Revista Médica ELECTRÓNICA

Rev Méd Electrón | Vol. 48. 2026 | ISSN: 1684-1824

HOW TO CITE

Pérez-Alvarez DK, Garcés-Elías MC, Torres-Ramirez JH, León-Manco RA. Self-perceived general health of the staff of a dental teaching center in a COVID-19 epidemiological surveillance system. Rev Méd Electrón [Internet]. 2026 [citado: fecha de acceso];48:e7133. Disponible en: http://www.revmedicaelectronica.sld.cu/index.php/rme/article/view/7133/6672

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Reviewers:
Silvio Faustino Soler-Cárdenas and Alfredo García-Martínez.

Key words:
health perception; COVID-19, epidemiological monitoring; health personnel; dental education

Palabras clave:
percepción de la salud; COVID-19; vigilancia epidemiológica; personal de salud; educación odontológica

Received: 2025/12/10.
Accepted: 2026/10/02.
Published: 2026/11/11.

Artículo de Investigación

Self-perceived general health of the staff of a dental teaching center in a COVID-19 epidemiological surveillance system

Salud general autopercibida del personal de un centro docente de estomatología en un sistema de vigilancia epidemiológica de la COVID-19

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ABSTRACT

Introduction: The COVID-19 pandemic significantly affected dental services due to the high transmission risk associated with clinical procedures and continuous exposure to aerosols. In this context, self-perceived health (SPH) emerged as a sensitive indicator for evaluating the physical and emotional well-being of the staff working in high-risk environments.

Objective: To determine the general self-perceived of health among staff at the CDD-UPCH under a COVID-19 epidemiological surveillance system during 2021 and 2022.

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Methods: A cross-sectional study was conducted including 755 records from 2021 and 648 from 2022, obtained through a structured questionnaire administered to students, teaching staff, and administrative staff. Variables related to COVID-19, sociodemographic characteristics, systemic conditions, and occupational exposure were analyzed through descriptive statistics, bivariate tests (chi-square, Mann–Whitney U, and Kruskal–Wallis), and hierarchical multiple linear regression with a significance level of $p<0.05$.

Results: Most participants reported "Good/Excellent" SPH in 2021 (87.53%) and 2022 (86.85%). SPH was significantly associated with COVID-19 diagnosis and severity, exposure to infected individuals, vaccination status, Body Mass Index (BMI), systemic conditions, educational level, institutional role, sex, and age. Mild and moderate COVID-19 cases were negatively associated with favorable SPH, while not having contact with infected patients was positively associated with better health perception.

Conclusions: Although SPH remained predominantly positive across both years, it was substantially influenced by disease experience and occupational exposure.

RESUMEN

Introducción: La pandemia de COVID-19 afectó los servicios odontológicos debido al riesgo de transmisión asociado con los procedimientos clínicos y la exposición a aerosoles. Por ello, la salud autopercibida (SAP) surgió como un indicador sensible para evaluar el bienestar físico y emocional del personal que trabaja en entornos de alto riesgo.

Objetivo: Determinar la percepción general de salud del personal del CDD-UPCH dentro del sistema de vigilancia epidemiológica de COVID-19 durante 2021 y 2022.

Métodos: Se realizó un estudio transversal que incluyó 755 registros de 2021 y 648 de 2022, obtenidos mediante un cuestionario estructurado aplicado a estudiantes, docentes y personal administrativo. Se analizaron variables relacionadas con la COVID-19, características sociodemográficas, condiciones sistémicas y exposición laboral mediante análisis descriptivo, pruebas bivariadas y regresión lineal múltiple jerárquica, con un nivel de significación estadística del $p < 0.05$.

Resultados: La mayoría de los participantes reportó una SAP Buena/Excelente en 2021 (87,53 %) y 2022 (86,85 %). La SAP mostró asociaciones significativas con el diagnóstico y la gravedad de la COVID-19, la exposición a personas infectadas, el estado de vacunación, el índice de masa corporal, las condiciones sistémicas, el nivel educativo, el rol institucional, el sexo y la edad. Los casos leves y moderados se asociaron negativamente con una SAP favorable, mientras

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que no haber tenido contacto con pacientes infectados se asoció positivamente con una mejor percepción de salud.

