Prevalence of Risk and Protective Factors for Cancer among Health Workers during the COVID-19 Pandemic

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Prevalência dos Fatores de Risco e de Proteção para o Câncer entre Trabalhadores de Saúde durante a Pandemia de Covid-19

Prevalencia de Factores de Riesgo y Protección para el Cáncer en los Trabajadores de la Salud durante la Pandemia de la Covid-19

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ABSTRACT

Introduction: COVID-19 and its impacts are worrying. Health workers are essential to control the spread of the disease and services functioning. **Objective:** To analyze the risk and protective factors for cancer among health workers at a health unit during the COVID-19 pandemic. **Method:** Cross-sectional study with the application of a questionnaire in 138 health workers involving the profile of the participants and the prevalence of smoking, physical activity, use of alcoholic beverages, artificial juices/soft drinks, greens/vegetables and fruits. Data were presented through descriptive statistics. **Results:** The prevalence of smoking was 4.3% among the 138 respondents. The use of alcoholic beverages and artificial juices/soft drinks corresponded to 46% and 53%, respectively, with a higher intake frequency in the age-range of younger than 40 years old (p=0.005). The prevalence of intake of greens/vegetables was 99.3% and 94% for fruits. Nearly 66% of the workers performed physical activities at least once a week. During the COVID-19 pandemic, the frequency of physical activities by the workers interviewed declined. **Conclusion:** Monitoring risk and protective factors for cancer is crucial for healthy lifestyles. Improving the quality of life of health workers is fundamental to offer quality services, especially by the National Health System (SUS).
Key words: risk factors; neoplasms; occupational health; life style; COVID-19.

RESUMO

Introdução: A covid-19 e seus impactos são preocupantes. Os profissionais de saúde são fundamentais para controlar a disseminação da doença e o funcionamento dos serviços. **Objetivo:** Analisar os fatores de risco e de proteção para o câncer entre os trabalhadores de uma unidade de saúde durante a pandemia de covid-19. **Método:** Estudo transversal com aplicação de questionário em 138 trabalhadores de saúde envolvendo o perfil dos participantes e a prevalência de tabagismo, prática de exercícios físicos, consumo de bebidas alcoólicas, sucos artificiais/refrigerantes, verduras/legumes e frutas. Os dados foram apresentados por meio de estatística descritiva. **Resultados:** A prevalência de tabagismo foi de 4,3% entre os 138 entrevistados. O consumo de bebidas alcoólicas e de sucos artificiais/refrigerantes correspondeu a 46% e 53%, respectivamente, com maior frequência do consumo na faixa etária de até 40 anos (p=0,005). A prevalência do consumo de verduras/legumes foi de 99,3% e de frutas foi de 94%. Cerca de 66% dos trabalhadores realizavam exercícios físicos pelo menos um dia por semana. Durante a pandemia de covid-19, observou-se menor prática de exercícios físicos entre os trabalhadores de saúde entrevistados. **Conclusão:** O monitoramento dos fatores de risco e de proteção para o câncer é determinante para estilos de vida saudáveis. A melhora da qualidade de vida dos trabalhadores de saúde é fundamental para a prestação qualificada de serviços, sobretudo no Sistema Único de Saúde (SUS).
Palavras-chave: fatores de risco; neoplasias; saúde ocupacional; estilo de vida; COVID-19.

