

# Circannual variations of biological and clinical parameters observed from 204 293 healthcare checkups.

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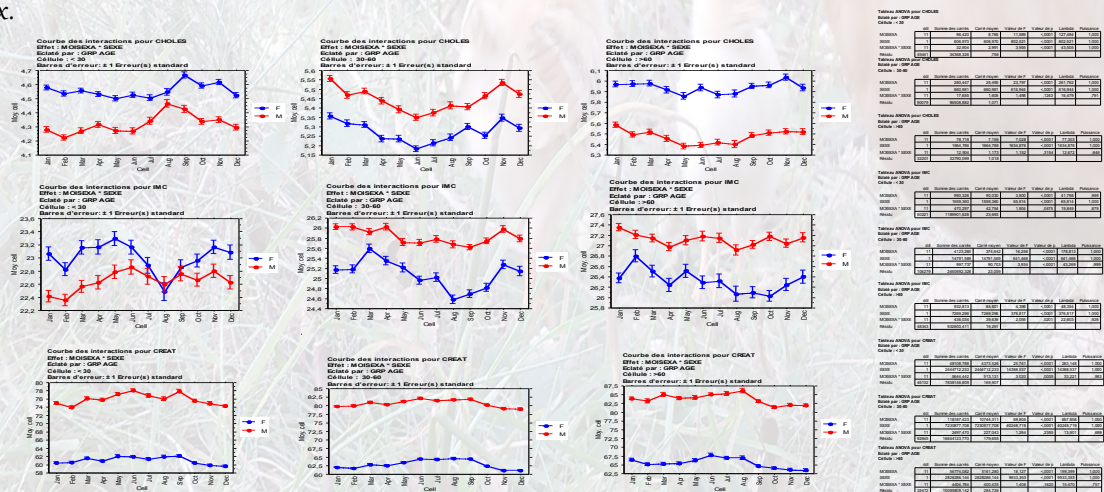
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**Materials and methods :** We have a 204293 patient database (100701 women and 103592 men) from healthcare checkup since 2004 to 2017 integrating biological, clinical and ESS questionnaire. We search infra day (circannual effect) biological rhythm by averaging method after segmentation of population from sex and age. Datas are analyzed by using Multiple ANOVA with Statview software

**Results :** we found signifiical circannual effect for : - BMI  $p < 0,001$  (lower during autumn), Creatinin  $p = 0,04$  (higher during summer), Cholesterol  $p = 0,04$  (lower during summer). Some parameters were also highly influenced by aging and sex.

Cholesterol, BMI and Creatinin segmented by month, sex and category of age : Lower than 30, from 30 to 60, Upper than 60.

Results from ANOVA on right



**Discussion :** Seasonal variations of cholesterol were reported by Kreindl & al (1). They report increase of LDL in winter and HDL in Summer. Our report agree with Kristal Bonneh & al (2) findings showing a maximum for cholesterol in winter and minimum in summer. We hypothesis to explain Circannual variations of creatinin and BMI by summer climate who allow more physical activity or by difference in food intake.

**Conclusion :** Database analysis is in agreement with report showing seasonnal/circannual variations of cholesterol. Observed results don't allow us following thesis whether changes are of environmental origin or in relation to a circannual endogenous rhythm

## Bibliography :

- 1) [Seasonal variations in the lipid profile of apparently healthy young adults living in Santiago, Chile]. [Arch Latinoam Nutr.](#) 2014 Sep;64(3):145-52.
- 2) Circannual variations in blood cholesterol levels. [Chronobiol Int.](#) 1993 Feb;10(1):37-42.