Conclusiones: Aunque la SAP se mantuvo mayoritariamente positiva en ambos años, estuvo sustancialmente influenciada por la experiencia de la enfermedad y la exposición laboral.

INTRODUCTION

Coronavirus disease (COVID-19), caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), is a highly contagious infection that can trigger multisystem complications, with respiratory involvement being the most prevalent.[1] In January 2020, the World Health Organization (WHO) declared COVID-19 a Public Health Emergency of International Concern (PHEIC), marking the onset of an unprecedented global health crisis.[2] This declaration significantly impacted all occupational sectors, with dentistry being among the most vulnerable due to the nature of its clinical procedures. The close physical proximity to patients and the constant exposure to oral fluids and aerosols make dental services high-risk environments for cross-transmission of respiratory pathogens, including emerging viruses such as SARS-CoV-2.[3]

In response, various prevention and control strategies were implemented, including epidemiological surveillance systems in clinical settings. These systems enable the systematic collection, analysis, and interpretation of health-related data to support timely public health decision-making in the face of emerging threats.[4] However, despite their effectiveness in mitigating risks, such measures also produced unintended consequences, including changes in the subjective perception of health. In this context, according to recommendations from the WHO, self-perceived health (SPH), defined as the overall assessment that an individual makes of its own health, has gained relevance as a sensitive indicator of physical and emotional well-being during the pandemic.[5] Scientific evidence supports its validity, demonstrating strong correlations with objective health indicators and a high predictive capacity for clinical, functional, and mortality outcomes.[6-8]

In academic and clinical environments, dental teaching centers (DTCs) play a fundamental role in the training of dental students by integrating real patient care with supervised practical learning.[9,10] Specifically, the Dental Teaching Center at Universidad Peruana Cayetano Heredia (CDD-UPCH) provides both general and specialized dental care under a service-based education model.[11] In response to the pandemic, the center implemented an epidemiological surveillance plan forCOVID-19 to mitigate transmission risks and protect the health of students, teaching staff, administrative staff, and patients.[12]

Given the limited evidence focused on self-perceived health in dental academic settings, and considering its potential as an early indicator in the health-disease

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process,[13] this study aimed to determine the general self-perception health among CDD-UPCH staff under a COVID-19 epidemiological surveillance system during 2021 and 2022.

METHODS

This study employed a cross-sectional design and was based on data collected from two datasets of the Dental Teaching Center at Universidad Peruana Cayetano Heredia (CDD-UPCH) corresponding to the years 2021 and 2022. The information was obtained through a structured questionnaire administered to students, teaching staff, and administrative staff who participated in the CDD-UPCH COVID-19 surveillance plan (PV-COVID-19-UPCH) during that period. A total of 755 records from 2021 and 648 records from 2022 were included. This surveillance plan was coordinated by the Public Health Research and Dental Health Management Unit.

The study variables included self-perceived health (SPH), defined as the individual's subjective evaluation of their overall health status, which was measured using an ordinal polytomous scale (Very Poor, Poor, Fair, Good, Excellent). Notably, this question has been used for years by the World Health Organization (WHO) and was incorporated to the World Health Survey Plus (WHS+), the main household survey designed to generate data to support health situation analysis and monitor progress toward the Sustainable Development Goals (SDGs) in over 100 countries, including Peru.[5] This allowed comparisons with other COVID-19-related variables, such as weight status (BMI categories: underweight, normal weight, overweight, obesity), sex (female/male), age group (young adult, adult, older adult), educational level (undergraduate/postgraduate), survey year (2021/2022), and campus (San Martín de Porres/San Isidro).

The study sample comprised students, teaching staff, and administrative personnel from the CDD-UPCH. Participants were selected based on their involvement in the PV-COVID-19-UPCH during 2021 and 2022. Records with incomplete information on key study variables were excluded. All valid data were stored in a database, totaling 755 records in 2021 and 648 in 2022.

The analysis began with descriptive statistics for qualitative and quantitative variables. Bivariate analysis was conducted using the chi-square test for categorical variables. As the SPH variable did not follow a normal distribution (Kolmogorov–Smirnov test), nonparametric tests were used: the Mann–Whitney U test and the Kruskal–Wallis test. For multivariate analysis, a logarithmic transformation of the SPH variable was performed followed by a hierarchical multiple linear regression. Statistical analyses were carried out using STATA v.17.0, with a 95% confidence level and a significance threshold of $p<0.05$.

