

MEDICINA y SEGURIDAD *del trabajo*

Original

Work conditions and occupational health of dentists in Brazilian Public Health System

Condiciones de trabajo y salud ocupacional del cirujano-dentista en el Sistema Brasileño Público de Salud

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Recibido: 11-11-13

Aceptado: 20-01-14

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Financial Support: CNPq (Brazilian Council in Science and Technology) – for financier support and CAPES (Coordination for the Improvement of Higher Education Personnel) for the Scholarships of Master and Doctorate.

Abstract

Introduction: work healthy conditions are essential for a great professional performance **Objective:** To verify the perception of dentists regarding structural and healthy conditions of dental offices in the Brazilian Public Health System (SUS) and their satisfaction with work and public job. **Material and Method:** In this cross-sectional study, type inquiry, 24 Brazilian dentists were interviewed. The follow variables were asked: cleaning and asepsis; maintenance and time of use of dental equipment; satisfaction with work and public job. **Results:** The professionals were “satisfied” or “very satisfied” with cleaning and asepsis (66.67%); Dental equipment (54.17%), reflectors (54.17%) and the dental chairs (54.17%) had more than 24 years of use; 20% of all professionals said that the equipment had maintenance but only to fix them. Of total, 58.33% had already given no attendance for patients and broken equipment was the most frequent cause (92.86%). It was observed satisfaction with work (79.1%) and public job (95.83%). It was concluded that dentists who worked in SUS were satisfied with public job, although they had said the need for improvement on structural and healthy work conditions.

Med Segur Trab (Internet) 2014; 60 (234) 44-52

Keywords: Job satisfaction; working conditions; occupational risks; labor force; working environment.

Resumen

Introducción: Condiciones de trabajo saludables son esenciales para un buen desempeño profesional. **Objetivos:** verificar la percepción del cirujano-dentista en relación al ambiente de trabajo, con respecto a las condiciones físicas y sanitarias de los consultorios odontológicos del sistema público de salud brasileño, la satisfacción con la profesión y el empleo público. **Materiales y métodos:** en este estudio transversal, tipo cuestionario, 24 cirujanos-dentistas brasileños fueron entrevistados. Se evaluaron las variables: limpieza y asepsia del consultorio odontológico; mantenimiento y tiempo de uso de los equipamientos; satisfacción con el trabajo y el empleo público. **Resultados:** Los profesionales estaban “satisfechos” o “muy satisfechos” con la limpieza y asepsia (66,67%); equipos (54,17%), reflectores (54,17%) y los sillones dentales (54,17%) estaban en uso hace más de 24 años; 20% del total dijeron que había mantenimiento de esos equipamientos, apenas para reparos de daños. Del total, 58,33% dejaron de atender paciente, y equipo malogrado fue el motivo más frecuente (92,86%). Se observó satisfacción con la profesión (79,17%) y con el empleo público (95,83%). Se concluyó que los cirujanos-dentistas del SUS estaban satisfechos con el trabajo en el servicio público, a pesar que relataron la necesidad de mejorar las condiciones físicas y sanitarias en los ambientes de trabajo.

Med Segur Trab (Internet) 2014; 60 (234) 44-52

Palabras clave: Satisfacción en el empleo; Condiciones de Trabajo; Riesgos ocupacionales; Fuerza de Trabajo; Ambiente de trabajo.

INTRODUCTION

The Worker's Health is a multidisciplinary area of Public Health and Community Health and its purpose is the health-disease process of human in relation to work, focusing on prevention of occupational diseases and the decreasing of risks of accidents⁽¹⁾.

According to competent authority and regarding Security and Occupational Medicine, the employers must guarantee the prevention and health promotion at work environments, providing to workers the adequate conditions to make possible the execution of their functions, to reduce the risk for common accidents and those unexpected and/or occupational diseases⁽¹⁾. When the protocols of prevention of occupational accidents, occupational diseases and some injuries are not guaranteed by public policies or regulations, its notable the damage of worker's health⁽²⁾.

In Brazil, the National Policy of Health and Security of Worker, which its aim is to promote frequently the improvement of quality of life and the health to workers through the communication and the links with the Government actions focusing on production/consumption and environment/health ratios, gives legal base to incorporate the prevention aspects of risks and accidents in the Brazilian Public Health Services; the environmental changing and prevention of occupational diseases with a common aspect, aiming social and politic determinants referent to the basic condition of life, work and job⁽¹⁾.

