# PLASMA COPPER AND ZINC IN UNEXPLAINED INFERTILITY

**Thesis**

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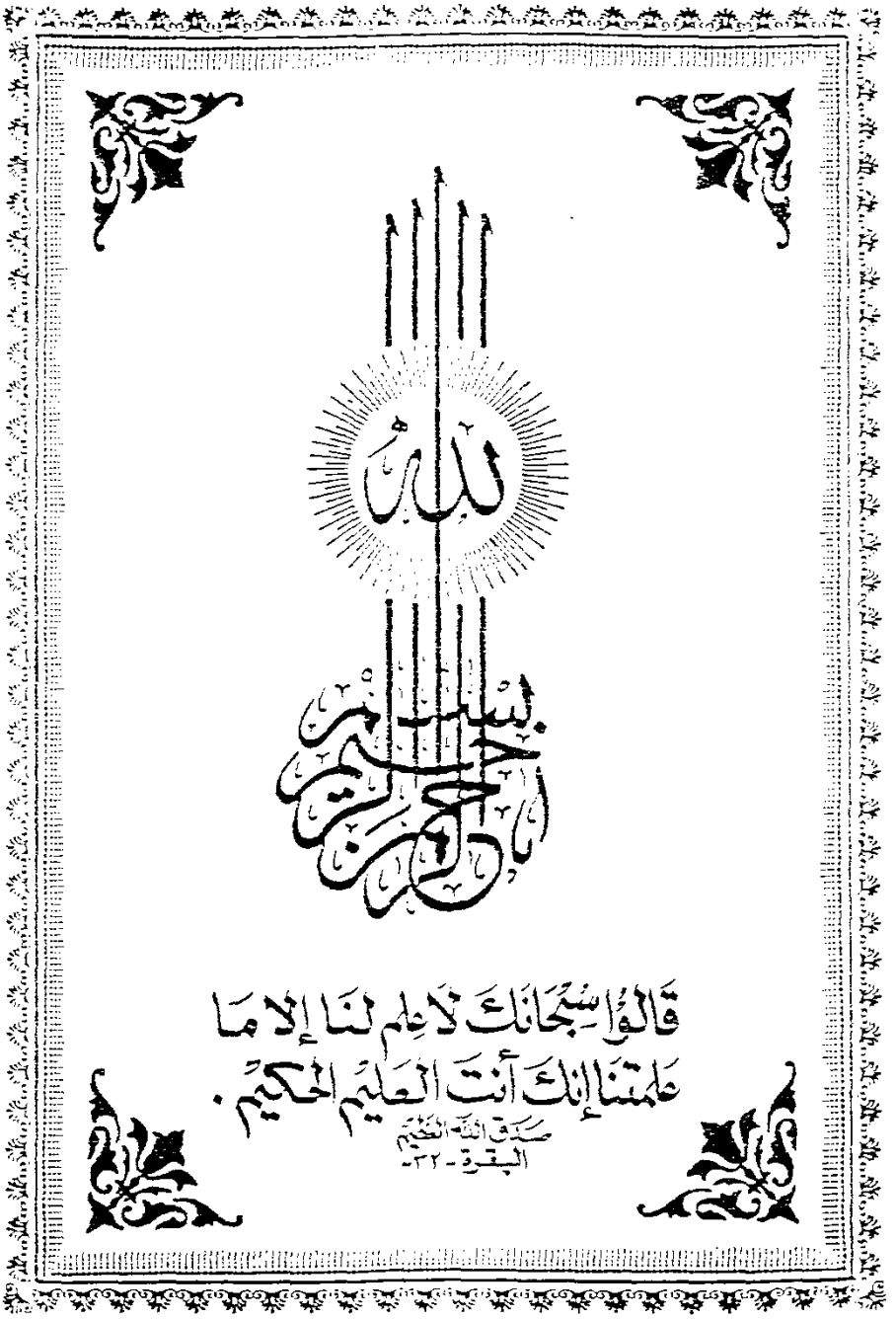

