

أجريت هذه الدراسة لتقييم التلوث الجرثومي في لحم الإبل في مسلخ الابيض ، ولاية شمال كردفان ، وتم جمع مسحة 156 عينة مسحة من 32 ذبيحة للتعرف على البكتيريا المعزولة و البكتيريا الكلية القابلة للحياة (TVCs). بلغ متوسط مجموع البكتيريا القابلة للحياة بعد عمليات السلخ وفتح الاحشاء والغسل في موقع الكتف 7.49 ± 7.52 ، 0.9 ± 0.08 و 0.12 ± 7.51 \log_{10} CFU / cm² ، في موقع العنق 0.12 ± 7.49 ، 0.18 ± 7.50 و 0.15 ± 47 \log_{10} CFU / cm² وفي موقع الصدر كانت 0.12 ± 7.48 ، 0.07 ± 7.54 و 0.011 ± 7.48 على التوالي مع فرق ذو دلالة إحصائية ($P < 0.05$). بالإضافة إلى ذلك ، في موقع الكفل ، كانت TVCs في هذه العمليات (0.16 ± 7.45) (0.18 ± 7.45) و (0.18 ± 7.45) ، كانت \log_{10} CFU / cm² في ثلاث نقاط تشغيل مع فرق ذو دلالة إحصائية ($P < 0.05$). أيضا ، كان هناك فرق ذو دلالة إحصائية ($P < 0.05$) بين TVCs بين السكاكين وايادي العاملين خلال العمليات الثلاث. تم عزل ثلاث انواع من البكتيريا وكان أعلى معدل انتشار للبكتيريا العنقودية 56.22% والسالمونيلا 28.89% والإشريكية القولونية 22.88% . خلصت الدراسة إلى أن مستوى التلوث الجرثومي في لحم الإبل في مسلخ الابيض بولاية شمال كردفان مرتفع جدا ويشكل خطرا حقيقيا على الصحة العامة كمسبب للمرض والسمية. يوصى باستخدام الغسيل المناسب لذبح الإبل باستخدام المياه المعالجة أثناء عمليات الذبح لتقليل مستوى

التلوث بالميكروبات ، وزيادة وعي العمال بالسلخ حول أهمية الصحة العامة في عملهم.

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