The Use of Heated Tobacco and the Health Status of Young Adults in Poland- Preliminary Results

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Abstract:

IQOS (I-Quit-Ordinary-Smoking) is the most frequently chosen heated tobacco product among young people in Poland. The study aimed to investigate the effect of IQOS on blood count parameters, biochemical biomarkers, and lipid profile, as well as to make a comparative assessment between people using IQOS, smoking traditional cigarettes, and non-smokers. This case-control study was conducted in 2022-2024 among 85 young people in Poland (Łódź voivodeship) aged 18-30: 29 people using only IQOS, 15 people smoking traditional cigarettes and 41 healthy people not using nicotine products. A 20 ml blood sample was taken and the blood count (WBC, RBC, MONO, PLT, HGB), biochemical biomarkers (CRP, uric acid, fibrinogen, apo A1, apo B, glucose), and lipid profile (total cholesterol, TG, HDL, LDL). There were no statistically significant differences ($p>0.05$) in the level of blood count, biochemical biomarkers, and lipid profile between the three study groups. Among cigarette smokers, the uric acid level was significantly higher compared to IQOS users and non-smokers: 5.47 vs. 4.77 vs. 4.47 mg/dl ($p=0.01$). Among IQOS users ($n=29$), the level of glucose ($r=-0.41$; $p=0.03$) and uric acid ($r=-0.46$; $p=0.01$) was negatively correlated with the daily number of heated tobacco sticks. Further research is necessary to assess the impact of IQOS use on the health of young people.

Keywords:

IQOS, smoking, biomarkers, blood count, lipid profile.