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General health of dentists. Literature review

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SUMMARY

The studies show a dental practitioner as a subject of a wide variety of physical and psychological ailments. It is induced or aggravated by the work specificity and greatly affects the health of dental professionals. Therefore, general health of dentists, especially effect of dental activity on it, is present-day, important and as a matter of fact not well documented subject.

The aim of our review is to summarize and ascertain dental practice-related disorders influencing the physical and psychological health of practitioner. Also we would like to highlight the most vulnerable systems of the dental professional and to survey the best methods to overcome these ailments.

Results. There is growing body of evidence that suggests surprisingly high vulnerability within the dental profession to certain disorders and afflictions that can be categorized as practice-related.

Conclusions. In different countries dentists reported having poor general health and suffer from various health-related problems. To enjoy and be satisfied with their professional and personal lives, dentists must be aware of the importance to maintain good physical and mental health.

Key words: dentist's general health, physical disorders, psychological disorders.

INTRODUCTION

Dentists always knew the dentistry is not an easy job. However until recently not many would classify their profession as hazardous. This job is a social interaction between helper and recipient in their limited job setting and with personal characteristics. A healthy dentist is one of the most important components in a successful dental practice. Despite the fact, that even 88 percent of dentists report good or excellent health [47], some studies show one out of ten dentists reports having poor general health, and three out of ten dentists report having poor physical state [29]. Many were feeling unhealthy, worse than other high-risk-groups in a human service working situation [39]. Dentists can and do experience illnesses and problems that can disrupt or impair a practice. Yet there is a growing body of evidence that suggests increased vulnerability within the profession to certain disorders and afflictions that can only be categorized as practice related. It is especially seen after we have gained our independence. The work character and amount of health care workers and dentists has changed a lot.

The dentist is a subject to a wide variety of physical and psychological ailments that are induced or aggravated by the work environment and they greatly affect the health of dental professionals.

PHYSICAL DISORDERS

When talking about physical disorders we have to take into account musculoskeletal problems, dermatoses, allergies and possible cross-infection.

The prevalence of musculoskeletal complaints among dentists like among other health care workers is high and well documented [2,20,39,73, 76,89,94]. Most of dentists (87.2 percent) reported at least one symptom of musculoskeletal diseases in the past 12 months [51]. A big study in Greece showed: 62 percent of dentists reported at least one musculoskeletal complaint, 30 percent chronic complaints, 16 percent spells of absence and 32

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percent ought medical care. Self-reported factors of physical load were associated with the occurrence of back pain, shoulder pain and, hand/wrist pain. Physical load showed a trend with the number of musculoskeletal complaints. The physical load among dentists seems to put them at risk for the occurrence of musculoskeletal disorders [2]. The dentistry seems to generate relatively high muscular load on both trapezius and dominant extensor-carpi-radialis muscle [59]. We have to account not only instantaneous physical loads. They cumulate (cumulative loads) and affect physical health. Smaller loads cannot be ignored due to their magnitude if their duration is long because the time dependent properties of the tissues become modulating factor. Thus the measurement of instantaneous loads on tasks in dentists is not indicative of the amount of cumulative stress experienced by them [65].

Low-back pain is the most prevalent musculoskeletal complaint [2,62,71,90]: in a Greek study – 46 percent prevalence [85], in an Australian study – as much as 53.7 percent [51]. More than 25 percent of all subjects with back pain reported the severe chronic back pain [2]. Dentists who work in the sitting position have more severe low back pain than do those who alternate between sitting and standing [71].

Prevalence of hand/wrist complaints among dentists and especially dental hygienists is really high [2,33,48,49,53,90]. Hand/wrist complaints follow low back disorders [2,53] and result in a significant higher chronicity than any other complaint [2]. The prevalence of particularly carpal tunnel syndrome among dentists is not very high, about 5 percent [33]. Though 56 percent of dental hygienists exhibit probable or classic symptoms of carpal tunnel syndrome [49].

Neck and shoulder complaints were less prevalent than back pain. Musculoskeletal co morbidity was high – 62 percent of all subjects reported at least one musculoskeletal complaint, 35 percent reported at least two musculoskeletal complaints, 15 percent reported at least three musculoskeletal complaints and 6 percent reported spells of all four complaints in the past 12 months [2].

