TABLE OF CONTENTS

Description	Page
Dedication	no.
Acknowledgements	
List of Contents	I
List of Tables	III
List of Figures	IV
Abstract	V
	VI
INTRODUCTION	1
Objectives of the present study	2
CHAPTER ONE LITERATURE REVIEW	
1.1. Medicinal plants and their importance	3
1.2. Hypoglycaemic plants	4
1.3. Plants used in this study	6
1.3.1. Zingiber officinale Roscoe, Zingiberaceae -Ginger	6
1.3.1.1. Effect on glucose and lipid concentrations in blood	9
1.3.2. Ambrosia maritima L Compositae	11
1.3.2.1.Chemistry	11
1.3.2.2. Uses	12
1.4. Diabetes mellitus	13
1.5. Alloxan	14
CHAPTER TWO MATERIALS AND METHODS	16
2.1. Materials	16
Animals	16
The plants preparation	17
Chemical	17
2.2. Plant materials and preparation of crude extracts	18
Experimental design	18
1. Effect of various dietary levels of Zingiber officinale on Wistar rats	18

2. Effect of different levels of dietary <i>Ambrosia maritima</i> on Wistar rats	19
3. Safety evaluation of feeding combination of <i>Z. officinale</i> and <i>A. maritima</i> to rats	19
4. Hypoglycaemic effect of <i>Z. officinale</i> extracts to rats	20
5. Hypoglycaemic effect of <i>A. maritima</i> extracts to rats	20
2.3. Methods	21
2.3.1. Serobiochemical assessment	21
2.3.2. Haematological methods	27
2.3.3. Pathological methods	28
2.3.4. Statistical Methods	29
CHAPTER THREE RESULTS	
4.1. Effect of various dietary levels of <i>Zingiber officinale</i> on Wistar rats	30
4.2. Effect of different levels of dietary <i>Ambrosia maritima</i> on Wistar rats	34
4.3. Safety evaluation of feeding combination of <i>Z. officinale</i> and <i>A. maritima</i> to rats	38
4.4. Hypoglycaemic effect of <i>Z. officinale</i> extracts to rats	52
4.5. Hypoglycaemic effect of <i>A. maritima</i> extracts to rats	46
CHAPTER FOUR DISCUSSION	51
CONCLUSION AND RECOMMENDATIONS	
REFERENCES	56

LIST OF TABLES

Fig. No.	DESCRIPTION	PAGE NO.
1	Percent (%) composition of normal diet* fed to rats	17
2	Growth changes in Rats fed different dietary levels of Z. officinale for 4 weeks	30
3	Haematological changes in Rats fed different dietary levels of <i>Z. officinale</i> for 4 weeks	32
4	Serobiochemical changes in Rats fed different dietary levels of <i>Z. officinale</i> for 4 weeks	33
5	Growth changes in Rats fed different dietary levels of A. maritima for 4week	35
6	Haematological changes in Rats fed different dietary levels of <i>A. maritima</i> for 4 weeks	36
7	Serobiochemical changes in Rats fed different dietary levels of <i>A. maritima</i> for 4 weeks	37
8	Growth changes in rats fed dietary levels of <i>Z. officinale</i> and <i>A. maritima mixture</i> for 4 weeks	39
9	Haematological changes in rats fed dietary levels of <i>Z. officinale</i> and <i>A. maritima</i> mixture for 4 weeks	40
10	Serum chemistry changes in rats fed dietary level of <i>Z. officinale and A. maritima</i> mixture for 4 weeks	41
11	Growth changes in rats orally administered low levels of <i>Z. officinale</i> petrolium ether and ethanolic extracts to rats	43
12	Haematological changes in rats orally administered low levels of <i>Z. officinale</i> petrolium ether and ethanolic extracts to rats	44
13	Serum chemistry changes in rats orally administered low levels of <i>Z. officinale</i> petrolium ether and ethanolic extracts to rats	45
14	Growth changes in rats orally administered low levels of <i>A. maritima</i> petrolium ether and ethanolic extracts to rats	47
15	Haematological changes in rats orally administered low levels of <i>A. maritima</i> petrolium ether and ethanolic extracts to rats	48
16	Serobiochemical changes in rats orally administered low levels of <i>A. maritima</i> petrolium ether and ethanolic extracts to rats	49

LIST OF FIGURES

Serial No.	DESCRIPTION	PAGE NO.
1	Zingiber Officinale - Ginger root	8
2	Ambrosia maritima L	11
3	Hepatocellular fatty change, congestion and necrosis of the diabetic control rats H&E x 10	50
4	Detachment of the intestinal mucosa in rats given 100mg/ kg <i>A. maritima</i> petrolium ether extract H&E x 10	50

ABSTRACT

The biochemical effect of Zingibe r officinale and Ambrosia maritima were tested in Wistar rats.5 experiments were done. Two dietary levels (2% and 10% of each plants and a mixture of both plants 5%:5% were tested in rats fed Z. officinale and A. maritima the results showed significant decrease in glucose, triglyceride and cholesterol concentration. There was slightly increase in MCV and MCH, and decrease in MCHC. The WBC's values were lower. The evaluation of the mixture of the two herbal plants fed to rats show significant increase in AST and ALT activity while there was no change in ALP activity in all groups; there were decrease in many parameters like Cholesterol LDL and Glucos e concentration. On the other hand, on the oral administration of petrolium ether and ethanol extracts of the two plants (50 mg/kg and 100mg/lg each) on Alloxan-induced diabetic rats showed significant decrease in the concentration of glucose, total protein, triglyceride, cholesterol and. In contrast in the AST, ALT and LDL there was a slight increase. There were no significant differences in urea, bilirubin, ALP, and HDL and all haematological parameters except WBC's level which showed significant decrease in the z officinale. The administration of the plants extracts Z.officinale and A. maritima increases the body weight in Alloxan induced- diabetic rats. Neither clinical signs appeared in tested rats, nor were significant pathological changes observed in all treated groups.

هدف هذا البحث التأثير الكيميا الحيوي لنباتي الزنجبيل و الدمسيسة في اثنين من المستويات الغذائية (2 10

نبات وخليط من كل من النباتين 5 : 5 ٪ في اختبار الفئر ان التي غذيت بهم. أظهرت تركيز)

والكوليسترول triglyceride. وهناك زيادة طفيفة في triglyceride. وهناك زيادة طفيفة في triglyceride. طفيف تغذية الفئران طفيف كريات الدم البيضاء. أظهر خليط النباتين المضاف تغذية الفئران (يادة في نشاط انزيم ALT AST في حين لم يكن هناك تغيير في نشاط petrolium ether,

ethanol. (50 / 100 / 50). وethanol تركيز السكر فس مصل الم و في تركيز

ب triglyceride وتركيز LDL. في الظهرت أيضاً ارتفاع طفيف في نشاط انزيم LDL AST, ALT و ولم تكن هناك اختلافات كبيرة في اليوريا bilirubin نشاط انزيم ALP. لم يظهر تغيير في قياسات الدم المختلفة في جميع الجرعات. أثبتت الدراسة أن النباتين بالجرعات التي أختبرت أنها زيد من وزن

(اكلينيكية) و لم يكن هناك اختلاف معنوي في أنسجة الاعضاء الحيوية بالفحص المجهري.

علامات مرضية أو سريرية