

A methodology to Assess Physical Activity and Energy Expenditure in a Urban Latin American Representative Sample: The Latin American Survey of Nutrition and Health (ELANS)



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INTRODUCTION

There is compelling evidence indicating that physical activity is associated with numerous health benefits.

However, few studies in Latin America have collected comparable information regarding the levels and patterns of subjective- and objectively-measured physical activity and time spent in sedentary activities.

OBJECTIVE

To characterize the methodology of data collection for determination of subjective- and objectively-measured physical activity, sedentary time and energy expenditure in a urban representative sample of adolescents and adults from eight Latin American countries.

METHODS

ELANS is a household-based multi-national cross-sectional survey to be conducted in a representative urban sample of 8 Latin American countries:

- Argentina
- Brazil
- Chile
- Colombia
- Costa Rica
- Ecuador
- Peru
- Venezuela



Sample

- 8,000 subjects (based on a complex multistage probability sample design stratified by conglomerates)
- Both genders
- 15 to 65 years old
- Different socioeconomic levels (high, medium and low strata)

Measurement of physical activity

- Self-Reported Activities:

- **International physical activity Questionnaire*** (IPAQ-long version) in four domains (at work, transportation, housework and leisure-time) regarding the “last 7 days”

- Objectively-Assessed Activity:

- **GT3X accelerometer*** at the waist on an elasticized belt, on the right mid-axillary line for 7 days (including at least 1 weekend day).



* In 40% of the sample

Outcomes

- Average physical activity, expressed as mean counts per minute;
- Amount of time engaged in walking and moderate- to vigorous-intensity physical activity;
- Time spent being sedentary;
- Average energy expenditure.

All outcomes will be related to anthropometric measurements and nutritional intake, and controlled for sex, age, income, marital status and education

A pilot study at small scale (50 subjects) will be performed in each country in order to test procedures and tools involved in ELANS.

Protocol and Ethical Approvals

The overarching ELANS protocol was approved by the Western Institutional Review Board (#20140605) and registered at Clinical Trials (#NCT02226627). Each site-specific protocol was also approved by the ethical review boards at the participating institutions

CONCLUSION

- The study characterizes the data collection methodology in a representative sample of urban population from Latin American countries.
- It will provide a unique dataset, enabling cross-country comparisons in order to understand current and changing physical activity levels, sedentary behavior and its relationship with nutritional status.

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ACKNOWLEDGEMENTS



This research is funded by The Coca-Cola Company