Subjects with back pain more often reported neck pain and hand/wrist pain than those without back pain. Neck and hand/wrist pain was strongly associated since 50 percent of subjects with neck pain also experienced hand/wrist pain in the past 12 months. Age and gender were significant only for neck pain. Senior people and women suffered from neck pain more [2,76].

Educational level and working without breaks were significant factors for shoulder pain. Living alone was significant for neck and shoulder pain. All complaints chronicity increased with age. Female gender was significantly related to chronic back and shoulder pain. Co morbidity was elevated among those reported with higher physical load, lower job control and working long hours [2].

Chronic musculoskeletal pain appears early in dental careers, and more than 70 percent of dental students of both sexes reporting pain by their third year [76]. A study in Turkey gives us amazingly high pain prevalence among dental students: headaches (34 percent, 22 percent), neck pain (67 percent, 43 percent), back pain (56 percent, 47 percent), upper limp pain (46 percent, 43 percent) and shoulder pain (78 percent, 58 percent), respectively [91].

One cause of musculoskeletal disorders may be mechanical vibrations affecting the organism through the upper limbs and causing changes in the vascular, neural and osteoarticular systems. These changes may produce an occupational disease called vibration syndrome. But on the basis of the available literature it can not be decided unequivocally if it exists a direct link between vibrations emitted by the working dental instruments and the incidence of symptoms characteristic of the vibration syndrome [89].

Apart from vibrations, other harmful factors connected with the profession seem to play a role, and they modify the hand-arm symptoms [89].

The causes of musculoskeletal pain and disorders common to dental operators are multifactorial. There is relationship between the biomechanics of seated working postures, repeated unidirectional twisting of the trunk, working in one position for prolonged periods, operator's flexibility and core strength, operators knowing how to properly adjust ergonomic equipment and physiological damage or pain [94,95]. Studies indicate that strategies to prevent the multifactorial problem of dental operators developing musculoskeletal disorders exist. These strategies address deficiencies in operator position, posture, flexibility, strength and ergonomics [94,95].

A study in Poland [90] showed that dentists work in conditions which generally produce disorders of the musculoskeletal system. The long working time in the course of a day is used irrationally from the point of view of ergonomics, and over the years consequently increases the number of disorders of the musculoskeletal system [90].

The relationship between physical and psychological factors in dental profession was found: den-

tists with occupational cervico-brachial disorders showed less satisfaction with their work environment than dentists without. Those with symptoms experienced their work load as being more unsatisfactory, were more burdened by anxiety, had poorer psychosomatic health and less confidence in the future than dentists without symptoms [81]. This relationship is based also by the fact that burnout and poor health are strongly related among dentists. It is discussed that in order to deal preventively with burnout in dentistry, attention to physical health, including ergonomics, is essential [29].

Repeated exposure to allergenic chemicals, which can be found in many products used in the dental offices, can cause allergic contact dermatitis in dental professionals. Research indicates that the prevalence of natural rubber latex protein allergy may be decreasing. There was found among health care workers, dental personnel are especially likely to have reactions to glutaraldehyde and formaldehyde [72]. In contrast, occupation-related dermatoses associated with other dental products may be more common. These conditions may be found in more than one-quarter of dental and medical personnel [31]. It was found that even 14.9 percent allergic dental personnel suffered from hand dermatitis [44]. Dental professionals should be aware of common chemical allergens, symptoms of allergic contact dermatitis and the appropriate treatment of occupational skin disease. Allergic dentists must learn to avoid the products that contain the allergen and eliminate or minimize the potential routes of exposure. All dental chemicals that are able to induce allergic reactions and irritation should be handled with sufficient precautions in every dental office [32].

The causes of respiratory hypersensitivity in dental personnel based on the statistics of the Finnish Register of Occupational Diseases (64 cases) (1975-1998) and the patient material of the Finnish Institute of Occupational Health (62 cases) (1990-1998) shows the increasing frequency of respiratory hypersensitivity among dental personnel. Besides methacrylates, important causes of respiratory hypersensitivity are natural rubber latex and chloramine-T [70].

There is also some concern about amalgam safety, including the tenuous hypothesized link between amalgam restorations and specific diseases. Elemental mercury is absorbed through direct skin contact or inhalation, thus it may cause cytogenetic damage and higher blood mercury levels [5]. A lack of evidence [5,57] to suggest a detrimental health outcome in dentists who are occupationally exposed to higher levels of mercury and are known to have higher levels of mercury in their blood, provides a trend concerning the safety of amalgam.