Concerning work conditions, it's important to highlight that inadequate work environment, materials and inappropriate environment organization are factors that can interfere on people's health, and consequently, on professional's performance, on quality of given services, on worker's satisfaction and on community's health⁽³⁾.

Among the human resources in health, the dentistry professionals deserves more attention due to their frequent, permanent and worrisome exposition at occupational risks and due also to its interference on workers' health and quality of life, mainly the dentist. Didactically, these risks are considered as daily and continuous, physical, chemical, biological, ergonomic, mechanical and/or some related to accidents⁽⁴⁾.

Focusing on efficiency and efficacy of the public dental services, the compromise with environment and the improving of work conditions for maintenance of workers' health, there is a need for researches in services, evaluating the involved individuals, mainly the health workers⁽⁵⁾.

The guarantee of ideal structural conditions and the opinion of workers regarding work conditions are objects of research in Brazil, because there is a need for maintenance of workers' health to get good quality on the services offered to population^(5,6).

Thus, it was aimed to verify the perception of dentists regarding structural and healthy conditions of dental offices in the Brazilian Public Health System, their satisfaction with their work and public job.

MATERIAL AND METHODS

The Ethic Committee in Research with Humans of Univ. Estadual Paulista – School of Dentistry – UNESP approved the present study and all dictates of Resolution 196 of Brazilian Council in Health were severely respected.

Deal with a cross-sectional study, type inquire, where the dentists who worked on the Brazilian Public Health System (SUS) of a city of São Paulo State (N=34) during 2011, were invited to make part of research.

Previously, it was performed a pilot study with dentists from a similar city of this research to verify the consistence of answers.

Only the professionals who had assigned the Statement of Consent and the Authorization of data exposition were included on sample. Those who were not present

at the moment of interviews, were not present on their work places and even after two posterior attempts they were not located, those who did not assign the Consent Term or refused to answer the questionnaire, these professionals were excluded of sample.

It was used for interview an instrument with opened and closed questions about dentists' view regarding structural and healthy conditions of work environment, their satisfaction with profession and with public job on health system. The interviews were carried out at work environment, individually, by only one trained researcher. It was respected the time enough for each dentist express their perceptions without constraint, coercion or interference.

The follow variables related to the profile of dentists who worked on Brazilian Public Health (SUS) System were studied: gender, age, year of graduation, post-graduation, time of experience on the SUS. Concerning professional's satisfaction with work environment it was verified their opinion about local cooling, noises, security, color, cleaning and asepsis of dental offices. The infra-structure of SUS for dental services was measured by dentists' reports in regard to available equipment, and its maintenance and time of use. On the topic of helped work, it was verified whether the dentists worked with help of auxiliary or alone. The labor profile of interviewed dentists was designed based on workload weekly, reported wage, their wage satisfaction, satisfaction with work and public job.

Data were analyzed using the software EpiInfo™ (version 3.5.3)⁽⁷⁾ and the BioEstat® (version 5.3)⁽⁸⁾. It was applied Fisher's Test with 5% of significance level for bivariate analysis.

RESULTS

Among the 34 dentists who worked on public health system, 9 (26.5%) were on leave in service due to health problems or pregnancy and 1 (2.9%) was on vacation, and thus, 24 (70.6%) composed the final sample.

