ALTERING PATTERNS OF DELIVERY OF PERIODONTAL SERVICES

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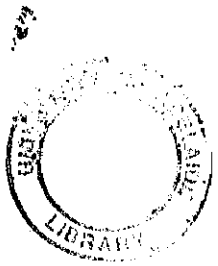

CHAPTER ONE: INTRODUCTION AND REVIEW OF THE LITERATURE

1.1 Introduction

Understanding of the prevalence and incidence of disease, its natural progression, assessment of who is at risk, and the possible outcomes of disease progression are fundamental notions upon which approaches towards the prevention and treatment of disease at an individual patient and community level are based. Over the last decade, such fundamental notions of our understanding of periodontal diseases have been challenged and revised. In both industrialised and developing countries, the prevalence and severity of destructive forms of periodontal diseases are much lower that previously estimated (Pilot and Barmes, 1987; Baelum et al, 1988). New models of progression of periodontal diseases have been proposed (Goodson et al 1982; Socransky et al, 1984), and further challenged (Albander et al, 1986; Birkedal-Hansen et al, 1988). While recognising the fact that only a small proportion of the population is at risk of destructive periodontitis, the ability to determine which individuals are at risk is poor. Finally, the balance between adoption of a population approach to controlling periodontal diseases versus focusing upon a high risk strategy, is currently being debated (Sheiham, 1990; Pilot, 1991). Within this state of confusion, the practising dentist has to determine his or own strategy towards the management of periodontal diseases in their practice setting. The uncertainty that results from such a set of circumstances affects clinical decision making. In the medical field, uncertainty has been identified as a major factor in variation among practitioners' practice patterns (Wennberg, 1985). Variation in the delivery of health-care in itself need not reflect adverse effects on patient outcomes, and indeed, often reflects a desirable element of medical practice, that is, as an expression of the art of medicine imposed upon the

scientific basis of medicine. However, wide variation of rates of delivery of preventive, diagnostic and treatment procedures raises issues of under- and over-servicing and the impact that these have on the cost of health care and on the quality of patient care.

Recent evidence suggests that many dentists have a low interest in the aetiology, prevention and treatment of periodontal diseases (Gift, 1988), and that only a small proportion of dentists' time is spent on periodontal care (Bader and Kaplan, 1983; Spencer and Lewis, 1989a; Brown, 1988). It has also been reported that few dentists regularly record periodontal diagnostic information on patient treatment records (McFall et al, 1987,1988). However, there is wide variation among dental practices in the levels of provision of these services, even among homogeneous patient pools, and the variations do not seem to correlate well with objectively determined clinical needs (Grembowski et al, 1990; Bader et al, 1988).

A WHO-FDI Joint Working Group 10 on Periodontal Health Services (WHO 1986) defined the aim of periodontal care as:

1. to reduce the personal and social handicaps associated with the symptoms of periodontal diseases;

2. to maintain or increase the acceptability by patients and the public of the status and function of the dentition; and,

3. to increase the longevity of the natural dentition.

The principles of periodontal care as outlined by this group included:

1. for the general population, a basic primary health care approach seems appropriate. That should consist of;
   a. information to the public on periodontal health and care;
   b. diagnosis of periodontal status;
   c. provision of information to individuals on their status; and,
   d. appropriate self assessment and care procedures: patients can be taught to assess their periodontal health and take the necessary steps to reduce their risk. Regular professional assessment is needed to determine presence of the destructive phases of periodontal diseases. At present such assessments are not reliable.

2. for high risk groups - it is appropriate to identify those with a high susceptibility to severe destructive periodontal diseases so that specific care can be directed to them.

In the area of periodontics, the changing concepts of the natural progression of the disease has impact on the levels and types of treatments that are appropriate, and consensus over this area has not been achieved to date. Without reliable biological markers of active periodontal destruction, assessment of risk relies on a more heuristic approach of evaluation with regard to the amount of past destruction of periodontal support in relation to the patient's age, and observed changes in measures of loss of attachment and inflammation over time. The WHO-FDI Joint Working Group concluded that "In the present state of ignorance the high risk group can only be identified by having severe disease for age." (WHO, 1986). The adoption of a 'high-risk' approach to determine the need for periodontal treatment within a general practice setting highlights the need for adequate examination, recording, diagnosis, prevention and monitoring of all patients with regards to their periodontal status. The evidence

from the studies conducted by Schaub (1984) and by Bader and coworkers (1988) indicates that the level of periodontal diagnostic activities is inadequate. The increase of malpractice suits in this area provides additional indirect evidence that the area is one of growing concern within the dental profession (Bailey, 1987).

Gift (1988) has emphasised the need for public health policies in the periodontal area to address not only the education needs of the public but also to ensure that the dental profession has access to up-to-date information on the aetiology, prevention, diagnosis and management of periodontal diseases. Continuing education is one method which frequently is employed in an attempt to improve dentists' interest, motivation and skills in areas of dentistry.

The assumption exists that continuing education, through improving practitioner knowledge and attitude, will influence performance and therefore lead to improved patient outcomes (Abrahamson, 1984). The effectiveness of continuing medical education in reaching this ultimate outcome measure is difficult to determine due to the very low percentage of published studies that have examined patient outcomes, and the poor experimental designs employed in the majority of the continuing medical education literature that undermine the findings of many studies (Dixon, 1978; Davis, 1984; Eisenberg, 1986; McLaughan and Donaldson, 1990). In a review of the continuing dental education literature in 1987, Bader identified similar problems within the dental literature (Bader, 1987).

The employment of auxiliary personnel, such as dental hygienists, can have a major role in the delivery of periodontal services within the private and public sectors. The WHO-FDI Working Group stated: "The following principles of periodontal care should therefore be adopted: given the desired level of effectiveness and efficiency in periodontal examination, diagnosis and treatment procedures, an appropriate range of personnel with varying lengths of training should be considered, selecting the most

suitable persons and procedures for the planned periodontal health care activity." (WHO 1986). Empirical evidence indicates that employment of dental hygienists is associated with increased provision of preventive and periodontal services in private general dental practices in the United States (Spencer and Webster, 1989), although there is little information on the use of hygienists in Australia.

This study focuses upon two aspects of the provision of periodontal services by private general dental practices in Adelaide, South Australia. Firstly, it examines the association between employment of dental hygienists and the patterns of delivery of diagnostic, preventive and treatment periodontal procedures. Secondly, it assesses the effectiveness of a continuing education intervention in altering the delivery of diagnostic, preventive and treatment periodontal services by practices employing and not employing dental hygienists.

1.2 Aims

1. To compare professional and structural characteristics of practices employing and not employing dental hygienists.

2. To compare the levels of provision of periodontal services in private general dental practices employing and not employing dental hygienists in metropolitan Adelaide.

3. To develop and implement a practice-based continuing education intervention in periodontics among private general dental practice in metropolitan Adelaide.

4. To evaluate the effect of the intervention on the provision of periodontal services.