

SOME TRACE ELEMENTS IN NORMAL PREGNANCY AND PREGNANCY INDUCED HYPERTENSION

Thesis

**Submitted in partial fulfillment for
M.ch. in Obstetrics and Gynaecology**

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SD

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

اقْرَأْ بِاسْمِ رَبِّكَ الَّذِي خَلَقَ

خَلَقَ الْإِنْسَانَ مِنْ عَلَقٍ

اقْرَأْ وَرَبُّكَ الْأَكْبَرُ الَّذِي عَلَّمَ بِالْقَلَمِ

عَلَّمَ الْإِنْسَانَ مَا لَمْ يَعْلَمْ

المستقى، ١٠٠-١٠١

ACKNOWLEDGEMENT

I wish to offer my sincere gratitude and utmost thanks to my **Prof.Dr. Aly Elyan Khalaf Allah**, Professor of Obstetrics and Gynaecology, Faculty of Medicine, Ain Shams University for his kind supervision, advice, encouragement and unlimited help in conducting and revising this work.

I am also very grateful to **Dr. Sameh Mahmoud Abd El-Hafez**, Assistant Professor of Obstetrics and Gynaecology, Faculty of Medicine, Ain Shams University for his supervision and expert guidance during this work.

My thanks to **Dr. Alaa El-Deen Abd El-Aziz El-Fiki**, Lecturer in Obstetrics and Gynaecology for his support and continuous encouragement.

Finally, my thanks to **Prof.Dr. Ibrahim Mohamed Ali**, Professor of Physiology, Neuroendocrine Research Unit, Faculty of Science, Cairo University for making available facilities for the analytical procedures needed in this work.

97/8/10/20
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17

18

19

TABLE OF CONTENTS

INTRODUCTION	(1)
AIM OF THE WORK	(2)
REVIEW OF LITERATURE	
I. Pregnancy Induced Hypertension	(3)
II. Magnesium	(18)
III. Manganese	(33)
IV. Copper	(39)
V. Zinc	(45)
VI. Selenium	(53)
VII. Cadmium	(60)
SUBJECTS AND METHODS	(69)
RESULTS	(72)
DISCUSSION	(90)
SUMMARY	(95)
REFERENCES	(99)
ARABIC SUMMARY.	

INTRODUCTION

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INTRODUCTION

Trace elements have been defined as those metals whose total concentration in a 70 kilogram man is less than 4 grams. Studies of trace elements have been aided by the recent development of novel techniques such as flameless atomic absorption spectrophotometry, gas liquid chromatography, X-ray fluorescence and mass spectroscopy, which have allowed reliable measurement of several trace elements in different tissues.

However, progress has been hindered by factors such as the lack of convenient methods for handling of samples, initial expense of equipment, and difficulties with contamination of samples. In spite of these problems considerable physiological information about trace elements have been collected over the past few years. Of trace elements appearing in the body, 10 have been designated "essential" trace elements, Zinc, Copper, Manganese, Iodine, Cobalt, Molybdenum, Tin, Selenium, Iron and Chromium.

Deficiency of an essential trace element results in a characteristic deficiency syndrome in a manner analogous to a specific vitamin or hormone deficiency. The deficiency syndrome is associated with specific structural, functional, biochemical and physiological abnormalities. These, in turn, are prevented or reversed after administration of deficient element. Toxicity may result from excess of these essential trace elements. They perform functions essential to maintenance of life. Magnesium, manganese, Copper, Zinc, selenium and Cadmium have been studied most extensively in this work.

Excess or deficiency of these trace elements may have a pathogenic role in the development of pregnancy induced hypertension.

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