



## Risk behaviors for health: knowledge and behaviors of a group of citizens from Lamego

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### ABSTRACT

**Introduction:** Health promotion and disease prevention largely depend on adopting healthy behaviors. However, habits such as smoking, excessive alcohol consumption, poor diet, physical inactivity, insufficient sleep, and risky sexual practices remain major public health challenges. This study, grounded in Wanda Horta's Basic Human Needs Theory, examines how these behaviors manifest in the adult population of Lamego.

**Objectives:** To assess participants' knowledge of key health risk behaviors, their frequency, and the relationship between knowledge, behavior, and sociodemographic variables.

**Methodology:** A quantitative, descriptive-exploratory study was conducted using a self-administered questionnaire with a convenience sample of 35 adults aged 18-65.

**Results:** Participants showed good awareness of recommendations regarding sleep, nutrition, and sexual health. However, significant gaps were observed between knowledge and actual practices, particularly in areas such as dietary habits and sleep. Given the size of the sample, generalizations cannot be made.

**Conclusion:** The study highlights the need for targeted health education strategies that consider both individual awareness and social influences to effectively promote healthier lifestyles in the community.

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## RESUMO

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**Introdução:** A promoção da saúde e a prevenção da doença dependem, em grande medida, da adoção de comportamentos saudáveis. Contudo, hábitos como o tabagismo, o consumo excessivo de álcool, a má alimentação, o sedentarismo, o sono insuficiente e as práticas sexuais de risco continuam a representar importantes desafios para a saúde pública. Este estudo, baseado na Teoria das Necessidades Humanas Básicas de Wanda Horta, analisa a forma como estes comportamentos se manifestam na população adulta de Lamego.

**Objetivos:** Avaliar o conhecimento dos participantes sobre os principais comportamentos de risco para a saúde, a sua frequência e a relação entre conhecimento, comportamento e variáveis sociodemográficas.

**Metodologia:** Estudo quantitativo, de natureza descritivo-exploratória, realizado através de um questionário autoadministrado aplicado a uma amostra por conveniência de 35 adultos com idades entre os 18 e os 65 anos.

**Resultados:** Os participantes revelaram bom conhecimento das recomendações relativas ao sono, à alimentação e à saúde sexual. No entanto, observaram-se discrepâncias significativas entre o conhecimento e a prática, sobretudo nos hábitos alimentares e nos padrões de sono. Atendendo ao tamanho da amostra, generalizações não podem ser realizadas.

**Conclusão:** Os resultados evidenciam a necessidade de estratégias de educação para a saúde mais eficazes, que considerem tanto a consciência individual como os fatores sociais, com vista à promoção de estilos de vida mais saudáveis na comunidade.

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## Introduction

The adoption of healthy behaviours plays an essential role in promoting individual and collective well-being.<sup>1</sup> However, several factors, such as inadequate dietary habits, physical inactivity, and risky sexual practices, continue to present significant challenges for public health.

Risk behaviours are actions that increase the likelihood of developing chronic diseases and reduce the quality of life.<sup>2</sup> Among these behaviours, smoking, excessive alcohol consumption, diets high in saturated fats, and physical inactivity are particularly notable. On the other hand, protective behaviours - such as balanced nutrition, regular physical activity, and safe sex - contribute to disease prevention. The relevance of these risk behaviours is well documented at the national level. According to the Organization for Economic Cooperation and Development (OECD),<sup>3</sup> more than one-third of the Deaths in the country are associated with risk behaviours, including inadequate nutrition, smoking and excessive alcohol consumption. The National Program for the Promotion of Healthy Eating of the Directorate-General for Health<sup>4</sup> reinforces those chronic diseases, such as obesity, hypertension, and cardiovascular diseases, represent a significant burden for health services.

Alongside nutrition and the consumption of harmful substances, regular physical activity stands out as a fundamental

protective behavior, contrasting with the adverse effects of a sedentary lifestyle, which is categorized among risk behaviours. The Pan American Health Organization<sup>5</sup> states that regular physical activity aids in preventing and controlling cardiovascular diseases, strokes, diabetes mellitus, and hypertension while also contributing to maintaining a healthy body weight and positive mental health. In contrast to promoting protective behaviours, it is crucial to closely examine some main risk behaviours, such as smoking, which is a primary habit significantly contributing to the development of chronic diseases.<sup>6,7</sup> The National Centre for Chronic Disease Prevention and Health Promotion<sup>8</sup> emphasizes the importance of public policies and smoking cessation programs aimed at reducing the prevalence of smokers, consequently, smoking-related diseases. In addition to smoking, excessive alcohol consumption is recognized by the National Institute on Alcohol Abuse and Alcoholism<sup>9</sup> as a major cause of various adverse health problems, including liver diseases, oncological issues, and cardiovascular concerns. There are already some early intervention programs and restrictive alcohol sale policies suggested to mitigate these risks.<sup>10</sup>