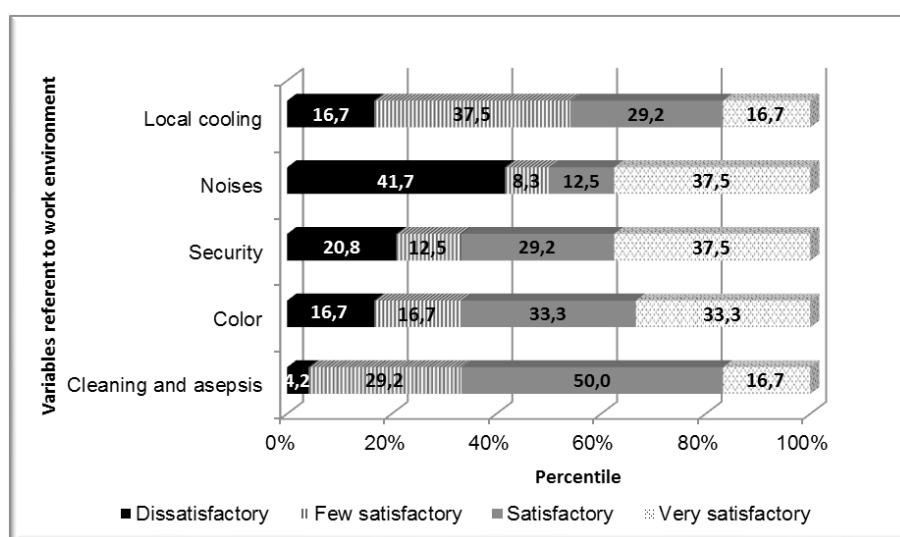
The features of professionals' profile are showed on **Table I**, according to gender, while on **Figure 1** it's observed the results about dentists' satisfaction in regard to work environment.

Table I. Numerical and percentile distribution of dentists of The Brazilian Public Health System, according to gender and studied features. São Paulo State, Brazil. 2011

Features	Gender		
	Female	Male	Total
Age	n (%)	n (%)	n (%)
21 - 30 years	4 (25.00)	6 (75.00)	10 (41.67)
31 - 39 years	2 (12.50)	0 (0.00)	2 (8.33)
40 - 49 years	6 (37.50)	1 (12.50)	7 (29.17)
50 years or more	4 (25.00)	1 (12.50)	5 (20.83)
Total	16 (100.00)	8 (100.00)	24 (100.00)
Year of graduation			
1970 - 1979	2 (12.50)	1 (12.50)	3 (12.50)
1980 - 1989	7 (43.75)	1 (12.50)	8 (33.33)
1990 - 1999	1 (6.25)	0 (0.00)	1 (4.17)
2000 - 2011	6 (37.50)	6 (75.00)	12 (50.00)
Total	16 (100.00)	8 (100.00)	24 (100.00)
Time of service in SUS			
Until 10 years	6 (37.50)	6 (75.00)	12 (50.00)
11 - 19 years	5 (31.25)	1 (12.50)	6 (25.00)
20 - 29 years	3 (18.75)	0 (0.00)	3 (12.50)
30 years or more	2 (12.50)	1 (12.50)	3 (12.50)
Total	16 (100.00)	8 (100.00)	24 (100.00)

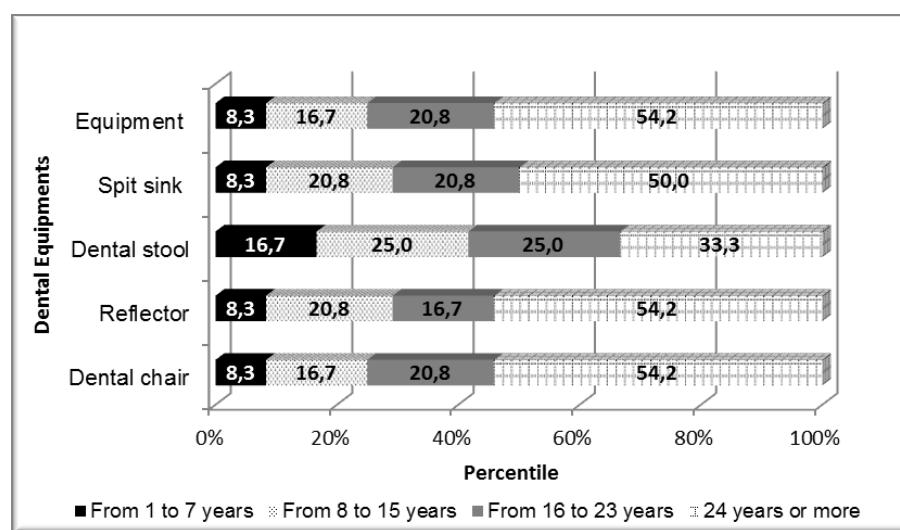
Features	Gender		
	Female	Male	Total
Employment scheme			
CLT	10 (62.50)	6 (75.00)	16 (66.67)
Statutory	6 (37.50)	2 (25.00)	8 (33.33)
Total	16 (100.00)	8 (100.00)	24 (100.00)
Post-graduation			
Specialty	12 (75.00)	5 (62.50)	17 (70.83)
Master	2 (12.50)	0 (0.00)	2 (8.33)
No post-graduation	2 (12.50)	3 (37.50)	5 (20.83)
Total	16 (100.00)	8 (100.00)	24 (100.00)

