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Behavioral aspects and determinants associated with routine laboratory tests.

Behavioral aspects and determinants associated with routine laboratory testing
Behavioral aspects and determinants associated with carrying out routine laboratory tests

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SUMMARY

The performance of routine laboratory tests, when appropriately indicated, contributes to the assessment of health and the early diagnosis of diseases. However, it can be influenced by knowledge, beliefs, fears, and sociodemographic factors. **Objective:** To analyze the behavioral aspects and determinants associated with the performance of routine laboratory tests among students at UNIPAR, Cascavel Campus. **Materials and methods:** A field research study was conducted, exploratory, descriptive, quantitative, cross-sectional, and with prospective data collection, after institutional authorization and approval from the Research Ethics Committee Involving Human Beings (CEPEH).

Participants were academics over 18 years of age, from different courses, after signing informed consent forms. Data were collected through an online questionnaire with closed-ended questions about sociodemographic profile, knowledge, and behavioral aspects related to undergoing examinations. **Results:** Of the 316 participants, 43.7% underwent examinations only when they presented symptoms. Students with health insurance showed a higher frequency of undergoing examinations.
Doubts and concerns related to the laboratory results were also observed.

Final considerations: The results highlight the importance of access to healthcare, professional guidance, and health education in encouraging prevention and conscious care.
Keywords: Laboratory tests; Health behavior; Health knowledge; Health education.

ABSTRACT

Routine laboratory testing, when appropriately indicated, contributes to health assessment and the early diagnosis of diseases. However, its performance may be influenced by knowledge, beliefs, fears, and sociodemographic factors. **Objective:** To analyze the behavioral aspects and determinants associated with routine laboratory testing among students at UNIPAR, Cascavel Campus. **Materials and Methods:** An exploratory, descriptive, quantitative, cross-sectional field study with prospective data collection was conducted after institutional authorization and approval by the Research Ethics Committee Involving Human Subjects (CEPEH). Participants were students over 18 years old from different academic programs who agreed to participate by signing the informed consent forms. Data were collected through an online questionnaire containing closed-ended questions about sociodemographic characteristics, knowledge, and behavioral aspects related to laboratory testing.

Results: Of the 316 participants, 43.7% reported undergoing laboratory tests only when experiencing

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symptoms. Students with health insurance showed a higher frequency of testing. Doubts and concerns regarding laboratory results were also observed. **Final Considerations:** The findings highlight the importance of access to healthcare, professional guidance, and health education in encouraging prevention and informed health care.
Keywords: Laboratory tests; Health behavior; Health knowledge; Health education.

1 INTRODUCTION

Laboratory tests play an important role in promoting health and identifying
of physiological changes and in the early diagnosis of various diseases, contributing to decision-making.
for clinical decision-making and for monitoring health conditions. When indicated according to
Considering individual characteristics, medical history, and risk factors, these tests can...
to assist in identifying asymptomatic changes, thus enabling timely interventions and
prevention strategies (Mendes; Barros, 2020; Silva *et al.,* 2021). However, the implementation of
Routine laboratory tests do not depend exclusively on the availability of health services.
being also influenced by knowledge, individual perceptions and behaviors
related to self-care.

Adherence to preventive laboratory tests is a multifactorial phenomenon, associated with aspects
socioeconomic factors, level of education, access to information, and understanding of the importance of
prevention. Individuals with greater access to reliable information may exhibit greater
understanding the benefits of regular checkups, while financial difficulties, limitations of
Access to services and logistical barriers can contribute to the postponement or non-implementation of events.
of these procedures (Costa; Almeida, 2023; Santos; Ferreira, 2021). Thus, the investigation
of the determinants associated with performing routine laboratory tests, one should consider not
not only the frequency of occurrence, but also the social and individual conditions that favor or
They make this practice difficult.

In addition to socioeconomic factors, behavioral and psychosocial aspects can influence...
The decision to seek healthcare services for preventive checkups. The fear of receiving
an unfavorable diagnosis, anxiety about the results, and a perception of vulnerability to
Illness can lead individuals to postpone investigating their health condition, even when it is not present.
They present apparent symptoms. Costa *et al.* (2020) associate resistance to preventive examinations with
Stigmas related to the diagnosis and possibility of confirmation of serious illnesses. In a way
Similarly, Lima (2023) highlights the influence of emotional and psychosocial aspects on perception.
Negative health concerns and resistance to undergoing examinations. These issues highlight that the decision
The ability to perform laboratory tests is determined not only by technical knowledge, but also

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based on individual experiences, beliefs, and expectations.

