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An Assessment of Steroid use in Females Aged 18 to 25 Years: A Study from Tamilnadu India

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Abstract: Corticosteroids play a crucial role in maintaining homeostasis throughout the body, which gives an organism the ability to withstand changes in its surroundings and the entry of foreign substances. Corticosteroids fall into two broad categories: mineralocorticoids and glucocorticoids. The adrenal glands release glucocorticoids in reaction to stressors like eating disorders, physical activity, emotional turmoil, surgery, or malnutrition. The kidney's control over electrolyte excretion is mediated by mineralocorticoids. Alkalosis, normal or slightly higher plasma sodium, positive sodium balance, increased extracellular fluid volume, and hypokalemia are the primary signs of mineralocorticoid excess.The study was conducted at the Sree Ramakrishna Medical College of Naturopathy and Yogic Sciences and Hospital in Kulasekharam, Tamil Nadu, India. The study's female participants ranged in age from 18 to 25. Vocal agreement was obtained after the study's goals were explained. This survey received thirty responses in total. Sleep issues, boredom, exhaustion, depression, inferiority complex, and annoyance at work have all been noted to affect women. Their daily activities are insufficient. Consequently, women need more health education.To enhance women's overall health and wellness, future treatments should focus on these areas.

Keywords: *Glucocorticoids, Mineralocorticoids, Androgens, Progestogens, Estrogens.*

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I. INTRODUCTION

Natural steroids, which comprise progestogens, glucocorticoids, mineralocorticoids, androgens, and estrogens, are released by the human and animal adrenal cortex, testis, ovary, and placenta. Female hormones, or estrogens, are essential for preserving the health of the brain, skin, breasts, and reproductive tissues. Progestogens are a type of hormone that balances hormones, especially estrogens. Androgens are crucial for the regeneration of tissues particularly that of the skin, bones, and muscles. The musculoskeletal, neurological, immunological, and cardiovascular systems are among the major bodily systems that are impacted by corticosteroids.

The two broad kinds of corticosteroid effects are mineralocorticoid and glucocorticoid. The adrenal glands release glucocorticoids in reaction to stressors including emotional turmoil, physical activity, surgery, disease, or malnutrition. Mineralocorticoids control the kidney's excretion of electrolytes. Positive sodium balance, elevated extracellular fluid volume, normal or slightly elevated plasma sodium, hypokalemia, and alkalosis are the main characteristics of mineralocorticoid excess.

II. PATHOPHYSIOLOGY

Corticosteroids play a crucial role in maintaining homeostasis throughout the body, which gives an organism the ability to withstand changes in its surroundings and the