RESUMEN

Introducción: La covid-19 y sus impactos son preocupantes. Los profesionales de la salud son esenciales para controlar la propagación de la enfermedad y el funcionamiento de los servicios. **Objetivo:** Analizar los factores de riesgo y protección para el cáncer en los trabajadores de salud en una unidad de salud durante la pandemia de la covid-19. **Método:** Estudio transversal con la aplicación de un cuestionario a 138 trabajadores de la salud que involucró el perfil de los participantes y la prevalencia de tabaquismo, ejercicio físico, consumo de bebidas alcohólicas, jugos artificiales/bebidas gaseosas, verduras/legumbres y frutas. Los datos fueron presentados usando estadística descriptiva. **Resultados:** La prevalencia de tabaquismo fue del 4,3% entre los 138 encuestados. El consumo de bebidas alcohólicas y jugos artificiales/bebidas gaseosas correspondió al 46% y 53%, respectivamente, encontrándose una mayor frecuencia de consumo en el grupo etario de menores de 40 años (p=0,005). La prevalencia del consumo de verduras/legumbres fue del 99,3% y de frutas del 94%. Alrededor del 66% de los trabajadores realizaban ejercicio físico por lo menos un día a la semana. Durante la pandemia de la covid-19, fue observada una menor práctica de ejercicios físicos entre los trabajadores de la salud entrevistados. **Conclusión:** El monitoreo de los factores de riesgo y protección para el cáncer es crucial para los estilos de vida saludables. Mejorar la calidad de vida de los trabajadores de la salud es fundamental para la prestación calificada de los servicios, especialmente en el Sistema Único de Salud (SUS).
Palabras clave: factores de riesgo; neoplasias; salud laboral; estilo de vida; COVID-19.

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INTRODUCTION

COVID-19 and its impacts on populations concern all regions of the world. In March 2020, the World Health Organization (WHO)[1] declared the spread of the disease a public health emergency of international concern, a pandemic.

This scenario emphasizes the need to defend the Unified Health System (SUS) and its universality, integrality, and equity principles. The guarantee of rights of the Brazilian working class has also gained prominence, such as the right to access health services, social protection and decent work, which exalts the fundamental right to life[2].

The health care of health professionals is essential to control the spread of the disease and to preserve the proper functioning of the services provided[3]. Notably, these professionals experience emotional exhaustion related to the environment and work situations, intensified during epidemics and pandemics[4].

Considering the context experienced by health professionals during the COVID-19 pandemic, it is important to consider the risk and protective factors related to chronic non-communicable diseases (NCDs), which are responsible for worsening the clinical condition and increasing the length of hospital stay and mortality of patients affected by the disease[5]. NCDs overwhelm health systems and negatively impact individuals, families, and communities. It is estimated that NCDs are responsible for 41 million deaths worldwide annually, corresponding to 70% of all deaths[6]. In Brazil, 76% of annual deaths are related to NCDs[7].

Among NCDs, the impact of cancer globally stands out. In 2020, 19.3 million new cases and almost 10 million deaths related to neoplasms were observed. In Brazil, 704,000 new cases of cancer are expected for each year of the 2023-2025 triennium, with emphasis on non-melanoma skin cancer, female breast cancer, and prostate cancer[9].

Social isolation measures are essential to reduce the spread of the virus in the context of the COVID-19[10] pandemic. Still, they are related to higher levels of stress in individuals[11] and negatively impact the health and quality of life of people, especially those with NCDs. The losses observed in the continuity of treatment of cancer patients and the performance of oncological surgeries are notorious[12]. Situations such as unemployment, job insecurity and economic loss can result in unhealthy lifestyles, such as increased tobacco and alcohol consumption[13].

National and international studies have identified the increased consumption of alcohol and tobacco[14], ultra-processed foods[15] and sedentary lifestyle[16] in adults during the COVID-19 pandemic. Smoking is a significant risk factor for NCDs, especially lung cancer, and is related to a higher risk of developing the severe form of COVID-19 and, consequently, a higher risk of death from the disease[17].

Malta et al.[18], in a study that investigated lifestyle changes in adults in Brazil in 2020, observed a reduction in physical activity and vegetable consumption. There was an increase in the use of television and computers/ *tablet* and the consumption of frozen foods, snacks, and chocolate. Among the individuals studied, it was found that adults with cancer, diabetes, hypertension, respiratory disease, and heart disease had their lifestyles more altered. Bezerra et al.[19] found a change in sleep routine and some stress due to social isolation. However, they did not observe a reduction in the practice of physical exercises concerning a context of normality.

In this context, this study aims to describe the risk and protective factors for cancer (smoking, alcohol consumption, diet, and physical activity) among workers in a medium-complexity health unit during the COVID-19 pandemic. In addition to establishing the profile of health workers regarding each of these factors, we seek to identify their possible style changes during the pandemic.

