

Health Risks for Workers in Public Higher Education Institutions: Integrative Review

Agravos à Saúde dos Trabalhadores de Instituições Públicas de Ensino Superior: Revisão Integrativa

Agravios a la Salud de los Trabajadores de Instituciones Públicas de Educación Superior: Revisión Integrativa

RESUMO

Objetivo: conhecer quais os agravos à saúde que acometem os trabalhadores de instituições públicas de ensino superior. **Método:** A revisão integrativa foi realizada entre julho e setembro de 2024 e as buscas foram atualizadas em julho de 2025 nas bases CINAHL, EMBASE, WEB OF SCIENCE e nos portais: MEDLINE/PUBMED e Biblioteca Virtual em Saúde. **Resultados:** Quinze artigos integraram a análise deste estudo. Os profissionais participantes foram docentes, técnicos e profissionais de saúde de hospitais universitários. Os resultados evidenciaram que os trabalhadores apresentaram comprometimentos nas dimensões física e psíquica, incluindo distúrbios musculoesqueléticos e transtornos mentais e comportamentais que contribuem para o aumento do nível de estresse, redução da qualidade de vida e consequentes afastamentos laborais. **Conclusão:** Os agravos à saúde do trabalhador afetam a saúde e o desempenho do trabalhador. Condições de trabalho desfavoráveis, aumentam o risco de agravos à saúde, e seu conhecimento orienta ações de melhoria para os servidores.

DESCRIPTORIOS: Universidades; Saúde Ocupacional; Doenças Profissionais; Empregados do Governo.

ABSTRACT

Objective: To identify the health hazards affecting workers in public higher education institutions. **Method:** An integrative review was conducted between July and September 2024, with searches updated in July 2025 in the databases CINAHL, EMBASE, WEB OF SCIENCE, and the portals MEDLINE/PUBMED and the Virtual Health Library (BVS). **Results:** Fifteen articles were included in the analysis. Participants were faculty members, technical staff, and health professionals from university hospitals. The findings revealed that workers experienced impairments in both physical and psychological dimensions, including musculoskeletal disorders and mental and behavioral disorders, which contribute to increased stress levels, reduced quality of life, and subsequent work absences. **Conclusion:** Worker health hazards affect both the well-being and performance of employees. Unfavorable working conditions increase the risk of health problems, and understanding these hazards guides the implementation of measures to improve working conditions for staff.

DESCRIPTORS: Universities; Occupational Health; Occupational Diseases; Government Employees.

RESUMEN

Objetivo: Identificar los problemas de salud que afectan a los trabajadores de instituciones públicas de educación superior. **Método:** Se realizó una revisión integradora entre julio y septiembre de 2024, y las búsquedas se actualizaron en julio de 2025 en las bases CINAHL, EMBASE, WEB OF SCIENCE y en los portales MEDLINE/PUBMED y Biblioteca Virtual en Salud (BVS). **Resultados:** Quince artículos fueron incluidos en el análisis. Los participantes fueron docentes, personal técnico y profesionales de la salud de hospitales universitarios. Los hallazgos evidenciaron que los trabajadores presentaron compromisos en las dimensiones física y psíquica, incluyendo trastornos musculoesqueléticos y trastornos mentales y conductuales, los cuales contribuyen al aumento de los niveles de estrés, reducción de la calidad de vida y consecuentes ausencias laborales. **Conclusión:** Los problemas de salud de los trabajadores afectan tanto su bienestar como su desempeño laboral. Las condiciones laborales desfavorables incrementan el riesgo de agravamientos de salud, y el conocimiento de estos problemas orienta la implementación de medidas para mejorar las condiciones de trabajo del personal.

DESCRIPTORIOS: Universidades; Salud Ocupacional; Enfermedades Profesionales; Empleados del Gobierno.

RECEIVED: 10/19/2025 APPROVED: 11/05/2025

How to cite this article: Tavares R, Lourenço RG, Khalaf DK, Carvalho TG, Silva Neto MA, Kaled M. Health Risks for Workers in Public Higher Education Institutions: Integrative Review. *Saúde Coletiva* (Brazilian Edition) [Internet]. 2025 [cited year month day];16(102):17906-17931. Available from: DOI: 10.36489/saudecoletiva.2025v16i102p17906-17931

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INTRODUCTION

Work-related health problems are a challenge for public health and influence the quality of life of workers and productivity in public and private organizations. They are characterized as damage or conditions that interfere with the physical and mental health of workers and can occur in acute form, such as accidents, or in chronic form, with the worsening of injuries or illness^{1,2,3}.

They may be related to working conditions, including unhealthy conditions, exposure to chemical, physical, biological, mechanical, cultural, and organizational aspects of work dynamics. Due to the complexity of the factors that contribute to the generation of health hazards for workers, addressing them requires the adoption of integrated strategies for health promotion in the workplace^{1,2,3}.

Among public institutions, universities play a fundamental role in the social, cultural, and economic progress of the regions in which they are located, through teaching, research, and extension. However, even though they are recognized as drivers of national development, issues such as the reduction of public funding for education favor the advancement of precarious working conditions, which compromise the physical and mental health of workers in public higher education institutions (HEIs)^{4,5}.