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entry of foreign substances. Corticosteroids fall into two broad categories: mineralocorticoids and glucocorticoids. The adrenal glands release glucocorticoids in reaction to stressors like eating disorders, physical activity, emotional turmoil, surgery, or malnutrition. The kidney's control over electrolyte excretion is mediated by mineralocorticoids. Corticosteroids play a crucial role in maintaining homeostasis throughout the body, which gives an organism the ability to withstand changes in its surroundings and the entry of foreign substances. Wide-ranging effects of corticosteroids include significant changes in the metabolism of fats, proteins, and carbohydrates as well as adjustments to the balance of water and electrolytes. Corticosteroids have an impact on the body's primary systems, including the immunological, neurological, musculoskeletal, and cardiovascular systems. Two broad categories can be used to group corticosteroid effects: glucocorticoid and mineralocorticoid. The hepatic gluconeogenesis process is triggered by glucocorticoids, raising plasma glucose levels and encouraging the deposition of liver glycogen. Low glucocorticoid concentrations cause hypoglycemia, reduced glycogen storage, and hypersensitivity to insulin, while prolonged exposure to glucocorticoids causes a rise in plasma glucose that resembles diabetes. In order to increase the amount of glucose available for the liver's production of glycogen, glucocorticoids also reduce the facilitated absorption of glucose in peripheral organs. Higher glucocorticoid dosages cause fat to be redistributed to the face and upper trunk while simultaneously causing fat in the extremities to decrease. Mineralocorticoids are primarily responsible for controlling the kidney's electrolyte excretion. Through the activation of mineralocorticoid receptors in the kidney's distal tubules, aldosterone regulates sodium levels by increasing the permeability of the apical membrane of the cells lining the cortical collecting tube. The kidney is affected differently by mineralocorticoids and glucocorticoids. Hydrogen excretion appears to be unaffected by cortisol, despite increases in potassium excretion and sodium retention. Numerous additional hormones are influenced by corticosteroids. A rise in growth hormone release brought on by cortisol is the cause of acromegaly. Corticosteroids restrict the secretion of thyroid-stimulating hormone and reduce the physiologic efficacy of thyroxine in patients with myxedema. In order to maintain normal cardiac output and blood pressure, corticosteroids primarily impact the cardiovascular system through their effects on angiotensin levels, electrolyte retention, plasma volume, and epinephrine synthesis. Arteriolar tone, capillary permeability, and myocardial reactivity are all impacted by corticosteroids. Increased capillary permeability, insufficient vasomotor response, and a reduction in cardiac output and size are all consequences of hypocorticism. Chronic arterial hypertension is a result of hypercorticism, which is unique to mineralocorticoids and most likely caused by sustained, excessive sodium retention.In the vascular smooth muscle and central nervous system, aldosterone affects ion transport. It may also change sympathetic output by affecting the hypothalamic periventricular region, which integrates information about fluid balance, electrolyte levels, and cardiovascular health. Maintaining muscles requires normal corticosteroid levels. However, altered glucocorticoid or mineralocorticoid levels can cause anomalies in muscles. While high aldosterone causes hypokalemia, which weakens muscles, excessive glucocorticoid levels promote muscle wasting due to their catabolic effects on protein metabolism. Lack of corticosteroids causes weakness, exhaustion, and a reduction in the striated muscle's work capability. Instead of electrolyte and carbohydrate imbalances, this response indicates circulatory system failure. By directly influencing the function of osteoclasts, osteoblasts, and osteocytes, glucocorticoids reduce bone remodeling. They lower serum calcium levels by lowering gastrointestinal calcium absorption and boosting renal calcium excretion. By preserving appropriate circulation, proper electrolyte levels, and normal plasma glucose levels, corticosteroids indirectly impact the neurological system in a variety of ways.Brain excitability, mood, behavior, and memory consolidation are all impacted by corticosteroid levels. Erythrophagocytosis, which increases the quantity of hemoglobin and red blood cells in blood, may be slowed by corticosteroids.White blood cells in the circulation are also impacted by corticosteroids. By blocking early inflammatory processes such as edema, cellular exudation, fibrin deposition, capillary dilatation, leukocyte migration into the region, and phagocytic activity, glucocorticoids prevent or decrease the entire inflammatory response to viral, physical, or immunologic stimuli. Through two different mechanisms, glucocorticoids reduce neutrophils' capacity to adhere to capillary endothelial cells. In addition to inducing lipocortin, a protein inhibitor of phospholipase, they prevent the typical rise in the expression of endothelial adhesion molecules and intercellular adhesion molecules. Moreover, glucocorticoids stabilize lysosomes, reduce the binding of chemokines that draw in white blood cells, and prevent the creation of plasminogen activator and migration inhibitory factors. By preventing the usual inflammatory response that breaks down and disorganizes collagen, glucocorticoids impede the healing of wounds.

III. MATERIALS AND METHOD

The study was carried out in Kulasekharam, Tamil Nadu, India, at the Sree Ramakrishna Medical College of Naturopathy and Yogic Sciences and Hospital. The female participants in the study were aged from 18 to 25. Vocal agreement was obtained after the study's goals were explained. This survey received thirty responses in total. The total number of questions is thirty. The questionnaire asked several questions about mental health, inferiority complex, sleep, hormone imbalance, steroids, and swollen extremities. Female volunteers who were unwilling or blocked were excluded from the study.

IV. RESULTS

The responders ranged in age from 18 to 25. Thirty women were present. Steroid usage is 100%, as seen in Table 1.1. Sudden change in body weight 80% and 20% do not have this symptom. Any negative consequences in 23.33% and 76.66% do not have any adverse effects. Regular appetite36.66% and 63.33% of people not have this appetite.36.66% had sound sleep, while 63.33% did not. Weight gain causes inferiority complex in 76.66% of cases,

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while 23.33% do not.86.66% were impacted by daily living, whereas 13.33% were unaffected.50% of people have constipation. Anxiety symptoms affect 83.33% of people, whereas 16.66% do not. Experience nausea as a symptom; 43.33% and 56.66% do not experience this symptom.