METHOD

A cross-sectional study whose subjects were health workers of the Piquet Carneiro Polyclinic (PPC), a medium complexity health unit of the State University of Rio de Janeiro (UERJ) and strategic in the sus network of the State and the municipality of Rio de Janeiro. Only workers with professional ties to the unit were included. In 2021, PPC had around 500 workers of varying profiles, including permanent employees (technicians and teachers) and outsourced and hired professionals.

The research is part of the PPC Free of Tobacco extension project, which involves technicians, teachers and students in activities to support smokers, multiprofessional integration and health education. The sample was selected by convenience and the data collection instrument was a structured questionnaire with closed questions applied to PPC workers in the period of August and September 2021, formulated on the *Google* Forms platform and disseminated through the applications and social networks (*WhatsApp*, *Instagram* and *Facebook*) by the responsible researcher and the institutional channels of PPC.

The questionnaire questions initially addressed variables related to the profile of the participants: sex, age, education and position (teacher; health professional – social workers, biologists, biomedical, dental surgeons,

nurses, pharmacists, physiotherapists, speech therapists, doctors, nutritionists, physical education professionals, occupational therapists and their respective technicians and assistants, among others; support workers – administrative assistants, cooks, drivers, receptionists, security guards, cleaning workers, among others). Subsequently, aspects related to the prevalence and frequency of risk factors for cancer were addressed: smoking, consumption of alcoholic beverages and consumption of artificial juices/soda; and protective factors for cancer: consumption of vegetables and fruits, and physical activity.

In addition, we sought to identify changes related to these variables after the beginning of the COVID-19 pandemic. These indicators were selected because of their importance in determining the total burden of disease estimated by the WHO for the Region of the Americas[20].

The questionnaire presented the following questions related to risk and protective factors for cancer:

- Are you a smoker?
- On how many days of the week do you usually consume any alcoholic beverages?
- On how many days of the week do you usually eat at least one type of vegetable?
- On how many days of the week do you usually drink soda or artificial juice?
- On how many days of the week do you usually eat some fruit?
- On how many days of the week do you usually practice physical exercise or sport?

Responses related to the frequency of alcohol consumption, food questions and physical exercise were categorized as yes or no, considering individuals who reported frequency at least once a week as yes.

As for the influence of the pandemic on lifestyle, the following questions were asked:

- Do you consider that during the pandemic, there has been any change in your consumption of tobacco/alcoholic beverage/vegetable/fruit/soft drinks or artificial juice products?
- Do you consider that there was any change in your performance of physical exercise or sport during the pandemic?

After the conclusion of the collection period, the data were tabulated and analyzed using descriptive statistics using the *R software* version 4.1.2[21]. Categorical variables were presented by absolute and relative frequencies, and continuous variables by mean and standard deviation. Prevalences were given according to sex, age group, education level and position, and the respective 95% confidence intervals (CI) were estimated. The frequency between the variables studied, and the risk and protective factors for cancer was compared using Pearson's chi-square test or Fisher's exact test, in which a significance level of 5% was adopted.

The outcome independently considered the factors associated with cancer: smoking (yes or no), consumption of alcoholic beverages, consumption of artificial juices and soft drinks, consumption of vegetables, consumption of fruits, and physical activity (yes or no). The variables studied were gender, age group (20 to 39 years; ≥40 years), education (Elementary or High School; Higher Education or Postgraduate), and position (teacher or health professional; worker in the support areas).

The study was registered in the Brazil Platform, a national and unified database of research records involving human beings, following Resolutions nº. 466/2012[22] and nº. 510/2016[23] of the National Health Council (CNS) and the National Research Ethics Commission (Conep), and approved by the Research Ethics Committee (CEP) of the Pedro Ernesto/UERJ University Hospital under opinion number 4.872.390 (CAAE: 48541421.5.0000.5259). Subjects were individually informed about the research through the Informed Consent Form (ICF), which was subsequently signed.

