

Dedication

**I dedicate this work to the soul of my father,
my mother , brothers , sisters ,
my colleagues and friends.**

Acknowledgements

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CONTENTS

Contents	Page
Dedication	I
Acknowledgement	II
Contents	III
List of tables	V
List of figures	VI
List of abbreviations	VII
Abstract	VIII
Arabic abstract	X
Introduction	1
Chapter one: Literature review	
Classification and Morphology of fasciolosis	4
Host of the Fasciolosis	5
Life cycle of the parasite	7
Clinical signs	9
Diagnosis	13
Control and prevention	15
Economic impact	19
Bacteria associated with Fasciolosis	20
The epidemiology of fasciolosis	21
Prevalence of fasciolosis in the world	22
Chapter Two: Materials and Methods	
Description of the Study Area	32
Climate and Rain fall	33
Criteria for selecting the area	34
Study Animals and Study design	35
The Procedure	35
Data analysis	38
Chapter Three: Results	
Results	39
Interpretation of results	39

Chapter Four :Discussion, Conclusion & Recommendations	
Discussion	47
Conclusion	51
Recommendations	52
References	53
Appendix 1	61
Appendix 2	64
Appendix 3	67
Appendix 4 : Questionnaire	70
Appendix 5 : Arabic questionnaire	71

List of tables

Table	Page
The animal population in North Kordofan state	35
Frequency table for distribution of fasciolosis among 310 cattle examined in North Kordofan state	39
Summary of frequency tables for potential risk factors of Fasciolosis in 310 cattle examined at North Kordofan State Slaughterhouse-Sudan	43
Summary of cross tabulation for potential risk factors of Fasciolosis in 310 cattle examined at North Kordofan State	44
Summary of univariate analysis for potential risk factors of Fasciolosis in 310 cattle examined at Elobied slaughterhouse in North Kordofan State – Sudan -using the Chi- square test	45
Summary of multivariate analysis for potential risk factors of Fasciolosis in 310 cattle examined at Elobied slaughterhouse in North Kordofan State – Sudan -using the Logistic Regression	46

List of figures

Figure		Page
Figure 1	<i>F. hepatica</i> & <i>F. gigantica</i>	5
Figure 2	Lymnaea Snail	7
Figure 3	Life cycle of <i>Fasciola</i>	8
Figure 4	North Kordofan state map	33

List of abbreviations

abbreviation	Means
PCR	Polymerase chain reaction
WHO	World health origination
ELISA	Enzyme Linked Immunosorbent Assay
INF	Interferon
IL4	Interleukin 4
P.P.M	Part per million
ETH	Ethiopia
AGPT	Agar gel precipitation test
EPG	Eggs per gram
MARF	Ministry of animal resources and fisheries