

REVIEW ARTICLE

Significance of oral health education in maintaining oral health

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ABSTRACT

This article is a qualitative review of the variables that are significant to maintaining oral health through oral health education. The consequences of lack of oral health awareness were also addressed by reviewing the story of a village girl with poor oral health. Oral tissues are vulnerable to disease because of their intimate relationship with the external environment, and they are also subject to mechanical, chemical, and bacteria invasion. The oral cavity must be healthy to prevent the occurrence of common oral diseases such as dental caries and periodontal disease. The mouth is the major gateway to the body; thus, whatever affects oral health may also affect general health. There is strong evidence that oral health knowledge is related to better oral health practice. This is because giving adequate information and motivating an individual will improve their practice of oral health measures such as regular tooth brushing, flossing, eating fewer sucrose diets, etc. Oral health knowledge can only be acquired through oral health education. Oral health education includes the dissemination of information to promote awareness and knowledge of oral health problems and self-care preventive measures through community and school-based education.

INTRODUCTION

The mouth is the major gateway to the body; thus, whatever affects oral health may also affect general health (Nyamuryekung'e, 2012). Oral tissues form an integral part of every human being and are extremely vulnerable to disease as the mouth is in an intimate relationship with the external environment, and subjected to mechanical, chemical, and bacterial interactions (Dilip, 2005). World Health Organization [WHO] (1987) defined oral health as "being free of chronic mouth and facial pain, oral and throat cancer, oral sores, birth defects such as cleft lip and palate, periodontal (gum) disease, tooth decay, and tooth

loss and other diseases and disorders that affect the mouth and oral cavity".

Oral diseases may be considered a public health problem due to their high prevalence and significant, social impact (Petersen, 2014). According to Singh et al (2012), the most common oral health issues across the world are dental caries (tooth decay), periodontal disease, and halitosis. There are various environmental and lifestyle factors such as nutritional status, tobacco smoking, alcohol, poor oral hygiene, stress, and systemic conditions, linked to these oral problems (Singh et al., 2012). Singh et al. further

explained that a lot of people suffer from poor oral health without being aware of their situation; therefore, chewing and digestion of food, as well as the quality of life, are negatively affected.

According to [Carneiro et al. \(2011\)](#), oral health is an essential aspect of general health; as such, oral health knowledge is considered to be an essential pre-requisite for health-related practices. [Carneiro et al.](#) further explained that there is an association between increased knowledge and better oral health because people who assimilate oral health knowledge must probably have a sense of personal control over their oral health and they are likely to adopt self-care practice.

[Singh, et al. \(2012\)](#) in agreement with [Carneiro et al. \(2011\)](#), also opined that there is strong evidence between oral health knowledge and better oral health practice; this is because, giving adequate information and motivating an individual will improve their practice of oral health measures such as regular tooth brushing, flossing, eating fewer sucrose diets, etc.

Oral health knowledge can only be acquired through oral health education. According to [Ogala \(2003\)](#), dental health education is the process of translating what is scientifically known about dental health and wellness into what people can feel about their dental health status both in the present and in the future.

CONCEPT OF HEALTH AND ORAL HEALTH

The word 'health' was derived from the old English word 'hoelth', which meant a state of being sound ([Ustun & Jakob, 2005](#)). Several definitions of health are available, but the most commonly quoted definition is the one adopted by the World Health Organization (WHO) over half a century ago. WHO define health as "a state of complete physical, mental and social well being, and not merely the absence of disease or infirmity" ([Utsun & Jakob, 2005](#)).

On the other hand, [Bhatia \(n.d\)](#) inferred that this first definition of health is not very accurate; while health is an elusive word and people who consider themselves healthy may have some disease and many people who are suffering from some known diseases may be relatively healthy, health is a holistic concept, which does not merely relate to the absence of disease or healthy organs, or having good thoughts, but health is a triune of three parts:

emotional, mental, and physical health, which cannot be separated from each other.

Because the mouth is the major gateway to the body, whatever affects the mouth (oral cavity) also affects general health. according to [Dilip \(2005\)](#), oral tissues are vulnerable to disease because of their intimate relationship with the external environment, and they are also subject to mechanical, chemical, and bacteria invasion. [Dilip](#) concluded that the mouth must be always healthy to prevent the occurrence of common oral diseases such as dental caries and periodontal disease.

