

## GLYCEMIC ALLOSTASIS IN THE SOBER - WHAT HAPPENS WHEN THE MENTAL SPHERE IS OVERLOADED?

**M.O. Welcome**, V.A. Pereverzev

Belarusian State Medical University, Minsk, Belarus

While several studies have noted that moderate alcohol use reduces type 2 diabetes risk, the effect of moderate drinking (even in a sober person) on glycemia might be disastrous in condition of high mental control. This study aims to analyze the effect of intensive mental activities on glycemic allostasis in the sober. Young sober males and total abstainers (20-29yrs) volunteered for the study, after consenting. In a period of 6.5 hrs of intensive mental activities (MA) on fasting, participants completed various tests, tasks and questionnaires (STAI, Neuropsychic Adaptation Test, Mental-Performance tasks, etc.), in different phases. The results of this study show increase in glycemia in all participants during the first 4hrs of MA ( $P < 0.01$ ) in relation to their initial level. Thereafter, a fall in glycemia was noted only among the sober. After 6hrs of MA, glycemic level was not different from the initial level, although was less compared to the level after 2&4hrs of MA. The Spearman and Pearson correlation show the presence of significant positive link between glycemia and the test results. Analysis of the coefficient of determination shows that the proportion by contribution of glycemia to MA was approximately 11.8% ( $P=0.04$ ) after 4hrs and 15.6% ( $P=0.02$ ) after 6hrs. The one-sided effect of glycemia on MA was of average strength at the initial phase ( $\eta=0.510$ ), and during MA:  $\eta=0.548$  after 2hrs;  $\eta=0.606$  after 4hrs;  $\eta=0.556$  after 6hrs ( $P < 0.01$ ). The coefficient of determination confirms the direct role of glycemia on MA (30.0-36.7%), which agrees with literature data.