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Titel des Beitrags: Salivary cortisol in a middle-aged community sample: results from 990 men and women of the KORA-F3 Augsburg study.

Abstract: Analysis of salivary cortisol concentrations and derived indices is increasingly used in clinical and scientific medicine. However, comprehensive data on these parameters in the general population are scarce. The aim of this study was to evaluate the concentrations of salivary cortisol in a large middle-aged community sample and to identify major factors associated with altered hormone levels. We conducted a cross-sectional study within the Cooperative Health Research in the Region of Augsburg (KORA)-F3 study. A total of 1484 participants aged 50-69 years (52% women) had agreed to provide four saliva samples during a regular weekday. We measured salivary cortisol concentrations at wake-up (F0), (1/2) h (F(1/2)), 8 h (F8), and 14 h (F14) after waking. We calculated cortisol awakening response (CAR), slope, and area under the curve (AUC(G)) of the circadian cortisol secretion. Sociodemographic and clinical characteristics were evaluated by interview and questionnaires, sampling conditions by protocol. In total, 1208 participants returned saliva samples, exclusion criteria left 990 subjects for final analyses. Salivary cortisol levels were (means+/-s.d.) F0=13.7+/-7.6, F(1/2)=20.5+/-9.8, F8=5.4+/-3.3, and F14=2.0+/-1.8 nmol/l. Earlier sampling times were
associated with higher CAR and smaller slope. Cortisol secretion was also influenced by gender and smoking habits. Higher perceived social support was associated with lower AUC(G) and smaller slope. We provide data on salivary cortisol concentrations in a large middle-aged community sample. Gender, sampling time, smoking habits, and perceived social support appeared as determinants of cortisol secretion.