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PROPOSED THEME: The use of bicycles as a means of transport in a mountain city, according to the physical condition of people who are over 30 years old

ABSTRACT

The active urban mobility and its relation to the health of the population have encouraged the study of non-motorized means of transportation. Therefore, we have proposed a study on the use of bicycles in the mountainous city of Belo Horizonte, located in Brazil, in the State of Minas Gerais. People in this city have not developed the habit of commuting by bicycle on a daily basis probably because, in the past, these vehicles were heavier and did not have the technology that is available today.

The aim of this study was to evaluate the changes in the participants' clinical parameters during a predefined journey, using the bicycle as the means of transportation. People over 30 years old and with different functional capacities were studied, one group being formed by sedentary individuals and the other one by physically active individuals, according to criteria used by the World Health Organization. Athletes and people who suffer from any severe cardiovascular disease were excluded. The total length of the journey was 5.2 km, 3.8 km of which taking place on a bicycle path. The total altimetry was estimated at 65 meters. All participants did the same route under similar and favorable weather conditions. Before the study, a training course was provided to offer the participants the same technical conditions for using the bicycle resources. The volunteer participants made the same journey accompanied by a cyclist doctor and each of them carried a backpack of 3 kg to simulate the weight of a baggage of everyday use. It was performed a comparison of the physiological impact (heart rate, blood pressure, presented symptoms) and of the modified Borg's scale of subjective perception. The participants filled in a questionnaire form before and after the completion of the course, in which they informed the extension they estimated to have traveled, if that path was feasible in their everyday lives and what the main limiting factors for its implementation were.

The results show that most of the physically active participants rated the course as being easy, according to the Borg scale, contradicting the hypothesis that getting around a hilly city by bicycle is a prohibitive practice for older people. Most sedentary participants, despite having greater difficulty and reaching higher heart rates on certain stretches of the route, also managed to make the trip.

It can be concluded that the relief was not an impediment for most people to complete the course, no matter their different physical abilities. This reinforces the importance of

stimulating the practice of physical exercises among all age groups. Recent studies have shown that active urban mobility not only promotes health benefits, but also makes cities healthier and more sustainable. New studies should be conducted with the aim of overcoming barriers related to the relief, as well as those related to age, that might discourage the use of bicycles in mountain cities.