Nitrous oxide is also hazardous to clinicians. Dental surgery personnel, chronically exposed to N_2O are at serious risk. The chronic effects of occupational exposure to nitrous oxide have long been the subject of debate. Safety standards have been established in the United States and Europe since over years. The potential detrimental action on the reproductive, neurological, hematological, hepatic and renal systems, plus the possibility of increased cancer risk have been the subject of active research, although absolute occupational effects are still uncertain. The following possible adverse effects of chronic exposure to nitrous oxide are reported: reproductive problems (reduced fertility, spontaneous abortion, testicular changes, decreased sperm count, decreased number of children), neurological defects, hematological and immunological problems (decreased leukocyte count, decreased leukocyte motility and chemo taxis, megaloblastic anemia), liver problems, kidney problems, malignancy and miscellaneous cytotoxicity.

The estimated percentage of dentists using nitrous oxide sedation in some countries amounts to 50 percent in the USA and Japan, 45-50 percent in Denmark, 30-40 percent in the UK, 30 percent in Sweden and Australia, and 10 percent in Italy. The benefits of using N_2O are greater than the risks which may be minimized by following the safety recommendations [88].

Dental surgeons, dental surgery assistants and patients should be concerned about their eyes health and safety. They are at risk of eye injury during dental procedures [77]. Even forty-eight percent of general practitioners had experience an ocular trauma or infection, which occurred during a variety of procedures; 75 percent of these injuries resulted from not wearing eye protection. It was revealed that less than half of the dental nurses and hygienists used protection routinely, particularly when cleaning contaminated instruments. However, hygienists did wear eye protection for the majority (96 percent) of their patient work [19].

It must be assumed, that damage to the dentist's hearing because of the popularity of the air turbine has been the subject of many articles, but no conclusive proof has been given that the turbine is also a hazardous factor [43].

One more stress for dentists is ultrasonic dental scaler. It has a number of hazards: auditory damage to patient and clinician and the release of aerosols containing dangerous bacteria [92].

There are few evidences of higher hepatitis infection risk in dental practice. The most hazardous infection for medical staff is hepatitis B. It is most frequently acquired through micro trauma. Even 10-39 percent of medical staff and 12-27 percent of dental team staff revealed seropositivity of hepatitis B virus [47]. Greater number of years of occupation in dentistry was independently and significantly (P = .0004) associated with seropositivity to hepatitis A virus. The calculated odds ratio showed that each year of work increased the likelihood of being seropositive by 1.06 (6 percent). Subjects tended to have higher seropositive rates if they were older, had a greater number of children, had a greater number of siblings, had worked in hospitals and worked with children (pediatric dentists and orthodontists) [3].

A source of hepatitis and many other infectious hazards could be a percutaneus injury. Out of the dentists interviewed, 31.1 percent reported accidents, with a mean incidence of 2.02 accidents each professional year [63]. When dental personnel were analyzed, dentists experience it most often: 36 percent of percutaneus injuries were reported by dentists, 34 percent by oral surgeons, 22 percent by dental assistants, and 4 percent each by hygienists and students. Almost 25 percent involved anesthetic syringe needles. Out of 87 needle stick injuries, 53 percent occurred after needle use and during activities in which a safety feature could have been activated (such as during passing and handling) or a safer work practice used [15]. It was found, that 90 percent of dentists recapped needles after using them, while only 8.1 percent re-used gloves [8].

Dentists knowledge regarding infectious diseases that can be acquired or transmitted in the dental surgery and the vaccinations recommended are quite poor: only 44.1 and 32.4 percent correctly indicated all infections that can be acquired or transmitted during their activity. Only half of the dentists knew that they should be vaccinated against hepatitis B and influenza. A large proportion (85.7 percent) reported receiving the hepatitis B vaccine, but only 56.2 percent the three doses. [17].

One study assessed attitudes toward occupational health and knowledge of the area: clinicians rated occupational health to be less important than did interns and students. Prior work experience did not affect performance; however, students from "blue collar" families scored higher in both knowledge and attitudes than those from "white collar" families. Women scored higher in both areas than did men. There was no correlation between number of hours of occupational medicine in school and performance, either overall or within each level. This study suggests that enthusiasm for occupational health declines with training, and that knowledge gains are erratic [86].