RESULTS

The questionnaire was answered by 138 workers, corresponding to 75 health professionals (54.3%), 44 support workers (31.8%) and 19 teachers (13.7%). Most participants were female (70.2%) and had at least started higher education (85.5%). The mean age was 44.7 years (standard deviation = 11.62), 44.1 years for females and 46.1 years for males.

Considering the risk factors for NCDs among workers, the prevalence of smokers corresponded to 4.3% and was higher among men (9.8%), although without statistical significance. There was also no statistically relevant difference regarding the prevalence of smoking according to education and position. However, workers with elementary or high school education and workers in the support area had a higher prevalence of smoking compared to the other categories (Table 1).

The survey identified alcohol consumption at least once a week by 46% of respondents. There was no significant difference in the prevalence of alcohol consumption to gender, age, education, and position of the interviewees (Table 2).

Table 1. Prevalence of smoking among interviewed health workers (n=138) according to sex, age group, education, and position

Variables	Smoking					
	No 132 (95.7%)	CI 95%	Yes 6 (4.3%)	Ci 95%	Total 138 (100%)	p-value[a]
Gender						0.064
Female	95 (98%)	92-100	2 (2.1%)	0.36-8.0	97 (100%)	
Male	37 (90%)	76-97	4 (9.8%)	3.2-24	41 (100%)	
Age range						0.669
20 to 39 years	48 (94%)	83-98	3 (5,9%)	1.5-17	51 (100%)	
40 years or more	84 (97%)	90-99	3 (3,4%)	0.89-10	87 (100%)	
Education						0.209
Middle or Junior School	18 (90%)	67 - 98	2 (10%)	1.8-33	20 (100%)	
Higher education/Graduation	114 (97%)	91- 99	4 (3.4%)	1.1-9.0	118 (100%)	
Position						0.082
Teacher or health professional	92 (98%)	92-100	2 (2.1%)	0.37-8.2	94 (100%)	
Workers in the supporting areas	40 (91%)	77-97	4 (9.1%)	3.0-23	44 (100%)	

Captions: 95% CI = 95% confidence interval.
(a) Fisher's Exact Test

Table 2. Prevalence of smoking among interviewed health workers (n=138) according to sex, age group, education, and position

Variables	Alcohol consumption					
	No 74 (54%)	CI 95%	Yes 64 (46%)	CI 95%	Total 138 (100%)	p-value[a]
Gender						0.712
Female	53 (55%)	44-65	44 (45%)	35-56	97 (100%)	
Male	21 (51%)	35-67	20 (49%)	33-65	41 (100%)	
Age range						0.406
20 to 39 years	25 (49%)	35-63	26 (51%)	37 -65	51 (100%)	
40 years or more	49 (56%)	45-67	38 (44%)	33-55	87 (100%)	
Education						0.893
Middle or Junior School	11 (55%)	32-76	9 (45%)	24-68	20 (100%)	
Higher education/Graduation	63 (53%)	44-63	55 (47%)	37-56	118 (100%)	
Position						0.341
Teacher or health professional	53 (56%)	46-66	41 (44%)	34-54	94 (100%)	
Workers in the supporting areas	21 (48%)	33 -63	23 (52%)	37-67	44 (100%)	

Captions: 95% CI = 95% confidence interval.
(a) Pearson's chi-square test.

Regarding the consumption of artificial juices and soft drinks, 53% of respondents reported the consumption of these beverages at least once a week, with emphasis on the age group between 20 and 39 years, which had a higher prevalence of consumption (69%) when compared to the group older than 40 years (p=0.005). As in the variable consumption of alcoholic beverages, workers with elementary or high school education and working in support areas showed a higher prevalence of consumption of artificial juices and soft drinks, 65% and 61%, respectively, with no statistical difference.

The prevalence of the protective factor related to the consumption of vegetables and fruits among workers was high, corresponding to 99.3% and 94%, respectively, with no difference between the variables analyzed (Table 3).

The prevalence of physical exercise was 66% in the sample studied, being higher among men (71%) and teachers/health professionals (71%), although there was no statistical difference between the categories (Table 4).

