

Survey on utility of yoga as an alternative therapy for occupational hazards among dental practitioners

Ananthalakshmi Ramamoorthy,
Sathiya Jeeva Jeevakarunyam,
Sunitha Janardhanan,
Nadeem Jeddy,
Srikaanth Aranmanai Vasam,
Arundayanadhi Raja,
Parvez Ikram

Department of Oral Pathology, Thai Moogambigai Dental College and Hospital, Chennai, Tamil Nadu, India

Address for correspondence:

Dr. R. Ananthalakshmi, Department of Oral Pathology and Microbiology, Thai Moogambigai Dental College, Golden George Nagar, Mogappair, Chennai - 600 101, E-mail: drananthums@gmail.com

Abstract

Background: The therapeutic potential of yoga are often considered complementary to various forms of medical practice. Very few studies have evaluated the effects of yoga in the treatment of occupational hazards among dentists. Hence, this cross-sectional study was designed to evaluate the adoption of yoga techniques as an alternative therapy in treatment of physical and psychological occupational hazards among dental general practitioners in Chennai, India. **Materials and Methods:** A validated closed-ended questionnaire was circulated to 500 dental general practitioners in Chennai, India and we received 394 completed questionnaires. The questionnaire documented demographic data, occupational hazards and the type of treatment taken for the hazards. **Results:** Musculoskeletal pain with stress (47%) was the most common occupational hazard reported, followed by only stress (27.4%), and only musculoskeletal pain (25.6%). Only 9.6% of practitioners adopted yoga as an alternative treatment for these occupational hazards. Interestingly, majority (46.4%) of them did exercise, gym, massage, walking and heard music. Surprisingly, 43.9% did not take any measures to treat these occupational hazards. However 53.3% of the dentists who did not consider yoga as an alternative therapy, stated lack of time as a reason for not practicing yoga while 17.6% of them don't believe yoga as a therapy. **Conclusion:** Despite musculoskeletal pain and stress being the most common occupational hazard prevalent among dentists, over 50% of the subjects surveyed didn't seek any measure to treat these occupational hazards and only 10% of them practiced yoga as the alternative therapy.

Key words: Dentists, musculoskeletal pain, occupational hazards, stress, yoga

INTRODUCTION

Yoga, the ancient science of body-mind coordination is widely practiced and researched globally.^[1] Therapeutic yoga is defined as the application of yoga postures and practice to the treatment of various health conditions^[2] including occupational hazards. Like any other occupation/profession, dentists are prone to occupational hazards such as development of back and upper extremity musculoskeletal disorders.^[3,4] Hence, it is essential that

the health professionals are informed and aware of the beneficial effects of yoga against such occupational hazards. Injury from sharp instruments are the most common occupational hazard among dentists followed by stress and musculoskeletal pain.^[5] However injury at work place may be consequence to stress.^[6] Hence, efficiency in work can be brought about by eradicating occupational hazards such as stress and musculoskeletal pain by practicing alternate medical forms such as yoga, which is an effective tool in treating musculoskeletal pain.^[7] We hypothesized that as medical professionals dentists are aware of the therapeutic effects and use of yoga as alternative therapy for treating their occupational hazards. We designed a questionnaire to test this hypothesis among dentist in Chennai, India.

MATERIALS AND METHODS

A total of 500 questionnaire were distributed to dentists practicing in and around of Chennai city, India. They

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were given their own time to fill the questionnaire and 394 completed questionnaires were received. Ethical clearance from the institutional ethical committee was obtained. Oral consent was obtained from each sample of the study.

The closed-ended questionnaire was formulated with three parts. Part 1-demographic data, Part 2-personal health, occupational hazard and habits, Part 3-treatment modality. The first part of the questionnaire was about age, sex, experience, and hours practicing per day. The experience groups were taken as <10 years, 10-20 years and >20 years. The hours practicing per day was taken as <4 h and >4 h. The second part of the questionnaire was to assess the status of occupational hazards, its nature and frequency with their general health and personal habits. The occupational hazard included was musculoskeletal pain (back pain, cervical spondylitis and carpel tunnel syndrome) and stress. The final part of the questionnaire focused on the treatment modality adopted. Yoga in any form as asana, pranayama, and meditation was one option. Exercise, massage, walking, and listening to music were other options. A pilot study was conducted before the main study and any necessary rectifications were made. Data collected were statistically analyzed by Chi-square test with significance level set at $P < 0.05$.

RESULTS

A total of 500 questionnaires were circulated to general practitioners of which 394 were completed consisting of 64% males and 36% females. About 68% were in the age group <30 years, 29% in age 30-40 years and only 3% above 40 years [Table 1]. Majority of the practitioners

(65%) had <10 years practice, 34% had 10-20 years practice and only 1% had >20 years of practice [Table 2]. 69% of them had worked >4 h in a day. About 47% of the clinicians indicated to have both musculoskeletal pain and stress, 27.4% indicated only stress, while 25.6% indicated only musculoskeletal pain [Table 2]. 38% of the participants reported positive to occupational hazard, while 29% responded negative. Only 9.6% of the dentists were doing yoga and the majority (46.4%) were doing exercise, massage, hearing to music, and walking, while 43.9% did not take any treatment [Table 3]. Nearly 53.3% indicated lack of time as the reason for not doing yoga, 24.2% as having no access to learn yoga, 17.6% did not believe yoga could be of help and 4.9% of dentist did not respond [Table 4].

