

Thyroid Hormones and Thyrotropin Status in Nepalese Postmenopausal Women

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Abstract : Background and Aims: Thyroid disorder is the most common endocrine disorder after diabetes mellitus. Females are more vulnerable to this disease, and old age is an important risk factor. This study was undertaken to investigate the burden of thyroid disorder in Nepalese postmenopausal women. Methods: In the present cross-sectional study, we included 271 post-menopausal women. Three ml of blood was collected following standard protocol after taking the written consent. Serum was separated and analyzed for free T3, free T4, and Thyroid Stimulating Hormone (TSH) by Chemiluminescence Immunoassay (CLIA) method in Snibe Maglumi 1000 analyzer. Data obtained was analyzed in SPSS Version 21. $P < 0.05$ was set for statistical significant at 95% Confidence Interval (CI). Results: Majority of the participants belong to Janjati (46.5%) ethnicity, followed by Brahmin/Chhetri (41.7%), residing either in urban or suburban locality. Most of them were non-vegetarian, non-smoker, and non-alcoholic. Subjects were divided into hyperthyroid (TSH < 0.3 uIU/ml), hypothyroid (TSH > 4.5 uIU/ml), and euthyroid (TSH=0.3-4.5 uIU/ml) based on TSH value. We reported 10.3% hyperthyroid and 29.2% hypothyroid cases. TSH was significantly correlated with T3 ($r=-0.244$; $p < 0.001$) T4 ($r=-0.398$; $p < 0.001$); age ($r=-0.138$; $p=0.023$) and BMI ($r=0.123$; $p=0.043$). Multiple linear regression model for TSH reveals only T3 and T4 were significantly associated with TSH ($p < 0.001$; $p=0.001$). Conclusion: To conclude, nearly 39.5% of the postmenopausal women had thyroid disorder. Postmenopausal women are vulnerable to thyroid disorder; therefore, requires regular thyroid monitoring.

Keywords : thyroid stimulating hormone, TSH, T3, T4, thyroid disorder

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