Table 3. Prevalence of consumption of fruits, vegetables, legumes, artificial juices, and soft drinks among the interviewed health workers (n=138) according to sex, age group, education, and position

Fruit consumption						
Variables	**No 9 (6%)**	**CI 95%**	**Yes 129 (94%)**	**CI 95%**	**Total 138 (100%)**	**p-value[b]**
Gender						1.000
Female	6 (6,2%)	2.5-14	91 (94%)	86-97	97 (100%)	
Male	3 (7.3%)	1.9-21	38 (93%)	79 -98	41 (100%)	
Age range						1.000
20 to 39 years	3 (5,9%)	1.5-17	48 (94%)	83-98	51 (100%)	
40 years or more	6 (6,9%)	2.8-15	81 (93%)	85-97	87 (100%)	
Education						1.000
Middle or Junior School	1 (5.0%)	0.26 -27	19 (95%)	73-100	20 (100%)	
Higher education/Graduation	8 (6.8%)	3,2-13	110 (93%)	87-97%	118 (100%)	
Position						1.000
Teacher or health professional	6 (6.4%)	2.6-14	88 (94%)	86-97	94 (100%)	
Workers in the supporting areas	3 (6.8%)	1.8-20	41 (93%)	80-98	44 (100%)	
Consumption of vegetables						
Variables	**No 1 (0,7%)**	**CI 95%**	**Yes 137 (99,3%)**	**CI 95%**	**Total 138 (100%)**	**p-value[b]**
Gender						1.000
Female	1 (1.0%)	0.05-6.4	96 (99%)	94-100	97 (100%)	
Male	-	-	41 (100%)	89 (100%)	41 (100%)	
Age range						1.000
20 to 39 years	-	0.00-8.7	51 (100%)	91-100	51 (100%)	
40 years or more	1 (1,1%)	0.06-7.1	86 (99%)	93-100	87 (100%)	
Education						0.144
Middle or Junior School	1 (5.0%)	0.26 -27	19 (95%)	73-100	20 (100%)	
Higher education/Graduation	-	-	118 (100%)	96-100	118 (100%)	
Position						0.318
Teacher or health professional	-	-	94 (100%)	95-100	94 (100%)	
Workers in the supporting areas	1 (2.3%)	0.12 -14	43 (98%)	86-100	44 (100%)	
Consumption of artificial juices and soft drinks						
Variables	**No 65 (47%)**	**CI 95%**	**Yes 73 (53%)**	**CI 95%**	**Total 138 (100%)**	**p-value[a]**
Gender						0.907
Female	46 (47%)	37 - 58	51 (53%)	42-63	97 (100%)	
Male	19 (46%)	31 -62	22 (54%)	38-69	41 (100%)	
Age range						**0.005**
20 to 39 years	16 (31%)	20-46	35 (69%)	54-80	51 (100%)	
40 years or more	49 (56%)	45-67	38 (44%)	33-55	87 (100%)	
Education						0,240
Middle or Junior School	7 (35%)	16-59	13 (65%)	41-84	20 (100%)	
Higher education/Graduation	58 (49%)	40-58	60 (51%)	42-60	118 (100%)	
Position						0.237
Teacher or health professional	48 (51%)	41-61	46 (49%)	39-59	94 (100%)	
Workers in the supporting areas	17(39%)	25-54	27 (61%)	46-70	44 (100%)	

Captions: 95% CI = 95% confidence interval.
(a) Pearson's chi-square test.
(b) Fisher's exact test.

Table 4. Prevalence of smoking among interviewed health workers (n=138) according to sex, age group, education, and position

Variables	Performing physical exercises					
	No 47 (34%)	CI 95%	Yes 91 (66%)	CI 95%	Total 138 (100%)	p-value[a]
Gender						0.440
Female	35 (36%)	27-47	62 (64%)	53-73	97 (100%)	
Male	12 (29%)	17-46	29 (71%)	54-83	41 (100%)	
Age range						0.890
20 to 39 years	17 (33%)	21-48	34 (67%)	52-79	51 (100%)	
40 years or more	30 (34%)	25-46	57 (66%)	54-75	87 (100%)	
Education						0,923
Elementary or High School	7 (35%)	16-59	13 (65%)	41-84	20 (100%)	
Higher education/Graduation	40 (34%)	26-43	78 (66%)	57-74	118 (100%)	
Position						0.053
Teacher or health professional	27 (29%)	20-39	67 (71%)	61-80	94 (100%)	
Workers in the supporting areas	20 (45%)	31-61	24(55%)	39-69	44 (100%)	

Captions: 95% CI = 95% confidence interval.
([a]) Pearson's chi-square test.