DISCUSSION

All professional activities are associated with occupational hazards^[8] and specific preventive and therapeutic measures are indicated for these. Yoga is one such effective tool in treating these hazards and hence the current survey evaluates the prevalence of usage of yoga as an alternative therapy in the treatment of occupational hazards among dental practioners. Our observation on prevalence of occupational hazards is consistent with previous reports, nevertheless with varying incidence rates.^[5,9-12]

We observed a higher prevalence of occupational hazards among age group <30 years and males with <10 years of clinical practice, which may be influenced by our study group with majority (67.8%) being below 30 years of age. Moreover in India, female dentists are generally attached to academics than clinical practice.

Table 1: Comparison of occupational hazards with respect to age

Age group (years) (%)	Occupational hazard of dental profession as a clinician								Chi-square test	Value	P value
	Musculoskeletal pain		Stress		Both		Total				
	n	Row %	n	Row %	n	Row %	n	Row %			
<30 years (68)	85	31.8	79	29.6	103	38.6	267	100.0	Fisher's exact test	32.952	<0.001
30-40 years (29)	16	13.9	29	25.2	70	60.9	115	100.0			
>40 years (3)	0	0.0	0	0.0	12	100.0	12	100.0			
Total	101	25.6	108	27.4	185	47.0	394	100.0			

Table 2: Comparison of occupational hazards with respect to number of years in practice

Experience (years) (%)	Occupational hazard of dental profession as a clinician								Chi-square test	Value	P value
	Musculoskeletal pain		Stress		Both		Total				
	n	Row %	n	Row %	n	Row %	n	Row %			
<10 years (65)	79	30.9	73	28.5	104	40.6	256	100.0	Fisher's exact test	15.597	0.001
10-20 years (34)	22	16.4	33	24.6	79	59.0	134	100.0			
>20 years (1)	0	0.0	2	50.0	2	50.0	4	100.0			
Total	101	25.6	108	27.4	185	47.0	394	100.0			

Table 3: Comparison of occupational hazard with preventive measures

Preventive measures	Occupational hazard of dental profession as a clinician								Chi-square test	Value	P value
	Musculoskeletal pain		Stress		Both		Total				
	n	Column %	n	Column %	n	Column %	n	Column %			
Yoga	22	21.8	10	9.3	6	3.2	38	9.6	Pearson Chi-square	42.091	<0.001
Exercise/massage/music/walking	55	54.5	53	49.1	75	40.5	183	46.4			
None	24	23.8	45	41.7	104	56.2	173	43.9			
Total	101	100.0	108	100.0	185	100.0	394	100.0			

Table 4: Comparison of factors abstaining from yoga practice

Reason for not practicing yoga	Occupational hazard of dental profession as a clinician								Chi-square test	Value	P value
	Musculoskeletal pain		Stress		Both		Total				
	n	Column %	n	Column %	n	Column %	n	Column %			
0 (no response)	2	2.3	14	14.3	2	1.1	18	4.9	Fisher's exact test	65.514	<0.001
No access to learn	44	50.6	9	9.2	35	19.6	88	24.2			
No time to do	32	36.8	50	51.0	112	62.6	194	53.3			
Don't believe in yoga	9	10.3	25	25.5	30	16.8	64	17.6			
Total	87	100.0	98	100.0	179	100.0	364	100.0			

Interestingly, a previous study reported 81% prevalence of musculoskeletal pain among dental students^[13] suggesting dental professionals are more prone for occupational hazards from their early professional life. Not surprisingly occupational hazards were more prevalent in the long working hours group (>4 h/day) although this was not statistically significant from the groups working <4 h/day.

Yoga is proven to be useful in relieving pain^[7,14] and stress.^[15,16] Despite such proven benefits of yoga in our survey only 9.6% of dentist did yoga as an alternative therapy to cure occupational hazards such as musculoskeletal pain and stress. Incidentally such low prevalence (5.1%) of yoga usage was previously reported despite health professionals recommending it for treatment of musculoskeletal pain, mental well-being and respiratory problems.^[7] Surprisingly, 43.9% of dentist neglected the occupational hazards and did not seek any treatment. We have also identified factors such as lack of time, lack of training opportunities and dis-belief in benefits of yoga as potential contributors for not adopting yoga to treat occupational hazards. Although a wide range of alternative therapies including exercise/massage/walking/music may effectively treat musculoskeletal pain and stress, yoga is a holistic approach to improve quality of life with a sense of physical, psychological, emotional and spiritual well-being.^[17] However, our study is not free from limitations. It is likely that biased answering and lack of physical investigation to confirm the hazards reported may have influenced our results. Nevertheless, future studies accounting for these limitations are warranted.

CONCLUSION

Occupational hazards such as musculoskeletal pain and stress are prevalent among dental practitioners, specifically in younger age groups and surprisingly dentists as medical professionals are not well aware of the health benefits of yoga to treat these occupational hazards. Hence awareness should be created among dental practitioners about benefits of yoga, through continuing dental education programs to effectively manage these occupational hazards.

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SURVEY ON UTILITY OF YOGA AS AN ALTERNATIVE THERAPY FOR OCCUPATIONAL HAZARDS AMONG DENTAL PRACTITIONERS

1. Age
 1. <30 years
 2. 30-40 years
 3. >40 years
2. Sex
 1. Male
 2. Female
3. Experience
 1. <10 years
 2. 10-20 years
 3. >20 years
4. Hours of clinical practise (working hours) per day
 1. <4 h
 2. >4 h
5. Occupational hazard of your dental profession as a clinician
 1. Musculoskeletal pain
 2. Stress
 3. Both
6. How often do you get
 1. Often-weekly once
 2. Rare-monthly once
 3. Never
7. What do you do to prevent these
 1. Yoga
 2. Exercise, massage, music, walking
 3. None
8. If you are not practicing yoga, why?
 1. No access to learn
 2. No time to do
 3. No belief in yoga