Among popular beliefs related to laboratory tests, the idea that stands out is that...
Preventive screening can reveal diseases that would not be noticed in the absence of symptoms.
by the individual. The perception that only sick people need to have tests done can
compromising the understanding of its preventive purpose and contributing to low adherence to check-ups
UPS (ABRAMED, 2023; SBPC/ML, 2022). Furthermore, doubts remain regarding the reliability of...
Results, the preparation required for collection, and the interpretation of findings can generate uncertainty.
and hinder the proper use of laboratory services. In this context, communication between
For healthcare professionals and patients, this is particularly important because clear and accessible guidelines can...
to contribute to reducing fears, clarifying doubts, and promoting more informed decisions about the
take care of your health (Lima; Costa, 2021; Costa; Almeida, 2023).

Health education is therefore an important strategy for expanding knowledge.
regarding laboratory tests and encouraging preventive behaviors. The dissemination of
information based on scientific evidence, through educational campaigns, materials
Informative materials and guidance provided by healthcare professionals can help to demystify...
beliefs and strengthen understanding about the importance of preventive monitoring (Almeida *et al.,* 2022; Silva; Moura, 2022). However, for these strategies to be adequately
To be targeted, it is necessary to understand which factors are most frequently associated with
conducting or not conducting the exams, taking into account both sociodemographic characteristics
as for individuals' perceptions, knowledge, and fears.

Given this scenario, it becomes relevant to investigate the behavioral aspects and determinants.
associated with the performance of routine laboratory tests, especially with regard to frequency.
of implementation, to knowledge about its preventive purpose and to the barriers that may interfere with it.
adherence. Thus, the present study aimed to analyze the behavioral aspects and the
Determinants associated with the performance of routine laboratory tests, considering the frequency.
of the process, the participants' knowledge about the importance of these exams and the factors that
They may hinder your adherence.

2. THEORETICAL FRAMEWORK

2.1 Routine laboratory tests and health prevention

Disease prevention is an important component of healthcare, and examinations
Laboratory tests can contribute to the identification of clinical changes and the evaluation of risk factors.

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risk and monitoring of different physiological conditions. When indicated according to the
Considering individual characteristics, medical history, and professional evaluation, these exams help in...
identification of changes that may be present even in the absence of clinical manifestations
evident (Mendes; Barros, 2020).

Among the tests frequently used in laboratory evaluation are the complete blood count, blood glucose,
The lipid profile and renal and hepatic function tests. The complete blood count contributes to the investigation of
hematological changes, while blood glucose and lipid profile help in the evaluation of conditions.
metabolic and cardiovascular risk factors (Silva *et al.,* 2021). However, selection
and the frequency of examinations should take into account individual needs and the presence of risk factors
risk and relevant clinical recommendations, which are not necessarily the same for everyone.
population (SBPC/ML, 2022).

In this context, routine laboratory tests can be integrated into prevention strategies and
health monitoring, provided that the request is appropriate and the results are...
interpreted in conjunction with the individual's clinical information. Performing these tests,
However, it doesn't depend exclusively on your availability or professional recommendation.
knowledge about its purpose, risk perception, and individual willingness to seek it out.
Healthcare services can also influence adherence to preventive practices.

2.2 Sociodemographic determinants and access to laboratory tests

The performance of laboratory tests is influenced by a set of individual determinants and
social factors, among which the level of education, economic conditions, and access to stand out.
Information and the availability of health services. These factors can interfere with both
Understanding the importance of preventive exams, as well as the concrete possibility of carrying them out.
Costa and Almeida (2023) link educational level to adherence to preventive examinations, highlighting
The importance of access to reliable information for understanding the benefits of prevention.
Socioeconomic inequalities can also limit the use of health services. Even
when there are free alternatives, transportation difficulties, schedule incompatibility
Customer service and professional activities, waiting times, and other logistical barriers can make it difficult.
the carrying out of the exams. Santos and Ferreira (2021) discuss the relationship between inequality and access to
preventive health, while Carvalho *et al.* (2020) highlight economic difficulties as
obstacles to seeking medical care.

Access barriers can have different characteristics depending on the needs and the
The conditions of each population group. Among children, the performance of tests depends on the

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The participation of those in charge may be hindered by financial limitations or problems.
displacement and difficulties in organizing the family routine (Silva *et al.,* 2020; Oliveira; Souza,
(2019). In the elderly population, limitations in mobility, dependence on caregivers, and difficulties
The use of digital tools can compromise access to services (Ferreira *et al.,* 2021).