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Regarding ethical considerations, data management began with authorization from the Administrative Directorate of the CDD-FE-UPCH (SIDISI N.º 211576). Subsequently, the study was approved by the Faculty of Dentistry and the Institutional Research Ethics Committee of Universidad Peruana Cayetano Heredia (CIE-UPCH) on August 23, 2023. All participants provided informed consent to participate in the study. Participant confidentiality was ensured through data coding, and all required ethical approvals from CIE and SIDISI were obtained, including confirmation of the official study approval date.

RESULTS

As shown in Tables 1 and 2, in 2021, 87.53% (n=660) of participants reported a self-perceived health status of Good or Excellent, while 12.47% (n=94) rated their health as Very poor, Poor, or Fair. In 2022, 86.85% (n=568) reported Good or Excellent self-perceived health, whereas 13.15% (n=86) reported a perception ranging from Very poor to Fair. No statistically significant difference in the grouped self-perceived health categories was observed between 2021 and 2022 ($p=0.702$). However, the distribution of several participant characteristics differed significantly between the two years, including COVID-19 diagnosis, type of COVID-19 diagnosis, vaccination status, exposure to a COVID-19 patient, systemic conditions, BMI, educational level, institutional role, campus; place of origin, sex, and age (all $p<0.05$).

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Table 1. Characteristics of the population from the COVID-19 epidemiological surveillance plan at a dental teaching center. Peru, 2021–2022

Variables	2021		2022		p
	n	%	n	%	
General self-perceived health					
Very poor	1	0.13	1	0.15	<0.001**
Poor	2	0.27	1	0.15	-
Fair	91	12.07	84	12.84	-
Good	377	50.00	396	60.55	-
Excellent	283	37.53	172	26.30	-
Good-Excellent	660	87.53	568	86.85	0.702*
Very poor-poor-fair	94	12.47	86	13.15	-
COVID-19 diagnosis					
Yes	155	20.56	197	30.12	<0.001*
No	599	79.44	457	69.88	-
Type of COVID-19 diagnosis					
Clinical suspicion	23	14.84	39	19.8	<0.001*
By serological (rapid) test	55	35.48	32	16.24	-
By antigen test	23	14.84	45	22.84	-
By molecular test	54	34.84	81	41.12	-
Type of COVID-19 clinical presentation					
Asymptomatic	55	35.48	52	26.4	0.182*
Mild case	54	34.84	89	45.18	-
Moderate case	45	29.03	54	27.,41	-
Severe case	1	0.65	2	1.02	-
COVID-19 vaccination					
Yes	355	47.08	618	94.5	<0.001*
No	399	52.92	36	5.5	-
Exposure to a COVID-19 patient					
Yes	210	27.85	233	35.63	0.002*
No	544	72.15	421	64.37	-
Systemic condition					
Yes	195	25.86	138	21.1	0.036*
No	559	74.14	516	78.9	-
BMI					
Underweight	6	0.8	24	3.67	<0.001*
Normal weight	363	48.14	398	60.86	-
Overweight	281	37.27	191	29.2	-
Obesity	104	13.79	41	6.27	-

n: Absolute frequency; %: Relative frequency; p: Statistical significance; *Chi-square test; **Chi-square test with Yates' correction; SMP: San Martin de Porres.

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Table 2. Characteristics of the population from the COVID-19 epidemiological surveillance plan at a dental teaching center. Peru, 2021–2022

Variables	2021		2022		p
	n	%	n	%	
Education level					
Undergraduate	24	9.72	115	23.09	<0.001*
Postgraduate	194	78.54	361	72.49	-
Undergraduate and postgraduate	29	11.74	22	4.42	-
Role					
Administrative and support staff	507	67.24	156	23.85	<0.001*
Student	153	20.29	432	66.06	-
Professor	94	12.47	66	10.09	-
Campus					
San Isidro	58	7.69	29	4.43	<0.001*
SMP	585	77.59	386	59.02	-
San Isidro y SMP	111	14.72	239	36.54	-
Place of origin					
Lima	652	86.47	616	94.19	<0.001*
Province	102	13.53	38	5.81	-
Sex					
Male	410	54.38	211	32.26	<0.001*
Female	344	45.62	443	67.74	-
Age					
	X=41.78	SD=10.95	X=34.31	SD=12.28	-
Young adult (18 a 29 years)	151	20.03	280	42.81	<0.001*
Adult (30 a 59 years)	576	76.39	339	51.83	-
Older adult (60 years and over)	27	3.58	35	5.35	-
Total 1408	754	53.55	654	46.45	-