In addition to teachers and administrative technicians in education

(TAE), other professionals are part of the workforce of public HEIs, such as outsourced workers and scholarship holders. One study analyzed data on medical leave taken by 2,109 employees at federal universities in Pelotas and Rio Grande do Sul and found that the main health problems among these workers were occupational diseases, musculoskeletal disorders, mental disorders, cardiovascular diseases, and other health conditions associated with the workplace.

Other studies conducted at public higher education institutions in northeastern and southern Brazil identified the same consequences of illness and work absences. This demonstrates that employees at these institutions are affected by the working conditions to which they are subjected^{6,7}.

The work environment in public HEIs is characterized by instability and frequent changes, which requires extra attention to the factors that contribute to employee illness. Given this context, it is essential to align institutional practices with the principles of occupational health, such as comprehensive care, interdisciplinary action, and the active participation of those involved. However, despite the relevance of the topic, there is little research addressing the impacts of the university environment on the health of employees, which highlights the need for greater scientific and political investment in this area^{8,9,10,11}.

These issues justify the present study, which will allow us to gather,

analyze, and synthesize the available knowledge, identifying gaps, trends, and evidence that can support more effective practices for promoting health and addressing work-related health problems in the university environment.

The relevance of this study is to present and discuss the health hazards that affect public higher education workers, in addition to identifying gaps and opportunities to improve health and safety issues related to the work of public servants, as it is necessary to recognize the challenges faced by these professionals. The decision to investigate the health hazards of public HEI workers is justified by the following issues: the scientific gap identified on this topic, the specific characteristics of the work process in the university environment that affect health, and the hiring regime for these employees, the single legal regime (RJU), which excludes these workers from the scope of measures, protections, and regulations related to employment governed by the CLT (consolidation of labor laws).

The objective of this study is to identify the health hazards affecting workers in public higher education institutions.

METHODS

This is an integrative review based on the methodological framework of Whittemore and Kanfl. The following steps were followed to conduct this study: 1) Identification of the

problem; 2) Literature review; 3) Data evaluation; 4) Analysis of results; and 5) Presentation of the review¹². The PICO mnemonic method was used to develop the research question on the problem: "(Population, Interest, and Context)". The population (P) refers to workers; (I) Interest refers to health hazards and (Co) Context: Public Higher Education Institutions. Thus, the research question was formulated: What health hazards affect workers in public higher education institutions?

It is justified that the Prospero and OSF platforms were accessed in July 2024 and July 2025, and no registered review protocols on the same topic were identified.

The inclusion criteria for primary articles were: publications in article format available online, in Portuguese, Spanish, and English; there was no time limit. The exclusion criteria established were: duplicate publications; publications that did not answer the research question, monographs, dissertations, theses, comments, editorials, and gray literature.

Data collection, the second stage of the method, was carried out by searching the following databases: *Cumulative Index to Nursing and Allied Health Literature* (CINAHL), *Excerpta Médica dataBASE* (EMBASE), *Web of Science* (WOS), and the following portals: *US National Library of Medicine* (MEDLINE/PUBMED) and *Virtual Health Library* (VHL). These sources were selected for their comprehensiveness in the field of occupational health. The databases and portals were accessed through the CAPES Journal Portal via the Federated Academic Community (CAFe) of the Federal University of Paraná. In addition to the databases and portals, the reference lists of the included articles were consulted in order to find articles related to the topic.

For the search, the "Health De-

scriptors" (DeCS), controlled descriptors, were used, combined with synonyms using Boolean logical operators "AND" or "OR." The search strategy used "technical server" OR "public server" OR "public service" OR "federal institution" AND "health impact assessment" OR "occupational health." This strategy was developed with the support of a librarian with experience in developing integrative reviews and was combined in various ways to expand the searches in the different databases, in addition to the use of terminological variations and synonyms in the languages searched.

The search phase took place from July to August 2024 and was updated in July 2025. The selection of files, the third stage of the method, was carried out sequentially and evaluated by two independent reviewers. Any questions that arose during this process were clarified through discussion and consensus with the first authors of this study.

The articles found were transferred to Rayyan *software* (Qatar *Computing Research Institute*, Doha, Qatar). This is free *software* that allows independent collaboration between reviewers, facilitates the organization of articles, and enables the practical reading of titles and abstracts, as well as the inclusion or exclusion of selected articles or duplicates. Initially, the articles were read and summarized in order to classify those related to this study. After completing this stage, all selected articles were read in full for interpretation.

Data extraction, the fourth stage of the method, was performed using an extraction tool developed by the authors in *Microsoft Excel*[®], consisting of the following items: publication title; year; country, database, or data portal; type of study, population/sample; study location; objective; prevalent theme; and outcome and/or results. Based on the organization of the variables, the results were synthesized for

analysis, continuing the fourth stage of the method, and the exploratory presentation of the review in tables, the fifth stage of the proposed method.

Grammarly and ChatGPT were used as artificial intelligence support tools for text translation, data analysis and thematic category synthesis, text synthesis, grammatical correction, and bibliographic reference formatting. The entire AI usage process was supervised and validated by the authors, ensuring methodological rigor and reliability of the results.

To ensure the originality of the proposed review, the study protocol was registered on the Open Science Framework (OSF) platform under registration number DOI 10.1X6X5/OSF.IO/X4XVX in February 2024, and is available at the link: <https://osf.io/947va/>.

