

# Suicide Amongst Dentists – Are you at Risk?

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## ABSTRACT

The fact that dentists are prone to commit suicide has been repeated so many times both in the specialist press and in the mass media that by carrying out a search on the internet, we found that large amount of news considered it to be true. The high suicide rate associated with our profession is treated in diverse ways in the scientific literature: myth for few, generally dentists, and statistical data which need further studies for others. In this review we will try to analyse the scientific weight of the studies, searching for factors that may allow us to discover the relationship of the profession to the risk of suicide, analyzing the factors that are linked with dental activities.

**Keywords:** Occupation, Suicide, Professional Stress, Dentistry, Mental health

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## INTRODUCTION

The practice of dentistry is both a rewarding and a demanding profession, and the dentist's well-being may depend largely on how successfully he learns to keep the rewards and demands of his job in proper perspective. In order to achieve a desirable balance, he needs to identify the causal factors of stress and strain and take measures to eliminate, or at least lessen, their negative impact on his emotional health. This may involve a re-evaluation of life style, health habits, and personal goals (1).

Dentists encounter numerous sources of professional stress, beginning in dental school. This stress can have a negative impact on their personal and professional lives (2).

Personal-ity selection as well as work-related stress have been suggested to explain the elevated suicide rate found among, for example, physicians; whether the same factors act on dentists are as of yet not known. Recently, findings of elevated concentrations of mercury in the central nervous system of dentists were reported. Emotional changes and de-pressive mood are commonly observed among sub-jects poisoned by inorganic mercury compounds. Thus, such psychorganic changes may be a contributory cause of suicide among dentists (3).

The media repeatedly portrays dentists as being at risk of committing suicide. While this message often is accepted without question, there are little reliable data available that verifies this alleged risk. The relationship between professional stress and suicide, if any, has not been substantiated or quantified (4).

A number of studies have dealt with the question whether suicide rates are elevated among dentists, some of which find an elevated risk while others do not. Previously published reports typically deal with a subpopulation of dentists and do not address the question on a national level. Further-more, most studies compare with that observed in the general population and fail to standardize rates to that observed among other professionals. Suicide, naturally, is a difficult subject to study and under-reporting has been listed to be as high as 33% (3).

Since suicide is statistically a low-frequency phenomenon, it is essential to use a sufficiently long time-frame in suicide studies, and large scale and preferably nationwide studies are needed (5).

This review is to analyse the scientific weight of the studies about reports of suicide rates in dentistry and decide the possible stressors caused by dental clinical activity, their consequences and their treatment.

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## CLINICAL IMPLICATIONS

Although some dentists leave the profession by way of suicide or career change at a time when their careers should be the most rewarding, available data on stress and its impact on suicide incidence are inconclusive and flawed. The profession needs to identify the causes of stress-related suicides and provide assistance to those people who are affected by stress (4).

Since 1933, both the lay public and professional media repeatedly have portrayed dentists as being suicide-prone, and both the medical and dental professions constantly are referenced as groups of health care workers who are at high risk of committing suicide. This message is repeated casually and accepted without supporting data, and there have been few formal attempts over the last two decades to statistically verify or quantify this alleged risk on a national basis. Additionally, there are allegations that dentists have a disproportionately high incidence of alcoholism, drug abuse and divorce (4).

Is dentists' widely held suicide label factual or simply a product of media hype?

Dental practice can be stressful at times, and stress can be a significant contributing factor for suicide. Therefore, the following questions are reviewed here:

- Are the stressors that dentists and other health care workers are exposed to significant enough to lead them to contemplate or attempt suicide at a rate greater than that of the general population?
- Is the incidence of divorce or alcoholism a significant factor in dentists' suicides?
- Do the health care professions tend to attract people who are inherently more vulnerable to suicidal ideation?
- If the data do confirm there is a problem, is the profession providing sufficient resources to recognize and deal with the problem?

## HISTORICAL REVIEW

Simpson and colleagues (6) retrospectively analyzed dentist suicides in Iowa over a 13-

year period and concluded that the suicide rate for younger dentists (aged 24–44 years) was 2.6 times that of the matched national male population. While they found that the suicide rate for older dentists (ages 45–64 years) was lower than that of the younger dentists, they found another increased incidence spike after age 65 years. Overall, they found a prevalence of 9.7 suicides per 100,000 population compared with 8.98 per 100,000 for the general U.S. population. They cautioned that the small sample size could have resulted in statistical artifacts.

