

CASE STUDY**Dental Care: Need, Methods, Current Status And Role Of Pharmacist**

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ABSTARCT

Mouth is a mirror that can reflect the health of the rest of your body. Numerous recent studies investigating the mouth-body connection have suggested an association between oral health and general health. In this paper a brief account on oral and dental hygiene is given and highlighted is the need to take more care by a pharmacist. Proper dental hygiene is characterized by healthy gums and teeth, fresh breath and absence of any pain whereas toothache, bad breathes, accumulation of plaque and tartar, may be indications of improper dental hygiene. Various complications due to negligence or improper dental hygiene and the measures taken to prevent and cure them have been enlisted in brief. In the study we conducted a general Survey in the region of Pune by devising a questionnaire and understanding how much importance is being given to the subject of dental hygiene and understanding lacunae as to where a pharmacist can help. Although the practice of pharmacy is not followed by the pharmacists in India as it is followed in the western countries, the fact that today's pharmacist should play an extended role of seven star pharmacists has been accepted in India. The retailer of drugs has to play a role of care giver, manager of health resources as well as an educator. This survey reveals a fact that there are many things a pharmacist can do to educate common people about dental care and to improve their dental hygiene.

Key words: Oral And Dental Hygiene, Dental Care, Indications of improper dental hygiene**INTRODUCTION**

The mouth is the gateway to the body⁽¹⁾. It is a portal of entry as well as the site of disease for microbial infections that affect general health status⁽²⁾. Mouth is a mirror that can reflect the health of the rest of your body⁽³⁾. Numerous recent studies investigating the mouth-body connection have suggested an association between oral health and general health⁽³⁾. For instance, there is a growing body of evidence indicating that chronic gum disease may contribute to the development of heart disease⁽³⁾. This means that one cannot be healthy without good oral health. In this paper we are trying to highlight the fact that although important; it is one of the most neglected areas wherein a pharmacist needs to play a major and an active role. In the study we conducted a general Survey in the region of Pune by devising a questionnaire and understanding how much importance is being given to the subject of dental hygiene and understanding lacunae as to where a pharmacist can help.

Proper dental hygiene is characterized by healthy gums and teeth, fresh breath and absence

of any pain whereas toothache, bad breathes, accumulation of plaque and tartar, may be indications of improper dental hygiene. Thus the aim of dental hygiene is to prevent the conditions that may lead to the above-mentioned symptoms.

Salivary volume and flow are important factors in oral health. Saliva provides mechanical removal of plaque and microorganisms as it circulates in the oral cavity and also contains a variety of innate and specific immune components. The immune components in the saliva, including salivary IgA and lactoferrin contribute to control of the growth of microorganisms in the oral cavity. Dental caries^{4,5}, gingivitis^{6,7}, periodontitis⁸, pulpitis⁹ and halitosis¹⁰ are some of the possibilities which may result from improper dental hygiene.

MEASURES TO BE TAKEN FOR ORAL AND DENTAL HYGIENE

Oral hygiene is the practice of keeping the mouth and teeth clean in order to prevent dental problems and bad breath¹¹. Dental health care can be approached to as dental hygiene (undertaken by

self) and dental care by assistance of a dentist. Oral hygiene includes the following:

Teeth Cleaning:

Teeth cleaning is removal of dental plaque and tartar from teeth in order to prevent cavities, gingivitis, and gum disease. Dentists recommend that teeth be cleaned professionally at least twice every year. Professional cleaning includes tooth scaling, tooth polishing, and, if too much tartar has built up, debridement. This is usually followed by a fluoride treatment.

Tongue Cleaning:

Dental specialists recommend cleaning the tongue using a tongue cleaner as part of ones daily oral care routine, in order to remove the bacterial coating that generates bad breath and may affect the health of teeth and gums as well.

Gum care:

Massaging gums is generally recommended for good oral health. It is recommended to brush and floss at least two times everyday to maintain a healthy dentition¹².

ACCESSORIES USED FOR DENTAL CARE

Toothbrush:

The toothbrush is a fundamental tool used for accomplishing the goals of plaque control. It is the most common device used for maintaining good oral hygiene. "An ideal toothbrush may be defined as the one which removes plaque effectively." Toothbrushes vary in size, design, length, hardness, and arrangement of bristles. Today, toothbrush design has been studied, yet there is no convincing evidence to support the idea that which type is better than the other in terms of its efficacy in plaque removal. American Dental Association (ADA) has clearly stated their position and concluded that the method of use and toothbrush choice depends on patient oral health, manual dexterity, personal preference, the ability and their desire to learn and follow the prescribed procedures. The ADA specifications for toothbrushes include dimensions of the brushing surface and bristles. There is a wide array of brushes available in many colors, designs, packages, each claiming to be better than the other. Keeping in mind the main purpose of brushing, any toothbrush with a simple design following ADA specifications, which provides access to all areas of the mouth should be the suitable one, provided the patient uses proper brushing technique. Thus, it is necessary to provide guidelines to both toothbrush manufacturers as well as the consumer. This helps to remind the manufacturers to produce quality

products and consumers about the selection of a proper toothbrush for maintaining their dental hygiene, especially plaque control¹³.