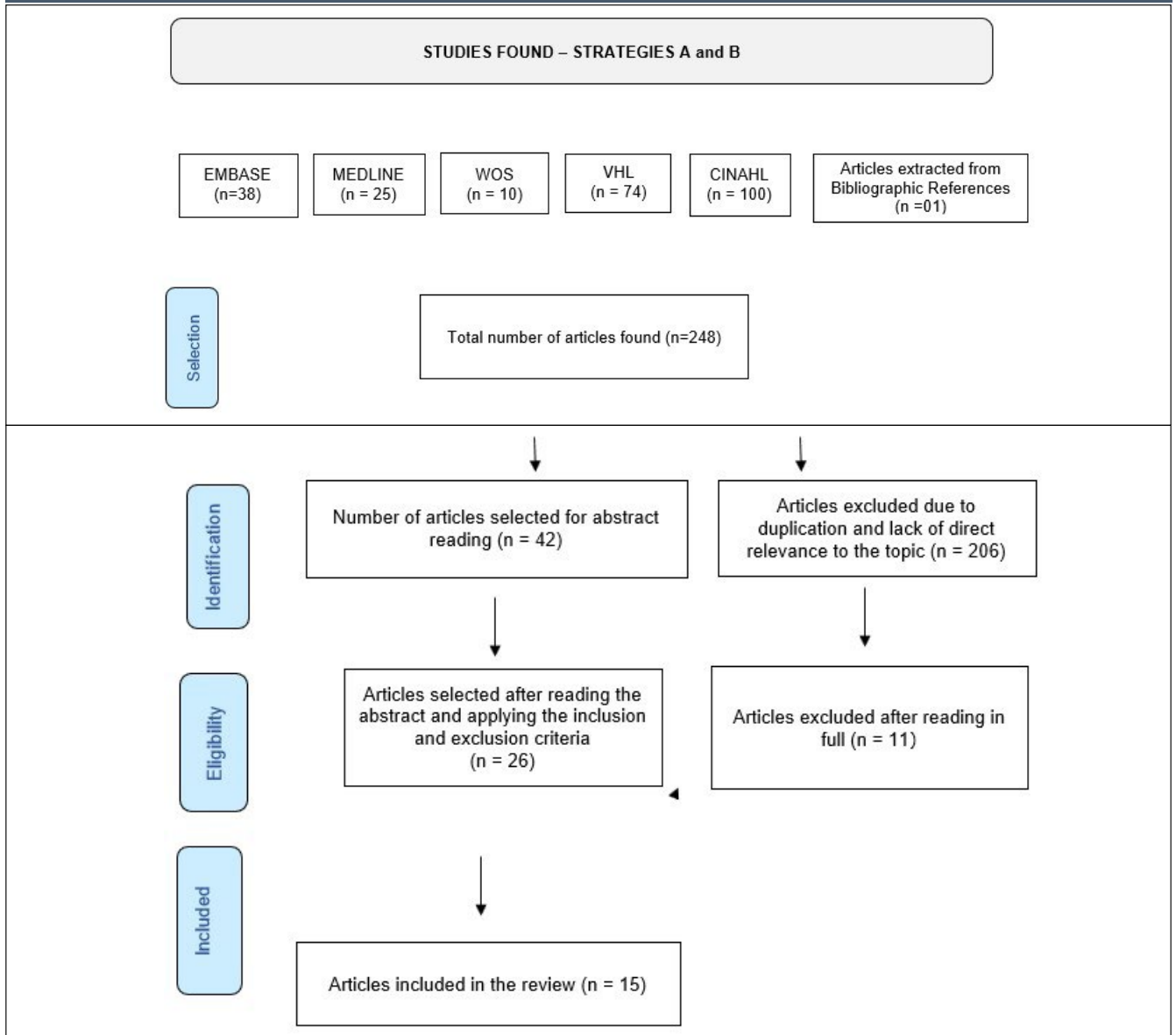
RESULTS

The search on the portals researched resulted in 247 studies, and one article was found through a bibliographic reference. Two hundred and six articles were excluded due to duplication; not meeting the eligibility criteria for this review; or not being directly related to the topic. Twenty-six articles were selected for full reading, and of these, 15 were included as a sample (Figure 1). The studies date from 2011 to 2024. The predominant language was Portuguese with 13 publications, followed by English with two publications.

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Figure 1 - Search strategies, databases, and results



Flowchart of the selection of studies from Strategy A and B, adapted from the PRISMA model.

Quadro 1 - Caracterização dos estudos.

Title, Year, Country	Study population and location	Study objective	Type of study/outcome and results
Chronic aspects of civil servants with a focus on varicose veins and high cholesterol/2017/ Brasil ¹³ (GOMES <i>et al.</i> 2017)	774 participants: Technical-administrative staff, teachers, interns at the Federal Institute of Technology of Rio Grande do Norte (IFRN).	To describe chronic degenerative health aspects of IFRN civil servants and infer sociodemographic variables with the most significant variables: having varicose veins and high cholesterol.	Study: Quantitative. Outcome: Among the 744 workers, 13.2% had varicose veins; 11.6% had high cholesterol; 9% had hypertension; 8.8% had high triglycerides; and 1.7% had diabetes. Results: Inferential statistics showed that women over 35 years of age, with post-graduate degrees, and who have a partner are the ones most likely to have varicose veins, and workers who hold management positions and have bonus-based roles and are between 46 and 55 years of age are the ones with the highest levels of high cholesterol.