Regardless of gender, dentists do experience other problems that may disrupt or impair dental practice, including substance abuse involving alcohol and/or other drugs. Therefore, dentists need to understand gender differences associated with risk for abuse of alcohol and other substances; related physical, emotional, and professional effects; and other aspects of professional health and wellness [74].

PSYCHOLOGICAL DISORDERS

Not only physical impairments affects dentist's health. Job-related psychological disorders also contribute greatly. Factors that affect dentist's psychological status can be job-related stress, tension, depression, emotional exhaustion, depersonalization.

Dental practice is stressful. Dentists have to deal with many significant stressors in their personal and professional lives [30]. There is some evidence to suggest that dentists suffer a high level of job-related stress [7,22,23,62,73].

83 percent of dentists' perceived dentistry as being "very stressful" [7], nearly 60 percent perceived dentistry as more stressful than other professions [60]. Dentists indicated running behind schedule, causing pain, and heavy work load, late and anxious patients as well being the most intense stressors in their work [60, 99]. Dentists, who reported that dental anxiety was primarily the result of general psychological problems in patients, usually had solo practices older than 18 years and reported high perceived stress [60]. Clinicians experience numerous workplaces, financial, practice management and societal issues for which they often are unprepared after finishing a university.

The difference in reported levels of stress between dental specialties was not found. Practitioners working in the field of pediatric dentistry reported the highest median levels of stress though this trend was not significant [67].

A large number of factors are implicated in stress situations, including low autonomy, work overload, and lack of congruence between power and responsibility. Doctors and dentists who take on a teaching role in addition to their clinical role may increase their levels of stress, but there is also evidence that this dual role may reduce job-related stress [82].

Stress may produce "burnout". It is a syndrome of emotional exhaustion, depersonalization and reduced personal accomplishment, a particular type of job-related stress reaction. It is a response to the chronic emotional strain of dealing extensively with other human beings, particularly when they are troubled or having problems. The values of burnout and it's constituents among dental workers are amazingly high [7,11,22,23,28,68,93]. Recent findings suggest that burnout has features of maladaptive coping in the short term but is, paradoxically, protective in the longer term. Dentists are prone to burnout due to the nature of their work but may be able to prevent it if they can recognize the burnout process and take regular holiday breaks.

Burnout is assumed to have an adverse influence on patient care, although no dental studies, as yet, have tackled the issue [22].

The study in England exhibited high overall burnout in 10.6 percent of examined dentists. Emotional exhaustion was found in 25.53 percent, depersonalization – 8.88 percent and reduced personal accomplishment in 34.42 percent of dentists [68]. When the Spanish dentists were questioned, high values were detected in emotional exhaustion – 54.3 percent, depersonalization – 55.6 percent; personal achievements – 6.9 percent [93]. Gender differences in burnout among dentists do exist. Male dentists reported a higher score of depersonalization than did female dentists [11,23]. However, results indicate that underlying factors, such as working hours, have a profound effect on these differences [11]. Men work more hours and work part time less frequently [96].

Dentists are not unique experiencing high overall burnout. Very similar data is presented among all primary care practitioners: 19% of respondents had a high score for emotional exhaustion, 22% had a high score for depersonalization or cynicism and 16% had a low score for professional accomplishment, 32% had a moderate degree and 4% had high degree of burnout [23]. A high degree of burnout is associated with the male sex, practicing in a rural area, and excessive perceived stress due to global workload, patient's expectations, and difficulties to balance professional and private life, economic constraints in relation to the practice, medical care uncertainty and difficult relations with non-medical staff at the practice [23].

Burnout comes about in situations where there is a focus on problems, lack of positive feedback, the level of emotional stress is high and where problems are chronic [68].

Depression may be a consequence of prolonged experience of burnout [41].

Recent findings suggest that burnout has features of maladaptive coping in the short term but is, paradoxically, protective in the longer term [41].

