

CONCLUSION

Periodontal disease is a chronic disease that affects over 90 percent of the adult population in the United States (6, 15,16,22,29). Today, treatment of periodontal disease by dentists often involves surgery. The surgical procedures that are used may be painful to the patient, and they often carry with them postsurgical discomfort. More importantly, our assessment of the scientific literature shows that the effectiveness of the surgery alone in the treatment of periodontal disease has not been adequately demonstrated.

The Keyes technique is so new that long-term efficacy and effectiveness studies have not been possible, although the evidence to date appears promising. Our analysis, based on data from 18 general practices in the Washington, D. C., SMSA on 190 patients being treated with the Keyes technique and over 800 visits, found a measurable and statistically significant improvement in each of the five indicators of dental disease we employed. However, before more definitive conclusions on the effectiveness of the Keyes technique can be drawn, a more complete and longitudinal study is required.

Using our data base, we estimated the average variable cost of producing the Keyes technique for 190 patients representing over 800 patient visits. The estimated average variable cost of a visit in 1979 was between \$17.87 and \$13.72, depending on whether it was an initial, followup, or maintenance visit. These average variable cost figures should be viewed as only rough estimates, and by definition they omit the fixed cost of production (e. g., rent). By contrast, the reported charges in 1979 for the initial visit and the maintenance visit for patients being treated

with the Keyes technique averaged \$31.63 and \$27.83, respectively. Given the charge data on visits, our average variable cost figures appear to be quite reasonable estimates.

The cost effectiveness of the Keyes technique, if it does have a long-term effectiveness, depends in part on the amount of periodontal surgery that is avoided. Although we are currently unable to estimate this amount or to obtain an estimate from the published literature, the dentists in our study indicated that only between 0 and 5 percent of patients being treated with the Keyes technique also required a referral to a periodontist. If this estimate is correct and generalizable, then the potential savings of the Keyes technique are large.

Our assessment of the literature on the effectiveness of periodontal surgery suggests that further long-term clinical studies are needed. Such studies would be quite useful if they were designed to compare the Keyes technique to periodontal surgery and included a control group which did not receive either treatment. The patients under study should be randomly assigned to each of these three groups. The random assignment of patients into a nontreatment group raises an important ethical issue. However, our assessment of the current method of treating periodontal disease raises serious questions about its effectiveness, so the assignment of patients to a nontreatment group, with their informed consent, may be feasible. The costs of each of these alternatives—periodontal surgery, the Keyes technique, and no treatment—should be computed and compared.