Finally, the influence of the COVID-19 pandemic on the lifestyle of health workers was described through the proportions calculated from the information obtained from workers regarding changes in risk and protective factors for cancer during the pandemic period. Regarding the change in life of smoking, for 94.9%, there was no change. Concerning the consumption of alcoholic beverages, vegetables/legumes, and artificial juices/soft drinks, these proportions were 71.0%, 63.0%, and 78.3%, respectively. However, among respondents who indicated change related to these categories, 21% reported increased consumption of alcoholic beverages and 15.2% of artificial juices/soft drinks.

As for physical exercise, most respondents (41.3%) reported a reduction in this practice. For 34.8% of workers, the pandemic did not influence the activities already carried out, and 23.9% indicated an increase or started to perform physical exercises. Statistical analysis allowed us to observe significant differences regarding the variables studied. Regarding the age group, workers under 40 years old reported a more substantial change in smoking (p=0.048), with a more significant increase or start of consumption (5.9%) when compared to the above age group (1.1%). There was also a more substantial increase or onset of alcohol consumption associated with this age group (29%; p=0.016), as well as an increase in the consumption of artificial juices or soft drinks (p=0.022).

The increase or onset of alcohol consumption was more significant in the group of teachers and health professionals (23.1%; p=0.049), who also showed a statistically significant higher proportion (p=0.001) of decrease or interruption of physical exercise (48.1%) when compared to the group of workers in the support areas (27.3%).

DISCUSSION

Monitoring people's lifestyles is essential for assessing health status and quality of life. Individual and regional determinants and the context in which people live can reveal significant differences in health estimates[24]. The impact of the pandemic on this process has an intense and inseparable relationship with work. The overlap of different determinants results in more profound developments for the world of work and the most vulnerable population[25].

Although the study findings point to the prevalence of risk and protective factors for cancer in a specific group of workers, it is possible to verify some similarities and differences with the findings of some of the leading national surveys that analyzed similar variables and categories. They are the Surveillance of Risk and Protective Factors for Chronic Diseases by Telephone Survey (VIGITEL)[26], the Telephone Survey of Risk Factors for Chronic Non-Communicable Diseases in times of pandemic (Covitel)[27]; and the National Health Survey (PNS)[28]. However, it is necessary to consider the differences of each study regarding the methods used and the sample selected for more detailed analyses of each variable. A limitation of the present study is the small size

of the sample and its selection for convenience, in addition to the restricted set of variables analyzed about the national surveys that present in their scope a larger population and a more diverse and comprehensive object of investigation. It is also important to consider the upsurge and cooling of the COVID-19 pandemic since its beginning in March 2020. This may influence the findings of studies that aim to investigate the post-pandemic effects according to the periods analyzed.

The critical reduction in smoking in recent decades in Brazil has been attributed to the various measures of the National Tobacco Control Policy[29,30]. The data on the prevalence of smokers in the country presented by VIGITEL[26] (9.1%), Covitel[27] (14.7%), and PNS[28] (12.8%). The low majority of smokers observed in the present study (4.3%) corroborates the increase in social rejection of smoking. As this is a study with workers from a health unit, it can be suggested that the work environment and the professional training in the health area of most workers discourage the consumption of tobacco products. The higher prevalence of smoking among men and people with less education is related to the findings described in the literature[31].

The prevalence of the other variables in this study has limitations for comparison with the results of national surveys. As an example, the consumption of vegetables observed among the interviewees (99.3%) is not comparable with the findings of VIGITEL[26] (34.2%) and Covitel[27] (45.1%), since they presented the values of the prevalence of consumption on five or more days a week. The same occurs about physical exercise, mentioned by 66% of respondents. The data presented by VIGITEL[26] (36.7%), Covitel[27] (38.6%) and PNS[28] (30.1%) were related to the practice of physical activity for at least 150 minutes or three days a week.

