

# MONISA study: characteristics and methodological aspects

## *Estudo MONISA: características e aspectos metodológicos*

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## **Abstract**

The objective is to present the characteristics and methodological procedures adopted in the MONISA Study (Surveillance of health and quality of life indicators of college students). This is a prospective, panel type study, with biannual surveys of representative samples of undergraduate students at a public university in the State of Bahia, Brazil. This study carried out five surveys, totaling 10 years of monitoring (2010-2018). The sample is stratified and proportional to the courses, study period (day and night) and year of attending university. Finally, college students are selected at each stratum, through the registration list in alphabetical order. To obtain the information is used a structured questionnaire with the following sections: socio-demographic indicators, indicators of lifestyle and health, eating habits and body weight control, physical activity and other leisure options, preventive behaviors, and indicators environment and learning conditions. The novel aspects of this study may help in clarifying possible trends related to the health of Brazilian college students and to subsidize policies and programs or projects to promote health and quality of life in local, organizational level.

**Keywords:** Students. Longitudinal studies. Cross-sectional studies. Random and systematic sampling. Health behavior. Quality of life.

## Resumo

O objetivo é apresentar as características e os procedimentos metodológicos adotados no Estudo *Monitoramento dos Indicadores de Saúde e Qualidade de Vida de Acadêmicos* (MONISA). Trata-se de um estudo prospectivo, do tipo painel, com inquéritos bianuais em amostras representativas de estudantes de uma universidade pública do Estado da Bahia. Este estudo realizará cinco inquéritos, perfazendo 10 anos de monitoramento (2010 a 2018). A amostra é estratificada e proporcional aos cursos de graduação presenciais, período de estudo (noturno e diurno) e ano de ingresso na universidade. Por fim, os estudantes universitários são selecionados em cada estrato, por meio da lista de matrícula em ordem alfabética. Para obtenção das informações é utilizado um questionário estruturado, com as seguintes seções: indicadores sociodemográficos; indicadores do estilo de vida e saúde; hábitos alimentares e controle do peso corporal; atividades físicas e opções de lazer; comportamentos preventivos; e, indicadores do ambiente e condições de aprendizagem. O pioneirismo do Estudo MONISA poderá auxiliar no esclarecimento de possíveis tendências relacionadas à saúde de estudantes universitários brasileiros e subsidiar informações para propor programas ou projetos de promoção da saúde e qualidade de vida em nível organizacional local.

**Palavras-chave:** Estudantes. Estudos longitudinais. Estudos transversais. Amostragem aleatória e sistemática. Conduta de saúde. Qualidade de vida.

## Introduction

The increase in deaths related to chronic non-communicable diseases (NCDs) has been observed in several countries<sup>1</sup> and different risk factors such as hypertension, smoking, high blood glucose, physical inactivity, overweight and obesity are associated with NCD<sup>1</sup>. Given the potential harms of risk factors to the population's health and to the costs of health systems, many countries, including Brazil, are conducting monitoring studies from the telephone survey surveillance system (VIGITEL)<sup>2</sup>, as well as other surveys with specific populations, such as employees of Brazilian universities (Pro-Health and ELSA)<sup>3,4</sup>.

Such initiatives are important because of the peculiarities that determine and condition the health of people living in specific environments, including the growing population of students in higher education. However, studies based on monitoring college students still do not seem to follow the initiatives observed in other population groups. In light of the shortcomings pointed out, this article presents the characteristics and methodological procedures used in the MONISA Study (Monitoring Health and Quality of Life Indicators for College Students).

### Features and methodological aspects of the MONISA study

The MONISA Study is characterized as a prospective panel study, as biannual collections with representative samples of students at a public university in southern Bahia will be held. This study aims to characterize and monitor the indicators of lifestyle, learning and environmental conditions of students for a period of ten years (2010-2018). The research design was approved by the local research ethics committee (number 382/10).

The population includes students enrolled in the second semester of the years of the survey, in all undergraduate classrooms. The study excludes at distance education

students, graduate students enrolled in higher education courses and students approved for the second semester. The following are taken into consideration for calculating the sample: reference population, a confidence level of 95%, tolerable sampling error of three percentage points and a prevalence of 50%, and an additional 20% for possible losses and 15% for association studies. The selected subjects must be sought within three attempts, if they are not found or have no interest in participating they are considered as losses and refusals, respectively, with no replacements for either situation.