Regarding sleeping habits, the National Sleep Foundation recommends that adults aged 18 to 65 sleep between seven and nine hours per night.<sup>11</sup> However, some people may function well at the lower end of this range, while others require a longer duration. Beyond the recommended

amount, sleep deprivation has been associated with several health issues.<sup>12</sup>

In light of this scenario, it is essential to understand how these behaviours manifest in the general population and the factors that influence their adoption. This study focuses on adults residing in Lamego, analyzing their level of knowledge about health risk behaviours and how this knowledge is reflected (or not) in their daily practices. Based on these premises, the investigation seeks to answer the following central question: What are the knowledge and behaviours of adult citizens of Lamego regarding health risk behaviours? The objectives of this investigation are: a) to analyze the participants' knowledge of the principal risk factors (smoking, alcohol consumption, inadequate nutrition, physical inactivity, and risky sexual practices); b) to evaluate the frequency with which these behaviours are adopted; c) to identify discrepancies between knowledge and practice; and d) to relate risk behaviours to socio-demographic variables (age, gender, and educational level). To address these issues, the research was grounded in Wanda Horta's Basic Human Needs Theory, which is inspired by Maslow's hierarchy.<sup>13</sup> According to the author, health maintenance is sustained by satisfying basic human needs in a personalized way for each individual, thereby ensuring their quality of life. This hierarchy presents the needs across five distinct levels: physiological needs, safety, social needs, esteem, and self-actualization. This study focused solely on the physiological needs of nutrition, hydration, sleep, and sexual activity.

## Methodology

The study used a quantitative, descriptive-exploratory approach with a cross-sectional design. The sample included 35 adult citizens (ages 18-65), using a convenience sample, residing in the municipality of Lamego, who were present at preselected institutions, with the conditions demanded for the study and accepted to participate. Participants were informed of the study's aims and voluntarily completed the questionnaire. Data were collected using a structured, self-administered questionnaire consisting of 20 questions divided into three sections: 1) sociodemographic information (gender, age, marital status, educational level, number of children, and professional status); 2) knowledge regarding risk behaviours incorporating questions on health recommendations (e.g. ideal sleep duration, effects of physical inactivity, healthy eating, and risks associated with tobacco and alcohol); and 3) actual behaviours (e.g. food consumption, alcohol, tobacco), evaluated using a Likert scale, comprised of five levels (very poor to excellent).

Before the final administration, the questionnaire was pretested with 15 participants, with characteristics similar to the study's, to evaluate its clarity, comprehension, and question suitability. The instrument was found to be clear,

easy to understand, and able to assess what it was intended to measure, so no changes were needed, showing its feasibility for the study.

To ensure internal validity, the questions were formulated based on instruments previously used in studies on risk behaviours.<sup>14</sup> Moreover, the researcher's presence during administration allowed for clarification of any doubts, thereby minimizing interpretation errors without interfering with participants' responses. According to Patino and Ferreira,<sup>15</sup> internal validity is the degree to which the observed results are valid for the examined population. In contrast, external validity pertains to the extent to which study results can be generalized to the broader population represented by the sample. In this case, the samples were carefully selected, the data were rigorously processed, and the analyses were conducted according to established scientific research methods, suggesting that this study possesses internal validity.

The study received approval from the Ethics Committee of Fernando Pessoa University (ESS/LENF-560/24-6), ensuring data anonymity and confidentiality. Participants signed an informed consent form. The data were entered into an analysis database to protect anonymity and confidentiality and processed anonymously using statistical methods. Data were securely stored, with electronic files protected by passwords accessible only to the researcher. Both the database and the paper questionnaires were destroyed after the study's completion.

## Results

The study group included 35 individuals from the municipality of Lamego, aged 18 to 65. Among them, 62.9% were female, 31.5% had a bachelor's degree, and 25.7% had completed the 12th grade.

### *Sleep pattern*

The data indicate that 94.3% of participants know the recommendation of 7 to 9 hours of sleep per night. However, in the older age groups (60-64 years), average sleep is less than 7 hours. The amount of sleep does not exhibit a clear pattern of increase or decrease with age, but there is variation among different age groups. The 20-24 age group maintains an average of 7.5 hours, while the 40-44 age group stands out with an average of 8 hours, being the only group to reach this value, with both groups falling within the standard sleep range. The 50-54 and 60-64 age ranges report the lowest averages, at 6.8 and 6.7 hours, respectively. However, in the 65-69 age range, the average sleep duration rises to 7.8 hours, indicating a return to longer sleep durations in more advanced age (Table 1).