Figure 1. Level of satisfaction of dentists who worked in the Brazilian Public Health System regarding local cooling, noises, security, color, cleaning and asepsis of work environment. São Paulo State, Brazil. 2011



The **Figure 2** shows the time of use of equipment available on the public dental offices. It's important to highlight that 20% of all said there was maintenance of the equipment, but all of them confirmed that the maintenance was performed only when the equipment showed some malfunctions.

Figure 2. Time of use of equipment present on Brazilian Health System. Araçatuba-SP. 2011



Among all the interviewed workers, 58.3% had already interrupted the attendance for population due to broken equipment (92.9%), lack of consumption materials (14.3%), lack of electric energy (14.3%) or public water supply (7.1%). This question allowed the dentists to opt for one or more causes.

Concerning equipment available on dental services, 95.8% of work places showed photopolymerizer, 41.7% showed X-ray machine, 45.8% autoclave, 58.3% oven, 16.7% prophylaxis, 8.3% vacuum pump, 75.0% amalgamator, 95.8% dental high-speed equipment, 75.0% dental low-speed equipment, 87.5% dental low-speed equipment with contra-angle and 25.0% dental low-speed equipment with straight piece.

Only 58.3% of professional worked at 4 hands, it means that a great part of dentists worked without the help of dental auxiliary.

On **Table II**, data related to reported wage, wage satisfaction, satisfaction with work and with the public job are divided according to the weekly workload. It was observed that only one worker said that he/she was "few satisfied" with public job. The satisfaction with public job had no association with any of variables on table ($p>0.05$).

Table II. Numerical and percentile distribution of dentists according to weekly workload concerning the reported wage, satisfaction with wage, work and public job. São Paulo State, Brazil. 2011

Variables	Weekly workload				Total	Fisher's Test	
	20 hours		40 hours				
	n	%	n	%	n	%	p-value
Wage							
≤ R\$2.999,99	9	90.00	0	0.00	9	39.13	
≥ R\$3.000,00	1	10.00	13	100.00	14	60.00	0.4347
Total	10	100.00	13	100.00	23*	100.00	
Wage satisfaction							
Yes	0	0.00	4	30.77	4	16.67	
No	11	100.00	9	69.23	20	83.33	0.0983
Total	11	100.00	13	100.00	24	100.00	
Work satisfaction							
Yes	8	72.7	11	84.62	19	79.17	
No	3	27.30	2	15.38	5	20.83	0.6299
Total	11	100.00	13	100.00	24	100.00	
Public job satisfaction							
Yes	10	90.90	13	100.00	23	95.83	
No	1	9.10	0	0.00	1	4.17	0.4583
Total	11	100.00	13	100.00	24	100.00	

*One dentist refused to report the value of wage.

** Dolar: Real ratio in 2010 – 1: 1.76

DISCUSSION

In this cross-sectional study it was evaluated the dentists' satisfaction with structural and healthy work conditions in the Brazilian Public Health System, their satisfaction with work and with public job. It was verified wage dissatisfaction, although satisfaction with public job.

With respect to the ideal structural work environment, is notorious report that the walls painted with primary colors can stimulate considerably more the perception of dentists regarding the details and their view in relation to work area (mouth) than walls colored with other tonalities, especially when it are combined with different intensities of lightning^(9,10). In dentistry, which work area is very small and limited and the details

should be observed closely because they reflect directly on the final result, is essential that the dentist have a comfortable work environment. This point can highlight the needs for harmony between lightning (reflector and roof) and color of walls aiming to stimulate the visual skill of dentists. In the present study, dentists did not demonstrate dissatisfaction in regard to color of walls.

