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Dedication

I dedicate this work to my mother Souad Ibrahim Abdelmajed, my
uncle Mohammed Ibrahim Abdelmajed, my uncle Dr. Ahmed Elmustafa Hassan, my brother Ahmed Mukhtar, my sister Amna Mukhtar, whom I love my kids Ahmed, Abobaker, Ibrahim, Youmna, Shahed, Anjum, Saed, Saleem, Mohammed, my husband, my coming baby, my colleagues and friends. To all of you, I would like to say thank you.
Chapter one: Literature review

- Definition
- Etiology
- Species affected
- Geographical distribution
- Transmission
- Incubation period
- Clinical signs
- Post mortem lesions
- Morbidity and Mortality
- Diagnosis
- Samples to collect
- Recommended actions if FMD is suspected
- Control
- Public health
- Economic
- Vaccination
- Treatment
- Prevalence of FMD in the world

Chapter Two: Materials and method

- Description of the study area
- Description of the study population
- Description of the study design
- Sampling
- Virus neutralization test for detection
- Description and principle
Interpretation of results 48
Data collection 49
Questionnaire survey 49
Data management and analysis 49

**Chapter Three: Results**

Serum neutralization results - FMD Serotype (O) 51
Descriptive statistical analysis frequency tables 51
Analysis of risk factors for FMD serotype (O) 51
Serum neutralization results - FMD Serotype (SAT2) 69
Analysis of risk factors for FMD serotype (SAT2) 69

**Chapter Four: Discussion**

Discussion 84
Conclusion 87
Recommendation 87
References 88
Appendix I 94
Appendix II 99
Appendix III 106
Appendix IV 112
Appendix V 119
Appendix VI - Questionnaire 125

**List of tables**

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>The direct and indirect impacts of foot and mouth disease</td>
<td>23</td>
</tr>
<tr>
<td>The livestock population for the year 2012 in Khartoum state</td>
<td>39</td>
</tr>
<tr>
<td>Blood samples taken from farms in different localities of Khartoum State</td>
<td>42</td>
</tr>
<tr>
<td>Frequency table for distribution of FMDV serotype (O) among 132 cattle tested in Khartoum state</td>
<td>51</td>
</tr>
</tbody>
</table>
Summary of frequency tables for potential risk factors of FMDV in 132 cattle tested at Khartoum state
Summary of cross tabulation for potential risk factors of FMDV serotype (O) in 132 cattle tested at Khartoum state
Summary of univariate analysis for potential risk factors of FMDV serotype (O) in 132 cattle tested at Khartoum state
Multivariate analysis of FMDV serotype (O) and potential risk factors in 132 cattle tested at Khartoum state
Frequency table for distribution of FMDV serotype (SAT 2) among 132 cattle tested in Khartoum state
Summary of cross tabulation for potential risk factors of FMDV serotype (SAT 2) in 132 cattle tested at Khartoum state
Summary of univariate analysis for potential risk factors of FMDV serotype (SAT 2) in 132 cattle tested at Khartoum state
Multivariate analyses of FMDV serotype (SAT 2) and potential risk factors in 132 cattle tested at Khartoum state

List of figures

<table>
<thead>
<tr>
<th>Figure No</th>
<th>Name of figure</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure (1)</td>
<td>Distribution of Foot and Mouth Disease in the world - 2011</td>
<td>9</td>
</tr>
<tr>
<td>Figure (2)</td>
<td>Signs of foot-and-mouth disease includes Vesicle</td>
<td>12</td>
</tr>
<tr>
<td>Figure (3)</td>
<td>Signs of foot-and-mouth disease include drooling</td>
<td>12</td>
</tr>
<tr>
<td>Figure (4)</td>
<td>Signs of foot-and-mouth disease includes blisters on feet</td>
<td>13</td>
</tr>
<tr>
<td>Figure (5)</td>
<td>Signs of foot-and-mouth disease includes blisters on tongue</td>
<td>13</td>
</tr>
<tr>
<td>Figure (6)</td>
<td>Samples for FMD Diagnosis</td>
<td>18</td>
</tr>
<tr>
<td>Figure (7)</td>
<td>Map of the study area Khartoum state in Sudan</td>
<td>37</td>
</tr>
<tr>
<td>Figure (8)</td>
<td>Map of the localities of Khartoum state</td>
<td>38</td>
</tr>
<tr>
<td>Figure (9)</td>
<td>Map of the selected study area</td>
<td>39</td>
</tr>
</tbody>
</table>
Abstract

A cross-sectional study was conducted from June to July 2013 in three localities of Khartoum State (Khartoum, Omdurman, and Bahry) - Sudan.