2.3 Behavioral aspects, perceptions, and stigmas related to examinations

In addition to socioeconomic determinants, behavioral and psychosocial factors may also play a role.
to influence the decision to undergo routine laboratory tests. Individual perception of the
one's own state of health, concern about possible diagnoses, and previous experiences with
Health services can interfere with how tests are understood and incorporated into...
self-care practices (Lima, 2023).

One of the relevant aspects is the fear of discovering an illness. The possibility of receiving a
An unfavorable outcome can cause anxiety and lead some people to postpone taking action.
tests, even when they are recommended. Costa *et al.* (2020) relate resistance to
preventive exams address aspects associated with vulnerability and fear of disease confirmation.
serious. Lima (2023), in turn, highlights the influence of emotional and psychosocial factors, such as
Fear of the diagnosis and difficulty in recognizing one's own vulnerability to the disease.

These perceptions may be associated with popular beliefs that attribute a certain kind of harm to exams.
predominantly negative connotation. The expression "whoever seeks, finds," for example, represents
a conception according to which investigating health can be interpreted as a way of anticipating
or to confirm problems that, in the absence of symptoms, would remain unknown. However, the
The absence of symptoms does not rule out the possibility of clinical changes that warrant investigation.
ABRAMED (2023) highlights the importance of preventive examinations, while SBPC/ML (2022)
It addresses its relevance in monitoring health.

Another important aspect is the perception that laboratory tests would only be necessary.
in the face of previously identified symptoms or illnesses. This understanding can reduce the need to seek medical attention.
through preventive assessments and compromise the timely identification of changes. They can also
There are doubts about the reliability of the results, the need for preparation for collection, and the
meaning of the parameters evaluated. When these issues are not adequately clarified,
They can contribute to insecurity and the postponement of taking the exams (Pereira; Silva
2020).

In this sense, adherence to laboratory tests should not be understood merely as a
A rational decision based on knowledge of its benefits. It can also reflect emotions.

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Beliefs, individual experiences, and socially constructed interpretations about health and illness. Identifying these aspects is important to understand why individuals with access to Laboratory services may still exhibit behaviors that are not conducive to prevention.

2.4 Knowledge of health, professional guidance and adherence to examinations

Knowledge about the purpose of laboratory tests can contribute to the understanding of Its importance in prevention, diagnostic investigation, and clinical follow-up. However, Knowing that a particular test exists does not necessarily mean understanding its... indications, their limitations, or the importance of conducting assessments according to needs. individual needs. For this reason, health education should address both the benefits and the limitations. of laboratory tests, avoiding the idea that the indiscriminate performance of tests represents, necessarily, a condition of greater safety or better care (Lima; Costa, 2021).

The distinction between screening tests and complementary tests is also relevant for this. Understanding. Screening tests are used in specific contexts to identify individuals who may require further investigation, while complementary examinations They help in clarifying diagnostic hypotheses and in evaluating particular clinical conditions. Pereira and Silva (2020) highlight the contribution of laboratory screening to early identification. of changes, while Meyer and Henneman (2018) discuss the use of complementary examinations. in the diagnosis and management of diseases.

Understanding these differences can lead to a more accurate perception of the purpose. of the tests and reduce misinterpretations about their use. In addition, the guidance A professional is important to clarify any doubts related to indications, necessary preparation and to the interpretation of the results. The American Association for Clinical Chemistry (2020) addresses the The importance of providing guidance to patients on how to properly perform laboratory tests. In a complementary way, Lima and Costa (2021) highlight the relevance of guidance and Proper procedures for quality outcomes and patient care.

Communication between healthcare professionals and service users can help reduce fears, clarify incorrect information, and encourage more informed decisions. Costa and Almeida (2023) highlight the importance of guidance and access to information in the context of adherence to preventive exams. Thus, professionals who work in healthcare and laboratory diagnosis. They can contribute to promoting health by providing understandable information. contextualized and scientifically grounded.

Educational strategies can also broaden access to knowledge and encourage practices of

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self-care. Silva and Moura (2022) highlight the potential of awareness campaigns, lectures and Informative materials to encourage preventive screenings. Almeida *et al.* (2022) They also emphasize the importance of health education in promoting adherence to these practices. However, the effectiveness of educational actions depends on identifying doubts, beliefs, and of the barriers that exist between the individuals to whom they are intended. Therefore, understanding the population's perceptions of laboratory tests allows us to identify information needs and to guide more appropriate educational strategies. Research on frequency of taking the exams, knowledge about their purpose, and the reasons why they are taken. Postponement or non-performance can contribute to understanding the relationship between information, Preventive behavior and access to health services.