One of the occupational problems resultant of Dentistry exercise is the hearing. There is a notable dissatisfaction in regard to the noises present in the work environment, because it can damage the exercise of the professionals' daily activities due to the resultant stress. Besides, the longer the time of exposure at noises and the more near of limit of acoustic comfort are the noises, the higher the possibility the dentists suffer damage or loss of their hearing ability. Consequently, there is a need for preventive attitudes as the use of protector earphone, to avoid hearing lesions over the professional life⁽¹¹⁾.

Concerning frequent maintenance of dental equipment, it's implicit that it is essential to structure of any system of dental attendance, and it should be one of the central focuses of attention on the management of dental public services, considering that the most frequent cause of no attendance for patient, generally is broken equipment.

Not only broken equipment, but also the instruments and/or infra-structure can compromise the attendance for population. The lack of oven or autoclave, indispensable equipment for sterilization of instruments, can damage correct practices of biosecurity on the health services. It's important the monitoring and the frequent maintenance of these equipment to guarantee effectiveness on sterilization of instruments⁽¹²⁾.

Observing the old equipment (long time of use) and the absence of preventive maintenance, these aspects can justify the negative contribution for the health of dentists and dental auxiliary, because it do not allow correct nor comfortable position to work. The renewing of equipment is essential to allow the ergonomic on professional practice of dental team and prevent future occupational diseases⁽¹³⁾.

The dentists make part of professional class that is frequent musculoskeletal disorders⁽¹⁴⁾. The changes on upper limbs and spine are common among dentists manifesting through signals and symptoms which can interfere on functional ability of them⁽¹⁵⁾.

Spine pain is the most frequent type of pain among dentists and it result mainly to be sat over a long time, to force some posture during the performance of dental proceedings and to realize repetitive movements⁽¹⁶⁾. Great part of professionals still worked alone, without the help of dental auxiliary, and consequently, without the possibility to apply work techniques at four hands, increasing the risks of occurrence of musculoskeletal lesions.

Thus, it's necessary that workers analyze carefully the policies that guarantee occupational health, especially regarding ergonomic aspects⁽¹⁷⁾, this means that ergonomic dental equipment and/or presence of dental auxiliaries.

Other studied variables can be considered as factors which can interfere direct or indirectly on job satisfaction, prevention of occupational diseases, and consequently, on quality of offered services.

When dentists work into environments with comfortable, equipped and structural ideal conditions, their performance is better and the offered services becomes high quality, because professionals can practice their job with satisfaction and preserving the own health status⁽¹³⁾.

The work satisfaction is essential because affect directly the quality of life of the health professionals, mainly in regard to their mental health⁽¹⁸⁾, due to the work environments have been shown the strong expression of globalization and professional instability, and these aspects can display them to frustrations and emotional repertoire, resulting on labor stress and make them to bearing the burdens⁽¹⁹⁾, that means, Burnout Syndrome. Recently

it can be considered that 50% of dentists have been affected by this syndrome, mainly those younger than 40 years old and less than 10 years of service^(20, 21).

Although the response rate has been acceptably good, one of the principal limitations of this type of research was that the answers of individuals maybe not correspond to their reality, because perhaps there is the afraid of political pursuit and it's important to consider that make part of research is not routine of Brazilians.

Moreover, work satisfaction is not directly related to wage satisfaction because the wage is not a motivating factor when it is considered in isolation, but is a general attitude of the professional front to own work and is vulnerable to various psychosocial factors. It is understood so that the remuneration is a key driver of work dissatisfaction, however it is not the main determinant of work satisfaction⁽²²⁾.

In this study, it was observed predominant satisfaction with public job, probably due to labor benefits as 13th wage and vacation, financial stability and to make strong the employment link, although the absence of Plan of Places, Carrier and Wage.

Although all of participants were previously cleared and informed concerning description of data and secrecy of identity, this research can show bias of information due to political aspects, because the majority of professionals were dissatisfied with their wage and their environmental work, not considering it as comfortable mainly about local cooling, because the local climate used to be hot and thus, there is needs for fan and air conditioner at the work environment for offering the health services.

It suggested that more researches can be performed to show to the health managers the real work condition of public workers and consequently, the health services offered to population.

It was concluded that the dentists of SUS were satisfied with the public job, although they had shown structural and healthy conditions needed for improving at the work environment where they offer health attendance for population.

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