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I INTERNATIONAL SCIENTIFIC
AND THEORETICAL CONFERENCE**

SCIENTIFIC REVIEW OF
THE ACTUAL EVENTS,
ACHIEVEMENTS AND
PROBLEMS

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actual events, achievements
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THE INFLUENCE OF THE THYROID GLAND ON THE HEMATOLOGICAL PROFILE

The thyroid gland is very closely related to hematology, as it is involved in erythropoiesis. If there is a disorder of the thyroid gland function, it can lead to anemia, erythrocytosis, leukopenia, thrombocytopenia, and in some cases pancytopenia. For example, hypothyroidism manifests itself in erythroid cells hypoplasia in the bone marrow or proliferation of immature erythroid progenitor cells, while hyperthyroidism manifests itself in hyperplasia. At the same time, patients experience reduced levels of iron, folic acid, and vitamin B12.

Therefore, this study, which was conducted at Menelik II Referral Hospital (Addis Ababa, Ethiopia), aimed to assess the hematologic profile of patients with thyroid dysfunction. The study was conducted from June to September, 2021, using a comparative cross-sectional study. The study enrolled 360 participants, including 120 healthy people (55 men, 65 women) and 240 patients with thyroid dysfunction (110 men, 130 women). Among the participants with thyroid disease, 50% had hypothyroidism and 50% were diagnosed with hyperthyroidism. The average age of the participants was 30 years.

The results of this study show certain hematologic changes in patients with health disorders:

- RBC, Hgb, HCT, MCV, MCH, MCHC and PLT are decreased, but RDW is increased;
- total leukocyte count and neutrophil percentage are significantly increased;
- the results of lymphocytes, monocytes, eosinophils and basophils showed no significant difference between the two groups of participants.

Further, based on the results of a cross-sectional study conducted in laboratories from July 2016 to July 2020 in the Asir region of Saudi Arabia, we can summarize that women are more likely to have thyroid diseases and, therefore, they have characteristic hematological changes compared to men. The average age of the participants ranged from 30 to 40 years. Moreover, subclinical hypothyroidism was the most common type of thyroid dysfunction, followed by primary hypothyroidism.

Therefore, it can be concluded that it is recommended to conduct medical education and public awareness of the nature of thyroid disease and related factors. Patients who already have thyroid disorders should have routine hematologic tests to detect complications and take certain

treatment measures. This is especially true for women under the age of 40, as they are more likely to suffer from thyroid disease with anemia.

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