3 METHODOLOGY

3.1 Study design, participants and ethical considerations

This is a field study, exploratory, descriptive, with a quantitative approach and cross-sectional design, developed with the aim of investigating perceptions and knowledge. and the stigmas associated with undergoing routine laboratory tests. 316 people participated in the study. Individuals who voluntarily responded to the electronic questionnaire were considered. Eligible participants are those aged 18 or older, according to the established criteria. in the research project.

The research was evaluated by the Research Ethics Committee Involving Human Beings (CEPEH) of the Paranaense University (UNIPAR), under the Certificate of Presentation of Ethical Appraisal. (CAAE) No. 88205725.0.0000.0109 and opinion No. 7,645,452. Participation occurred through reading and The Informed Consent Form (ICF) was signed. The principles were respected. Ethical principles applicable to research involving human subjects, including voluntary participation, Confidentiality of information and preservation of the anonymity of participants.

3.2 Data collection

Data collection was carried out using a structured questionnaire, developed on the platform. *Google Forms,* containing closed-ended questions related to the sociodemographic characteristics of participants, possession of a health plan, and frequency of check-up laboratory tests. up. Knowledge about laboratory tests and perceptions of

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guidelines provided by laboratories, the search for information on how to prepare for collection, the popular beliefs, the emotional aspects related to taking the exams, and the possible barriers to its realization.

The instrument included single-answer and multiple-choice questions, allowing to characterize the participants' responses and identify the most frequently used laboratory tests. recognized or reported as already completed. The data were organized in a spreadsheet. for further statistical analysis.

3.3 Statistical analysis

The data were analyzed using *GraphPad Prism software.* Initially, a statistical analysis was performed. descriptive, with presentation of categorical variables by means of absolute frequencies *(n)* and relative (%). For multiple-choice questions, frequencies were calculated considering the answers marked by participants, and the sum of the categories may exceed the total of sample.

Additionally, the association between health insurance coverage and frequency of visits was investigated. Performing check-up laboratory tests using a contingency table. For this For comparison, Fisher's exact test was used , adopting a significance level of 5% ($p < 0.05$). The results were considered statistically significant when the p -value was less than 0.05.

The results were presented in tables and graphs to facilitate visualization. from the distribution of responses and the comparison between the categories analyzed.

4 RESULTS

Sociodemographic sample categorization

The sample consisted of 316 participants, predominantly in the 18-28 age range. (81.0%; n = 256) and of the female gender (76.6%; n = 242). Regarding the area of graduation, there was a greater participation of individuals from the Humanities (50.3%; n = 159), followed by the Sciences. Biological and Health Sciences (36.7%; n = 116). Regarding health insurance coverage, 54.7% (n = 173) They reported not having a plan (Table 1).

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Table 1 – Sociodemographic characteristics of the participants (n = 316)

Variable	Category	n	%
Age range (years)	18–28	256	81.0
	29–39	41	13.0
	40–50	15	4.7
	51–59	4	1.3
Gender	Feminine	242	76.6
	Masculine	71	22.5
	I prefer not to disclose.	3	0.9
Area of study	Humanities	159	50.3
	Biological/Health Sciences	116	36.7
	Engineering and technologies	27	8.5
	Applied social sciences	10	3.2
	Exact sciences	4	1.3
Health insurance	Yes	143	45.3
	No	173	54.7

Source: Research data (2026).

Behavioral aspects and determinants associated with undergoing examinations.

Regarding the frequency of routine laboratory tests, a predominance of [various methods] was observed. participants who reported undergoing tests only when they noticed something wrong, such as the presence of signs and symptoms (43.7%; n = 138). In contrast, 29.7% (n = 94) reported undergoing tests. annually, while 15.5% (n = 49) reported performing them every six months. A smaller proportion stated that they undergo check-ups every two years (6.0%; n = 19) or have never undergone check-up exams. (5.1%; n = 16) (Figure 1).