<p>Stress and resilience at work among federal civil servants/2020/ Brasil¹⁴ (MAGNAGO <i>et al.</i>, 2020)</p>	<p>526 workers from an IFES. Of these, 43.5% were teachers and 54.6% were health professionals working at the educational institution. Rio Grande do Sul, Brazil. Santa Maria – RS</p>	<p>Analyzing the relationship between stress and resilience at work among federal civil servants at an educational institution in southern Brazil.</p>	<p>Study: Quantitative Observational, cross-sectional, analytical. Outcomes: The lowest level of resilience at work was identified among workers with high demands and in active work. Results: For 61.3% of workers, occupational stress was classified as high psychological demand. Participants presented a moderate level of resilience at work (38.8%), followed by a high level (32.3%) and a low level (28.8%).</p>
<p><i>Hardiness</i> personality and associated factors in undergraduate health course teacher/2023/ Brasil² (ALVES <i>et al.</i>, 2023)</p>	<p>88 faculty members in undergraduate health courses at the institution. Minas Gerais - MG</p>	<p>To identify the factors associated with personality hardiness among teachers working in higher education at a federal institution.</p>	<p>Study: Quantitative Cross-sectional and analytical epidemiological study. Outcome: Most employees presented moderate to high levels of <i>hardiness</i>, which indicates a significant capacity to cope with occupational stress. This characteristic indicates satisfactory psychological resilience, influenced by healthy personal and occupational factors that promote well-being. Results: 26.4% of the teachers surveyed presented high <i>hardiness</i>, 50.6% presented moderate <i>hardiness</i>, and 23.0% presented low <i>hardiness</i>.</p>
<p>Excess weight and associated factors in civil servants in southern Brazil/2016/ Brasil¹⁵ (GONÇALVES <i>et al.</i>, 2016)</p>	<p>339 civil servants over the age of 18. Maringá - PR</p>	<p>To estimate the prevalence of overweight and investigate its association with sociodemographic factors, level of physical activity, hypercholesterolemia, and diabetes in civil servants at a university in the state of Paraná, Brazil.</p>	<p>Study: Quantitative Cross-sectional Epidemiological Outcome: High prevalence of overweight among the civil servants evaluated; the findings are associated with sociodemographic and behavioral factors. Results: Prevalence of overweight (BMI \geq 25 kg/m²) in 50.6% of the sample. Men were more overweight. Self-reported hypercholesterolemia: the presence of the condition increased the risk. Employees with <12 years of education had a higher prevalence, and sedentary individuals had a higher incidence of overweight.</p>
<p>Quality of life and associated factors among retired public university employees due to disability/2023/ Brasil¹⁶ (MOREIRA <i>et al.</i>, 2023)</p>	<p>80 employees retired due to disability (15% teachers, 85% technical-administrative staff) between 2007 and 2017 from seven public state universities in Paraná. Londrina -PR</p>	<p>To analyze the quality of life and associated factors among public university employees retired due to disability.</p>	<p>Study: Quantitative Cross-sectional and analytical epidemiological study Outcome: The quality of life of civil servants retired due to disability was impaired. Results: Quality of life is associated with factors such as continuous medication use, neurological problems, smoking, respiratory/circulatory diseases, mental disorders, and aspects that impact the physical, psychological, social, environmental, discriminatory, and inclusion domains.</p>
<p>Psychosocial factors associated with healthy lifestyles among university civil servants/2022/ Brasil¹⁷ (ATZ, REMOR, 2022)</p>	<p>898 technical-administrative staff and teachers. Federal University of Rio Grande do Sul. Porto Alegre - RS.</p>	<p>To investigate whether work-related stress, locus of control over health, and self-perception of health are associated with a healthy lifestyle among employees of a federal higher education institution</p>	<p>Study: Quantitative Observational, cross-sectional, analytical Outcome: Employees with lower work-related stress levels have better self-perception of physical and mental health, higher education levels, and a greater belief that external figures influence their health. Results 68.2% were classified as having a healthy lifestyle profile and 31.8% as having a risk profile. Among those who reported better mental health, 89.5% belonged to the healthy profile. 49.8% of participants had a doctorate, this group being the most associated with a healthy lifestyle.</p>