Table1 Shows, Evaluation of Steroid among Females Age between 18-25 Years

S.NO	CONTENTS	YES (%)	NO (%)
1	Steriod usage	100%	Nil
2	Have sudden change in body weight	80%	20%
3	Have any side effects	76.66%	23.33%
4	Proper appetite	36.66%	63.33%
5	Have sound sleep	36.66%	63.33%
6	Inferiority complex due to weight gain	76.66%	23.33%
7	Do your daily lifestyle affected	86.66%	13.33%
8	Have the symptom of constipation	50%	50%
9	Normal frequency of urination	80%	20%
10	Do you have the symptom of anxiety	83.33%	16.66%
11	Have the symptom of nausea	56.66%	43.33%
12	Variation in eye sight	56.66%	43.33%
13	Increased sexual desire	93.33%	6.66%
14	Increased mood swings	90%	10%
15	Have the symptom of headache	70%	30%
16	Have the symptom of dizziness	70%	30%
17	Delayed wound healing	30%	70%
18	Have any allergic reaction	36.66%	63.33%
19	Feel warmness	80%	20%
20	Have regular menstruation	63.33%	36.66%
21	Have the symptom of whitish discharge	53.33%	46.66%
22	Have the symptom of increased hair fall	83.33%	16.66%
23	Excess facial hair growth	40%	60%
24	Have the symptom of breathing difficulty	63.33%	36.66%
25	Have the symptom of pain in larger joints	70%	30%
26	Feel tiredness	96.66%	3.33%
27	Increased sweating	56.66%	43.33%
28	Having Swelling extremities	40%	60%
29	Increased heart rate	53.33%	46.66%
30	Practice done to overcome inferiority complex	46.66%	53.33%

While 43.33% have no change in their eyesight, 56.66% have differences.10% do not exacerbate mood swings, but 90% do.70% of people experience headache symptoms, while 30% do not. Dizziness is a symptom that 70% of people have, whereas 30% do not. 30% have delayed wound healing, while 70% do not. Experience any allergic reactions. 63.33% and 36.66% do not experience an allergic reaction.80% feel warm, whereas 20% do not. Get the period on time 36.66% and 63.33% do not have regular periods. White discharge is a symptom for 53.33% of people, but not for 46.66% of people. Signs of hair loss 83.33% and 16.66% show no signs of hair loss. Too much facial hair 40% and 60% of people don't have a lot of facial hair.Breathing problems as a symptom 63.33% and 36.66% do not have any respiratory problems. Experience aching in major joints 70% and 30% of people do not experience discomfort in their bigger joints. Feel exhausted. 33.33% and 96.66% of participants do not feel fatigued. Signs of increased sweating 56.66% and 43.33% do not show any symptoms of increased sweating. Extremity edema that is excessive 40% and 60% do not have swelling limbs. This symptom is not present with elevated heart rates of 53.33% and 46.66% do not. Techniques used to get over the inferiority complex 53.33% and 46.66%do not exercise overcoming the inferiority mentality.

V. DISCUSSION

The majority of females use steroids, and 80% of them have abrupt changes in body weight. 76.66% of people have side effects. 36.66% of people report having sleep disturbances. Weight gain of 76.66% and a daily lifestyle of 86.66% caused an inferiority complex. The symptoms of constipation affect 50% of females. The symptoms of nausea 56.66% and anxiety 83.33% are present in the majority of females. The diversity in eyesight is higher in females, 56.66%.90% more mood swings and 70% more headache symptoms.70% report feeling lightheaded, and 36.66% report experiencing an allergic reaction. 80% of the ladies experience warmth. 63.33% of them have regular periods. The symptoms of white discharge are more common at 53.33%. The majority of women, 83.33%, have greater hair loss.40% of face hair grows too much. Breathing difficulties are more common. 63.33%.70% of people report having discomfort in their bigger joints, and 96.66% report feeling exhausted. The symptoms of increased sweating 56.66% and

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swollen extremities 40% are more common in females. Females are more likely to practice overcoming inferiority complex at 46.66% and have elevated heart rates of 53.33%.

VI. CONCLUSION

It has been noted that women have sleep issues, boredom, exhaustion, despair, inferiority complex, and annoyance at work. Their daily activities are insufficient. As a result, women require additional health education. Women must be aware of the significance of proper sleep, personal hygiene, a balanced diet, and mental wellness. To enhance women's overall health and wellness, future treatments should focus on these areas.

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