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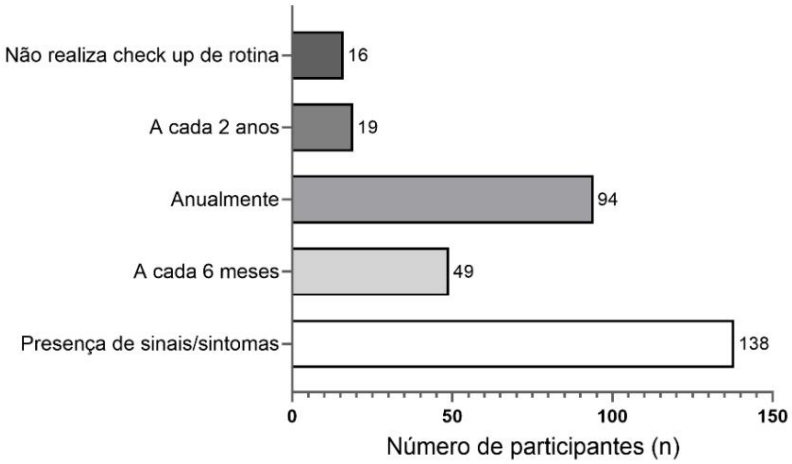
Figure 1 – Distribution of participants according to the frequency of taking exams.

laboratory *check-up*



Source: Research data (2026).

A statistically significant association was observed between having health insurance and frequency.
of conducting check-up laboratory tests (Fisher's *exact test, p* = 0.0448).
Descriptively, among the participants who did not have health insurance, there was a higher proportion
of those who reported only getting tested when they had signs or symptoms, while,
Among participants with health insurance, a higher proportion of annual completion of [certain procedures] was observed.
exams. The frequency distribution according to health plan ownership is shown in Figure
2.

A statistically significant association was observed between health insurance coverage and frequency.
for conducting check-up laboratory tests. Participants with health insurance presented
higher proportions of annual and semi-annual check-ups, while those without a plan reported
more frequently, people only seek tests when they have signs or symptoms. These findings suggest
a possible relationship between access to healthcare and the adoption of preventive practices, although
do not allow a causal relationship to be established.

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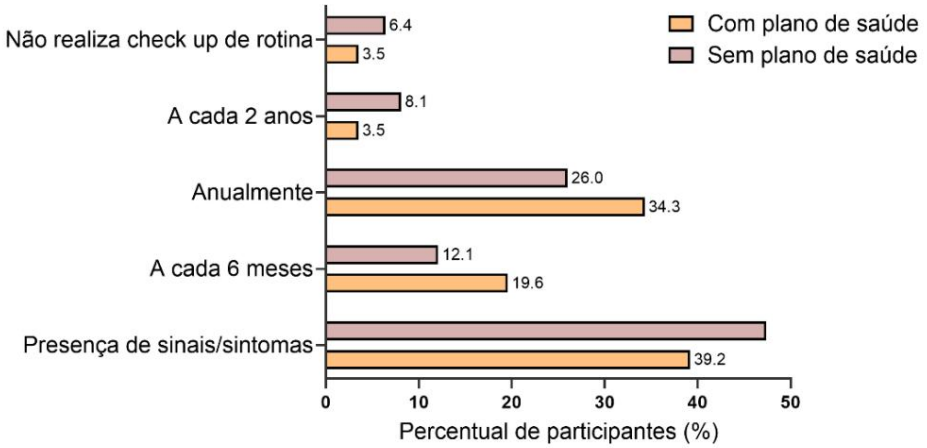
Figure 2 – Frequency of laboratory check-up tests according to possession of health plan



The bars represent the percentage distribution of participants with and without health insurance in each category of frequency of laboratory tests. The percentages were calculated considering the total number of participants in each group (with health insurance: n = 143; without health insurance: n = 173). The association between the variables was assessed using Fisher's exact test (p = 0.0448).
Source: Research data (2026).

Regarding guidance and knowledge about laboratory tests, it was observed that 47.2% of the participants (n = 149) rated the guidance provided by the laboratories before collection. Regarding the search for information on preparing for tests, 51.6% (n = 163) reported doing so, while 25.0% (n = 79) stated that they did not seek this information and 23.4% (n = 74) reported doing so occasionally. Regarding knowledge about screening tests and complementary tests, 51.3% (n = 162) had heard about these tests, but did not know to differentiate them, while 26.3% (n = 83) stated they knew the difference and 22.5% (n = 71) never They had heard about the subject (Figure 3).