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<p>Work-related health problems among employees of a federal university in southern Brazil/2020/Brasil¹⁸ (ANDERSEN, LOBATO,2020)</p>	<p>166 CAT at the UFSM SIASS unit, higher-level administrative functions; mid-level health care; or technical, mid-level or basic maintenance functions and, finally, other higher-level functions. Federal University of Santa Maria (UFSM) Santa Maria - RS</p>	<p>To identify the profile of federal civil servants affected by occupational injuries and relate it to the diagnosis recorded in the Civil Servant Work Accident Report (CAT/SP) of a federal university in southern Brazil.</p>	<p>Study: Quantitative Observational, retrospective, descriptive. Outcomes: The main work-related injuries are work accidents with traumatic injuries, especially among employees linked to the university hospital, and occupational diseases such as low back pain and infections. Results: The most affected population was female, in technical and mid-level positions. The average time off work was almost 12 days. High rate of underreporting of information. Of the injuries identified with ICD-10, 82.5% were classified as work accidents, with traumatic injuries being the most common, affecting the lower limbs (31.5%). 17.7% were work-related illnesses, such as low back pain and infectious diseases, as the main injuries (both with 17.7%). Other conditions mentioned include musculoskeletal disorders, mental health problems, and repetitive strain injuries (RSI/WMSD).</p>
<p>Leave due to mental disorders: a case study of civil servants at an educational institution in Ceará, Brazil/2018/Brasil⁶ (BASTOS <i>et al.</i>, 2018)</p>	<p>119 leaves of absence for health treatment due to mental disorders. Fortaleza-CE</p>	<p>Describe leaves of absence due to mental disorders among IFCE employees, as well as present them to management, with a view to implementing measures that would contribute to reduce absenteeism for these reasons</p>	<p>Study: Quantitative Observational cross-sectional Outcome: mental and behavioral disorders (CID F) were the conditions that most motivated leave for health reasons. Result: Mental disorders totaled 5,081 days of lost work and represented 23% of the total leave for health treatment. In relation to diseases, 15% of absences corresponded to musculoskeletal disorders and another 21% were due to other causes. The highest rate of lost days was related to mental disorders, which accounted for 36% of the total number of days of absence throughout the year—that is, they were the ones that generated the most time away from work.</p>
<p>Occupational risk factors and implications for worker health in animal facilities/2017/Brasil¹⁹ (SOUZA <i>et al.</i>, 2017)</p>	<p>151 professionals of both sexes, who had been working for at least 6 months in the final areas of the animal facilities of a federal science and technology institution. Rio de Janeiro – RJ.</p>	<p>To assess the health implications for animal facility workers, as well as inherent risk factors, at a Federal Science and Technology Institution.</p>	<p>Study: Quantitative Observational, descriptive, and cross-sectional. Outcome: Animal facility workers are exposed to occupational risk factors, including physical, accident, ergonomic, biological, and psychosocial factors, which negatively affect their health and quality of life at work. Results: 59.6% were men with a mean age of 38 years, 51% had up to 5 years of experience, 58.3% worked in animal facility breeding/maintenance, and 41.7% in experimentation. The main health impact reported was stress, linked to psychosocial factors and work organization. Musculoskeletal disorders related to the adoption of inappropriate postures and repetitive movements. There were mentions of skin and respiratory diseases, as well as mental and physical fatigue, attributed to work overload.</p>
<p>Chronic health conditions related to the quality of life of federal employees/2015/Brasil²⁰ (SARAIVA <i>et al.</i>, 2015)</p>	<p>215 UFRN employees with comorbidities treated at the Employee Assistance Department at UFRN, in the municipality of Natal/RN.</p>	<p>Correlate the domains of QOL of employees with the type and number of chronic health conditions health conditions.</p>	<p>Study: Quantitative descriptive cross-sectional Outcome: The presence and number of chronic health conditions are associated with a poorer quality of life for employees, with impacts on physical, mental, social, and functional health. Results: The most affected domains were physical and emotional aspects. The lowest quality of life scores were observed in people with: Persistent mental disorder (PMD) Chronic noncommunicable disease (CNCD) + PMD. CNCD + continuous and structural physical disability.</p>

<p>Prevalence of mental and behavioral disorders in federal public institutions in Rondônia/2014/Brasil²¹ (SCHLINDWEIN; MORAIS, 2014)</p>	<p>296 leaves of absence due to mental and behavioral disorders from twenty-three federal public institutions in RO in 2011. Federal University of Rondônia - RO</p>	<p>To assess the prevalence of leave due to mental and behavioral disorders classified in group F of the ICD-10 among federal civil servants in the state of Rondônia</p>	<p>Study: Quantitative, cross-sectional, and retrospective Outcome: Mental and behavioral disorders were a reason for leave from work, with a greater impact among women. Among men, leave related to the use of psychoactive substances stood out. Results: There were 379 leaves of absence for health treatment, of which 9.6% were related to mental and behavioral disorders (ICD-10 F). The highest number was among women, 70.6%, and among men, 29.4% of cases, with 10.3% of absences among men due to disorders related to psychoactive substance use; 11.4% of women were on leave due to mood disorders and neurotic disorders, while only 1.5% of men had these causes. Mental disorders mainly affected permanent technical and administrative staff.</p>
<p>Daily life and health of employees linked to the maintenance sector at a public university/2011/Brasil²² (COUTINHO; DIOGO; JOAQUIM, 2011)</p>	<p>12 workers in the maintenance area of the Federal University of SC. Florianópolis - SC</p>	<p>To analyze the implications of the organization and daily work routine on the health of technical-administrative staff who perform maintenance work at a public university</p>	<p>Study: Qualitative Outcome: Working conditions and the organization of activities in the maintenance sector showed potential to cause damage to the physical and mental health of workers Results: Workers reported occupational diseases, muscle pain, and fatigue. The work environment is marked by feelings of invisibility, devaluation, and precariousness. There is a need for organizational redesign and investment in the sector, given the essential nature of the service for the functioning of the university, which is recognized by the workers.</p>
<p>Musculoskeletal pain and ergonomic risks in teachers at a Federal institution /2020/Brasil²³ (KRAEMER; MOREIRA; GUIMARÃES, 2020)</p>	<p>25 teachers from the IFC Campus São Bento do Sul - SC</p>	<p>To assess musculoskeletal pain and ergonomic risks in the workstations of teachers at the Federal Institute of Santa Catarina Campus São Bento do Sul.</p>	<p>Study: Quantitative, observational, cross-sectional Outcome: 100% of teachers reported musculoskeletal pain, especially in the lumbar spine (60%), neck (56%), and shoulders (48%). The pain is associated with various ergonomic risks in their workstations. Results: 72% of participants were male, with a mean age of 37.1. 72% reported low knowledge of ergonomics. 68% stated that they did not apply ergonomics in their daily lives. Ergonomic risks evidenced by the adoption of inappropriate postures were prevalent in musculoskeletal pain (last 12 months).</p>
<p>Occupational stress and associated factors in civil servants at a federal university in southern Brazil/2018/Brasil²⁴ (LOPES; SILVA, 2018)</p>	<p>371 technical and administrative civil servants at the Federal University of Pelotas (UFPeL). Pelotas - RS</p>	<p>To verify the prevalence of stress and associated factors in technical-administrative employees at a federal university in southern Brazil</p>	<p>Study: Quantitative observational cross-sectional Outcome: Occupational stress was prevalent among technical-administrative staff and was associated with lower education, inadequate work structure, and low social support in the workplace. These factors increase exposure to stress. Results: 57.4% of participants were women, 42% considered the work structure inadequate, 22.7% were under high demand, and 28% were in passive work. Lower education was associated with passive work. Working conditions, such as hours worked, adequate structure, and social support, influenced stress; employees with adequate structure and high social support had lower stress levels and were more frequently classified as low demand.</p>