COMMON ORAL DISEASES AND THEIR ETIOLOGIES

The most common oral diseases are dental caries and periodontal disease ([Akpata, 2004](#)). According to [Okoyo and Ekwueme \(2011\)](#), dental caries is a complex chronic oral disease and it is the most prevalent chronic disease in childhood. Caries is five times more common than asthma, and seven times more common than hay fever ([Sa'adu et al., 2012](#)). Dental caries is defined as "a localized, post-eruptive, pathological process of the external organ involving softening of the hard tooth tissue and proceeding to the formation of a cavity" ([WHO, 1962](#)). Dental caries proceeds from a microscopic lesion, which cannot be positively diagnosed by the present clinical methods, to a cavity that can be diagnosed by a clinical examination ([WHO, 1962](#)).

Caries is very common among children worldwide and it develops when bacteria stick to the surface of the tooth, forming plaque; when a person eats food containing simple sugar, the bacteria use this sugar for their own metabolic needs and produce acid as by-product; the acid demineralizes the enamel surface of the tooth, forming a cavity ([Levin, 2007](#)). The prevalence of this disease appears to be on the increase in urban communities than in rural communities ([Akpata, 2004](#)). [Akpata](#) explained further that the factors that increase an individual's risk of dental caries include: eating or drinking sweet and sticky food and drinks, poor oral hygiene, tobacco smoking, and dry mouth due to low level of saliva in their mouth. [Levin \(2007\)](#) explained that untreated caries in children may be painful and can affect diet, school attendance, and sleep. Likewise, an unresolved oral health problem can affect a child's speech and language as well as appearance, self-image, and even social functions.

Periodontal disease on the other hand can be defined as "disease or the pathological process of an inflammatory and degenerative type that involve the periodontium, they are clinically characterized as gingivitis, pocket formation, loss of alveolar bone and eventually tooth loss (WHO, 1962). In Nigeria, chronic periodontal disease is highly prevalent from the 1960s to date (Sofola, 2010). For instance, Enwonwu (1966) observed and reported the prevalence of destructive periodontal disease as evaluated by Russell's criteria to range between 15% in Northern Nigeria and 40% in Western Nigerians among persons aged 15-19 years. Akpata (2004) also reported that deep periodontal pockets occur in a relatively high proportion among young adolescents in Nigeria and its prevalence increases with age. The risk factors identified for periodontal disease include smoking, hormonal changes in girls/women, diabetes, medication, genetic susceptibility, and poor oral hygiene (Akpata, 2004).

ORAL HEALTH EDUCATION

Stillman-Lowe (n.d) defined oral health education as "any learning activity which aims to improve an individual's knowledge, attitudes and skills relevant to their oral health" Chidi (2005) opined that dental health education involves a variety of activities designed to facilitate the understanding of behavioral and environmental factors that will improve or protect oral health. This includes the dissemination of information to promote awareness and knowledge of oral health problems and self-care preventive measures. Everyone must have a right to be educated regarding the prevention of oral diseases; this can be achieved through school-based oral health education programmes with the assistance of dental health professionals (Stuart, 2013).

According to Chidi (2005), an oral health awareness programme aims to bring about a change in people's behavior and perception towards dental health in such a way as to help them give up those that are harmful and embrace practices that are conducive to good oral health. Although oral health is an integral part of professional responsibility, simply passing across information does not by itself lead to desirable action; personal involvement is necessary (Stuart, 2013); there are different methods of disseminating information, such as: through the mass media, one-to-one instruction and meeting with small groups; but small group and mass media approaches

should be used during an oral health education programme (Stuart, 2013).

During oral education, Rustvold (2012) advised that dental professionals must know that there are differences between technical problem (understanding the oral environment, adopting ideal toothbrushing patterns and flossing, and the rationale for cleaning) and adaptive challenges (multiple systems of beliefs, knowledge, motivation, and behavior that do not lend themselves easily to technical analysis) when encouraging people to take action. Rustvold further explained that technical problems can be solved with established knowledge and procedures; that is, if the information or a roadmap is given, the action can be taken, but, adaptive challenges on the other hand require innovation, new learning, and adoption of new patterns of behavior. Dental professionals must know that information by itself is not sufficient to bring about a behavior change, if this behavior requires that the individual goes beyond familiar patterns, beliefs, and understanding. As such, the principle of adaptive challenges must be strictly adhered to (Rustvold, 2012).

CONTENT OF ORAL HEALTH EDUCATION

The significance of oral health education lies in increasing people's knowledge about dental health-related matters and encouraging positive dental health behaviours that can permit complete normal and functional dentition; some of the necessary contents of a good dental health education programme as presented by Omale (2006) include:

- i. Providing basic information about the normal structure of the teeth and other structures as the oral cavity and the agents that cause oral diseases.
- ii. Nutrition and the role it plays in the maintenance of oral health structures and general health.
- iii. Different oral hygiene methods that are used in the cleaning of the teeth.
- iv. Using toothpaste that contains fluoride and the ideal tooth brushing technique.
- v. Increasing the resistance of tooth surface with the application of fluoride and fissure sealants
- vi. Various changes in the oral cavity due to hormonal changes and when suffering from systemic diseases such as diabetes, HIV/AIDS, etc.
- vii. Visiting the dental clinic, twice a year for routine check-up and

viii. The need to replace any tooth/teeth lost as a result of accident or disease, with a dental prosthetist, so that the space created will not become a stagnation area.

