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THE EFFECT OF COMBIND ORAL
CONTRACEPTIVES ON
SERUM TOCOPHEROL LEVELS

THESIS

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3

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9

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5

CONTENTS

I	Introduction	1
II	Aim of the work.....	2
III	Review of literature:	
	Family planing	3
	Combined Oral Contraceptive steroids ...	4
	History and development.....	4
	Side effects.....	6
	Cardio-vascular complications...	9
	pathogenesis	17
	prevention	23
	Effects on body metabolism :	
	Lipid metabolism	25
	Glucose metabolism	35
	Protein metabolism	39
	Vitamins	41
	Minerals	47
	Effect of vitamin supplement on prevention of side effects of Combined Oral Contrace- ptives	49
	Vitamin E :	
	History	53
	Chemistry	54
	Occurance and food sources	55
	Absorption, Distribution, Excretion...	57
	Storage	58

6

Measurement	58
Normal values	58
Stability	59
Function, Deficiency manifestations...	59
Tocopherol concentration in human plasma and platelets	65
Recomonended dietary allowance	65
Toxicity	66
Clinical uses	66
Methods for determination of serum Toco- pherols	67
Effects of Combined Oral Contraceptives on serum Tocopherol levels	74
Relationship between serum Tocopherol and B- lipoproteins and vitamin A levels	79
IV Materials and Methods	81
V Results	87
VI Discussion	134
VII Summary	151
VIII References	154
IX Arabic Summary	184

INTRODUCTION

17

Introduction

Previous published reports, concerning the effect of the Combined Oral Contraceptive administration on serum Tocopherol levels , presented conflicting results .

Some studies showed low serum values of Tocopherol levels among Combined Oral Contraceptive users, and recommended vitamin E supplementation . While Other studies showed normal or even high serum values of Tocopherol levels among the Combined Oral Contraceptive users versus non users

The possible reasons for this controversy are the use of different preparations , different responses among different races, different basic nutritional status and or different durations of Combined Oral Contraceptive administration .

Some studies ~~speculated~~ that some of the adverse cardio-vascular side effects of Combined Oral Contraceptives were associated with a change in vitamin E Status .

These previous results indicats that there is a value for investigating the Tocopherol serum levels among Egyptian women using the Combined Oral Contraceptives .

Aim of the Study :

The present study aims at investigating the possible effects of Combined Oral Contraceptive pills on the serum Tocopherol levels among Egyptian women users versus non users. The results will be compared with the previous studies among different races .

The different results of the previous investigators will be discussed . The possible mechanisms of changes and possible practical implications of the results will be presented .

*REVIEW
OF
LITERATURES*

19

Family Planning

The world is rapidly becoming over populated and the recognition of individuals right to control their fertility produced a remarkable^K advances^A in the application of contraceptive technics . *

The world's population now stands at 4 billions with a projection from the United States Bureau of Census of 6.35 billion by the year 2000. Almost 80 million people are being added annually and ^fif the population of the world continued to grow at its current rate, there would be at least 30 billion people 100 years from now (128).

The predictable impact of population growth of this magnitude on food supply, natural resources, and political stability show up the importance of family planing and contraception .

Greenbaltt , R.B. (1980): Found that the promise of almost 100% security with Combined Oral contraceptives is true and millions of women have found an answer to their needs without jeopardizing the sexual act .

Combined Oral Contraceptive Steroids

The limitation of offspring for what reason as ill health , economics, planned spacing of child birth, or personal reasons could be carried out by many methods such as intrauterine devise , local methods, rhythmic methods, sterilization, or Combined Oral Contraceptive Pills.

About 6 million women in the United States use one of the variety of hormonal contraceptives (128), and forty percent of women aged 15-44 years in the United States and Western Europe use Combined Oral Contraceptives (124) .

Stodel, B.V.(1981): Estimated that more than 50 million in the world use Combined Oral Contraceptives .

History and development of the Combined Oral Contraceptive Steroids :

Baird (1892) Suggested that corpus luteum secretions inhibit ovulation during pregnancy. The ovarian hormones were not isolated till the late nineteen thirties while the role of pituitary gland in controlling the ovarian cycle elaciated in the ninteen-twenties. Sturgis , S.H.,et. al.(1940): Found that the injection of estrogen in sufficient doses starting early in the cycle relieves painful menstruation by inhibiting ovulation . Pincus, G. (1956):

Used progestational compounds, norethynodrel in ten and later in five mg. daily dose for fertility control with the disadvantages of frequent side effects, poor cycle control as manifested by a high incidence of spotting and break through bleeding, and endometrial regression and atrophy with resultant amenorrhea. Rock, J., et. al. (1957): Used potent combined pills by the addition of a small dose of synthetic estrogen to the progestagen . Galdzieher, J. (1964) introduced sequential regime administering oestrogen for part of the cycle followed by a combination of both estrogen and progestagen . Galdzieher, J. (1964). introduced the sequential regime administering oestrogen alone for part of the cycle followed by a combination of both estrogen and progestagen .

These studies led to the approval in 1959 of the first Combined Oral Contraceptive pill and a new era in hormonal control of contraception burst up on the world (62).

The Combined Oral Contraceptives are still widely used in the current practice. Several side effects are known. The present study aims at better understanding of some of these side effects. Most of side effects are :

- 1- Nausea.
- 2- Break through bleeding.
- 3- Failure withdrawal bleeding .
- 4- Depression .

The complications of Combined Oral Contraceptives although rare, Some of them are serious and their cause is not well known. This study include^s the effect of Combined Oral Contraceptives on Serum Tocopherol level and lipoproteins level in a trial to reduce the size of these serious complications.

Side effects of Combined Oral Contraceptives

Many investigators studied the current side effects of the Combined Oral Contraceptives, of them : Delia, J.E (1981), Johnal, J.A (1975), Hatcher, R.A., et.al.(1980), Gilmer, M.D., et. al. (1978), Wynn, V., et. al. (1975), Adams, P.W., et. al. (1973), and lucas, C.P.(1979).

1) Nausea : is related to estrogen dose and is minimized when the Combined Oral Contraceptives are used containing 50ug or less estrogen (44). Combined Oral Contraceptives associated nausea usually occurs early in the therapy and subside as therapy continuous. Vomiting due to Combined Oral Contraceptive use may result in a loss of the contraceptive efficacy (79).

2) Break through bleeding : is one of the most common Combined Oral Contraceptive pill-related side effects, occurring in almost half of all users. (44). The incidence of break through bleeding is high with the use of