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Psychosocial factors associated with sickness absence in employees at a federal public university/ 2024/ Brazil ²⁵ (ATZ; REMOR, 2024)	898 employees were recruited for the study sample. Federal University of Rio Grande do Sul (UFRGS)	Investigate whether lifestyle, locus of control over health, work-related stress, and self-perception of physical and mental health are associated with sickness absence in a public university setting	Outcome: Psychosocial factors showed an association with work absenteeism due to health reasons, with high occupational stress standing out. The results highlight sociodemographic, occupational, and psychosocial aspects. Results: 59.8% were women, 53.2% were technical and administrative staff, and 47% were faculty members; 49.6% had a doctorate, of whom 90.4% were faculty members. Sick leave had a median duration of 1 day, with 43.2% having no leave and another 31.7% having leave of up to 5 days.
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The oldest publication dates from 2011. Between 2011 and 2016, four published studies were identified; between 2017 and 2022, this number increased to eight publications. In 2023, two publications were recorded, and in 2024, one publication was identified.

There has been an increase in publications on this topic in the last six years. All articles were conducted in Brazil, eight of them in the South region: Santa Catarina (2), Paraná (2), and Rio Grande do Sul (5); followed by the Northeast region: Rio Grande do Norte (2) and Ceará (1); in the North region: Rondônia (1); Southeast region: Rio de Janeiro (1) and Minas Gerais (1).

The studies included the participation of 4,958 people, most of

whom were public higher education employees, including administrative technicians, laboratory technicians, teachers, maintenance teams, and health professionals from university hospitals.

Four categories emerged from the data analysis: Sociodemographic and Occupational Profile: Gender, Education, and Position as Determinants of Occupational Health; Physical Injuries and Chronic Conditions: Impacts on Workers' Physical Health; Stress, Mental Illness, and Resilience in the University Environment and Work Organization, Leave of Absence, and the Invisibility of Worker Health. The articles used for analysis in each category were organized and are presented in Table 2.

the most affected by absences ¹³; men had a higher prevalence of overweight and leave due to psychoactive substance use ^{15,21}; workers with postgraduate or doctoral degrees showed a greater association with healthy lifestyles, better perceived health, and a lower risk of leave ^{17,25}.

Technical and administrative professionals were more vulnerable to occupational stress, physical illness, and leave of absence ¹⁸. Employees with bonus-based positions or management positions had a higher prevalence of high cholesterol, especially between the ages of 46 and 55 ¹³. Most workers with longer service (20 to 29 years) were significantly more likely to take sick leave ¹⁸.

This category shows that sociodemographic profile and job type are important determinants of health problems, reinforcing the need for personalized promotion and prevention actions, considering gender, education, length of service, and position held.

Physical Conditions and Chronic Conditions: Impacts on Workers' Physical Health

This category includes conditions related to general physical health, metabolic diseases, and behavioral risk factors. The main findings are: high prevalence of varicose veins, hypertension, high cholesterol, high triglycerides, and excess weight. Associated factors: age, gender, education, sedentary lifestyle, and occupational role. Musculoskeletal disorders and traumatic injuries are recurrent,

Thematic Category	Articles
Sociodemographic and Occupational Profile: Gender, Education, and Position as Determinants of Occupational Health	(2; 13; 14; 18; 19; 21; 22; 23; 24)
Physical Injuries and Chronic Conditions: Impacts on Workers' Physical Health.	(13; 14; 15; 18; 19; 20; 22; 23)
Stress, Mental Illness, and Resilience in the University Environment	(2; 14; 17; 18; 19; 21; 24; 25)
Work Organization, Leave of Absence, and the Invisibility of Worker Health	(22; 23; 24; 25)

The category **Sociodemographic and Occupational Profile: Gender, Education, and Position as Determinants of Occupational Health** presents the individual and professional characteristics of civil servants and how these factors are related to

physical and mental health problems and health-related leave.