Frequency of changing toothbrush:

It is suggested that the toothbrush be changed every three months or even before if the bristles appear frayed or "flowered". The correct brushing technique includes following steps¹³.

1. Place bristles along the gum line at a 45-degree angle. Bristles should contact both the tooth surface and the gum line.
2. Gently brush the outer surface of 2-3 teeth using a vibrating back and forth rolling motion. Move brush to next group of 2-3 teeth and repeat.
3. Maintain a 45-degree angle with bristles contacting the tooth surface and gum line, and brush the inner tooth surfaces.
4. Use the "toe" of the brush to clean the inside surfaces of the front teeth, using a gentle up-and-down stroke.
5. Brush the chewing surfaces of your teeth with a gentle back and forth scrubbing motion. Brush your tongue to remove bacteria and freshen your breath¹³

Dental floss:

Dental floss is either a bundle of thin nylon filaments or a plastic (teflon or polyethylene) ribbon used to remove food and dental plaque from teeth. The floss is gently inserted between the teeth and scraped along the teeth sides, especially close to the gums. Dental floss is flavored or unflavored, and can be waxed or unwaxed.

Vibration:

Some flossing wands utilize vibration which transfers through the floss, originating from the ends. The movement would also help in temporarily separating tooth and gum for floss to get through.

Toothpaste:

Toothpaste is a paste or gel dentifrice used to clean and improve the aesthetic appearance and health of teeth. It is almost always used in conjunction with a toothbrush. Toothpaste use can promote good oral hygiene. It can aid in the removal of dental plaque and food from the teeth, it can aid in the elimination and /or masking of halitosis, and it can deliver active ingredients such as fluoride to prevent tooth and gum disease. Most people in developed countries consider toothpaste a necessity and use it at least twice a day. Toothpaste works, with tooth brushing, to clean teeth and fight plaque bacteria.

Mouthwash:

Mouthwash or mouth rinse is a product used for oral hygiene. Antiseptic and anti-plaque mouth rinse claims to kill the germs that cause plaque, gingivitis, and bad breath. Anti-cavity mouth rinse uses fluoride to protect against tooth decay. However, it is generally agreed that the use of mouthwash does not eliminate the need for both brushing and flossing.

SURVEY ON AWARENESS OF DENTAL HYGIENE IN COMMON PEOPLE IN PUNE REGION:

After taking a brief review of different diseases, methods of dental care and the accessories used for the same, a general survey in the region of Pune was conducted by devising a questionnaire to understand how much importance is being given to the subject of dental hygiene and to understand lacunae as to where pharmacist can help.

Selection of candidates for survey:

A survey was conducted for ninety four individuals from the city of Pune to get an overview of the awareness, the subjects had about the dental health. The subjects were from different families and also not related to each other genetically, as it is observed that the dental health practices are passed from one generation to the other without much questioning about them. The subjects and their families were from the middle class background such that they represent the correct picture about the metropolitan city of Pune.

Preparation of questionnaire:

A simple questionnaire was prepared. The questions included in the questionnaire were selected

- to find out the methods that are used by the candidate for dental cleaning,
- what measures he regularly take to maintain his dental hygiene,
- what he does in case of dental health problem,
- effect of marketing campaigns and advertisements on the selection of products
- What he uses for dental care.

The questions used in the study were as under:

1. Do you have regular dental checkups? If yes how frequently?
2. Do you have any major dental problem?
3. In case of tooth ache what do you do?
4. Do you brush to maintain dental hygiene?
5. What is your frequency of brushing?
6. What is frequency of changing brush?

7. What is your method of brushing?
8. Which brush do you use?
9. What is the criterion of selection of toothbrush?
10. Which paste do you use?
11. What is the criterion of selection of toothpaste?
12. Do you floss?
13. Do you use a tongue cleaner?
14. Do you use any other product for dental cleaning or care?
15. What is the criterion of selection that you use for that product?
16. From where do you purchase dental products/accessories?
(Medical store/Grocery store/Super market)
17. Do you carry out any Whitening / bleaching of teeth?