Bers said that the contemporary statistical origins of the belief that dentists commit suicide at a higher rate than the general population seemed to have occurred in the 1960s; he based this opinion on articles that appeared at that time. Over the years, several articles have suggested that dentists, attorneys and physicians have 2.5 to 5.5 times the overall suicide rate of other white-collar workers or matched general population groups (6,7).

Revicki and May (8) reported only 10 dentist suicides per 100,000 population per year in North Carolina from 1978–1982, the lowest rate among all major health care professions.

In 1984, *Dental Management*, a national dental magazine, surveyed a random sample of 2,500 dentists, with a 40.7 percent response rate (9). Results showed that 6.7 percent of the responding dentists admitted that they had considered suicide at some time in their careers, while 16.1 percent rated dentistry as “extremely stressful.”

Citing interviews they conducted with 25 dentists, sociologists Hilliard-Lysen and Riemer (10) published an article in 1986 that presented dentists in a negative light and stated that dentists were suicide-, divorce- and drug and alcohol abuse-prone.

A detailed evaluation in an article by Stack (11) was the first to attempt to sort through the conflicting data and arrive at some reasoned conclusions. Unfortunately, his

analyses were flawed by the use of hearsay, public perceptions, assumptions and currently outdated practice information that may no longer be applicable. Using U.S. Public Health Service data from 21 states, Stack alleged a significant relationship between dentists and suicides, which he theorized might be the result of occupational stress. Steven Stack stated that dentists' odds of suicide “are 6.64 times greater than the rest of the working age population.” Stack's study is typical of many that are based on regional or localized data collected over brief periods that may or may not be representative of the long-term national prevalence (7,12).

A carefully designed study by Arnetz et al. (1987) compared the risk of suicide among dentists in Sweden with that of the general population and academicians. The SMR [standardized mortality ratio] for male dentists was elevated compared to other male academics but not compared to the general male population. Female dentists had no increased risk. The strengths of this study lie in its use of national data based on a census with a 98.3% response rate, identification of suicides through a national death registry, and comparison of suicide rates with both the general population and a group of similar socioeconomic status. In addition to work stress and self-selection of those with “depressive personality” into the field of dentistry as possible causes of the higher suicide risk among male dentists compared to other academics, the authors suggest that accumulation of inorganic mercury in the central nervous system of dentists could conceivably lead to depression and, ultimately, to suicide. This would not explain, however, why suicide risk was not similarly elevated in female dentists (3).

Death and census data for working people were obtained from 1984 through 1992. Directly age-standardized suicide rate ratios (SRRs) were calculated for white male and white female physicians and white male dentists. In this study Martin and Carol, found that the suicide rate for white male physicians and dentists, although about twice as high as that for white female

physicians, was actually less than that for the working US white male population (13).

In Norway, a study was done Erlend Hem *et al* for a period of 40 years, from 1960-2000, where they concluded that in the human service educational groups, male physicians had the highest rate (43.0), followed by male dentists (32.9) (14).

### RELATIONSHIP BETWEEN SUICIDE AND PROFESSIONAL STRESS

Several authors suggest that many common stressors in dentists' professional lives allegedly serve as potential risk factors for suicide. Most of those stressors appear to be subjective, not factual.

A full understanding of dentists' suicides incidence, causes and prevention still eludes us.

- Although the profession is changing, many dentists still work in relative isolation, without daily peer interactions, and this is alleged to be a factor for stress, suicide or both (11).
- It has been alleged that the many personality traits that characterize a good dentist also can predispose them to depression (10).

Dentists allegedly are "perfectionists" who become frustrated when cases do not turn out perfectly and are frustrated with patients' lack of motivation to pursue idealistic treatment goals. There are few reliable data to support these hypotheses, (12) and frustration is not unique to dentistry—Some patient interactions reportedly are characterized by terms like frustration, apprehension, discomfort, fear and hostility (9,10,11).

In one study of 133 recent graduates, 73 percent of the dentists identified stressors such as patients' missed appointments, fears, dissatisfaction with treatment, payment problems and insurance companies, as well as discrepancies between the dentists' high ideals and the realities of day-to-day practice (15).