The articles in this category present the following main findings: women had a higher prevalence of mental disorders, varicose veins, and musculoskeletal disorders and were

especially among teachers and technical-administrative workers, with an emphasis on low back pain, neck pain, and shoulder pain. There is a need for ergonomic adaptations and preventive actions, given the high number of employees with low ergonomic application at work. This category highlights the need for actions aimed at promoting physical health, preventing chronic diseases, and ergonomically restructuring work environments.

Stress, Mental Illness, and Resilience in the University Environment

This category addresses psychosocial hazards and the emotional impacts of working at the university. The main findings are: Mental and behavioral disorders were the main cause of leave (23% of cases), with mood and neurotic disorders in women and psychoactive substance use in men being particularly noteworthy. Occupational stress was present in 61.3% of workers, associated with inadequate work structure, low education, and little social support. Low levels of resilience were identified in workers subjected to high psychological demands.

Despite this, most employees showed moderate to high levels of “hardiness,” indicating a positive psychological resilience base. This category highlights the importance of interventions focused on mental health, organizational climate, and the development of institutional strategies to reduce stress and strengthen individual and collective resilience.

Work Organization, Absenteeism, and Invisibility: Psychosocial Factors in Evidence

This category addresses the relationship between the work environment, health-related absences, and structural aspects of work. The main findings were: work accidents, main-

ly involving traumatic injuries and occupational diseases in sectors such as university hospitals and animal facilities. Evidence of underreporting of injuries (42% of CATs without ICD). Health-related leave was more frequent among female technical and administrative staff with longer service and poorer perceptions of physical and mental health. Psychosocial factors such as stress, perceived low autonomy, and invisibility at work were associated with increased leave.

Maintenance workers reported feelings of precariousness, devaluation, and lack of investment, with physical and emotional impacts. This category reinforces the need for improvements in work management, accident prevention policies, and appreciation of invisible sectors to reduce leave and improve overall well-being.

Regarding data records related to workers' health conditions, weaknesses in public health record systems were observed; situations with discrepancies and incomplete data in the systems were identified, hindering knowledge about the epidemiological health data of public servants.

DISCUSSION

The category **Sociodemographic and Occupational Profile: Gender, Education, and Job Position as Determinants of Occupational Health** allows us to understand the distribution of health problems identified in the studies. The variables gender, age group, education, job position, length of service, and lifestyle were found to be strongly associated with physical and mental health risks and outcomes.

With regard to gender, the studies indicate that women were more affected by mental disorders, musculoskeletal pain, and health problems related to work overload. The data also indicated a higher rate of leave among female employees, especially those in

technical and administrative positions. On the other hand, men had a higher prevalence of overweight, hypercholesterolemia, and leave related to the use of psychoactive substances, highlighting important differences in patterns of illness between the sexes^{21,23,24,25}.

Education appears to be a protective factor: workers with postgraduate or doctoral degrees reported better self-perception of physical and mental health, greater adoption of healthy habits, and lower frequency of mental health-related problems. These workers also stood out for their high level of resilience (hardiness), demonstrating a greater ability to cope with workplace adversities^{2,16,21,25}.

Length of service was another element associated with the risk of illness. Workers with 20 to 29 years of service were up to 3.6 times more likely to take leave than those with more than 35 years at the institution⁽²¹⁾. This data suggests a possible relationship between the accumulation of duties throughout one's career and physical and emotional exhaustion, especially in the absence of institutional strategies aimed at caring for and valuing these professionals.

The nature of the position held also significantly influenced health outcomes. Workers in management positions and bonus-based roles, especially those aged between 46 and 55, had a higher prevalence of high cholesterol, indicating that administrative responsibility and the demands of leadership positions also generate overload, even in contexts of greater autonomy and remuneration¹³.

Among administrative technicians, especially those linked to maintenance, laboratories, and university hospitals, higher rates of physical ailments were identified, such as work accidents, low back pain, infectious diseases, and physical and mental fatigue, generally related to precarious working conditions, lack of PPE, and

inadequate infrastructure^{22,23,24}.

The data suggest that a healthy lifestyle profile with good eating habits, physical activity, and greater awareness of self-care was more prevalent among employees with higher education and better self-perceived health, indicating the importance of health education and quality of life promotion strategies in the institutional environment.

The category “Physical Ailments and Chronic Conditions: Impacts on Workers’ Physical Health” demonstrates the diversity of physical and mental ailments that affect workers in public higher education institutions. Among the main conditions reported, chronic noncommunicable diseases (CNCDs) such as overweight, obesity, diabetes mellitus (DM), hypercholesterolemia, systemic arterial hypertension (SAH), cardiovascular and respiratory diseases, chronic venous disease of the lower limbs (CVD), and musculoskeletal disorders (MSD) stand out^{13,15,16,18,20,22,23}.

The work environment is a potential risk factor for the development or worsening of these conditions, either due to specific work characteristics, such as activities that require physical effort, stressful and ergonomically unfavorable environments, or due to continuous exposure to psychosocial factors, such as pressure for results, overload, and poor organizational structure. However, these diseases are also related to individual aspects, such as unhealthy lifestyle habits and genetic predisposition^{6,17,18,19,20,22}.

In addition, individuals who are overweight, sedentary, have high cholesterol, hypertension, and diabetes have a lower quality of life and a higher risk of severe complications, such as cardiovascular disease, as well as a greater tendency toward absenteeism^{13,15,16,18,20,22,23}.

