REFLECTION OF NUTRITIONAL STATUS AND THE ENVIRONMENT OF BILHARZIAL PATIENTS ON THE EFFECTIVENESS OF TREATMENT

THESIS

Submitted for The Ph.D. Degree

Environmental Studies (Medical Science Department)

By

Yusr Mohamed Ibrahim Kazem

M.Sc. Tropical Medicine- Ain Shams University- 1990

Lecturer Assistant- National Research Centre

Institute of Environmental Studies and Research

Ain Shams University

1997



REFLECTION OF NUTRITIONAL STATUS AND THE ENVIRONMENT OF BILHARZIAL PATIENTS ON THE EFFECTIVENESS OF TREATMENT

THESIS

Submitted for The Ph.D. Degree
Environmental Studies (Medical Science Department)

By

Yusr Mohamed Ibrahim Kazem

M.Sc. Tropical Medicine- Ain Shams University- 1990 Lecturer Assistant- National Research Centre

Under Supervision of

Prof. Aly Abd El Hady Massoud

Dept. of Community, Environmental, and Occupational Medicine

Ain Shams University

Prof. Salah Saif El Din

Dept.of Tropical Medicine Faculty of Medicine Ain Shams University

Noaman Mohamed Haseeb

Dept.of Tropical Medicine Faculty of Medicine Ain Shams University

Prof. Fawzi Amin El-Shobaki

Nutrition Department
National Research Centre

Institute of Environmental Studies and Research
Ain Shams University

1997



الله ١٦٠ سرسورو الدنعام

Ain Shams University

The Institute of Environmental Studies and Research.

Name of the candidate: Yusr Mohamed Ibrahim Kazem.

Title: Reflection of the Nutritional Status and the Environment of Bilharzial Patients the Effectiveness of Treatment. oπ

Thesis Submitted for Ph.D. Degree in Environmental Sciences Department of Medical Sciences

Discussion and Judgement Committee

Prof. Aly Abd El Hady Massoud

Prof. Ahmed Sherief Hafez

A-S. Haye

Prof. of Community, Environmental and

Prof. of Community, Environmental and Occupational Medicine Faculty of Medicine

Ain Shams University

Occupational Medicine

Vice Dean-Faculty of Medicine

Ain Shams University

Prof. Aly Ahmed Waheeb

Head Of Tropical Medicine Dept.

Faculty of Medicine

Al Azhar University

Date of Discussion X4/6/1997

Higher Studies and Research

Agreement at:

Agreement at:

To My family

ACKNOWLEDGEMENT

- * I would like to express my deep gratitude and thanks to **Professor Aly Abd El Hady Massoud**, Professor of Community, Environmental, and Occupational Medicine, Ain Shams University, for his great help, kindness, and supervision for this work.
- *I am deeply thankful to **Professor Salah Saif El Din**, Professor of Tropical Medicine, Ain Shams University, for all the help, care, and support that he always give me.
- * I would like to express my deepest thanks to **Professor Noaman Haseeb**, Professor of Tropical Medicine, Ain Shams University, for his continuos support, help, and kindness.
- * I would like to express my deep gratitude and thanks to **Professor Fawzi El** Shobaki, Professor of Biochemistry and Nutrition, National Research Centre, for supervising this work.
- * I am very grateful and thankful to **Professor Zainab El Hawary**, Professor of Nutrition, National Research Centre, for all the support she gave me.
- * I would like to express my thanks to **EPICO** company for supplying me with Biltricide needed in this work.
- * I would like to express my deepest gratitude and sincere thanks to each member of my family for their support, love, and care which enabled me to do this work.

LIST OF CONTENTS

INTRODUCTION	2
REVIEW OF LITERATURE	5
NUTRITION AND IMMUNITY	
- The effects of malnutrition on the immune system:	 11
- Effect of single nutrient on immune competence:	1.4
1- ZINC:	14 14
2- Vitamin A:	28
PRAZIQUANTEL	3.4
- Resistance to Praziquantel	35
- The importance of intact immune system for the function of Praziquantel:	32
- Side Effects of the Drug	30
- The Effects of PZQ on the Immune System:	41
- Effects of praziquantel on the anthropometric measurements in bilharzial patients:	42
THE ENVIRONMENT	44
- BILHARZIASIS and the Environment	
- The Impact of The Environment on the Efficiety of Treatment of Schistosomiasis:	45
- The Relation between Social Factors and Prevalence of Schistosomiasis:	40
- Environment and Nutrition:	53
BILHARZIASIS	50
- History:	
- Epidemiology:	
- Pathogenesis:	
- Effect of treatment on dynamics of immune pathology:	64
- Schistosomiasis and the immune system	65
- Effects of chemotherapy on the immune system of the host:	71
- Schistosomiasis and Nutrition:	71
- The effects of schistosomiasis infection on the nutritional status of the host:	13
The impact of host nutritional status on its susceptibility to schistomomaises:	13
The impact of flost had monal status of its susceptionity to sensionionialses.	04
PATIENTS AND METHODS	85
RESULTS AND DISCUSSION	95
SUMMARY	145
REFERENCE	152
APPENDIX	. 175