n: Absolute frequency; %: Relative frequency; p: Statistical significance; *Chi-square test; **Chi-square test with Yates' correction; SMP: San Martin de Porres.

Tables 3, 4 and 5 present the year-specific associations between participant characteristics and self-perceived health. In 2021, statistically significant associations were observed for COVID-19 diagnosis (p<0.001), type of COVID-19 diagnosis (p<0.001), clinical presentation of COVID-19 (p<0.001), exposure to a COVID-19 patient (p<0.001), systemic conditions (p<0.001), BMI (p<0.001), place of origin (p<0.001), and sex (p<0.001). No statistically significant associations were observed for COVID-19 vaccination (p=0.781),

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educational level (p=0.722), institutional role (p=0.969), campus (p=0.063), or age (p=0.372).

In 2022, statistically significant associations were observed for COVID-19 diagnosis (p<0.001), clinical presentation of COVID-19 (p<0.001), exposure to a COVID-19 patient (p<0.001), systemic conditions (p<0.001), institutional role (p<0.001), campus (p=0.001), and sex (p=0.016). No statistically significant associations were observed for type of COVID-19 diagnosis (p=0.060), COVID-19 vaccination (p=0.710), BMI (p=0.251), educational level (p=0.744), place of origin (p=0.999), or age (p=0.742).

Table 3. General self-perceived health among the population from the COVID-19 epidemiological surveillance plan at a dental teaching center. Peru, 2021–2022

Variables	2021					2022				
	Good-Excellent		Very poor-poor-fair		p	Good-Excellent		Very poor-poor-fair		p
	n	%	n	%		n	%	n	%	
COVID-19 diagnosis										
Yes	109	70.32	46	29.68	<0.001*	158	80.20	39	19.80	<0.001*
No	551	91.99	48	8.01		410	89.72	47	10.28	
Type of COVID-19 diagnosis										
Clinical suspicion	18	78.26	5	21.74	<0.001*	31	79.49	8	20.51	0.060*
By serological (rapid) test	53	96.36	2	3.64		30	93.75	2	6.25	
By antigen test	21	91.30	2	8.70		31	68.89	14	31.11	
By molecular test	17	31.48	37	68.52		66	81.48	15	18.52	
Type of COVID-19 clinical presentation										
Asymptomatic	51	92.73	4	7.27	<0.001*	51	98.08	1	1.92	<0.001**
Mild case	47	87.04	7	12.96		72	80.90	17	19.10	
Moderate case	10	22.22	35	77.78		34	62.96	20	37.04	
Severe case	1	100.00	0	0.00		1	50.00	1	50.00	

n: Absolute frequency; %: Relative frequency; p: Statistical significance; *Chi-square test; **Chi-square test with Yates' correction; SMP: San Martin de Porres.

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Table 4. General self-perceived health among the population from the COVID-19 epidemiological surveillance plan at a dental teaching center. Peru, 2021–2022

Variables	2021					2022				
	Good-Excellent		Very poor-poor-fair		p	Good-Excellent		Very poor-poor-fair		p
	n	%	n	%		n	%	n	%	
COVID-19 vaccination										
Yes	312	87.89	43	12.11	0.781*	536	86.73	82	13.27	0.710*
No	348	87.22	51	12.78		32	88.89	4	11.11	
Exposure to a COVID-19 patient										
Yes	146	69.52	64	30.48	<0.001*	181	77.68	52	22.32	<0.001*
No	514	94.49	30	5.51		387	91.92	34	8.08	
Systemic condition										
Yes	142	72.82	53	27.18	<0.001*	101	73.19	37	26.81	<0.001*
No	518	92.67	41	7.33		467	90.50	49	9.50	
BMI										
Underweight	6	100.00	0	0.00	<0.001**	23	95.83	1	4.17	0.251*
Normal weight	303	83.47	60	16.53		339	85.18	59	14.82	
Overweight	250	88.97	31	11.03		168	87.96	23	12.04	
Obesity	101	97.12	3	2.88		38	92.68	3	7.32	
Educational level										
Undergraduate	20	83.33	4	16.67	0.722*	97	84.35	18	15.65	0.744*
Postgraduate	172	88.66	22	11.34		333	92.24	28	7.76	
Undergraduate and postgraduate	25	86.21	4	13.79		15	68.18	7	31.82	