Among musculoskeletal disorders, a study with teachers from a higher education institution in the state of

Santa Catarina stands out, in which all respondents reported musculoskeletal pain in the last year, mainly in the lumbar spine (60%), neck (56%), and shoulders (48%) (31). These symptoms were attributed to ergonomic factors such as poor posture, incorrect monitor height, prolonged periods in static positions, and were aggravated by overweight, sedentary lifestyle, and obesity²³. Among technical-administrative, laboratory, and maintenance workers, muscle pain and injuries were also attributed to continuous physical exertion, use of inappropriate tools, lack of physical structure, and constant improvisation in the work environment^{19,22,23}.

Acute injuries, especially work accidents, were highlighted in two studies. Among animal facility workers, 30% reported having suffered some type of accident, such as falls, bites, cuts, and burns. These accidents contributed to the emergence of musculoskeletal injuries, skin diseases, fatigue, and zoonoses¹⁹. Factors such as the lack of adequate PPE, such as gloves, helmets, and safety belts, in addition to poor facilities, were identified as aggravating factors in the occurrence of these events²².

The category **Stress, Mental Illness, and Resilience in the University Environment** deals mainly with mental health issues, which were discussed in nine of the studies analyzed. Conditions such as anxiety, stress, depression, mood disorders, and burnout syndrome were recurrent among employees^{2,14,17,18,19,21,24}.

These conditions compromise workers’ quality of life and productivity and are often associated with work absences. Two studies pointed to workers’ adaptive capacity in stressful situations, considering elements such as resilience and hardiness as protectors of mental health^{2,14}.

Specifically, teaching work was highlighted for including invisible hours with extra-class activities and

remote work, which leads to irregular breaks and longer actual working hours, increasing physical and mental exhaustion^{2,14,23,25}.

Pressure to meet targets and demands for productivity were identified as central elements in mental illness, especially in contexts of high demand and low autonomy^{14,19,22}.

Occupational stress was found to be intensified by exhausting workdays, accumulation of tasks, lack of support, and inadequate organizational structure, making it difficult to balance personal and professional life. This scenario aggravates symptoms of anxiety and depression, reduces productivity, and compromises well-being^{14,17,18,24,25}.

Hardiness (or psychological resistance) and resilience were identified as protective resources, acting as mediators of the effects of stress. Individuals with higher levels of these characteristics showed greater well-being, better adaptation to work demands, and less tendency toward mental illness^{2,14}.

The fourth empirical category, entitled **Work Organization, Absenteeism, and the Invisibility of Worker Health**, was the most recurrent category among the studies analyzed, reflecting the relevance of work structure and organization in the illness of higher education civil servants. The articles highlighted as aggravating factors the poor physical structure, excessive tasks, institutional pressures, overload of responsibilities, lack of human and material resources, long working hours, and psychologically hostile environments^{22,23,24,25}.

The scarcity of physical and human resources and precarious working conditions compromise the performance of activities, increasing individual effort and generating feelings of helplessness, frustration, and institutional neglect. The need to improvise solutions due to the lack of adequate equipment compromises

the quality of work and poses a risk to the physical and mental health of workers^{19,22}.

The accumulation of duties and complex bureaucratic procedures in the public service increase the workload, causing delays, stress, and exhaustion. Institutional invisibility was reported by workers as a factor that compromises motivation, engagement with work, and emotional health^{14,22}.

Teachers, despite greater social recognition, are also impacted by overload with long working hours, multiple duties, administrative demands, and extracurricular activities. These factors contributed to high levels of stress, musculoskeletal pain, and difficulties in balancing personal and professional life^{14,23}.

The most frequent reasons for prolonged leave were chronic diseases, musculoskeletal disorders, mental disorders, and neoplasms. A study in Ceará highlighted that mental disorders accounted for 36% of days lost due to leave, followed by musculoskeletal diseases. Mood and stress-related disorders were also identified as significant causes of leave^{6,23,25}.

This review allowed us to ana-

lyze scientific publications on health problems among workers in public higher education institutions, filling a gap identified in the literature. However, this study had the following limitations: the exclusion of gray literature from the data sources and the inclusion of only three languages in the searches, which may have excluded materials that were potentially important for understanding the scientific literature on the subject and may also have affected the ability to compare health problems in different contexts.

CONCLUSION

The results suggest that higher education civil servants, teachers, administrative technicians, and employees working in laboratories and maintenance face challenges such as resource shortages, unfavorable working conditions, work overload, and long working hours, which affect their physical and mental health, impacting their quality of life and contributing to increased absenteeism. There is a notable incidence of chronic health conditions, accidents, mental disorders, and leave of absence.

Studies of this nature can contribute to supporting actions to improve the working conditions of employees in public higher education institutions, promoting the creation of healthy, safe work environments with greater productivity and quality in the services provided to the academic community.

The scarcity of studies on this topic points to the need to expand initiatives by workers and managers, seeking to meet the health and safety demands of employees working in public educational institutions, in order to build strategies to promote the health and well-being of workers and intervene in processes that may contribute to the occurrence of health problems among workers.

To promote health and quality of life in public higher education institutions, it is essential to use a diversified approach that includes raising awareness of self-care, such as adopting healthy habits, improving working conditions, and organizing the work process with the adoption of policies that promote a balance between personal and professional life, in order to contribute to a safe, healthy, pleasant, and productive work environment.

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