Although the data point only to a possible statistically significant association between higher consumption of artificial juices and soft drinks among workers aged 20 to 39 years (69%), there were relevant findings between the variables analyzed and the risk and protective factors for cancer. The highest prevalences related to risk factors (smoking and consumption of alcoholic beverages and artificial juices/soft drinks) and the lowest prevalences related to protective factors (consumption of fruits and vegetables, and physical exercise) among workers in support areas in general are notorious, which reinforces the need for attention and implementation of health promotion programs aimed at this group. Healthier lifestyles with the reduction of risk factors and adoption of protective factors for NCDs, with cancer highlighted, are widely referenced in the literature and gained projection during the COVID-19[18] pandemic.

The impact of the pandemic on people's lifestyles has been the subject of some studies. Data from Covitel[27] demonstrated the maintenance of regular consumption of alcohol and smoking and the reduction of regular consumption of soft drinks and artificial juices. However, there was a reduction in the consumption of vegetables and the performance of exercises.

Malta et al.[18] observed that the worsening of lifestyles during the pandemic was more intense in the adult population with cancer and other NCDs. There was a reduction in the consumption of vegetables and the performance of exercises after the beginning of the pandemic, in addition to the increase in alcohol consumption. Rehm et al.[32] suggest as factors related to the increase in alcoholism during the pandemic, psychological suffering, financial difficulties and accessibility to products.

As in the findings observed in the studies mentioned above, the reduction in physical exercise after the beginning of the pandemic was the only risk factor for cancer pointed out by most of the health workers interviewed. Restrictive measures for the circulation of people and the suffering associated with morbidity and mortality caused by COVID-19, especially in the pre-vaccine period, negatively impacted the practice of physical exercises and sports, which is mainly characterized by social interaction and performance in collective spaces. Providing an adequate and decentralized public structure for the practice of physical exercises is fundamental for greater accessibility and adherence.

Although the increase in the consumption of alcoholic beverages and artificial juices/soft drinks by the majority of workers interviewed due to the pandemic was not observed, the significant increase in these variables among those who reported change reinforces the concern about the increase in the consumption of alcohol and sugary beverages, of which the commercialization is encouraged by a strong industry in a scenario of fragile state regulation that allows wide publicity and easy access. It is necessary to overcome obstacles aiming at greater state control for the promotion of adequate and healthy food in Brazil[33].

Encouraging promotion actions and healthy lifestyle habits, advancing regulatory measures and the sustainability of public policies are fundamental for coping with cancer and other NCDs in Brazil. The scenario of political-economic instability and fragility of the guarantee of social and health rights reinforces this concern[34].

CONCLUSION

The present study, in general, showed positive results regarding the prevalence of smoking, consumption of

vegetables and fruits, and physical exercise among the interviewed health workers. It is noteworthy the higher prevalence of smoking among male workers with less education and the higher consumption of artificial juices/soft drinks among people of lower age. Workers in the support area, in general, had higher prevalences related to risk factors and lower prevalences related to protective factors for cancer.

During the COVID-19 pandemic, less physical exercise was observed among the interviewed health workers, as observed in other studies, which reinforces the need for public policies that encourage the adoption of this important aspect of lifestyle. Strategies offered in the work environment itself can facilitate adherence to regular physical exercise.

The monitoring of risk and protective factors for cancer among health workers is crucial for the planning and execution of measures aiming at healthier lifestyles in this group of individuals. This care should be intended for both health professionals and workers in the support areas. Health workers with a better quality of life are fundamental to guarantee the qualified provision of services to their users, especially within the scope of SUS.

CONTRIBUTIONS

All authors contributed substantially in the design and/or planning of the study; in the analysis and/or interpretation of the data; in the writing and/or critical review; and approved the final version to be published.

DECLARATION OF CONFLICT OF INTERESTS

There is no conflict of interest to declare.

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