A SURVEY OF MELGHAT REGION (DHARNI) WITH SPECIAL REFERENCE TO MALNOURISHED CHILDREN AND THEIR ORAL HEALTH

T. G. Deshmukh
P.G. Dept. of Zoology
S.S.S.K.R. Innani Mahavidyalaya, Karanja Lad Dist. Washim (M.S.), India

ABSTRACT

The pediatric dental survey with reference to malnutrition & primary teeth with caries because of different nutrition level was conducted in Melghat region specially among Korku tribe, involving 60 children from three different villages in different malnutrional stages, aged 4-10 yrs. including in this study. Out of 60 children (both boys & girls) near about 24% (~24%) children were chronically or acutely malnourishment with dental caries & 76% (~76%) of children were malnourished but did not having dental problem. Children in this age group (i.e. 4-10yrs.) showed higher % of carious teeth (14&24%) in comparison with other malnourished children (46&76%) or from same age group normal children. Nutritional dedicate that list to malnutrition affects the tooth formation & also the caries attack later in life.

Keywords: *Malnutrition, Dental caries, primary teeth, enamel, hypoplasia, periodontal diseases (PDS).*

Introduction

India is the home to greatest population of severely malnutrition children in the world. Children malnutrition is massive crisis caused by a combination of factors including inadequate or improper food intake, child hood diseases, harmful childcare practices & improper care during illness. All contributed poor health & millions of death annually. India's independence in 1947 but still more than half of all children under the age four are malnourished, 30% of newborns are significantly underweight & 60% women are anemic.

The children of India are malnourished because of factors attributed to overpopulation, poverty, large family size poor maternal health, adverse cultural practices, destruction of the environment lack of education, gender inequality & inaccessible medical care. Poverty is the major cause of the malnourishment because it limits the amount of food available to children. It is even seen as greatest epidemic in the developing countries as there are no adequate food supplies. However, very few people knows that malnutrition can occur by both under nutrition & over nutrition. Early childhood caries i.e. presence of at least one primary food affected by caries in children under 6 year of age. Nutritional stress during prenatal development may also affect the integrity of developing primary tooth enamel thus limiting the ability of tooth to resist bacterial invasion.

Episode of malnutrition & deficiency during enamel formation can predispose teeth to enamel hypoplasia (Schroth 2005). Saliva, diet & nutrition play very significant role in the formation & maturation of dental plaque. Depleted nutritional reserve in the tissue are associated with the lowering of immunity, progressive damage to mucosa as well as diminished resistance to colonized & invasion by pathogens (Cyril Enwonwu,1995).Protein Energy Malnutrition imposed on rat dams during lactation increased the acid solubility of rat, deficiency of vitamin A during tooth development with dentine formation & increased caries in rat (Aponte Mersed &

Navia,1997).

This report, examine the contribution malnutrition to the biological gradient & natural history of periodontal infection. An important underlying assumption of this revive is that depression that occur in malnutrition promote the vulnerability of periodontium to inflammatory stimuli.

All data were analyzed using standard statistical analysis. The Korku posses poor asset, merge resources & petty means of livelihood, small hilly fragmented infertile land holding devoid of irrigation facilities are the basic assets. The forest, which are main source of their food & fodder.

Korku : Korku constitute the first largest tribal group of Melghat. Total number 14,77,086 people living in Dharni tq. among 72% are Korku. They live in interior part of area of Melghat (Maharashtra & Madhya-pradesh) in the forest of Satpuda Hills in M.S. In these children caries would develop later in life as direct consequence of primary teeth.

Method & Material

A pediatric dental survey was conducted in some villages of Melghat area specially among the malnourished children of Korku tribe. Near about 60 children, which are placed in different malnutrition stages from three different villages, aged 4-10 years was included in this study. They were observed from three different villages which are nearer from Dharni (Melghat).

All these children belong to the same community i.e. Korku (*scheduled tribe*). The present study deals with the oral behavior among Korku, a tribe community of Vidarbha. Who have been discriminated & marginalized due to several historical, cultural & socio-economic reasons. The field-work for study was conducted between (2009-10) in this academic year. The nutritional status was classified as Gomez classification (weight for age).

$$\text{Wt. for age} = \frac{\text{Wt. of child}}{\text{Wt. of normal child}} * 100$$

The dental problems included are dental caries periodontal disease, stains etc. The data were collected through range of method, including personal narration, household surveys, conversation. Observation & interviews with the help of schedules in selected villages. Oral examinations were conducted at morning time using mirror, explorer & direct sunlight. Mentioning like oral diseases is product of environmental & behavioral factors & in relation with the malnutrition.

Observation & Result

In our present study, malnutrition was occurred from first year of life when the milk teeth are in growing condition but we are taken the age group between the 4-10 years, in which also delay in the tooth formation. In the some cases the teeth are not to grown in year of 3-4.

