

Community Health Nurse and Dental Care

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COMMUNITY Health Nursing is more directed to promotion of health and prevention of diseases and disabilities. In this process of health services, providing promotional health services and identifying illness in the early stages are possible. The nurse provides the first contact care in all communities and if necessary, she refers the patients to the hospital for further treatment. She does the follow-up care of the patients in the hospital and the home and thus keeps a liaison between the patient, hospital and community.

The Alma Ata Declaration in 1978 has emphasised the need to achieve Health for All by 2000 AD through primary health care. It has created a widespread awareness of health needs and problems among the masses and health practitioners of different health disciplines.

One of the most important disorders and diseases afflicting the people are Gastrointestinal in nature. The improvement of environmental sanitation and personal hygiene will help in the control and prevention of many illnesses. Maintenance of personal health is the responsibility of the individual. Health personnel have to educate the people, to create an awareness of the principles and practice of health care to be followed by them.

Oral Cavity

In our wonderful human body, there are many cavities. Oral cavity or mouth is one of the most important of these cavities. It consists of the lips, the teeth embedded in the sockets of jaw bones and bound by the gums, the tongue and its supportive structures and the salivary glands. Posteriorly there are tonsils on either side of the throat. The floor of the mouth is formed by lower jaw bone or mandible. Roof is formed by palatal bones and the sides by maxillary bone or molar bones. The entire structure is richly supplied by blood and has a complicated nerve supply.

Mouth communicates with ears, nose, pharynx, larynx and oesophagus. Poor hygiene of the mouth affects all these organs and systems associated with them.

Oral cavity reflects the state of systemic health of the individual more frequently than any other part of the body. Examination of the mouth and tongue was considered important even in ancient times.

We take food through the mouth. The entire structure of the cavity takes part in the mastication of food and swallowing. During this process, food particles may be embedded in between the teeth and

gum. These organic substances decompose and cause foul smell. Bacterial invasion occurs and causes various problems.

Teeth

Teeth form the most important structure of the mouth. The first set of 20 teeth appearing in childhood is called temporary teeth or milk teeth. These will be replaced by permanent teeth from the 6th year onwards and completes by 19 years. The last molars or wisdom tooth may appear even later. There are 32 permanent teeth.

Structure of the Teeth : Cross-section of the tooth presents the root of the teeth embedded in the sockets of the bone, surrounded by gum and the portion projecting out is the crown. Outer layer of the tooth is made up of a very strong material called enamel. Beneath the enamel is the hard cement substance called dentin. The inner portion is the pulp cavity which contains blood vessels and nerves. If there is tooth decay, the nerve endings will be exposed causing severe pain and infection resulting in inflammatory conditions.

Common Preventable Disease

The commonest diseases of the tooth are dental caries, periodontal disease and Gingivitis.

1. Dental Caries

Dental caries is a pathological process related to localised destruction of tooth tissue by acids and invasion of microorganisms. It is a disease of the civilized. Among the primitive uncivilized people, caries is virtually non-existent but wherever civilization spreads, caries inevitably follows. The severity of dental caries among Indians though less evident than the western people, is responsible for 60% of tooth morbidity in our country.

Causes : Primary cause of caries is plaque which is a thin transparent layer of bacteria which sticks to the tooth surface. It is formed by the action of mouth bacteria which change the saliva on the tooth surfaces into a very thick consistency. The resultant plaque resembles a fine film of sticky jelly and is full of bacteria. Food debris stick to the plaque during meals and provide a plentiful supply of nourishment for its bacteria. They flourish and plaque grows thicker and invades the tooth structure and causes caries and periodontal disease begins, which of the disease predominantly depends on the type of food, the site of plaque and age of the person. The plaque is the same whichever disease occurs. This can be easily prevented by cleaning the teeth.

Caries is mainly a disease of children and young adults. Caries can cause loss of tooth in a few years.

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Dr. Surindra Singh et al state. According to a rough estimate about 200 crores of cavities are being attended by Dentists every year in India. It has been observed from surveys carried out in different places of the country that the children suffer frequently from dental diseases and defects". It is the commonest defect found in children of school age. Civilized food consisting of a large extent of sticky refined carbohydrates are taken too frequently by the people and this food needs very little mastication. Detergent foods like raw fruits, vegetables like carrot, radish, sugar cane, cucumber etc. need maximum mastication which itself cleanse the teeth. No food debris is capable of acid formation itself on the teeth after meals. The prolonged vigorous mastication necessary for this type of diet wears down cusps and eliminates fissures and thus removes stagnation areas. This wears off the teeth and is known as attrition which cannot possibly occur to such an extent as our civilised diet of soft cooked food need the basic minimum of chewing.

2. Periodontal Disease

Like caries, periodontal disease also results from stagnation of food debris and plaque formation on the teeth and gum margins. In caries, the plaque exerts its effect by acid formation whereas in periodontal disease it is by bacterial variation and calculus formation. Epidemiological surveys suggest that 95% of the adult population is suffering from periodontal disease and is the major cause of tooth loss after age of 30 years.

Periodontal disease is predominated in later life. The disease may take decades for the loss of teeth. By the time the periodontal disease reaches an advanced stage, the earlier onslaught of the caries is already overcome and is no longer a problem because the teeth which were susceptible to caries have already been treated by filling or extraction and further attack is prevented.