There is a relationship between emotional load and volume of patients treated. Depersonalization levels decrease with age and it could be due to a number of factors – socialization skills increasing with age, a slowing of pace of work which allows more personal contact, or the establishment of personal relationships with patients over time [68]. Older dentists work fewer hours, with a larger impact of age seen among men [96]. Emotional support may be gained from co-workers that are why the numbers of burnout syndrome may decrease in the larger practice groups. Conversely, a particular characteristic of private practice is the high level of control. It allows dentists to have control over their working conditions: a factor which is reported to help reduce stress levels. It is also related to income, autonomy and the match between technical aspirations and practical outcomes [68].

Higher levels of depersonalization in unmarried dentists compared with those who were married suggests that involvement with a spouse and children makes married people more experienced in dealing with personal problems [68].

The higher levels of personal accomplishment were in dentists with post-graduate qualifications [68].

Also specialists, were more satisfied with their psychosocial work environment than general practitioners, especially regarding their personal control over their work and the stimulation of their work. The specialists also had more self-confidence and experienced less anxiety than general practitioners and head dentists [68,81].

Lack of career perspective appears to be the stress factor strongly related to burnout [24]. This relation should stimulate serious attention for career planning among dentists.

The conceptual basis of burnout would seem to imply that physical environment is probably of minor importance in the process and no actual work place condition could be demonstrated to be correlated with high burnout levels, it would be prudent to make the practice environment as pleasant as possible. For, apart from directly reducing stress on the dentist, it might reduce the anxiety level of patients, and thus the emotional load on the dentist [24,68].

There tend to be some differences in burnout scores relating to the levels of professional isolation. The lack of hierarchal structure to general dental practice means that dentists have constantly

to rely on their own emotional resources in the clinical situation. This contrasts with the worker within an organization where there are colleagues with whom to share the emotional strain of contacts with distressed clients. Furthermore, superiors in a hierarchy are available for support and help when necessary, which can substantially alleviate anxiety. This argument is counterbalanced by the issues of autonomy and control. Large organizations are able to deal with issues such as staff discipline, communication with other organizations and financial control. In small organizations such as general dental practice, the stress associated with these activities is concentrated to a small number of people, frequently the dentist [28,62,68]. A very interesting study identified the specific situations that most frequently produce stress. The majority of these situations could be classified as being related either to dental procedures and office organization or to interpersonal relationships involving patients and/or office personnel [10]. So, dentists consider clinical matters their greatest stress [10,40].

Differences of individual responses to stress may be attributable to personality factors and differences in coping styles, and tend to support the hypothesis that stress is a unique, perceptual and experimental phenomenon [13]. The older dentists are less stressed than their younger counterparts. Some issues like those concerned with finance and patient-management, appear to affect both groups more or less equally, which suggests that these issues are of global, rather than specific concern. From a theoretical point of view, the findings tend to contradict the generally – held belief that getting older is automatically accompanied by degeneration and problems of adaptation to life changes. On the contrary, seemingly favorable adaptation and low levels of stress are evident in most of the older dentists [14,60].

Nervous psychological state, tension, depression and others signs of psychological impairment also has to be taken into account when talking about job-related stress in dental practice. A huge study in England shows amazing results: sixty percent of general dental practitioners feel nervous, tense or depressed, 58.3 percent reported headache, 60 percent reported difficulty in sleeping at night and 48.2 percent reported feeling tired for no apparent reason. Levels of minor psychiatric symptoms were high, with 32.0 percent of cases identified [62]. The other study found that gender was associated with depression in two specialties: periodontics and pediatric dentistry [55].

The important thing is that only 15 percent of depressed dentists receive treatment [55].

Job-related stress and all psychological impairments it has led to affects dentists personal as well as dental family life. The effect of the dentist's office-related stress is directly felt in the family, especially by the spouse. Strong coping patterns result when dentists and spouses maintain a balance of time and responsibility, satisfaction in work and family activity, regular communication, sharing of decision making, good physical health, and the inclusion of an active exercise program within multiple demands on their time [64].

A study of Sweden general practice dentists revealed that females constitute one-quarter of all dentists. These female dentists suffer from many problems relating to their psychosocial working conditions. There are wide discrepancies between their perception of the ideal job situation and reality [38].

Physicians, who report high levels of work stress, also report lower levels of marital satisfaction and a higher prevalence of psychiatric symptoms [52].

Dentists are much like physicians in their reports of overall work stress, and the similarities and differences regarding specific stressors suggest these professions are very alike in reporting the stresses of professional practice. [52].