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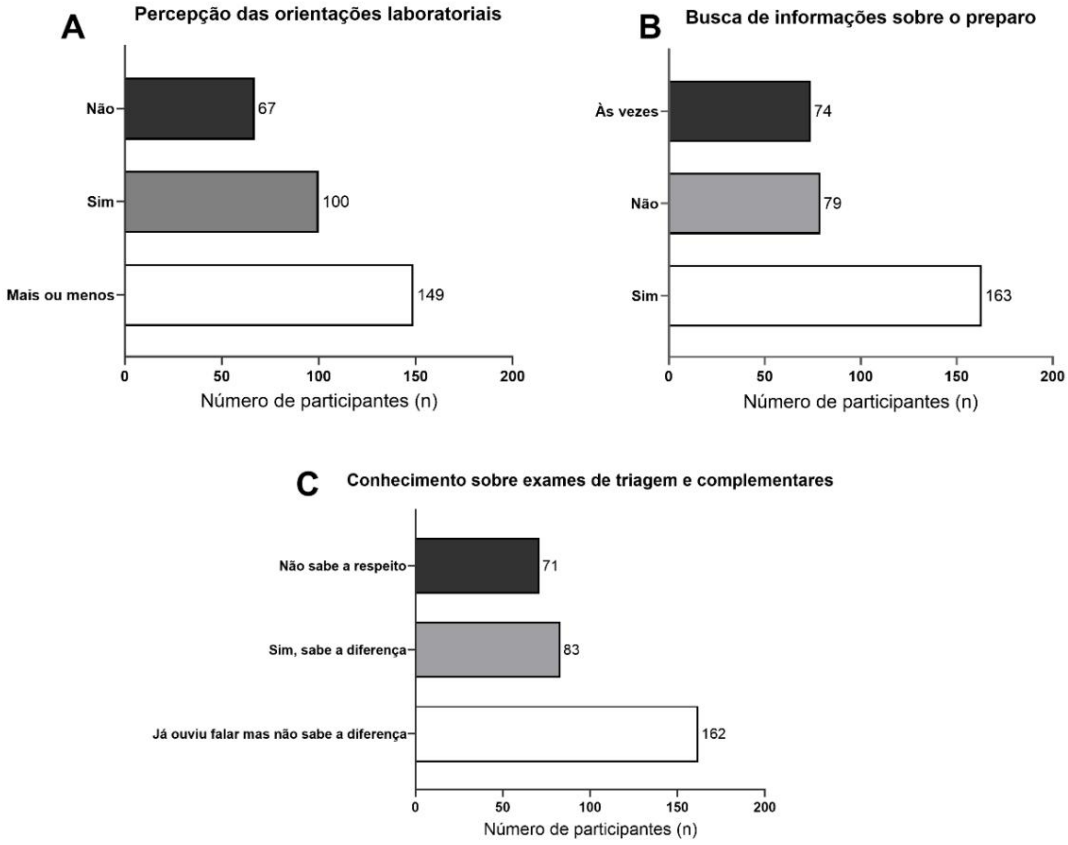
Figure 3 – Perception of laboratory guidelines, information seeking and knowledge about laboratory tests



(A) Participants' perception of the guidance provided by laboratories before collection; **(B)** search for information on preparing for laboratory tests; **(C)** knowledge about the difference between screening and complementary tests. **Source:** Research data (2026). Values expressed in absolute numbers (n = 316).

Among the laboratory tests already performed or known by the participants, the following stood out: complete blood count (n = 253), urinalysis (n = 241) and cholesterol and triglyceride levels (n = 230). In contrast, HBsAg (n = 76) and VDRL (n = 81) showed lower frequencies.

among the listed exams. Additionally, 33 participants reported that they do not recall having taken any of the exams.

none of the tests presented (Figure 4).

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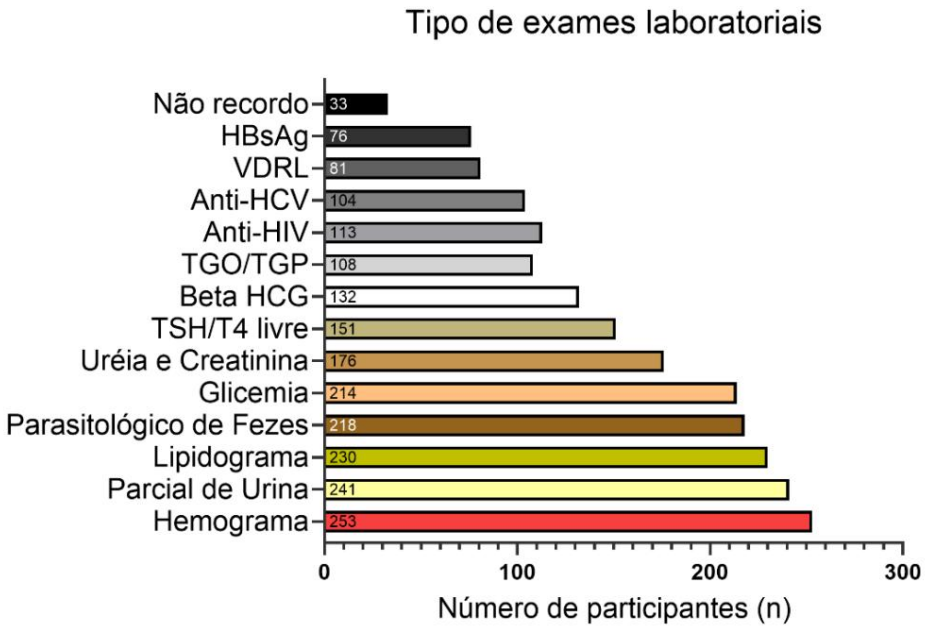
Figure 4 – Distribution of laboratory tests already performed or known by the participants