n: Absolute frequency; %: Relative frequency; p: Statistical significance; *Chi-square test; **Chi-square test with Yates' correction; SMP: San Martin de Porres.

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Table 5. General self-perceived health among the population from the COVID-19 epidemiological surveillance plan at a dental teaching center. Peru, 2021–2022

Variables	2021					2022				
	Good-Excellent		Very poor-poor-fair		p	Good-Excellent		Very poor-poor-fair		p
	n	%	n	%		n	%	n	%	
Role										
Administrative and support staff	443	87.38	64	12.62	0.969*	123	78.85	33	21.15	<0.001*
Student	134	87.58	19	12.42		390	90.28	42	9.72	
Professor	83	88.30	11	11.70		55	83.33	11	16.67	
Campus										
San Isidro	46	79.31	12	20.69	0.063*	22	75.86	7	24.14	0.001**
SMP	512	87.52	73	12.48		326	84.46	60	15.54	
San Isidro y SMP	102	91.89	9	8.11		220	92.05	19	7.95	
Place of origin										
Lima	560	85.89	92	14.11	<0.001*	535	86.85	81	13.15	0.999*
Province	100	98.04	2	1.96		33	86.84	5	13.16	
Sex										
Male	383	93.41	27	6.59	<0.001*	193	91.47	18	8.53	0.016*
Female	277	80.52	67	19.48		375	84.65	68	15.35	
Age										
Young adult (18-29 years)	132	87.42	19	12.58	0.372*	245	87.50	35	12.50	0.742*
Adult (30-59 years)	502	87.15	74	12.85		294	86.73	45	13.27	
Older adult (60 years and over)	26	96.30	1	3.70		29	82.86	6	17.14	

n: Absolute frequency; %: Relative frequency; p: Statistical significance; *Chi-square test; **Chi-square test with Yates' correction; SMP: San Martin de Porres.

Finally, as shown in Tables 6 and 7, the adjusted analysis indicated that, compared with asymptomatic COVID-19 presentation, mild COVID-19 was negatively associated with favorable self-perceived health (aPR=0.85; 95% CI: 0.76–0.96; p=0.009), as was moderate COVID-19 (aPR=0.73; 95% CI: 0.58–0.92; p=0.008). Conversely, not having been exposed to a COVID-19 patient was positively associated with favorable self-perceived health (aPR=1.07; 95% CI: 1.01–1.13; p=0.044). No statistically significant associations were observed for the other variables for which adjusted estimates were reported.

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Table 6. Factors associated with general self-perceived health among the population from the COVID-19 epidemiological surveillance plan at a dental teaching center. Peru, 2021–2022

Variables	General self-perceived health: Good-Excellent					
	PR	IC95%	p	aPR	CI95%	p
Año						
2021	Ref.			Ref.		
2022	0.99	0.95-1.03	0.702	0.99	0.94-1.06	0.862
COVID-19 diagnosis						
Yes	Ref.			Ref.		
No	1.12	1.13-1.28	<0.001	1.05	0.99-1.13	0.122
Type of COVID-19 diagnosis						
Clinical suspicion	Ref.			Ref.		
By serological (rapid) test	1.21	1.05-1.38	0.007	1.20	0.92-1.57	0.183
By antigen test	0.97	0.81-1.16	0.725	0.93	0.71-1.22	0.625
By molecular test	0.78	0.65-0.94	0.008	1.12	0.92-1.36	0.271
Type of COVID-19 clinical presentation						
Asymptomatic	Ref.			Ref.		
Mild case	0.87	0.80-0.95	0.002	0.85	0,76-0.96	0.009
Moderate case	0.47	0.37-0.58	<0.001	0.73	0,58-0.92	0.008
Severe case	0.70	0.31-1.56	0.382	0.93	0.67-1.29	0.667
COVID-19 vaccination						
Yes	Ref.			Ref.		
No	1.00	0.96-1.05	0.916	0.99	0.82-1.19	0.907
Exposure to a COVID-19 patient						
Yes	Ref.			Ref.		
No	1.27	1.19-1.34	<0.001	1.07	1.01-1.13	0.044
Systemic condition						
Yes	Ref.					
No	1.26	1.17-1.34	<0.001	-	-	-
BMI						
Underweight	Ref.					
Normal weight	0.87	0.81-0.94	<0.001	-	-	-
Overweight	0.92	0.85-0.98	0.020	-	-	-
Obesity	0.99	0.92-1.07	0.826	-	-	-
Educational level						
Undergraduate	Ref.					
Postgraduate	1.08	1.00-1.17	0.050	-	-	-
Undergraduate and postgraduate	0.93	0.79-1.10	0.390	-	-	-