- Some dentists allegedly perceive themselves as second-class providers in

the health world and sense that they do not have the same prestige and status as physicians (11,15).

- Dentists may encounter repeated "conversational garbage" from patients, social contacts and the public at large (10). This is defined as comments like "I was fine until I came here," "I hate dentists" or "Are you a doctor or a dentist?"
- Many dentists reportedly do not take advantage of quiet time (such as lunch hours), take vacations to relax or find ways to release their stress.

Only a few dental schools and graduate programs reportedly teach students how to buffer themselves against stress; and students allegedly take their psychological vulnerabilities with them into private practice after graduation (9,15).

- The recent growth of large managed health care delivery systems has hurt many physicians and dentists financially, and many health care workers experience economic losses or business failures (10,11).
- Authors have speculated that inhalation of mercury vapors may cause mercury poisoning and, thus, lead to depression, irritability and insomnia, and finally suicide (10).
- Although Stack (11) alleged that there is a high divorce rate among dentists, he cited an unreferenced newspaper article as his basis for that conclusion. Dentists reportedly do not become divorced more often than do other professionals, but divorced dentists are three times more likely to commit suicide than are divorced people in the general population. Many dentists marry while still attending dental school, and the stresses of education and setting up a new practice may strain emerging relationships (16).

### HOW DO DENTISTS OVERCOME STRESS?

Since the stressors of dental practice are not likely to go away, analyzing what dentists reportedly do to buffer against stress becomes relevant. Surveys suggest that few dentists do anything to increase their

protection against stress. In one study, 24 percent of the dentists surveyed said they did nothing, 32 percent said they used physical activity, and 13 percent reported they just "coped." (17) Only 10 percent said they took any time off from practice, and only 6 percent had a hobby.

### PREVENTION AND TREATMENT

These studies suggest that only a low percentage of dentists are doing anything to cope with stress. This low level of concern as many dentists may not go for help, thereby allowing themselves to be swamped and overloaded as the condition worsens and they deny a need for specialised treatment to help them. Lack of time, loss of status in the community and pride appear to be inhibitory factors but dental schools do not prepare students for this by teaching techniques to fight against stress. The dental curriculum therefore needs to include subjects such as dental practice management, stress management and communication skills (16).

The two most common strategies to deal with stress are: resolution of problems and emotional processing. In resolution of problems, all members of the dental team identify and value the sources of stress. This will permit everyone to establish a series of universally accepted realistic objectives and protocols to deal with the issues. This will increase the mutual support between staff when encountering stress.

Dentistry can be as boring or thrilling as each individual wants it to be and we must take a positive and active position in relation to the continuing education required. Organisation, efficiency and a realistic perception will help to face time issues. We must establish a work philosophy and a timing structure according to that philosophy. The work diary must be carefully planned by keeping in mind the possibility of emergency treatments and avoiding work overload. The dentists should try to focus his attention on, and be concerned with, the treatment before them; messages, running the business and other distractions must wait (18).

## RECOMMENDATIONS

Dentistry clearly needs more up-to-date data on and a better understanding of the causes of stress-related suicide before solutions can be proposed and to determine whether solutions are even necessary. Several questions need to be clarified in future studies:

- Has the incidence of dental suicides changed over time since the number of female and ethnic minority dentists has increased as the character of dental practice changed in recent years?
- Are female dentists more susceptible to stress-related suicide, as female physicians appear to be? (16)
- Are dentists' suicides causally related in anyway to personal or practice stressors such as divorce or malpractice suits?
- Are the personalities of those who are drawn to dentistry more susceptible to suicidal ideation than those of professionals in other white-collar occupations, as suggested by some physician studies?

Early education and prevention efforts need to be intensified. Dental schools, as well as dental hygiene and graduate student programs, need to incorporate contemporary stress management lectures in their curricula, so students can learn the skills necessary to buffer stress early in their careers and take those skills into their practices. In fact, such programs also might help identify stress-prone people early in

their careers and help them develop effective coping skills.

## CONCLUSION

There is no consistent statistical evidence available to prove that dentists are suicide-prone, and most reliable data suggest the opposite. Nevertheless, even if dentists' suicide rates are lower than those of the general public, the profession should be encouraged to openly and frankly discuss stress and suicidal ideation with colleagues who are at risk when their symptoms are noted. New, updated, national suicide data collection efforts need to be widely encouraged.

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