**Table 1.** Sleep patterns by age group and gender.

Age group	Average hours of sleep
20-24 years	7,5 hours
25-29 years	7,0 hours
30-34 years	7,7 hours
35-39 years	7,0 hours
40-44 years	8,0 hours
45-49 years	7,0 hours
50-54 years	6,8 hours
55-59 years	7,2 hours
60-64 years	6,7 hours
65-69 years	7,8 hours

For the women studied, the impact of parenthood is evident. Those without children sleep an average of 7.7 hours, but after the birth of their first child, this average drops to 6.6 hours. This suggests that external factors often override knowledge about healthy sleep habits. Women's sleep stabilizes somewhat with the arrival of two children but remains lower than that of women without children, who average 7.7 hours. In contrast, men demonstrate greater consistency in their sleep patterns, regardless of the number of children (0 children = average 7.3 hours; 1 child = average 8 hours; 2 children = average 7.3 hours), suggesting that the impact of parenthood on men's sleep is less pronounced (Table 2). In summary, the number of children significantly affects women's sleep patterns more than men's.

**Table 2.** Impact of parenthood on average hours of sleep.

Number of children	Women (mean hours of sleep)	Men (mean hours of sleep)
0	7,7 hours	7,3 hours
1	6,6 hours	8,0 hours
2	7,0 hours	7,3 hours

The data on the association between sleep patterns and living conditions show that living with a partner without children is associated with conditions conducive to a healthy average sleep duration (7.8 hours). Living with family can also be beneficial (7.2 hours), while living alone results in a slightly lower average sleep duration (7 hours), suggesting that social support may play an essential role in regulating sleep duration.

## Nutrition

The results indicate that most participants regularly consume fruit (88.6%). However, the weekly intake of fast food (48.6%) and processed foods (42.8%) reveals a contradiction between knowledge and practice. Approximately 88.6% of

individuals eat fruit four to five times a week, and 80% eat vegetables with the same frequency. Additionally, 11.4% of individuals consume fruit, and 20% consume vegetables between one and three times a week, which may suggest inconsistent dietary habits, as the recommendations from the same Association advise that fruit and vegetables should be consumed daily (Table 3).

**Table 3.** Frequency of consumption of selected food categories among participants.

Category	Regular consumption (%)
Fruits	88,6%
Vegetable	80,0%
Fast food	48,6%
Processed food	42,8%
Sweets	82,9%

The results regarding harmful dietary habits indicate that 62.7% of individuals reported consuming fats, sugary foods, processed foods, alcohol, tobacco, high amounts of salt, and insufficient water intake as detrimental. However, only 11.7% considered fried foods, fast food, red meats, and processed meats harmful.

Regarding individual dietary habits considered healthy, the majority of individuals reported the Consumption of fruit (16.2%), vegetables (14.4%), leafy greens (4.5%), water (8.1%), and fish. (8.1%), white meats (2.7%), and low-sugar foods (3.6%). A small number also mentioned the consumption of whole grains (0.9%) and low-salt foods (0.9%).

Most people (77.1%) consume meat four to five times a week, indicating a strong preference and habit of frequently including meat in their diets. In contrast, only 25.7% of individuals eat fish four to five times a week, suggesting that while most people include fish in their diets, they consume it less frequently.

Most individuals (82.9%) consume sweets one to three times weekly. A smaller segment of the population (11.4%) eats sweets more frequently, four to five times weekly. Only 5.7% of individuals avoid consuming sweets entirely. Participants show low to moderate sweet consumption, most partaking once or twice weekly.

The consumption of soft drinks and sugary beverages is often limited to a weekly basis, as most individuals restrict their intake to once per week (42.8% for soft drinks and 40% for sugary beverages). This study also shows that a significant portion of individuals avoid these beverages (62.9%), particularly sugary ones. While the majority consume these beverages in moderation, a portion of the population (20%) consumes them frequently (five times per week). By avoiding these drinks, individuals also reduce the negative impact of high-sugar beverages.

Water intake is very different according to the amount consumed daily in liters. Most of the group is concentrated

in a single consumption range (one to two liters), with 80% of individuals consuming only half a liter of water a day, 8.6% of individuals consuming only half a liter of water a day, and 2.9% of individuals drinking water rarely, which suggests a potential risk of dehydration.

### *Risky sexual practices*

Regarding knowledge of risky sexual practices, most individuals identified unprotected sexual intercourse (44.4%), relationships with multiple partners (25.9%), and sexual relations under the influence of alcohol or drugs (11.1%) as risky behaviours. A smaller proportion mentioned the risk of contracting sexually transmitted diseases (3.7%), incorrect use of contraceptives (3.7%), lack of sexual education (1.9%), and non-consensual sexual relations (1.9%).

Regarding safe sex practices, 54.2% of individuals reported consistently engaging in protected sexual intercourse, while 25.7% stated that they never do, indicating that one-quarter of the population displays high-risk behaviours. Additionally, 8.6% of individuals almost always practice safe sex; 5.7% reported practicing safe sex frequently; 2.9% stated that they rarely engage in protected sexual intercourse; and 2.9% of individuals did not respond (Table 4).