The children which are in different stages of the malnutrition observed from three villages, that are Baspani, Tingrya & Kharya.

Sr.No.	Village Name	Boys	Girls	Total
1	Baspani	14	06	20
2	TIngrya	12	08	20
3	Kharya	13	07	20

Near about 60 children from three distinct villages were observed. We were taken proper guidance from the doctor for illustration of tooth caries. We observed that not all children having tooth problem though they are in

malnourished condition. Out of 60 children, 20 children from Baspani (which are placed in their different grades of malnourished condition). Out of 20 malnourished children,in which 14 boys & 06 girls were observed there. In which 03 boys & only girl were infected by teeth problem. Where as in Tingrya out of 20 children 12 and 08 were boys and girls restively. In boys 04 were infected while in girls 02 were infected with tooth caries. Likewise in Kharya out of 20 children 13 boys and 07 girls were observed, among them 02 boys & 02 girls were infected with their teeth problem. Which are given in following table,

Sr.No	Village Name	Boys		Girls	
		Malnourished but with normal tooth	Malnourished but with tooth problem	Malnourished but with normal tooth	Malnourished but with tooth problem
1	Baspani	11	03	05	01
2	Tingrya	08	04	06	02
3	Kharya	11	02	05	02
4	Total	30	09	16	05

All these observation were taken by us from these three villages. The data shows that the maximum boys are infected in comparison with girls. Which shows in the pie diagram & in the histogram from the specialized software used in statistical analysis.

Discussion

The result demonstrated a significant association between malnutrition, dental health & environmental cues, when compared with well nourished control.

Korku (*tribe*) is the community living in the interior part of forest & have no contact with cities. Hence they did not get the facilities such as education, transportation, communication & food supply. Due to their illiteracy & poverty, they did not get nutritious food in their meal as well as they did not get primary health facilities. This study clearly indicates that the eruption of primary teeth was delayed by malnutrition. The nutritional injury having greater impact when the primary teeth are formed (Alvarez & Novia,1989).

An impotant feature of this project is that the degranulation & depression that occur in malnutrition promotes the vulnerability of permanent teeth formation. Among the children that we taken of all ages, 80% were chronically malnourished where 20% were acutely malnourished. This distribution was quietly typical for children above 4 years of the age living in the rural area. Diet, nutrition, & saliva play significant role in formation of teeth. the activity of bacteria-agglutinated glycoprotein in saliva is decreased in malnutrition & this promotes enhanced formation of dental distortion. Anaerobic micro organisms most fequenty isolated from malnourished child are *Prevotella melaninogenicus, Porphyromonas gingivilis, Prevotella oralis, Prevotella ruminicola, Fucobacterium spp*. (Dr. Nwouku et.al.1997). A malnourished child shows significant reduction in saliva contents of several proteins.

Nutritional factors acts as two main levels, namely, they influences synthesis & release of micro-organism & they affect the direct & indirect action of micro-organism on the target tissue as well as influences the subsequent

responses of these tissue. PEM markedly reduces the ability to produce micro-organism. Prominent reduction in production & activity are also noted in vitamin A deficiency.(Jse O Aalvarez et.al 1987).

Conclusion

From our study & the literature we observed & studied, it can be concluded that there is significant association between malnutrition, & oral health & the main cause for that are poverty, unavailability of nutritious diet, poor hygiene, environmental reasons, illiteracy & deficiency of many other facilities as these villages are in remote areas of forest.

References

Al-Haddad, A. M. (June 2006), Distribution of dental caries among primary school, children in Al-Mukalla Area, Yemen .

Enwonwu, C. O. (1995), Interface of malnutrition & perio dontal diseases.

Grawl, H. (1995-96), Oral Health Promotion through healthy dietary practices in school children.

Shelton, H. (1991), The true causes of tooth decay .

Alvarez, J. O. et. al. , Chronic malnutrition, dental caries, & tooth exfoliation in Peruvian children aged 3-9 years.

Messer, L.B. (1998), Assessing caries risk in children.

Jones, P. C. Richardson, B. D. (2000-01), Nutritional status & dental caries large sample of 4 & 5 year old South African children.

Schroth, R. J. et .al. (1994), North America tooth caries Among the children in Manitoba community.

Singh, R. & Singh, P. (2008), A study on high mortality of children in Melghat Region of Amravati (M.S.).

Laloo, R. et.al. (1999), Dental caries status of 5-7 year children in three district in Tanzania, Uganda & Monzabique.

Rao, S.P. & Bharambe, M.S. (1993), Dental caries & periodontal diseases among tribal school children.

Bhsin, V. (2004), In India's state of Rajsthan study on oral health.

Psoter, W. J. et.al. (1999), Effect of childhood malnutrition on salivary flow & PH.