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## EFFECTIVENESS OF EDUCATIONAL PROGRAM ON FEMALE STUDENTS' KNOWLEDGE REGARDING INCREASE TESTESTERONE LEVEL IN WOMEN

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### ABSTRACT

The current study was conducted at Basra University - College of Nursing to achieve the goal of the impact of the education program on increasing the effect of testosterone in women. The study included sixty-nine female students from the faculties of nursing, medicine and human sciences. The students participated in a lecture on increasing testosterone in the females after they participated in answering a questionnaire that included the demographic and scientific information. After analyzing the data according to a statistical program, the results showed a significant effect comparing between before and after the education program, confirming the improved effect of the pre-education program. The result of the study shows very good efforts of the educational program providing the participants good knowledge represented by the percent (98.6%) comparing the percent of (39.1%) before application of educational program. In conclusion, education programs have an important impact on developing the type and importance of the information given

**KEYWORDS:** Testosterone. women. nursing, Hormone. Gonads

### INTRODUCTION

Testosterone hormones are mostly known for their role in the development of sex organs and physical maturation during puberty. Research on the effects of testosterone has brought many interesting findings that have radically changed and broaden the view of testosterone as a hormonal regulator of development. Animal experiments and human studies illustrate how testosterone influences putative unrelated features like morphological characteristics and cognitive abilities or intelligence [1,2] About 40% of postmenopausal women have decreased sexual desire, causing distress. treatment with transdermal (patch) testosterone improved sexual function in several randomized controlled trials. Women with hypoactive sexual desire disorder who were treated with testosterone reported more satisfying sexual episodes and sexual desire compared with the placebo group [3]. Sex hormones, estrogen, and testosterone, seem to play a major role in its pathogenesis, development, spread, severity, and mortalities. Examination of factors such as age, gender, ethnic background, genetic prevalence, and existing co-morbidities, may disclose the mechanisms underlying SARS-CoV-2 infection,

morbidity, and mortality, paving the way for COVID-19 amelioration and substantial flattening of the infection curve [4]. Testosterone's role in female depression is not well understood, with studies reporting conflicting results. Here, we use meta-analytical and Mendelian randomization techniques to determine whether serum testosterone levels differ between depressed and healthy women and whether such a relationship is casual [5].moderately increased testosterone concentration caused increase in aerobic running time as well as lean mass in young, physically active women[6].Effects of gendered behavior on testosterone in women and men a study found that wielding power increased testosterone in women compared with a control, regardless of whether it was performed in gender-stereotyped masculine or feminine way [7]. Testosterone is inversely associated with increased CVD risk in women, whereas low sex hormone binding globulin increases CVD risk. The relationship between testosterone and breast cancer remains unclear, although a clear signal of risk has not emerged from studies of women treated with testosterone therapy over the past decade [8].in women complaining for FSD, systemic T administration, either alone or combined with local estrogens, was associated with a positive effect on clitoral blood flow and a clinical improvement in sexual function, showing a good safety profile [9]. there is some correlational evidence that people—women and men—in roles that are oriented toward power, competition, and/or masculinity have higher testosterone than others, although socioeconomic status can moderate this [10]. The electronic extortion that girls are exposed to is the most dangerous form of cyber-crime prevailing in society. It is one of the hidden crimes with wide-ranging social dimensions. Girls often [16]. fall victims to such crimes

## **MATERIAL AND METHODS**

Across sectional study designed to assess the students' Knowledge regarding increase Testosterone level in women and the effective of the educational program.

Sixty-nine female college students from Nursing college, medical specialties colleges and Humanities colleges. At the third and fourth year of academic stage at University of Basrah. assessment questionnaire were designed for the participants students consist of scio- demographic information ( age, academic stage ,type of study)and 20 questions corresponding knowledge regarding the increase of testosterone in women, before presented the questionnaire to the participants they were given educational lecture for three days, collected data were analyzed using SPSS version 17 for frequencies and percentage and dependent test was used to assess the effective of the educational program.

## **RESULTS AND DISCUSSION**

Women with high testosterone levels develop frontal balding. Other possible effects include acne, an enlarged clitoris, increased muscle mass, and deepening of voice. High levels of testosterone can also lead to infertility and are commonly seen in polycystic ovarian syndrome (PCOS). Exposure to high levels of endogenous estrogens is a main risk factor for breast cancer in women, and in observational studies was found to be inversely associated with physical activity. [11].

**Table 1: soci\_demographic characteristics of the participant (n=69)**

Characters		Frequency	Percent
Age	19.00	6	8.7
	20.00	11	15.9
	21.00	22	31.9
	22.00	14	20.3
	23.00	10	14.5
	24.00	3	4.3
	26.00	1	1.4
	28.00	1	1.4
	29.00	1	1.4
College	Nursing college	48	69.6
	Medical specialties colleges	7	10.1
	Humanities colleges	14	20.3
Study stage	Second stage	24	34.8
	Third stage	6	8.7
	Fourth stage	39	56.5

Soci\_demographic characteristics table showed that most of participant were at the age of (21) years old (31.9) , from Nursing college (69.6%) , .and at the second and fourth stage (34.8% and 56.5%)

**Table 2: Participants knowledge before and after educational program**

Knowledge		Frequency	percent
Before educational program	Poor knowledge	42	60.9
	Good knowledge	27	39.1
	Total	69	100.0
After educational program	Poor knowledge	1	1.4
	Good knowledge	68	98.6
	Total	69	100.0

As showed in table (2) there were a very good efforts of the educational program providing the participants good knowledge (98.6%) as compared with the percentage before educational program (39.1%)

Educational programs enhanced the student knowledge and to take care of their health that the level of testosterone affect women health available observational data suggest that low concentrations of total, free, and bioavailable testosterone (free and albumin-bound testosterone) and SHBG in serum are associated with a greater likelihood of atherosclerotic carotid disease, cardiovascular events, and total mortality. Furthermore, extremely high concentrations of endogenous bioavailable testosterone also seem to increase the future risk of CVD in women [12].as well as testosterone given orally increases the level of low-density lipoprotein cholesterol (LDL) while reducing high-density lipoprotein (HDL) levels and triglycerides. This is not seen with transdermal testosterone. Blood sugar, blood pressure, and body mass index are alike unaffected by exogenous testosterone as long as the levels remain within the normal range

**Table 3: the results of dependent two samples t\_test**

Before and after educational program	Paired Differences			T_test	df	Sin.(2tailed)
	Mean	.Std Deviation	Std. Error Mean			
Mean of score Mean of/1 score 2	0.35580	0.18581	0.02237	15.906	68	0.000

There were highly significant differences in participants knowledge  $P < 0.05$  after educational program, which mean that the program had achieved the goal by providing the participated students a good knowledge regarding increase of testosterone in women. the relationship between testosterone and COVID-19 remains unclear and somewhat controversial [13]. Finding which is supported by increased rates of COVID-19 in post-menopausal women due to hormonal impacts of progesterone and estrogen on the immune system, [14,15].

## CONCLUSION

The current study confirmed the high moral effect of education programs regarding information about the high level of testosterone and its relationship to the infection of the Corona pandemic in women and its impact on physical activity and health.

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