

Review Article

Need for Patient Specific Oral Hygiene Regimen

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Submitted: 25 June 2014

Accepted: 28 June 2014

Published: 10 June 2014

ISSN: 2333-7133

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Abstract

The scope of dental hygiene is much greater than it is realized. As every patient being not the same, prescribing same oral hygiene regimen will not solve the purpose of dental care. There is need to generate a renewed interest in oral health care providers towards oral hygiene aids. As the oral health practitioner has the ability to make a difference in the lives of general population or persons with special needs.

Keywords

- Oral hygiene
- Special need
- Oral care

INTRODUCTION

Oral cavity is house to millions of microorganisms that occur in many unique niches in the mouth. These microorganisms pose a continuous challenge to the homeostasis prevailing in mouth. Microbial flora usually remains in physiological limits but in the absence of regular maintenance, host protective factors are invariably overwhelmed and manifest as disease. Research has proved that even a few days lapse in regular cleaning and tooth brushing results in inflammation of gingiva (gingivitis) very rapidly [1]. Gingivitis can progress to periodontitis in susceptible patients resulting in rapid loss of tooth supporting tissue and finally the tooth itself. Halitosis or bad breath is also common in those with poor oral hygiene [2]. People with poor oral hygiene are seen markedly with increased incidence of nearly all systemic complications that are associated with oral disease. This truly reflects importance of a regular oral care.

Successful oral hygiene varies as much as the need of oral hygiene seen among populations. It is not easily accomplished in those with disease conducting genotypes (like people with genetic polymorphism conducive to periodontitis) and in population suffering from various systemic disorders (that modify host factors) thereby making maintenance and management of these patients not only complicated but enigmatic in the absence of evidently useful regimens. Not only the oral hygiene needs but the course of disease pathogenesis and treatment plan for the same underlying disease varies among populations with varying characteristics. For example, need for extra care in diabetic patients is well known [3]. Therefore, it can be concluded that patient specific oral hygiene program depending upon his/her special requirements should be tailor-made to suit the oral hygiene need. This conclusion although universally recognized still require an in-depth understanding as well as research. Required evidence based results along with study data is fairly limited in this study area. Protocols are yet not formulated to guide a dentist in determining the suitable oral hygiene regimen.

The purpose of this article is to discuss oral hygiene needs for few but common patient populations which constitute the major proportion of individuals demanding oral /periodontal care.

Truly, the scope of this area is much greater than it is realized. Not every patient benefit equally with the oral hygiene regimen prescribed to him/her. Plethora of patient's characteristics exist which act as crucial factor alerting a dentist about the special needs to be considered.

These patients can be broadly classified as:

1. Those with ordinary needs.
2. Those with special needs.
3. Those with systemic complications.
4. Postsurgical patients.

Patients with ordinary needs

Essentially any person who is capable of achieving oral health on his own and free of any complication/factor suggesting additional modification in his regimen can be included in this group. Their management is fairly easily accomplished by both the subject and the dentist. These patients are physically capable, mentally sound, systemically healthy, without any harmful habit, containing satisfactorily well aligned teeth, knowledgeable, motivated towards oral health care, community participating and have positive attitude with an open mind.

Factors to be considered before prescribing an oral hygiene regimen in this group:

- Local anatomical factor should be considered and regimen can be reinforced with the addition of other mechanical/chemical aid.
- Status of tissue (physiological and pathological) is assessed.

- Patient's past performance in hygiene indices should be considered as that can guide regular motivation needed for better adherence.
- Risk factor assessment and subsequent modification should be given weightage.
- Microbiologic testing can guide towards addition of antimicrobial reinforcement in a small population of needy patients [4].
- History of pan/gutka or tobacco chewing should be considered [5].
- Regimen should allow for physiotherapeutic stimulation if necessary [6].
- Regimen should allow for diet modification if deemed necessary [7].
- Not only from the periodontal point of view, a broader view encompassing caries potential of poor oral care should constantly be kept in mind.
- A chronological sequence of care should be emphasized with addition and removal of aid after their role is over.
- Written instruction/guidelines should be given to the patient.
- Regimen must be modified as per the habits of the patient after assessing physiological, psychological or structural basis of habit whenever necessary.
- Audio-visual aid should be used wherever applicable.

Those with special needs

These are those patients which because of a certain physical/psychological/social modifying characteristic are not able to comply with the same regimen as those of the ordinary needs. This group includes:

- Patient not capable of exercising oral health because of physical/visual/mental handicap or impairment. This includes hospitalized and institutionalized individuals [8].
- Patient that does not realize or not motivated to his oral health because of education/belief/social factors [9].
- Any psychiatric illness/depression resulting in absence of a will to maintain oral hygiene [10].
- Individual who despite having motivation is deprived of regular oral health care services because of authority/government or inaccessibility to services can be included.

People lacking maneuverability due to systemic disease has been classified in another group and their needs discussed elsewhere.

Apart from some basic clues to a comprehensive regimen (as discussed for ordinary needs), factors to be considered before prescribing an oral hygiene regimen in this group can include:

- Patient's ability to carry out the regimen either by himself or by any device (electrical toothbrush) or by any other

aid is decided. His ability to perform the regimen by himself with the help of supervisor/health care worker etc.