Taking into account dental students, it must be assumed that the level of emotional exhaustion was higher in dental students than medical students; and, second, that general psychological distress and course related stress levels were associated with the nature of the course and the immediate living conditions of the students [42].

In our day remuneration system has led dentists to long working hours, leaving little time to relax from work, participate in family life [56,61]. A huge study in Canada showed that more than 10 percent of dentists see equally or more than 30 patients per day [56]. These factors may all be considered to be part of current general dental practice and they really affect dentist's health.

It is very interesting that particular traits are common among those who decide to pursue careers in dentistry. And these traits make dentists prone to professional burnout, anxiety disorders and clinical depression [21]. And that differences in approach to work and perceived workplace climate mainly reflects stable, long-term individual differences in doctors themselves, reflects in measures of personality and learning style [58]. In many cases the psychological variables (distress, emotional exhaustion or intensity of stressors) were influenced by gender [25,42].

Although dentists suffer from psychical impairments, they do not seem to be using alcohol, tobacco and other potentially addicting drugs in numbers greater than the nonprofessional population [6,46,84]. But alcohol use is related to stress among dental professionals [62]. The media repeatedly portrays dentists and other health professionals as being at risk of committing suicide [1,83,87]. While this message often is accepted without question, there are little reliable data available that verifies this alleged risk. There is little valid evidence that dentists are more prone to suicide than the general population, although some related data suggest that female dentists may be more vulnerable [4,34,35,78,83]. It is very interesting that male doctors seem to be at less risk than men in the general population. The excess risk of suicide in female doctors highlights the need to tackle stress and mental health problems in doctors more effectively [1,34].

On the contrary, the other study [36] revealed that the physicians as a whole still had a higher suicide rate than other university graduates and the general population, both among men and women compared to 23.5 per 100.000 person-years and 8.0 per 100.000 person-years among male and female no graduates, respectively. The suicide rate among female physicians was twice as high as that of the general population as well as other female graduates, even in the 1990s. Of interest, suicide rates increased steeply by age among physicians and other graduates, whereas for no graduates, the rate was highest among those ages 40-60 years [36].

Also analysis of death distribution according to underlying causes indicated the absence of significant differences that might suggest increased risk of death for dentists. Dentists' deaths did not present worse indications for global and specific categories of infectious diseases, central nervous system or circulatory diseases [4]. There is only a slight tendency of a favorable risk pattern for lung cancer and overall cancer occurrence [85]. All these observations suggest that dentistry can be considered a safe profession, at least regarding exposure to systematic risk of death. It may be because of dentists report immediate results and aesthetics, and long-term results of working with patients to be the most rewarding aspects. All job resources showed a positive correlation with job satisfaction [27]. Slightly less than half of the dentists were satisfied with their profession and the personality types over represented in dentistry tended to have a higher level of satisfaction and a lower level of burnout compared to their cohort group [7,9].

The philosophy inherent in the remuneration system raises issues of quantity and quality. The combination of a fee per item system of payment combined with a fixed pool of available money witch is not forecast to increase has strong implications related to burnout, poorer mental health, stress [6,9,68,80,98]. Short term increases in profit for individuals can be achieved by higher work output, but in the longer term as the system adjusts the increases are eroded, though the increase work load and therefore stress levels have been sustained. This also has implications for quality, where quality is poorly defined, if at all and only rewarded negatively with retrospective punitive action. Practitioners who feel unfairly penalized may have a greater tendency to burnout. Furthermore, in systems of low profitability, the ability of dentists to reinvest in their practices and thereby improve the working environment, increase their patients confidence and decrease their anxiety levels is limited [68].

A study in Sweden describes how the female general practice dentists think of the dimensions that the dentistry profession should contain. It concluded that the gulf between ideal and reality is wide, especially concerning the dentist's influence on important decisions. There must be good communication and democracy at work, and based on freedom and the employees influence, could bring ideal and reality closer [37].