Collection of Data:

The interviewers selected were Pharmacy undergraduates, who were well versed with the local language and culture. The interviewers were adequately trained and imparted proper instructions in order to avoid any ambiguity in asking questions and interpreting the responses. The data was selected for a period of one month.

RESULTS AND DISCUSSION

A total of ninety four people were interviewed. The data was analyzed independently by the researchers and statistically treated. The information gathered during the study is presented in the **Fig. No.1, 2, 3,4,5,6, 7, 8 and 9.**

Fig.1: Number of Subjects having regular dental checkups

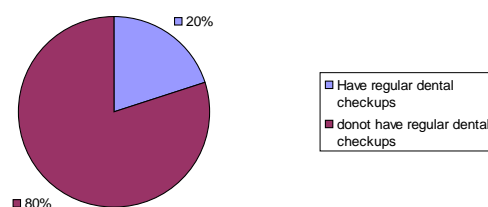


Fig.2: Use of Tooth Brush

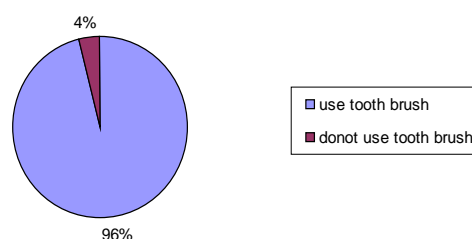


Fig.3: Use of floss

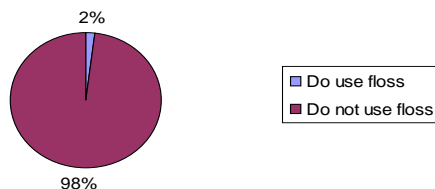


Fig.4: Use of Tongue cleaner

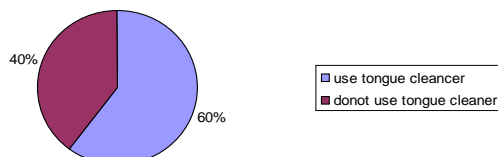


Fig.5: Frequency of brushing

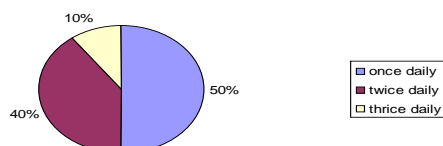


Fig.6: Frequency of changing Tooth brush

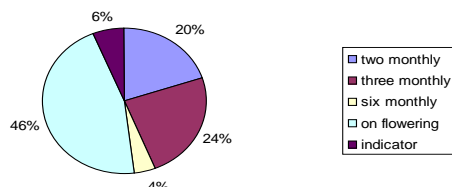


Fig.7: Method of brushing

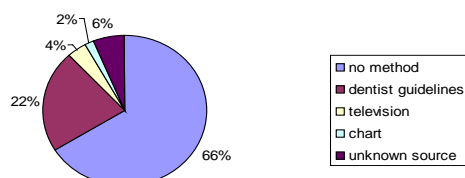


Fig.8: Brands of Tooth brush used by subjects

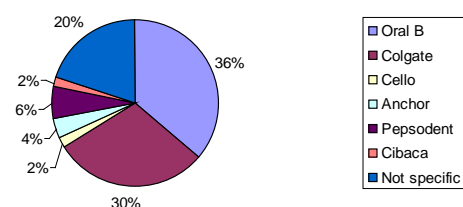


Fig.9: Brands of Tooth pastes used by subjects

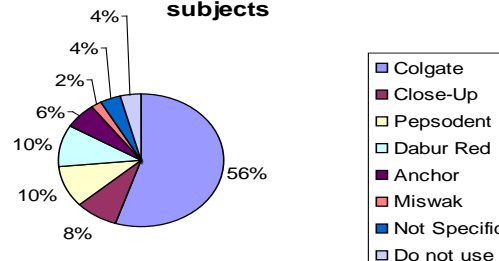


Fig 1 shows that only 20% of the people have regular dental checkups while 80% of the people do not. The reasons for not visiting the dentist were ranging from negligence, high fees charged by the dentist and some thought that it was not necessary to do so.

It was found that 96% of the people practice brushing as a daily measure to maintain dental health (**Refer Fig. 2**) while as less as only 2% of the people floss daily to maintain dental hygiene (**Refer Fig 3**). While 60% of the people cleansed their tongue daily with the help of a tongue cleaner 40% of them did not (**Fig. 4**).

It was seen as shown in **Fig.5** that only 6% of the people brushed thrice daily, 40% brushed twice daily, 50% of the people brush only once daily while 4% do not brush daily. Thus from among those who brush daily maximum brush only once daily. It was also found (**Refer Fig.6**) that 44% of the people changed their toothbrush every three months or before that, 4% changed it every six months, one used an indicator while 46% of them changed it when the bristles flowered.