- Useful suggestion would be a more frequent recall for professional scaling/root planing for those patients and an essential ingredient for overall plan would be plaque lowering mouth rinse.
- Besides an additional effort in education and training of patient or his help (nurse, care provider) is vital to oral hygiene success.
- Wherever possible, effort should be directed towards making oral tissue more conducive to oral health.
- Availability of oral care is also very important in this regard.
- Most effective and suitable brushing technique should be chosen.

Those with systemic complications

This constitute an important group with ever adding ramifications as with the continuously growing literature implicating systemic disease with effects in periodontal disease and vice versa. Some of the important ones that definitely call for a careful and well planned modification are

- 1) Diabetes
- 2) Cardiovascular diseases
- 3) Ulcerative oral conditions

(A Few Examples of Disease Specific Guidelines)

Diabetes and Oral Hygiene: Diabetes causes rapid tissue destruction with altered immune response as a result of interference with neutrophil function. Bacterial and candidal infections also occur with a relative ease in such patients. Similarly, rapid spread of bacteria to other tissues is likely. This necessitates rapid removal of plaque and related etiological factors. Some suggestions in this regard are:

- Education of patient about the disease and its harmful effects and need for care.
- Good diabetic control and regular monitoring of blood sugar levels [11].
- Prompt treatment of oral infection.
- Judicious use of antibiotics and mouth rinses.
- More frequent recalls.
- Addition of anti-plaque mouthwash can be useful.

Cardiovascular disease: Regular oral hygiene is known to cause bacteremia but this is essentially harmless as the bacterial flora is harmless in those who practice regular oral care. Patients with poor oral hygiene show bacteremia with pathogens capable of releasing toxins and multiplying in cardiac tissue. This is known to cause endocarditis in susceptible patients. Some suggestions could be

- Professional oral hygiene under antibiotic cover.

- Hypertensive patients have more potential to bleed. Any surgical intervention should be avoided.
- Frequent monitoring of hypertensive status.
- Salt containing mouth washes can be discouraged on physician discretion.

Ulcerative conditions: Ulcers in oral cavity can occur because of many local or systemic conditions. Aphthous ulcers, stress ulcers, inflammatory bowel disease, bacterial, viral, traumatic ulcers etc. are some conditions which can cause oral ulcers [12]. Patient with these conditions frequently give up on their oral hygiene habits because of pain and tenderness in that area. Dentist may be called upon to help these individuals in maintenance of oral hygiene.

- Diagnosis and treatment of ulcerative conditions.
- Advise soft tooth brush.
- Anesthetic can be applied before brushing.
- Susceptibility to infection should be considered.
- Palliative measures should be employed wherever applicable.

Post surgical patients

Many changes take place in oral structures which present non conventional challenges to the patient in maintaining oral health. These post surgical individuals can either be of those with ordinary needs or with special needs. They might have slight change in their oral structure or a gross mandibular defect. They are unique in a sense that post surgically oral mucosa and other structures are frequently tender, exposed and vulnerable interfering with regular oral hygiene procedures and increasing chances of infection. Oral hygiene in these patients has direct influence on the healing potential post surgically [13]. Some of the suggestions are listed below keeping in mind oral and maxillofacial surgery patients:

- These may require meticulous cleaning in fracture line area.
- Need for extra care in case of surgical defect produced, exposing the vulnerable tissue.
- Need for extra care in case where natural defense are compromised like in case where salivary glands are removed.
- In patients with TMJ disorders, they may have difficulty in opening of the mouth.
- Patients who are continuously smoking or non compliant to instruction are not advised surgery [14].
- Specific brushing technique called Charter's technique is useful for post surgical patients.
- Use of irrigating agents with antimicrobial properties can be effective in reducing microbial load in oral areas which are inaccessible to the patient [15].
- Use of ZOE packs for coverage of defect preferably offering antimicrobial advantage should be kept in mind.

- Lastly, every patient is unique offering a challenge for oral health care prescriber to chart out and plan oral hygiene regimen in every way possible for the goal of rapid resolution of inflammation and promote natural healing.
- Training and education of guardian/caregiver is frequently essential and rewarding.

Analysis of mechanical and chemical oral hygiene aids

Dentistry is unique in this sense that not only it covers life sciences in its scope but a dentist is also entrusted to understand mechanics of materials including their chemical or physical composition. A wide variety of dental materials can only be useful for a dentist who completely understands the underlying physical or chemical properties of that material. In this regard it is essential for a dentist to know the mechanical properties [16] including flexibility and effectiveness while writing for a toothbrush in his comprehensive oral hygiene regimen. He should also ascertain the effectiveness of the mouthwash among the wide variety of compositions and concentrations available [17]. Although many aids are present in the market claiming superiority and ease of use etc. a dentist usually has to depend upon patient adherence to the program hence the need for behavior assessment [18] and suitable regimen is emphasized. Hence patients apart from motivation should be given a new and easily accomplished regimen which can improve their results.

CONCLUSION

It can be said that responsibility to achieve a good oral hygiene in any patient lies on the shoulder of a dentist to a great extent. This involves a comprehensive understanding of patient condition, modifying local factors and effectiveness of oral hygiene aids and patient's motivation and only this comprehensive way can a dentist device an oral hygiene regimen for the patient. There is a need to generate a renewed interest in oral health care providers towards oral hygiene aids and an area of analysis and research for researchers for the ultimate goal of better oral care.

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Cite this article

Sharma VK, Bansal P, Singh P, Goyal L (2014) Need for Patient Specific Oral Hygiene Regimen. *JSM Dent* 2(4): 1043.