Effect of red bull energy drink on heart rate variability in a 61-year-old man.

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Red Bull is an energy drink that is consumed by people of different ages to increase their vitality. It is known by the motto "Red Bull gives wings!" It contains a higher amount of caffeine (80 mg in 250 ml) [1-5]. It is also enriched with vitamin B group and taurine. Ingested caffeine reaches its absorption maximum between 15 and 45 minutes after consumption [5-10]. The study of heart rate variability parameters is relevant for an accurate quantitative analysis of sympatho-vagal balance and assessment of the stress index in the elderly. This study was performed on a 61-year-old man, 178 cm tall, weighing 75 kg (BMI = 24).

The measurement of HRV parameters was done in the morning at 8 o'clock immediately after waking up under basal conditions (lying down at complete rest) before consuming 250 ml of the Red Bull (sugar free) drink. Under the same conditions, this measurement was carried out 15 min. and 45 min. after the consumption of the aforementioned energy drink. Every HRV - measurement is short term (3 min.)

For this purpose, we used the "Kalenji" Chest Strap (with Bluetooth BLE transmission of heart signals), and the analysis of HRV parameters was performed using the "Kubios HRV" software.

We have presented the results for HRV-parameters obtained by us in **figure 1, 2, 3, 4, 5 and 6**. From them you can get an idea of the dynamics of HRV-parameters in time before and after the consumption of the Red Bull energy drink.

Figure 1: *Before consuming Red Bull.*

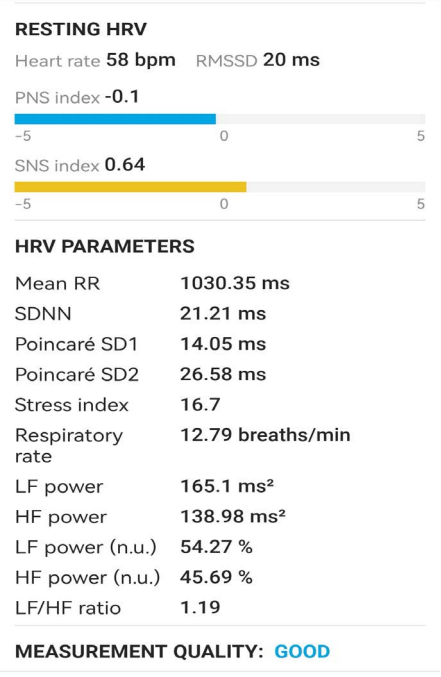

Figure 2: *Before consuming Red Bull.*

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***Received:** 03-Nov-2022, Manuscript No. AADY-22-78981; **Editor assigned:** 05-Nov-2022, PreQC No. AADY-22-78981(PQ); **Reviewed:** 19-Nov-2022, QC No AADY-22-78981; **Revised:** 21-Nov-2022, Manuscript No. AADY-22-78981(R); **Published:** 25-Nov-2022, DOI: 10.35841/aady-6.6.126*

***Citation:** Domuschiev I. Effect of Red Bull energy drink on heart rate variability in a 61-year-old man. J Diabetol. 2022;6(6):126*

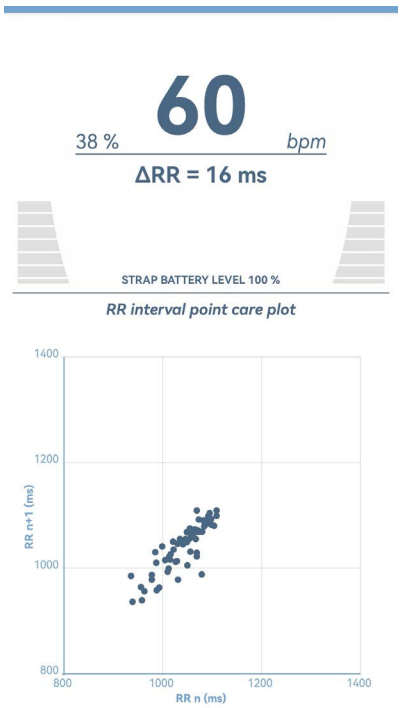

Figure 3: *Before consuming Red Bull.*

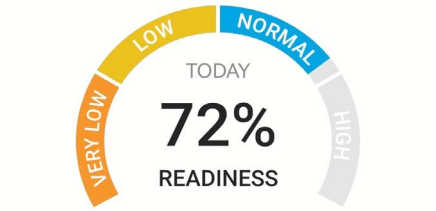

Figure 4: *15 min after consuming Red Bull.*

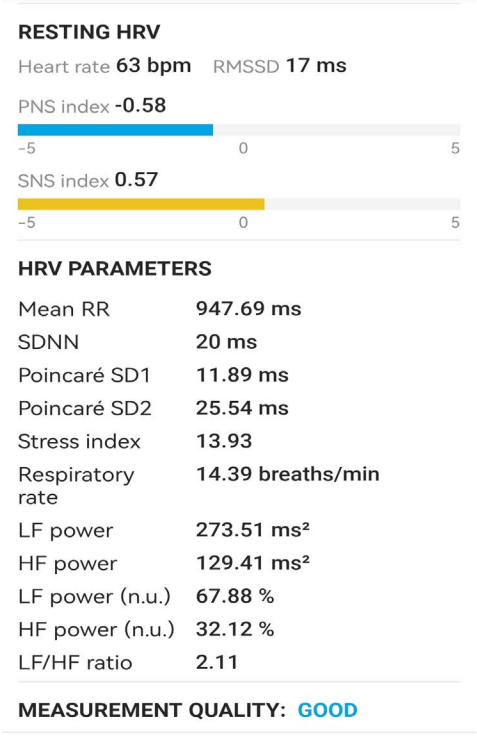

Figure 5: *Before consuming Red Bull.*

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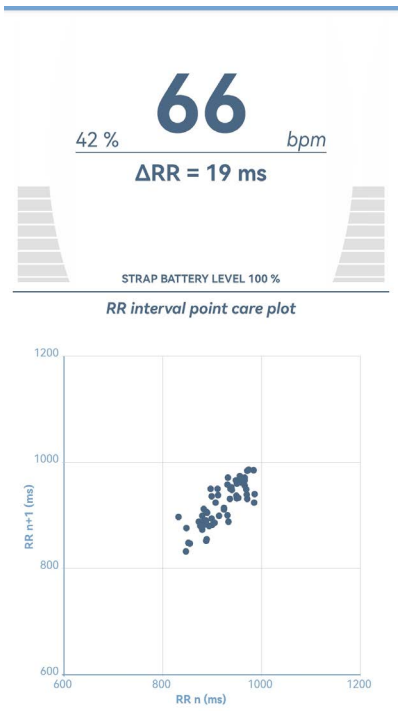

Figure 6: *15 min. after consuming Red Bull.*

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