

TESTING REGIMEN OF TOTAL CHOLESTEROL, GLYCATED HEMOGLOBIN AND THYROID-STIMULATING HORMONE IN LATVIAN POPULATION: SINGLE LABORATORY DATA

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Objectives. Cholesterol, glycated hemoglobin (HbA1c) and thyroid-stimulating hormone (TSH) are extensively used for disease prophylaxis, diagnostics and monitoring, their testing regimen may serve as indicators for quality and accessibility of medical services.

The aim of the research was to analyze large series of these tests, assessing testing coverage and age and gender-related issues.

Materials and Methods. Continuous cohorts of anonymized total cholesterol, HbA1c and TSH tests performed at SIA “Centrālā laboratorija” in 2021 were analyzed. Latvian demographic structure (stat.gov.lv, IRD040) was split into 10-year age groups; testing coverage (tests per group population) and prevalence of abnormal tests (percentage from tests in the group) were calculated.

Results. Cholesterol. 290231 tests, M:F 0.62. 60.2% results were abnormal (88.5% elevated); 54.9% in males, 63.5% in females. In males, the most covered age groups were 60–90 years, the peak of abnormal results was at 40–50 (69% tests). In females, maximal testing was at 60–80, the abnormal peak at 50–60 (77.5%).

HbA1c. 88596 tests, M:F 0.60. 60% results were abnormal (99.4% elevated); 62.1% in males, 58.7% in females. Testing intensity was the highest at 70–80; abnormal results peaked at 60–70 (71.2%) and remained high. In females, testing peak was at 70–80 and plateau of abnormal results at 50–90 (68%).

TSH. 291735 tests, M:F 0.40. 18.2% abnormal results (50.3% decreased); 24.6% in males, 15.6% in females. Peak testing intensity in men at 70–80 coincided with abnormal result peak (46.7%). In women, testing peak was at 50–70 and abnormality peak at 70–80 (31%).

Conclusions. There is a substantial potential for improving the efficacy of the studied regimen. Age group 40–50 and males in general are the least covered.

HbA1c is comparatively undertested.

The study is limited by single institution cohorts, though large; comparison with other data sets and inclusion of other parameters would be useful.