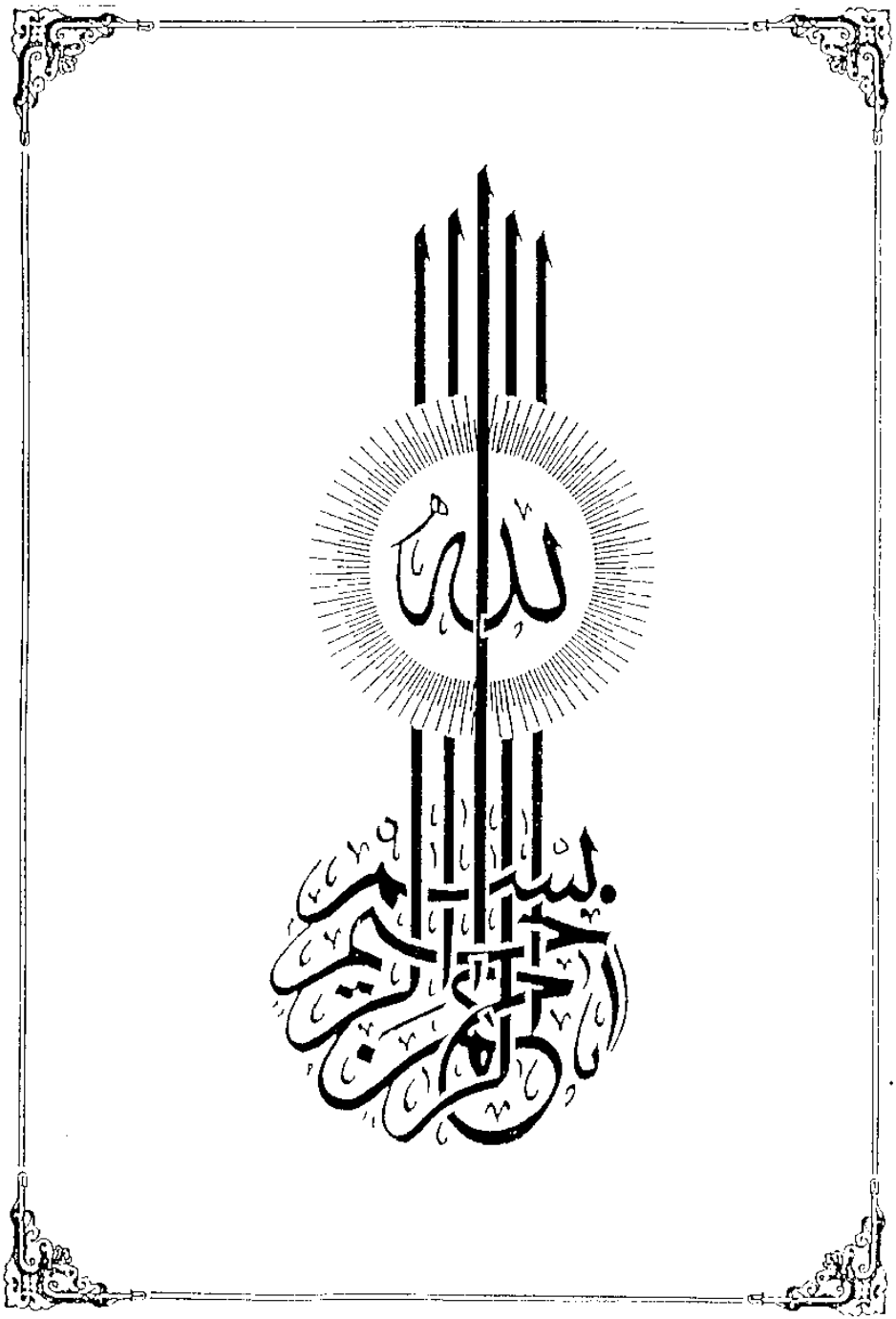

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# INTRODUCTION

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Animal studies have revealed a strong relation between trace element deficiency, particularly of copper and Zinc and impairment of fertility (Hidiroglou, 1979).

Zinc deficiency has been found to impair fertility particularly in males. Jameson (1976) has been suggested that it may be a cause of female infertility.

Copper is essential to human life and health. It plays a key physiological role as the prosthetic element of more than a dozen specific proteins and has a significant role to play in haem and collagen production and function. The role of copper in human reproduction has not been investigated (Soltan and Jenkins, 1984).

Unexplained infertility or idiopathic infertility refers to the failure of a couple to conceive in whom no definite cause for infertility can be identified. This term is preferred to the "normal infertile couple" since the adjective normal may be inappropriate in many instances. The average incidence of unexplained infertility is approximately 15% among infertile couples who have been thoroughly evaluated (Templeton and Penney, 1982).

# AIM OF THE WORK

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The aim of this work is to measure plasma levels of copper and zinc in Cases of unexplained infertility in correlation with control group and to find their significance.

# COPPER REVIEW

## BIOCHEMISRY OF COPPER

Copper (Cu) has a biochemical function in mammals that became evident from nutritional observation made nearly 75 years ago. Copper was then found to be essential, along with iron, for normal erythropoiesis. Since that time copper has shown to be a component of several enzymes of key importance in metabolism (Boyd, 1976).

Enzymes that contain copper as an essential component are termed cuproenzymes. Copper as a component of numerous cuproenzymes, plays a vital role in many physiologic functions in man and animals. From the stand point of human health, there are at least three functional areas of prime importance, copper is involved in the development and maintenance of cardiovascular and skeletal integrity, central nervous system structure and function and erythropoietic function including iron metabolism (Boyd, 1976).

Although there is no evidence for wide spread copper deficiency in the human population, it does occur owing to genetic defects and other precipitating factors. A

clear understanding of copper and its mechanisms of action could prove highly beneficial of present and unforeseen problems in medicine (Boyd, 1976).