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Title: Effects of cigarette smoking intensity on functional capacity of active smokers

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Body: Smokers have increased airflow resistance and reduced exercise tolerance. Aim: To evaluate the effects of smoking intensity on functional capacity of active smokers. Methods: 54 smokers were divided into light (LS) (1-10 cigarettes/day (c/d); n=10), moderate (MS) (11-20 c/d; n=12) and heavy smokers (HS) (³21 c/d; n=32). The smoking behaviour, pulmonary function, and functional capacity (six minutes walk test - 6MWT) were evaluated. The heart rate (HR), peripheral oxygen saturation (SpO₂) and systolic (SBP) and diastolic (DBP) blood pressure were evaluated before, immediately and two minutes after recovery the 6MWT. An age-matched non smoker (NS) group (n=13) was also assessed. Comparisons between groups were conducted by Kruskal-Wallis, followed by Dunn's. For comparison among 6MWT variables, numerical deltas (Δ) were calculated for the HR, SpO₂, SBP and DBP Results: MS and HS walked less than NS in 6MWT (P=0,001). HS had lower FEV₁ than NS (P=0,003). Furthermore, the HR of NS increased more immediately after 6MWT (P<0,0001) and two minutes after the 6MWT (P<0,0001). The SBP increased more in HS compared to NS after the 6MWT (P=0,005).

Numerical deltas between moments.

Characteristics	Non Smokers (n = 13)	Light Smokers (n = 10)	Moderate Smokers (n= 12)	Heavy Smokers (n = 32)
CF - Δ 1 after-before	61 \pm 13*	33 \pm 17	27 \pm 9	36 \pm 13
CF - Δ 2 recovery-before	15 \pm 10*	5 \pm 12	0 \pm 6	6 \pm 7
CF - Δ 3 recovery-after	-4,5 \pm 10**	-28 \pm 12	-27 \pm 11	-30 \pm 14
SBP - Δ 1 after-before	0 \pm 7***	5 \pm 13	11 \pm 18	16 \pm 17

*P<0,0001 **P=0,0006 X LS, MS, HS; ***P=0,005 X HS.

Conclusion: MS and HS had lower functional capacity than NS and smoking had a bad hemodynamic repercussion in the 6MWT.