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## Efficacy of Morning Dose Versus Evening Dose Levothyroxine In Hypothyroid Patients: A comparative study

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### ABSTRACT:

**Introduction:** Thyroid supplements are taken in morning in empty stomach but recently, evening dosage is suggested for patient convenience and assuming better bioavailability.

**Method:** In this prospective observational study, thyroid symptom questionnaire (TSQ) and thyroid stimulating hormone (TSH) levels were recorded at baseline and at week 7. Patients were instructed to take tablet levothyroxine 2 hours after dinner, were followed up for 6 weeks.

**Results:** Hypothyroid patients (N=60), aged 18-60 years were included. Incidentally all were females. The mean age±SD of patients was 47.5years±7.6. There were 28 (46.7%) post thyroidectomy patients; primary hypothyroidism (8.3%), primary hypothyroidism with type 2 diabetes mellitus (T2DM) (3.3%) were other presentations. T2DM (11.7%), hypertension (8.3%), dyslipidemia (6.7%) were common co-existing illnesses. All received 100mcg of levothyroxin.

There was statistically significant change (p=0.028) in TSQ at the end of 6 weeks. There was a statistically significant decrease in TSH levels (p=0.000) (decrease of -2.047). Decrease in TSH was evident among those in 41-50 years. An increase in TSH was noted in five patients but levels were not above the upper level of the normal.

There were no significant changes in the weight (50.0%), TSQ score (58.3%) and body mass index (50.0%). There was no significant influence of concomitant medications and coexisting illnesses on TSH. TSH levels became normal in 46 (76.7%) at week 6 and 31.7% were willing to continue the evening dose.

**Conclusion:** The use of evening dose of levothyroxine was effective. Despite equi-efficaciousness of morning or evening dose, it is the personal preferences that dictate the choice of levothyroxine intake. Regular monitoring of thyroid status is necessary to vouch for efficacy and correlation with TSQ at every follow up visit is required.

**Keywords:** Equi-efficacious, evening dose, hypothyroidism, levothyroxine, thyroid stimulating hormone

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