



DENTAL TREATMENT AND DENTAL HEALTH

A Study of Some Factors Which May Influence
Dental Health in Members of the
Royal Australian Air Force

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DECLARATION

This report contains the results of original research. Consequently, to the best of the author's knowledge, it contains no material from other sources unless due reference has been made.

The contents of this report have not been submitted, either in whole or in part, for consideration for any other degree or diploma at this, or any other, university.

This report may be made available for photocopying and loan if accepted for the award of the degree.

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20 November 1989.

For Lyn, Kate and Ben.

SUMMARY

In recent decades, many dental researchers and teachers have questioned the traditionally held belief that dental treatment cures caries and restores patients' dentitions to a state of health similar to that which they possessed before the onset of caries. Much of the research that has been prompted by this questioning of the beliefs of our profession has been aimed at determining the sequelae of regular, traditional dental treatment. The results of this research, primarily into the practices of the General Dental Service of the British National Health Service, have demonstrated that the amount of treatment that individuals receive is affected by such factors as the frequency with which they attend a dentist for assessment, the frequency with which they change their dentist, and the dentist they choose. These factors, together with new carious lesions and the failure of existing restorations, all combine to determine the amount of dental treatment that a patient receives.

The present study was a retrospective document survey which had as its aim the investigation of the effects of the above factors on the amount of treatment received by a group of individuals and the consequent changes in dental health experienced by them. The study population was drawn from members of the Royal Australian Air Force serving at RAAF Base Edinburgh, South Australia, during 1988. The data collected included demographic information on the subjects, and their complete dental treatment history for a duration of between ten and sixteen years. These data were then tested for trends in the amount of treatment received, the resulting changes in dental health (as measured by the DMF and T-Health Indices), and restoration longevity.

Within the RAAF population investigated, the results of this study demonstrate a slow, but inexorable, reduction in the dental health of individuals receiving regular dental treatment. This reduction is slowed as the subject gets older, but does not appear to be affected significantly by any of the factors identified in the British research. Similarly, this study does not

show any of the effects that were demonstrated on the amount of treatment received in the NHS, although some individuals received much more expensive care without having significantly more restorations placed. These results should also be considered in the light of a low restoration replacement rate, their median longevity (regardless of material or class) being in the order of 14.2 years. Additionally, it is worth noting the differences between the RAAF dentists and those in the NHS, especially in terms of their respective forms of remuneration. It is likely that the influences of the fee-for-service environment in the British studies are quite different from those acting on the salaried dental officers in the RAAF.

The conclusions that may be drawn from this study tend to support the new philosophies that form the basis of the minimal intervention operative dentistry. Although these results do not demonstrate the effects of examination frequency, and of changing dentist, that might have been expected in the light of the NHS studies, they do show a steady reduction in both the amount and quality of dental hard tissues in individuals receiving regular, traditional dental care. This reduction is apparent even in an environment of low restoration replacement rate, a factor which has been implicated in driving the cycle of dental treatment and retreatment. Thus, higher rates of dental health change may be related to higher restoration replacement rates. Consequently, more research is needed in other populations to test the effects of factors influencing the amount of treatment received and the subsequent changes in dental health.

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