In addition to the vulnerabilities of the human condition – addictive disorders, psychiatric illnesses, family and relationship problems, or the many varieties of human misery – dentists have undergone a powerful process of socialization into their professional role that makes it difficult to seek help for themselves. Stigma about addictive and psychiatric illnesses continues to be a problem despite significant advances in scientific understanding of these disorders. Many people, especially those in positions of community visibility as dentists are, still struggle with shame when they associate problems with personal failure [50]. One may find out, that the reasons for leaving practice included financial problems, stress, and external regulation concerns. Current careers varied widely, with business, teaching, medicine, and investing being the most common. Respondents ranked their current careers as considerably more favorable on measures of perceived creativity, freedom, belonging, and whether they would choose the same career again. These findings indicate that there was a difference between the perception of a dental career and the reality of clinical practice for the study sample. Reasons to leave dental practice are not health problems [75].

There is a need to acknowledge the existence of the problems within the dental profession and to establish ways to prevent and alleviate stress and other psychological disorders among dental practitioners [16,30]. Higher patient expectations, higher targets for provision of dental care will put increased demands upon dentists [45]. The highest ranked individual stressor: 61.9 percent, was 'running behind schedule'. [98]. Discussion of the problem could take place at appropriate points in the professional training program and throughout the career of a dentist. This may, in itself, be helpful by allowing individuals to realize that their feelings are not unique nor representing a personality defect. Davidove maintains that healthy self-criticism can help bolster the dentist's sense of self-esteem and can work as a prophylaxis against depression [16,45]. Researches offers supervision and support groups as a simple and powerful mean to ease the burdens of medical practice and prevent disillusionment and subsequent impairment among health care workers [18,66,68]. Occupational medicine clinics also serve as occupational training and consultative site [79]. Dental societies, family and friends are also in an ideal position to provide resources and support. Active membership in local, state and national organizations can lessen the feelings of professional isolation and can provide contacts, which can help starting practitioners improve their practice environments [97]. Even the Stress Thermometer (an easily accessible Internet-based instrument for feedback on work stress and burnout) was made-up to effectively call attention to sensitive personal issues concerning work-related stress and burnout [12]. Furthermore, the risk of female suicides requires particular monitoring in the light of the very large increase in the numbers of women entering medicine [34]. All these measures should be strongly promoted and developed to help to overcome all these dental society problems. Emphasis on faculty training and clinical rotations should be strongly placed also. With reservations, it can be concluded that the prevention program does have a positive effect on burnout scores among dentists, while different forms of self-initiated prevention activities also appeared to be effective [26].

In order to improve dental staff work in the USA, The White Coat Ceremony was established. Many dental schools use to mark the transition to patient care. It is an opportunity to reflect on the values of dental practice. Eight principles are offered for consideration: 1) patient care is the point of practice; 2) the doctor-patient relationship is essential; 3) discuss options and possibilities; 4) mistakes will be made; 5) tell the truth; be assertive; 7) consult; and 8) manage your stress and your life. It may also be a good point in preventing dental staff from stress and problems in their lives [69].

As mentioned above studies indicated the occupational health knowledge gained from school is erratic. The curriculum reform should be developed. The practitioner is recommended to be actively concerned about problems. Numbers of percutaneus injury show that dental practices should have a comprehensive written program for preventing needle stick injuries that describes procedures for identifying, screening and, when appropriate, adopting safety devices; mechanisms for reporting and providing medical follow-up for percutaneous injuries; and a system for training staff members safe work practices and the proper use of safety devices [15]. In order to avoid part of musculoskeletal disorders among dentists altering position between sitting and standing is recommended [71]. A thorough understanding and controlling of the underlying physiological mechanisms leading to them is necessary to develop and implement a comprehensive approach to minimize the risks of a work-related injury. Dentists must be highly aware of the importance of maintaining good physical and mental health to enjoy and be satisfied with their professional and personal lives.

CONCLUSIONS

In different countries dentists reported having poor general health and suffer from various health-related problems. The dentistry has always been known as uneasy occupation therefore one must take into account serious difficulties before attending medical school. First of all, students must be aware of the health risks in dentist's job. Talking about musculoskeletal disorders it might be assumed that knowledge in ergonomics may be of some use. Secondly, all sorts of protection must be used during treatment in order to prevent infectious diseases and other injuries. Furthermore, dentists must be taught about coping with stress patterns. There are some points in preventing psychological discrepancies. To enjoy and be satisfied with their professional and personal lives, dentists must be aware of the importance to maintain good physical and mental health. It is important to enjoy their lives, exercise physically, have a hobby, create a harmonious family, communicate with colleagues and keep learning all their lives.

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