**Table 4.** Risky sexual practice.

<b>Risky sexual practice</b>	<b>Percentage (%)</b>
Unprotected intercourse	44,4%
Multiple partners	25,9%
Sexual activity under the influence of alcohol/drugs	11,1%
Incorrect use of contraceptives	3,7%
Lack of sexual education	1,9%
Does not consider that engaging in risky behavior	97,1%

Concerning risky sexual practices, the following results were obtained: 97.1% of individuals do not view themselves as engaging in risky sexual behaviours, while only 2.9% see themselves as practitioners of such behaviours.

## **Discussion**

The present study focused on analysing the health knowledge and risk behaviours among Lamego citizens, particularly emphasizing the physiological needs of nutrition, hydration, sleep, and sexual activity, as outlined by Wanda Horta's Basic Human Needs Theory.

### *Sleep*

Concerning the awareness of the harmful effects of getting less than 7 hours of sleep, the results of this study align with

those of Watson et al.,<sup>16</sup> who list weight gain, obesity, diabetes, hypertension, cardiovascular diseases, depression, and a weakened immune system among the negative consequences of insufficient sleep duration. This indicates that factors such as stress and established routines significantly influence adopting healthy sleep patterns.

The data show that average sleep duration varies, particularly among older age groups. In Belchior's study,<sup>14</sup> respondents (72.2%) reported an average of 7.06 hours of sleep per day, although 27.8% did not meet the recommended duration.

Regarding the effect of parenthood on sleep duration, Torres claims that the number of children inversely correlates with sleep quality - more children result in poorer sleep.<sup>17</sup> This finding does not directly align with the results of the current study, where sleep patterns seem to stabilize with two children; the small sample size may account for this discrepancy.

### *Nutrition*

The results regarding knowledge of harmful dietary habits suggest that participants demonstrated some understanding of the topic. In Belchior's study<sup>14</sup> on knowledge about food and inadequate eating habits, participants revealed a high level of unawareness about nutrition and inadequate nutritional habits. Regarding the consumption of fast food, pre-prepared meals, and processed foods, the participants in this study showed relatively low consumption of these items, which aligns with published studies<sup>14,18</sup> indicating low consumption rates of processed foods (77.9%) and pre-prepared meals (86%).

Participants exhibited an adequate intake of meat and fish, consistent with Belchior's findings,<sup>14</sup> where it was noted that participants consumed fish (81.5%) and meat (96.5%) in sufficient quantities, defined as consumption of fish or meat two or more times per week.

However, the participants exhibited low to moderate sweets consumption (1 to 2 times per week), contrasting with the above study,<sup>14</sup> of which reported high sweets consumption (65.2%), defined as two or more times per week. This discrepancy between the results of the present study and the literature may be attributed to the small sample size.

This contradiction between knowledge and practice could be linked to time availability, convenience, and cultural preferences. Studies indicate that while individuals recognize the importance of a healthy diet, practical and emotional factors often influence their food choices.<sup>14,18</sup>

### *Risky sexual practices*

The knowledge shown by the study group about risky sexual practices aligns with the concerns raised by the National Health Service (NHS). The NHS highlights that risky



sexual behaviours may result from a lack of information and sexual education, engaging in sexual activities with multiple partners, incorrect and inconsistent use of contraceptive methods, sexual activities under the influence of alcohol or drugs, and non-consensual sexual encounters.<sup>19</sup>

Like any research, this investigation faced challenges that impacted data collection and analysis. The small sample size restricted the generalizability of the results, highlighting the need for more extensive studies. Furthermore, a discrepancy between the participants' knowledge and practice was noted, influenced by daily routines and social pressures, indicating that information alone does not ensure behavioral change. Self-assessment may have resulted in socially desirable responses, particularly on sensitive topics such as nutrition and sexual practices, introducing bias into the findings. The methodology did not permit a more in-depth qualitative analysis of the barriers encountered. Given these challenges, expanding future research and implementing strategies beyond awareness-raising, including tangible incentives and effective public policies to promote healthy habits, is crucial.

## Conclusion

Citizens of Lamego exhibit a notable level of knowledge regarding health risk behaviours. However, discrepancies exist between this knowledge and practice. Despite emphasizing sufficient sleep, work hours and family responsibilities adversely affect sleep habits. Although healthy eating is recognized, the intake of processed and fast foods remains high.

This study suggests that future investigations should implement community actions in Lamego to address and improve specific gaps related to health risk behaviours. Further studies with larger samples that are representative of the study population would thereby confer external validity and enable interventions in the proposed area. A deeper understanding of the issues surrounding individuals' health risk behaviours is deemed beneficial, ultimately facilitating the development of health education strategies that encourage self-care and promote improved health and well-being.

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