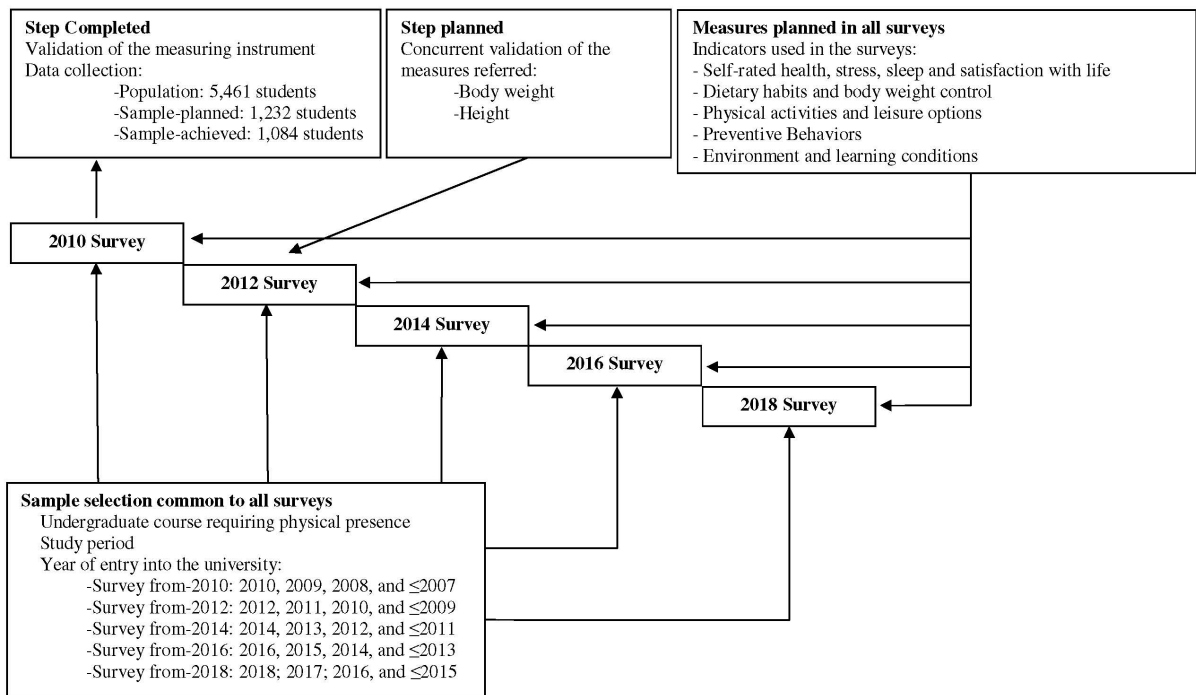
The sample is stratified and proportional to the courses offered by the educational institution during the study period (day or night) and year of entry to university (including four categories, and considering that most courses take at least four years to complete). In each stratum, students are selected randomly through a registration list in alphabetical order. The MONISA Study flowchart is shown in Figure 1.

In the months of July and August, the data collection staff is trained, and data are

collected on the premises of the institution, from September to November. The information is gathered through the Isaq-A questionnaire (*Health and Quality of Life Indicators for College students*)<sup>5</sup> that was based on the questions in the original form or with minor adaptations of instruments for adults and college students. The Isaq-A was previously tested for face and content validity, clarity and pre-testing, and, for reproducibility with an interval of one week, showing satisfactory indicators for its implementation. Its final version is comprised of 71 questions, to be self-administered in the classroom and its sections are: course information; sociodemographic indicators, lifestyle and health indicators, eating habits and body weight control, and physical activity and leisure options; preventive behaviors, and indicators of environment and learning conditions.

## Final Considerations

The methodological rigor of the MONISA study is one of its strengths and the easy



**Figure 1** – Flowchart of surveys in the MONISA Study.

**Figura 1** – Fluxograma dos inquéritos do Estudo MONISA.

logistic requirements for its application were observed in the first survey (baseline) from 2010, which obtained a response rate of 88% (n=1,084). The information from the first survey was released in the form of lectures, institute journals and science papers<sup>6-9</sup>. Further surveillance in the MONISA Study may clarify possible trends related to

the health of Brazilian university students and provide information for the proposal of programs and projects to promote health and quality of life at the local organizational level. In case of implementation of interventions, potential beneficial effects for subjects in the medium and long term are expected.

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## References

1. World Health Organization [WHO]. *Global health risks: mortality and burden of disease attributable to selected major risks*. Geneva: WHO; 2009.
2. Ministério da Saúde do Brasil. *Vigilância de Fatores de Risco e Proteção para Doenças Crônicas por Inquérito Telefônico: estimativas sobre frequência e distribuição sócio-demográfica de fatores de risco e proteção para doenças crônicas nas capitais dos 26 Estados brasileiros e no Distrito Federal em 2008*. Brasília: Ministério da Saúde; 2011.
3. Faerstein E, Chor D, Lopes CS, Werneck GL. Estudo Pró-Saúde: características gerais e aspectos metodológicos. *Rev Bras Epidemiol* 2005; 8(4): 454-66.
4. Departamento de Ciência e Tecnologia, Secretaria de Ciência, Tecnologia e Insumos Estratégicos, Ministério da Saúde. ELSA Brasil: maior estudo epidemiológico da América Latina. *Rev Saúde Pública* 2009; 43(1): 1-2.
5. Sousa TF, Fonseca SA, José HPM, Nahas MV. Validade e reprodutibilidade do questionário Indicadores de Saúde e Qualidade de Vida de Acadêmicos (Isaq-A). *Arq Cien Esp* 2012 (no prelo).
6. Sousa TF, Nahas MV. Prevalência e fatores associados a menores níveis de prática de atividades físicas no lazer em estudantes de uma universidade pública do Estado da Bahia. *Rev Bras Ativ Fis Saúde* 2011; 16(4): 322-29.
7. Sousa TF. Atividades físicas praticadas no lazer por universitários de uma instituição pública do Nordeste do Brasil. *Rev Bras Ativ Fis Saúde* 2012; 17(2): 125-31.
8. Sousa TF, José HPM, Barbosa AR. Condutas negativas à saúde em estudantes universitários brasileiros. *Ciênc Saúde Colet* 2013 (no prelo).
9. Sousa TF, Virtuoso Junior JS, Barbosa AR. Autovaloración de salud: localización de la pregunta en las encuestas epidemiológicas. *Gac Sanit* 2013 (no prelo).

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