3. Gingivitis

The root of the teeth is covered by gum when the plaque forms, food debris attaches to the plaque and by bacterial irritation and calculus formation in the margin of the teeth and gum causes inflammation of gums called gingivitis. Where the gum margin is loosened more food particles may get embedded. It hardens and forms calcified deposits known as Tartar. These can make the gums recede from teeth causing easy bleeding while brushing the teeth. The attachment of the teeth becomes so loose that the teeth start shaking and may be lost easily.

Prevention of Dental Diseases

Health Education : The community Health nurse gets a lot of opportunity to educate the individuals and families on the importance of promoting the health of the teeth.

Nutrition : For having strong teeth, care should be started from the antenatal period onwards. The expectant mother should be instructed on the importance of nutritious diet containing adequate quanti-

ties of calcium, phosphorous, Vitamin D and Vitamin C which are essential for the formation of teeth. The importance of breast milk to the child should be emphasised. The individual should have adequate supply of nutrients which are readily available in green leafy vegetables specially drumstick leaves, amaranth, fenugreek, brinjal, raw plantain and milk.

Oral Hygiene : Emphasise the need for cleaning the mouth and teeth from childhood. Oral thrush is common condition seen in infants who are specially kept on artificial feeds. People with diabetes are more prone for candida of oral cavity. Absolute cleanliness is necessary to prevent bacterial invasion and infection.

The child should be taught to make it a habit to brush the teeth and keep the mouth clean. Brushing and cleaning should be done in the morning, before and after each meal and before going to bed to prevent food debris left in the teeth. For cleaning use soft tooth powder or paste with brush. People who use neem stick, ripe mango leaves etc. as conventional brushes may do so. All the food debris must be removed from the birth and gum margins. Mouth must be thoroughly rinsed. Gum should be massaged. All these procedures will ensure the cleanliness of the mouth and teeth.

Avoid sticky carbohydrate foods such as biscuits, chocolates, and sweets as much as possible in between meals i.e. while playing, watching television etc. to prevent acid formation on the teeth. Eat hard fibrous food to have a detergent effect and prevent deposition of food on the teeth. As mastication is required for these foods, chances of debris formation are reduced. Clean the tongue also while cleaning the teeth.

If there is any infection like cold, influenza, etc. use warm saline gargles to flush out the organisms. If there is any crust and sore formation, hydrogen peroxide may be used to remove them and potassium permanganate gargle may also be used.

Avoid tobacco chewing which can damage the gums and teeth and is predisposed to cancer of the oral cavity. 40% of the cancer involving head and neck are observed in India and the patients gives history of tobacco chewing. The use of betel leaves, nuts and chunam is commonly found among Indians and they do not produce any known health hazards if teeth is cleansed regularly.

Approach dentist for curative treatment. Stagnation areas and food are to be eliminated. The treatment is directed against natural stagnation areas such as occlusal fissures and acquired stagnation areas like unopposed and irregular teeth, poorly fitting partial dentures and poor contact points.

Natural stagnation areas can be eliminated by filling the teeth. There are fissure sealants to apply before caries occur. These material are used to fill the fissures without any cavity preparation. Acquired stagnation areas like irregularly positioned or unopposed teeth does not get normal self cleansing effect of mastication. These also form food traps due to ill fitting partial dentures and teeth which

have lost their correct point with medial or distal neighbour also function as food trap. The contact points are normally light and prevent food packing between the teeth. If there are caries or inadequately filled teeth, the adjacent tooth can be affected by food trap so formed.

Regular dental treatment of scaling and filling prevents the onset of caries. By providing orthodontic or prosthetic treatment and restoration of normal occlusion natural cleansing effect of mastication can be assured. Conservative treatment will maintain and restore tight contact points and save teeth from extraction, thus avoiding the need for any future prosthetic treatment.

Make the teeth more resistant to acid attack. The most important factor for acid resistance is fluoride. It is present in water. Fluorides help for tooth formation. This prevents about 50% of caries teeth. If the water is deficient in fluorides, it must be fortified by adding part per million part and this process is known as Fluoridation.

Summary

Community health nurse has the responsibility to teach the community on oral hygiene and maintenance of healthy teeth and gums. Oral hygiene should be practised to promote dental health and to prevent dental disorders as most of the dental diseases arise directly or indirectly from two basic diseases of the teeth and their supportive tissue structures, i.e., caries and periodontal disease which can be prevented and if occurs they should be adequately treated. Brushing the teeth and thorough rinsing and massaging the gums will keep the teeth and mouth-

cavity clean. Children and young adults should be cared for the control and prevention of caries and older age groups should be protected from periodontal disease.

An adequate supply of nourishment containing calcium, phosphorous, Vitamin D and Vitamin C helps the proper formation and maintenance of teeth. The habits of using soft carbohydrate foods in between meals without adequate oral rinsing will help for the acid forming bacteria to destroy the tooth and tooth structures and hence these habits are to be discouraged. Consultation with dentist is necessary to cure and corrective procedures. Education should be directed to pregnant women, lactating mothers, school children, adults and old aged population.

For disseminating the knowledge of oral hygiene and dental care, various educational media like posters, flash cards, news papers, radio, television, cinema etc. can be utilised. By observing all these methods the nurses can contribute to bring down the incidence and prevalence of dental caries and periodontal diseases in the community and help in achieving the health for all by 2000 AD.

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