DEDICATION

This thesis is dedicated to these whom pushed me beyond the limits,

to my mother.

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First and foremost, my heartfelt thanks to Allah for giving me strength and will power to complete this task.

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Abstract

Microbial contamination of poultry carcasses can be influenced by many factors during slaughtering and processing. The current study was conducted to investigate bacteria encountered in the contamination of broiler carcasses during slaughtering in semiautomatic poultry abattoir in Khartoum State. However forty five swab samples were collected randomly from chicken carcasses and worker's hands. The samples were taken after following processing steps: defeathering, evisceration, spray wash, chilling and from workers hands. Total Viable Count (TVC) of contaminating bacteria was performed besides isolation and identification of bacteria. The result revealed that there was statistically significant difference after defeathering ($p \leq 0.05$). The highest contamination level was recorded after evisceration on the legs, 8.16±0.11, back, 8.68±0.25 and the breast, 9.18±0.13. The contaminating bacteria isolated were *Escherichia spp, Pseudomonas spp., Shigella spp.* and *Salmonella spp.*

High levels of microbial contamination can be carried by bad evisceration and poor hygienic managements, but better facilities and processing units with better hygiene make broiler meat have a concern for suppliers, consumers and public health officials.

المستخلص

التلوث الميكروبي لذبائح الدواجن يمكن أن يتأثر بالعديد من العوامل أثناء عملية الذبح والتجهيز . قد أجريت الدراسة الحالية للتقصي عن الجراثيم الملوثة التي يمكن العثور عليها على زبائح فراخ اللاحم أثناء الذبح في مسلخ دواجن شبه اوتوماتيكي في ولاية الخرطوم . تم جمع خمسة وأربعين عينة مسحة عشوائيا من ذبائح الدجاج وأيادي العمل. وتم أخذ العينات بعد خطوات عملية الذبح التالية : نتف الريش , إزالة الأحشاء ، الغسيل الرزازي، التبريد ومن أيادي العمل. وقد تم حساب إجمالي العدد الحي (TVC) من البكتيريا الملوثة إلى جانب العزل والتعرف على أنواع البكتيريا . و كشفت نتيجة الدراسة أن هناك اختلاف إحصائي بعد عملية نتف الريش ($ع \geq 0.05$) . وسجل أعلى مستوى للتلوث بعد إزالة الأحشاء على الساقين ، 8.16 ± 0.11 ، الظهر ، 8.68 ± 0.25 و الصدر ، 9.18 ± 0.13 . أنواع البكتيريا الملوثة كانت أنواع الإيشريكية ، أنواع الزائفة، أنواع الشيقلة. وأنواع السالمونيلا. المستوى العالي من التلوث الميكروبي كان بسبب سوء عملية إزالة الأحشاء وضعف إتباع الإرشادات الصحية ، ولكن تجويد مرافق المجزر و وحدات الذبح والمعالجة مع النظافة تجعل لحوم الدواجن ذات أهمية صحية للموردين والمستهلكين و مسؤولي الصحة العامة .

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