THE SIGNIFICANCE OF ORAL HEALTH EDUCATION IN MAINTAINING GOOD ORAL HEALTH: MARIA'S STORY

The significance of oral health education will be properly managed in this write-up, with a story told by Professor Martin Hobell of the Department of Community Health, University of Dublin. This story was documented in *African Health Journal* (1992) but was represented by Omale (2006). The story centered on Mary, who was born in 1975 in a small village in Mozambique. Maria developed a toothache and on close observation, her mother discovered a hole in one of her teeth. She grounded some 'local roots' into powder and put it into the "hole". Although this simple remedy worked for a short time, the pain soon recurs. The next attempt at cure involved blowing some smoke from lighted twigs across Maria's face. This treatment was followed by more headaches and Maria was taken to a new tooth doctor in Montepuez who gave her a series of painful antibiotic injections. The needle used for the administration of the injections was re-used and blunt. Maria then developed fever and the cause turned out to be osteomyelitis of the mandible. After an extensive period of antibiotic therapy and sequestra formation, the jaw and oral mucosa healed. A partial mandibular denture was constructed for her and she was sent to her village after the treatment.

This story came from one of the poorest areas in the world where resources for promoting and maintaining good oral health were limited. The predicament was lack of oral health awareness that made it impossible for Maria's mother to know what to do when she discovered a hole in her daughter's tooth. She also did not know where to get the appropriate dental treatment for her daughter because she did not know about the prevention and management of dental caries.

Just like the story presented above, many people in Nigeria have not given thought to the fact that oral health is one of Man's problems needing attention. This is because oral diseases are insidious in development (Akpata, 2004). Therefore, their symptoms are not easily noticed by those affected. The lack of public awareness

about oral disease and their preventive measures have contributed to the high incidence of the two major diseases experienced by both children and adults in Nigeria (Ogala, 2003; Omale, 2006).

According to Akpata (2004), and Omale (2006), oral health education is significant in maintaining good oral health in that:

- i) It creates awareness of the steps to be taken in preventing common oral diseases.
- ii) If eventually a disease or ailment has set in, the steps taken in managing it will be less complicated and will help in the quick recovery of the individual, unlike the case of Maria where a simple problem later became complex.
- iii) An individual becomes aware of the causes of dental disease and the right place to go for treatment.
- iv) An individual will be able to carry out effective plaque control measures such as brushing at least twice a day, avoiding intake of food containing refined carbohydrates, and regular flossing.
- v) It saves one from the pain that comes with dental disease and it helps prevent spending much money on the treatment of dental disease.

SUGGESTIONS

In line with the above-mentioned significance it is strongly suggested that:

- i) Oral health care should be incorporated into the existing primary health care system in Nigeria. Where there is a shortage of manpower, Community Health Workers should be trained to render routine dental services in rural areas.
- ii) The Federal government should endeavor to post dental professionals to the 774 local government areas in Nigeria, where people can have access to dental professionals, for dental treatments.
- iii) The federal ministry of education should include oral health education in the existing school curriculum from primary to secondary level. This will go a long way in creating the needed oral health awareness in schools.
- iv) Dental therapists should be encouraged to carry out regular oral health talks at schools, communities, and hospitals in Nigeria.

- v) Dental health education, especially in rural communities, should be in local languages so that the people will understand the information being passed on to them.
- vi) During oral health education, emphasis should be placed more on preventive rather than curative measures.
- vii) People should be encouraged to visit dental clinics always for routine dental check-up.
- viii) Oral health awareness can also be created on the news (radio, television) and print media (newspaper) so that the general populace can have access to it.

CONCLUSION

The Holy Bible explained that people die due to a lack of knowledge. Similarly, most dental diseases or problems worldwide are preventable if adequate awareness is created about them, when one is aware of the impending dangers of accumulated dental plaque on the tooth surface in a refined sugar medium, they are likely to avert the consequences of suffering from common dental diseases such as dental caries and periodontal disease. In the context of the World Health Organization's declaration that health should be for all by the year 2000 and beyond, creating oral health awareness in Nigeria seems to be the solution to the oral health needs of the people, especially in the rural and urban communities. The information provided during oral health awareness programmes should help to prevent dental diseases and promote the general health of an individual.

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