Further it was found that as much as 66% of the people do not follow any specific method of brushing while only 22% follows a dentist's guideline (**Refer Fig.7**). There was a lack of awareness amongst the people for a method of brushing, and most knew only that they had to brush.

Among the brands of tooth brushes being used, Oral-B was found to be the leading brand being used by 36% of the people followed by Colgate being the choice of 30% of the people (**Refer Fig.8**). As far as the use of toothpaste is concerned (**Fig.9**), the leading brand Colgate was being used by 56% of the people while the other brands had more or less the similar popularity. It was found that criteria for selection of tooth brushes and toothpastes were varied from advertisements, organoleptic characters and only a few used the product recommended by a dentist. Very few were found to be aware of the ingredients of the products. Again, the paste, its

brand or its chemical constituents or the choice of brand which would be better than others was much dependent on what was being used by the family. This was also affected by the advertisements to some extent or packaging and colour used by the company. A very few people used mouthwashes occasionally. Also the use of other dental care products was found to be rare.

It was also found that most of the people thought of visiting a Dentist only when any dental problem became troublesome.

Overall it was found that those who visited a dentist had somewhat good dental care habits while a major bunch of the remaining lot was not much concerned about it. Though brushing was being practiced widely, there was not much emphasis on the correct method of doing so. Also, the concept of flossing which is a recommended daily dental health care practice was found to be something alien to the major mass.

Thus the scenario of dental health care practices in a modern city like Pune was not satisfactory, the reasons for which need to be explored by the dentists and manufacturing companies. Further it can be strongly emphasized that there is a strong need and a huge gap for the pharmacist to make people aware about the necessity to take care of Oral Health and also suggest necessary measures to implement the necessary changes. Pharmacists are in a crucial position to increase awareness regarding the benefits of good oral health care. They can emphasize the importance of adhering to a daily preventive oral care regimen, as well as being a source of information on the selection and proper use of OTC oral hygiene products. Through routine monitoring, pharmacists can recognize patients who may be susceptible to dental problems associated with certain medical conditions. Some medications also can cause adverse dental effects, such as xerostomia, tooth discoloration, abnormal bleeding, or inflammation of the gum tissue. Pharmacists should recommend that patients seek advice from a dental professional when warranted.

Furthermore, the results of several studies suggest that periodontal disease may exacerbate certain health conditions, including stroke, cardiovascular disease, and respiratory disease and can lead to giving birth to preterm low-weight babies.

In addition, more than 90% of all systemic diseases have oral manifestations, and many diseases can be diagnosed in their early stages through an oral examination.² The goals of proper

oral hygiene are removing or preventing plaque and tartar buildup, preventing dental caries and gingivitis, and decreasing the incidence of halitosis.

The outcomes of the survey carried out bring forward a very important role today's Pharmacist can play in educating common man in dental health care.

The Pharmacy stores can display the pictures or charts showing the correct methods of brushing. Although the frequency of changing toothbrush are written on the packing of many toothbrushes, people tend to over read it and avoid it. The Pharmacist can display the posters depicting the need of changing the toothbrush frequently (usually it is three months.) He can very well communicate it with the common people while they come to buy a new toothbrush. Some people might come to a pharmacy store for buying a painkiller (analgesic) when they have a toothache. The advice can be given to them by the pharmacist for a dental check up.

Free dental check ups are carried out many a times by large hospitals and they advertise it in newspapers. The pharmacist can display this information in the pharmacy store.

In this way the Pharmacist can become a link between common people and the dentists and can help society by imparting knowledge to people to improve their dental health and hygiene.

CONCLUSION

The present scenario of dental health care practices being followed was not satisfactory. Thus some necessary measures need to be taken to bring about a change for the better. Technically correct and essential dental health care practices need to be inculcated as a habit from early age. The government, educational institutions and educating authorities need to work together towards achievement of this purpose.

Appropriate steps to make professional dental health assistance available to common man need to be taken. The mass need to be educated about the importance of dental health care and the necessary measures for achievement of it. Also the criteria for selection of the dental care products must be laid down. The various parameters of the dental care products the dimensions of a toothbrush must be standardized.

The dentist must consider implementation of extra-clinical measures for dental health awareness. The pharmacist must also try to educate the masses about the issue as and when

possible. The various media like television and news-papers must be employed for the purpose.

A combined effort by the various sections of society will surely make a difference in improving the status of dental health which would leave on the society a better and pleasant glowing smile.

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