Source: Survey data (2026). *Note: Values expressed in absolute numbers. Multiple choice question; participants could select more than one option.*

Regarding the beliefs and perceptions associated with undergoing laboratory tests, it was observed that 53.2% of participants (n = 168) had heard the expression "seek and you shall find," but not They believed it, while 43.4% (n = 137) reported believing this statement. Regarding perception Regarding fear or anxiety related to exams, 57.6% (n = 182) acknowledged that these reactions These can occur. Among the reasons related to not undergoing examinations, fear or insecurity, as shown in Figure 5

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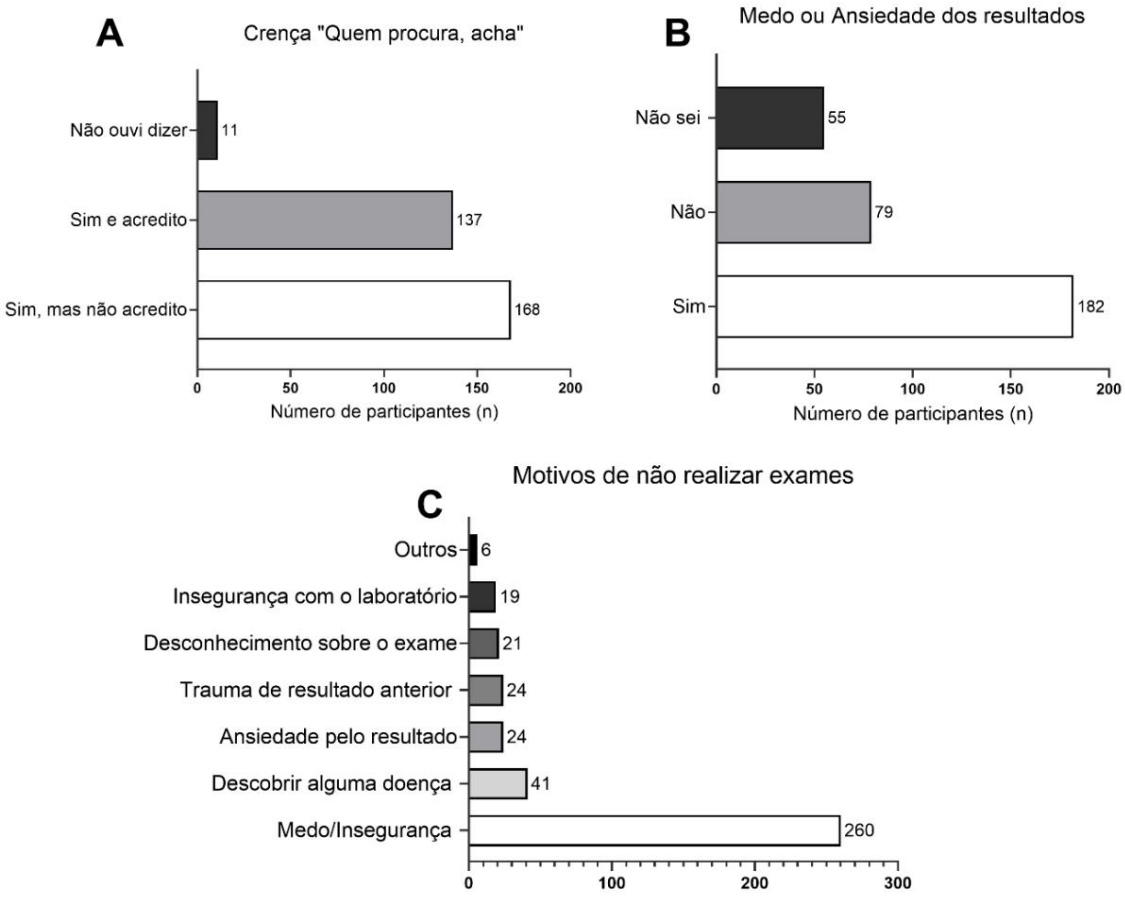
Figure 5 – Beliefs, emotional perceptions, and reasons related to not undergoing examinations.
laboratory



(A) Belief in the expression "seek and you shall find"; **(B)** perception that laboratory test results may cause fear or anxiety; **(C)** reasons related to not undergoing laboratory tests. Source: Research data (2026). Values expressed in absolute numbers (n).