The aims of these study to estimate the seroprevalence of Foot and Mouth Disease virus and to determine the risk factors which could be associated with Foot and Mouth Disease of cattle in Khartoum State. A total of 132 bovine serum samples were collected from three localities (Khartoum 14, Omdurman 73, and Bahry 45) and tested for antibodies against FMD virus by using the Virus neutralization test. Semi structured questionnaire format was prepared and 9 informants were interviewed. Out of 132 serum samples were screened against the two serotypes (O and SAT2) of three serotypes of FMD known to be in circulation in Sudan (O, A and SAT2). The overall sero-prevalence of FMD in the in Khartoum State was found to be 53.4% (CI = 95%). Out of 132 serum samples examined at National Veterinary Institute by Virus neutralization test one hundred and ten
serum samples were found to be positive for the disease (83.3%), while twenty two serum samples tested negative (16.7%). One hundred and nine (82.6%) were positive for the serotype (O). The highest prevalence was observed at Omdurman (86.30 %) followed by Khartoum (78.57 %) and Bahrry (77.78%). While thirty two (24.24%) tested positive for serotype (SAT2). The highest prevalence was observed at Khartoum (28.57 %) followed by Bahrry (24.44%) and Omdurman (23.29 %). There was a high prevalence in the circulation of serotype (O) as compared with the serotype (SAT2).

Statistically there was high significant association between seropositivity of FMDV serotype (O) and age of animals (p-value = 0.001), hygienic Practices. (P-value = 0.029), distance between farms (P-value = 0.029) and green fodder (P-value = 0.029). But no association between the seropositivity of these serotype and sex of animals (p-value = 0.068).

The results of association of FMDV serotype (SAT2) showed no significant association between these serotype and breed (p-value = 0.251) and body condition (p-value = 0.251). But showed high significant association between seropositivity of FMDV serotype (SAT2) and herd size (p-value = 0.007) and previous history of infections of other diseases in the farms (p-value = 0.003).

The results of this study showed that FMD is an important cattle disease in the study areas. This fact justifies the need of attention and subsequent study to determine the recently circulating virus strains and factors responsible for the widespread seropositivity which helps to design appropriate control strategies and to implementation of an
effective control measures to limit the effect of FMD particularly on the Sudanese cattle.

ملخص البحث

امضى مسحوبات لاستخدام وعوامل الخطر لمرض الحمى القلاعية في الإبل بولاية الخرطوم في الفترة من مطلع يونيو حتى يوليو 2013م. حيث تم جمع عدد 132 عينة سري من كل محلبات الولاية الثلاثة. تم فحص العينات بعمل البحوث البيطرية بسويه بواسطة Virus neutralization test وذلك لتحديد النوع المسبب للمرض. أظهرت النتائج أن معدل انتشار المرض عموماً 53.4% 110 عينة أظهرت نتيجة إيجابية للمرض بينما 22 عينة أظهرت نتيجة سلبية. أظهرت النتائج بصورة تفصيلة أن معدل انتشار المرض للنوع الأول كان بنسبة 68.2% (90 من 132) أعلاه في محلية أمدرمان تليها محلية الخرطوم ثم بحري، وأن معدل انتشار المرض للنوع الثاني كان بنسبة 24.2% (32 من 132) أعلاه في محلية الخرطوم تليها محلية بحري ثم أمدرمان. تم ملاحظات إيجابية كل عوامل الخطر التي يعتقد أنها تساعد في انتشار المرض ولذلك بمساعدة 9 من ملاك الحيوانات الخائرين. بالنسبة الإصابة بين النوعين وسط الحيوانات المفحوصة نجد أن معدل الإصابة بالنوع الأول هو الأعلى. بعد التحليل الإحصائي بمرجع كاي وعدل الارتباط أظهرت الدراسة أن هناك علاقة معنوية بين الإصابة بمرض الحمى القلاعية من نوع serotype (O) وعمر الحيوان، مستوى النظافة المتتبع بالمزرعة، تناول الحيوانات في المزارع، بينما لا يوجد (p>0.05) ثمة علاقة معنوية بين جنس الحيوان والأطوار مع الإصابة بالنوع الخرطوم وحجم القطعان وكذلك الإصابة مع بعض الأماكن الأخرى (p>0.05). النتائج هذه الدراسة توضح أهمية هذا المرض بالولاية، أيضا تلقى الإنترنت إلى ضرورة عمل دراسات دورية لملعنة الأنواع المتواجدة بالولاية وكذلك العوامل المساعدة في الانتشار من أجل توضيح الصورة الحقيقية الراهنة.
للمرض للمسؤولين من أجل وضع خلطة محكمة لتنفيذها في الوقت المحدد لتلافي الآثار السلبية للمرض بالقطيع القومي.