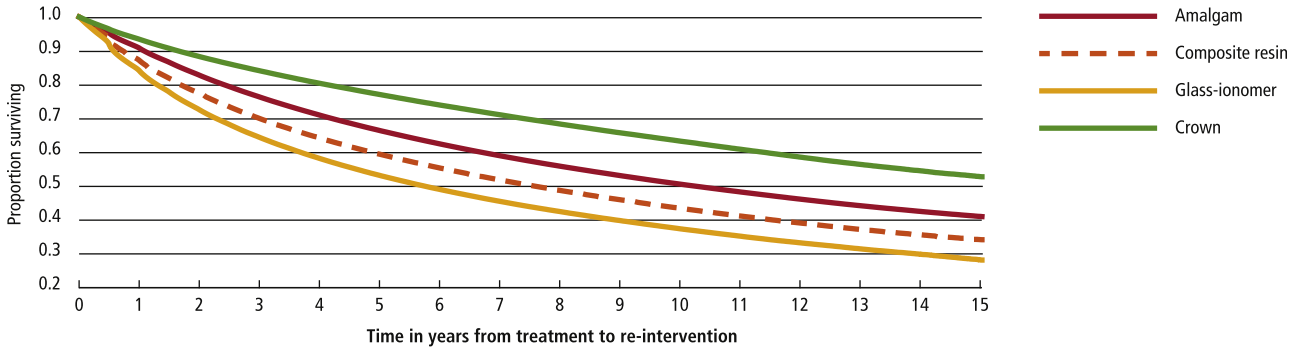

Figure 1. Survival of composite restorations, overall, with respect to time to re-intervention, compared with other restorations. (Courtesy of Burke FJT, Lucarotti PSK: The ultimate guide to restoration longevity in England and Wales. Part 4: Resin composite restorations: Time to next intervention and to extraction of the restored tooth. *Br Dent J* 224:945-956, 2018.)

When patients who paid for treatment were compared to those who did not, those who did not pay had a shorter time to re-intervention and a shorter time to extraction than those who did pay. Patients who had higher average annual treatment need were compared to those with a low annual average treatment need with respect to time to re-intervention. The difference in survival between the 2 groups was more than 30 percentage points. When time to extraction was considered, the difference in cumulative survival at 15 years was 19 percentage points.

DISCUSSION

The results in this study are only considered from the general dental practice environment. About 34% of the composite restorations placed in incisor teeth survived 15 years. The major factors influencing survival included patient age, dentist age, and patient treatment need. The type of composite restoration did not have much effect on how long it lasted.

Burke FJT, Lucarotti PSK: The ultimate guide to restoration longevity in England and Wales. Part 4: Resin composite restorations: Time to next intervention and to extraction of the restored tooth. *Br Dent J* 224:945-956, 2018

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Clinical Significance

Many factors can contribute to the survival or loss of a composite resin restoration. In this study, after 5 years, just over half of the treated teeth remained, and this rate fell to about 34% after 15 years. Younger dentists are likely working with newer materials and the combination may help to explain why their restorations outlasted those of their older peers. The patient's need for dental treatment also played a role.

VISUAL ACUITY

Use of magnifying devices by dental hygienists

BACKGROUND

Magnification devices can be invaluable in medical and dental fields when it's imperative to have a good view of the operative field. Loupes and microscopes have offered dentists and dental hygienists the opportunity to obtain good near visual acuity that they believe impacts treatment outcomes. Visual deficiencies can be compensated for using magnification aids, including the change in acuity accompanying aging. Studies of the near visual performance of dental hygienists are lacking. The visual performance of dental hygienists and students of dental hygiene was assessed in clinical environments and the correlation between self-assessed and objectively measured near visual acuity was analyzed.

METHODS

One hundred ninety-one dental hygienists and dental hygiene students completed a questionnaire and self-assessed their near visual acuity using a visual analogue scale. In addition, they

underwent miniaturized visual tests in a simulated clinical setting. Magnification aids were then worn if they were part of the individual clinical equipment. Assessments included the effect of age and magnification on near visual acuity.

RESULTS

A total of 156 subjects were under age 40 years and 35 were age 40 years or older. Thirty-one of the dental hygienists and 3% of the students reported habitually using a magnifying loupe. Seventy-seven percent of these individuals were age 40 years or older. Three loupe systems were used, but no significant differences were found among them.

The self-assessment showed a median value of 3.5, range 1 to 5. Twenty-two percent of the subjects reported a score of 2.5 or less. When the self-assessed and objectively measured values were compared, a weakly positive correlation was found, but the Spearman's rank correlation coefficient was 0.27, which was significantly higher than 0.

The visual tests with natural vision yielded a range from 6.2 to 18.9 mm^{-1}. This represents a difference of 300% in the smallest dimension detected. Subjects less than age 40 years had significantly superior visual performance compared to subjects age 40 years or older. When 18 test subjects age 40 years or older used loupes, the group median was the same as in the subject group under age 40 years with natural vision. No significant difference in visual acuity was found between these 2 groups. The use of loupes was able to compensate for presbyopic deficiencies. The 22 test subjects who used loupes in their daily clinical work were also tested with and without loupes and had significantly better visual performance with loupes.

DISCUSSION

Most of the dental hygienists did not use loupes routinely, but the results of the objective visual tests indicate that those who did use them had significantly better visual performance with them on. In addition, older practitioners tended to perform better when they used loupes, with their visual acuity comparable to that of younger hygienists.

Clinical Significance

Regular near visual tests should be performed to ensure that dental hygienists as well as dentists maintain their visual acuity during dental care activities. Loupes should be introduced early in the training of dental professionals to compensate for any visual deficiencies. They should also be mandatory for individuals over age 40 years to compensate for presbyopia.

Eichenberger M, Perrin P, Sieber KR, et al: Near visual acuity of dental hygienists with and without magnification. *Int J Dent Hygiene* 16:357-361, 2018

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WELLNESS

Health care providers need exercise

BACKGROUND

The work of health care providers can lead to both physical and mental problems. Occupational stress can occur when they are unable to call on their physiological, cognitive, emotional, and behavioral responses to handle their workload. If they ignore their psychological health, they can develop mental health issues. The benefits of exercise to help manage stress may be particularly applicable for health care providers.

WORKPLACE STRESS AND BURNOUT

Many factors that are part of the health care professional's workplace can create stress and burnout. Some of these are managing the frequent reorganization and change in health care organizations, constantly dealing with life-and-death issues, working long hours, dealing with high expectations, contemplating possible litigation, and engaging in poor health-promoting activities. Stress can arise from other health issues and contribute to mental health problems such as depression, burnout, disrupted sleep, and poor quality of life. Health care professionals can also experience anxiety, guilt, and fear of accountability as a result of chronic exposure to stress. Personal relationships can suffer; if the family isn't supportive, further illness can occur.

Occupational burnout can interfere with work performance and lead to medical errors. Burnout is defined as emotional exhaustion that produces a negative mental attitude, lack of perceived self-achievement, and poor care of others. It can be exacerbated when health care providers are unwilling to take time off from work to recover. It's important for physicians and other health