PR: Prevalence ratio; aPR: Adjusted prevalence ratio; 95% CI: 95% confidence interval; p: Statistical significance; a: Adjusted for systemic condition, BMI, educational level, institutional role, campus, place of origin, sex, and age; SMP: San Martin de Porres.

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Table 7. Factors associated with general self-perceived health among the population from the COVID-19 epidemiological surveillance plan at a dental teaching center. Peru, 2021–2022

Variables	General self-perceived health: Good-Excellent					
	PR	IC95%	p	aPR	CI95%	p
Role						
Administrative and support staff	Ref.					-
Student	1.05	1.01-1.09	0.025	-	-	-
Professor	1.01	0.94-1.08	0.772	-	-	-
Campus						
San Isidro	Ref.					
SMP	1.10	0.99-1.24	0.088	-	-	-
San Isidro y SMP	1.18	1.05-1.32	0.006	-	-	-
Place of origin						
Lima	Ref.					
Province	1.10	1.05-1.15	<0.001	-	-	-
Sex						
Male	Ref.					
Female	0.89	0.86-0.93	<0.001	-	-	-
Age						
Young adult (18 a 29 years)	Ref.					
Adult (30 a 59 years)	0.99	0.95-1.04	0.806	-	-	-
Older adult (60 years and over)	1.01	0.92-1.12	0.773	-	-	-

PR: Prevalence ratio; aPR: Adjusted prevalence ratio; 95% CI: 95% confidence interval; p: Statistical significance; a: Adjusted for systemic condition, BMI, educational level, institutional role, campus, place of origin, sex, and age; SMP: San Martin de Porres.

DISCUSSION

This study found that most participants reported Good or Excellent self-perceived health in both 2021 and 2022, with no significant difference between the two periods. This finding suggests that overall self-perceived health remained relatively stable despite the changing context of the pandemic. León-Manco, et al.[14] found that poorer self-perceived health was associated with greater perceived stress among dentists and dental students in Latin America and the Caribbean during mandatory social isolation. Similarly, Zhu, et al.[15] documented anxiety and depressive symptoms among first-line medical staff fighting COVID-19, highlighting the psychological burden experienced by healthcare workers during the pandemic. These findings support the relevance

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of subjective health indicators for capturing dimensions of health that extend beyond the presence of disease. Systemic conditions were consistently associated with poorer self-perceived health in both study years, whereas BMI was associated only in 2021. This is consistent with Gago, et al.,[16] who found that fair or poor self-rated health was associated with overweight/obesity and multiple chronic conditions.

The pattern of factors associated with self-perceived health differed between the two study years. In 2021, significant associations were observed with COVID-19 diagnosis, type of diagnosis, clinical presentation, exposure to a COVID-19 patient, systemic conditions, BMI, place of origin, and sex. In 2022, COVID-19 diagnosis, clinical presentation, exposure, systemic conditions, institutional role, campus, and sex were significantly associated with self-perceived health. These year-specific differences should be interpreted cautiously, particularly because the composition of the study population also differed between 2021 and 2022. Occupational differences in COVID-19 burden have been reported among healthcare workers; Gómez-Ochoa, et al.,[17] for example, found that nurses were the most frequently affected professional group in their systematic review and meta-analysis. Morgantini, et al.[18] also found that exposure to patients with COVID-19 was associated with burnout among healthcare professionals, supporting the relevance of occupational exposure during the pandemic.