The data above reinforces the need to expand information on the purpose of the two.
possibilities. According to Maxim, Niebo, and Utell (2014), screening tests are requested in order to
to investigate possible physiological changes that suggest some disease, even in individuals
asymptomatic, unlike complementary exams that are used for the purpose of
To investigate and clarify changes identified in screening tests.

The results obtained demonstrate that the performance of *check-ups* is associated with several factors.
including access to health services. The data collected demonstrate the relationship between possession of
health insurance plan and the frequency of routine laboratory tests, indicating that these
Care and prevention measures can be influenced by access to health services.

Therefore, the results are consistent with the study by Malta *et al.* (2022).
according to the 2019 National Health Survey, which highlight inequalities in living conditions.

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Access to and use of health services by Brazilians is a concern. However, not having a health plan does not explain the inability to access tests, since the Unified Health System (SUS) provides... free services. This data reinforces the importance of disseminating information about public services, guidance and professional encouragement regarding the search for laboratory tests of routine

It is worth noting that the demand for laboratory tests may be associated with the way in which... Individuals understand preventive measures and seek health services, an aspect evidenced Based on the data obtained, most participants stated that they only underwent examinations. when it presents signs and symptoms. Understanding this societal perception is crucial, since the The absence of clinical manifestations does not rule out initial clinical changes, since Certain physiological changes can cause imperceptible symptoms, but which may be diagnosed early through screening strategies. (Stinton *et al., 2024)*

Therefore, regular monitoring can aid in the early diagnosis and resolution of various conditions. laboratory changes, allowing for care before the appearance of more serious problems in in some cases. Cabalar *et al.* (2024) highlights the importance of screening laboratory tests as prophylactic measure in different clinical aspects, including the early detection of problems. cardiovascular diseases, diabetes mellitus, kidney diseases, among other disorders, assisting in Identifying problems and requesting additional tests if necessary to clarify the situation. diagnosis and subsequent follow-up.

Thus, the data collected emphasize the importance of raising awareness and informing the population about preventive monitoring, which should be recommended and evaluated individually by professionals, since excessive testing does not offer better clinical results.

The emotional aspects and personal beliefs demonstrated in the research may hinder achievement. of laboratory tests due to the individual's insecure relationship with clinical analysis. Some Expressions like "whoever seeks, finds" can symbolize fear and hesitation in discovering. health problems, resulting in insecurity regarding the performance of tests in a way preventive. Klatt *et al.* (2024) highlight that cognitive and emotional factors can manipulate the understanding of laboratory information. Similarly, Pennestrí and Banfi (2025) emphasize Misinformation about laboratory tests can cause anxiety, fear, and inappropriate choices. Therefore, studies corroborate the importance of a clear and understandable dialogue. professional interaction with the patient, clarifying and assisting in the proper understanding of laboratory information, in order to ensure that tests are performed as a safe practice, harmless and preventative.

Taken together, the results point to the importance of considering access to services, the

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Students' knowledge and perceptions in planning actions aimed at caring for the health. In the university environment, these actions can guide academics on how to carry out Tests according to their needs and encourage them to seek professional guidance.

CONCLUSION

The study demonstrated that academics with health insurance underwent laboratory tests for A routine with greater regularity, showing higher proportions of annual and semi-annual completion. Among students without a health plan, it was more common for them to seek testing when faced with signs or symptoms. The statistically significant association between these variables highlighted the possession of a health insurance plan. as one of the factors related to the pattern of examination performance in the studied population. In addition to this finding, doubts were raised regarding the purpose of the tests and the presence of Beliefs and fears related to the results. These aspects point to the importance of addressing both access to services and students' understanding of health care.

It can be concluded, therefore, that actions directed at academics should combine clear guidelines. Regarding laboratory tests, paying attention to potential barriers to accessing follow-up care. professional. In this context, the university and healthcare professionals can contribute through Educational activities that clarify doubts, address concerns, and provide guidance on taking exams. according to individual needs.

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