

Minimal Intervention Dentistry in the Society of Armed Forces

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By early 1990, researchers had changed the management of dental caries from the traditional surgical approach to a biological or medical approach. In modern operative dentistry, caries is managed as an infectious disease, and the focus is on maximum preservation of tooth structures (1). Minimal intervention dentistry (MID) is a new and important concept that should be considered for military personnel.

The philosophy of MID previously called minimally invasive dentistry was referred to prepare the smaller and more conservative cavities. The goal of MID is to keep teeth healthy and functional for entire life. The oral healthcare professionals must consider both individualized and population-based strategies for improving oral health. MID scopes are treatment objectives using the least invasive surgical approach with the minimal elimination of healthy tissues. However, today, the concept is much broader and includes treatment related to risk assessment of patients, the early discovery of oral diseases, directed preventively orientated policies and limited surgical intervention proper for the level of disease.

This concept, therefore, is not only limited to the management of dental caries but is also appropriate for other areas of oral health such as periodontology, oral rehabilitation and oral surgery and also endodontics. Scaling and root planning instead of severe periodontal surgeries, microsurgical endodontic techniques, tunneling technique for the removal of pulp horns during access cavity preparation in anterior teeth are some examples of MID.

MID principles do not consider the dental caries as only an infectious disease but instead a behavioral disease with a bacterial component. For practical incorporation of these principles into routine dental practice, the profession and the patients will need education in the new model. In many places, in our treatment methods, we still think about "extension for prevention" (2).

The fluoridation of water, using new technologies like laser beam for caries removal, laser caries detection systems, caries indicator dyes, adhesive materials and adhe-

sive systems, ozone gas, resin infiltration combined with fluoride varnish application, pit and fissure sealants and fluoride varnish application are all necessary for successful MID. But controlling the behaviors, i.e. intake and frequency of fermentable sugars and carbohydrates, to not more than five times daily and removing dental plaque or dental biofilm from all tooth surfaces by brushing and using an effective fluoridated toothpaste twice daily can increase the chance for successful MID (1, 2).

Nutrition control, in terms of the consumption of fermentable sugars; using xylitol, sorbitol and the sugar-free products; incorporating casein phosphopeptide-amorphous calcium phosphate agents in chewing gum or in prophylactic pastes with or without fluoride are still important factors in managing caries development (2).

An overview of factors affecting the health shows that, most problems are related to the way people live and their origin is behavioral. All of these behaviors are obtained in the life environment and ministry and then are reinforced. Unfortunately, oral health is usually neglected more than the other parts of the public health.

In the armed forces with convenient access to dental insurance services, some factors such as low levels of knowledge and attitudes about the adverse effects of oral diseases on body health and its risk factors; low public perception for regular dental care and referrals to dentists and on the other hand, employment status (presence in remote areas); and also social and economic issues; are considered the serious obstacles to the improvement of oral health in this population.

With scientific regulation and reasonable planning, dramatic success can be achieved in the prevention of oral diseases with spending far less cost. In particular, with the proper implementation of preventive health care programs, the significant results can be expected because the personnel of our armed forces are fully accessible.

Undoubtedly, the first step is to collect information about health and health care systems in this field. In any

organization, this information is essential as a key tool. These can determine the current status and our needs.

The next major step is to influence the attitudes and beliefs of the aimed society in order to solve the problems of their own oral health.

For the successful MID in the army, the army staff, duty military personnel and their families should be taught how to brush, floss and use mouthwashes and fluoride rinse. The etiology of dental caries, and also the worth of prevention through nutritional and oral hygiene measures should be explained to that population. Therefore, we should primarily pay attention to the control of the caries, dental plaque and calculus formation, and reduction in carbohydrate intake of the army population. These need to organize dentists and oral hygienists for teaching and screening the population about their oral health.

An individual at no time is free from dental caries or oral disease. The "whole population" approach is suitable for

the prevention of oral and dental diseases and applying it is the only way to decrease the burden of these diseases and the cost of oral care (2). For this purpose, the medical services health insurance of the armed forces can do this better than other organizations.

At the end, if MID is to make an effect in supporting the purpose of 'teeth for life' for military staff and their families, it must be included in the dental curriculum. The concepts and objectives of MID should be taught to the dental students of the AJA University of Medical Sciences. Also, the researchers must target toward the MID in the army.

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