The association between BMI and self-perceived health observed in 2021 but not in 2022 may reflect changes in perceived vulnerability as the pandemic evolved. Obesity was associated with an increased risk of COVID-19 infection, hospitalization, intensive care admission, and mortality,[19] which may have influenced how individuals perceived their health during the earlier study period; however, this mechanism was not directly assessed in the present study. Longitudinal evidence has also shown that self-rated health changed across successive stages of the pandemic, with an overall improvement over time, suggesting a possible adaptation process.[20] Similarly, Sampaio, et al.[21] observed decreases in symptoms of depression, anxiety, and stress among nurses over time and described this pattern as compatible with psychological adaptation.

Occupational exposure remained an important finding across both years. Lai, et al.[22] found a greater psychological burden among frontline healthcare workers directly involved in the diagnosis, treatment, or care of patients with suspected or confirmed COVID-19, particularly among women and nurses. Petzold, et al.[23] emphasized the importance of organizational measures, including clear communication, adequate task distribution, flexible working arrangements, and psychosocial support, to reduce psychological distress among healthcare professionals. Nguyen, et al.[24] also demonstrated that frontline healthcare workers had a substantially higher risk of COVID-19 infection than the general community, reinforcing the relevance of occupational exposure in healthcare settings.

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Sex was associated with self-perceived health in both 2021 and 2022, with women showing a lower proportion of favorable self-perceived health. López-Atanes, et al.[25] similarly found greater psychological distress and perceived stress among female healthcare workers and discussed the potential contribution of occupational exposure and increased household and caregiving responsibilities during the pandemic. In contrast, age was not associated with self-perceived health in either study year.

In the adjusted analysis, mild and moderate COVID-19 clinical presentations were negatively associated with favorable self-perceived health compared with asymptomatic presentation. This finding is compatible with evidence describing persistent symptoms following COVID-19[26] and associations between physical symptoms and psychological distress among healthcare workers during the pandemic.[27] Conversely, absence of exposure to a COVID-19 patient was positively associated with favorable self-perceived health. Sampaio, et al.[21] found that fear of becoming infected or infecting others was associated with greater symptoms of depression, anxiety, and stress among nurses, while Ruiz-Fernández, et al.[28] reported greater compassion fatigue and burnout among professionals working in COVID-19-specific units and emergency departments. These findings support the relevance of infection-related and occupational experiences when interpreting subjective health during the pandemic.

Among the variables for which adjusted estimates were reported, mild and moderate COVID-19 clinical presentation and exposure to a COVID-19 patient remained statistically associated with favorable self-perceived health. These results highlight the potential importance of psychosocial and organizational support for personnel experiencing infection-related or occupational stress. Labrague and De los Santos[29] found that greater fear of COVID-19 was associated with increased psychological distress among frontline nurses and emphasized the importance of organizational, peer, and mental health support. Overall, this study contributes evidence on self-perceived health in a dental academic setting, where students, faculty members, and administrative personnel may experience different forms and levels of occupational exposure. Future longitudinal studies should integrate self-perceived health with objective and psychological health indicators and more detailed measures of occupational exposure to better understand changes in health perception over time.

CONCLUSIONS

In summary, this study demonstrates that the general self-perception of health among staff at a dental teaching center remained predominantly positive throughout 2021 and 2022, with no significant differences between the two periods. However, variables such as the type and severity of COVID-19 diagnosis, contact with infected patients, presence of systemic conditions, BMI, institutional role, sex, and educational level significantly influenced individuals' subjective health perception. Specifically, experiencing mild or moderate COVID-

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19 cases was negatively associated with favorable health perception, while not having had contact with infected patients was positively associated. These findings highlight the importance of incorporating self-perceived health as a complementary indicator within epidemiological surveillance systems—particularly in dental care settings, where biological and emotional exposure is consistently high.

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Conflict of interest

All the authors involved in this project declare that there is no conflict of interest and meet the relevant authorial criteria.

Author contributions

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Roberto A. León-Manco: supervision; conceptualization; methodology; critical review; formal analysis; validation; writing – review & editing; funding acquisition; project administration.

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