

DENTAL CARIES STATUS AMONG SCHOOL CHILDREN OF TIMAL AREA IN KAVRE.

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ABSTRACT

This study was conducted in order to determine the prevalence of dental caries and the treatment needs of a sample population of primary school children in Timal area in Kavre. The study is also aimed towards describing the oral health care system and the need of bringing dentistry closer to these children.

In age groups up to 5 years, it was found that 80% of the male and 40% female suffered from untreated dental caries. In age groups between 6-10 years; 75.6% of the males and 74.4% of the females suffered from dental caries. 55.36% of males and 51.87% of females in age groups suffered from dental caries. Untreated dental caries in these children was 100%.

Although this study has not clinically recorded the periodontal health of these children; on clinical examination, gingivitis was seen to affect most of these children.

Oral health is an indicator of general health. The health care system of Nepal, the NGOs, INGOs dental and medical colleges all need to make collaborative efforts in order to reduce oral health inequalities in Nepal. Along with development of workforce; allocation of resources to suit the expressed needs of Nepalese people is what our country needs to focus.

School children are potential priority target group for preventive programmes and adoption of common risk factor approach would be beneficial.

Key words: dental caries, prevalence, treatment need

INTRODUCTION

Poverty is the world's biggest killer.¹ With a Gross Domestic Product (GDP) per capita of US\$260, Nepal is the poorest country in South Asia and the twelfth poorest country in the world. Nepal has a population of 27.1 million and 31% of the

population is living below the national poverty line.²

In low income countries, dental caries is the most prevalent dental diseases and is a major public health problem.³ While the prevalence of dental caries in children in the developed world is reported

to be decreasing; ⁴ there is no doubt that the children in Nepal have higher rates of dental caries. The social and health impact of oral diseases in children are substantial. However, oral health in the developing countries where people are most affected remains neglected and access to oral health care is limited. This is an “inverse care law”

Timal Besi as the name suggests living place of Tamang Community. Timal Besi is only 26km away from Dhulikhel, the Headquarter of Kavrepalanchowk District- the second largest District of Nepal in Area. Thuloparcel looked miles away from Dhulikhel in terms of development with no proper access to roads and no electricity at this age. The other means of reaching Thuloparcel is road from Bhakundebesi to Chapakhori via Narayansthan and Mechche, than from Chapakhori to Thuloparcel, is an hour walk.

Rural health care can be characterized as having inadequate infrastructures, high prevalence rates for chronic disease and disability, socioeconomic hardships, and physical barriers such as distance and lack of transportation.⁴ Studies have also reported that children from ethnic minority groups and low socio-economic backgrounds in the developed nations also have high levels of dental disease.⁵

In the 2004 National Pathfinder survey conducted in Nepal, it was reported that dental caries in the deciduous dentition, especially in young children attending urban schools, is still above recommended targets, which makes dental caries one of the most prevalent childhood diseases in Nepal. The study also reported untreated dental caries which eventually lead to pain and loss of teeth. Untreated dental caries has an impact on the quality of life of the school children and also adult population. Amongst adolescent schoolchildren, the most

frequent reported impact of pain and discomfort was the inability to eat, followed by the inability to speak.⁶

As reported by the ministry of health; malnutrition affects 53% of the child population and Vitamin A deficiency 58% of these children in Nepal.⁷ Disease such as dental caries which is so widely spread in these age groups and in rural areas are around 99% of it remains untreated. The dental caries in temporary dentition also reflect the caries pattern in permanent dentition at later stages.

Treating dental caries and other oral diseases is far more expensive than prevention. Although in Nepal, the DMFT of 6 and 12 years old falls in low to very low, the prevalence of untreated dental caries is high. Using silver amalgam to restore the teeth of child population between 6 to 18 years would cost between US\$ 1618 to US\$ 3513 for 1000 children. The expenses cannot be met by low income nations.⁸ There is no doubt that the government of Nepal will ever be able to meet with this expenses. So policymakers, the government and various stake holders need to adopt the principles of Ottawa Charter to support the strategy for oral health promotion by building healthy public policy, reorientation of health services, strengthen community action, create supportive environment and develop personal skills.⁹

MATERIALS AND METHODS

This is a cross sectional survey of schoolchildren up to 14 years of age in Thuleparsel VDC in Timal area.³ Government Schools were chosen in the Thuloparcel Village District Committee of Timal Besi, Kavrepalanchowk A total of 341 school children were clinically examined.

The letter of acceptance and support from the

school administrative authorities, local community people and parents was taken prior to the commencement of the program. The children were clinically examined using mouth mirror and explorers. The examination took place under natural light in well ventilated classroom settings. The criteria for decayed teeth will be in accordance to

the WHO criteria for decayed teeth. Early lesions were not considered as decay.

All clinical examination was done using protective wears like disposable gloves and masks. The examination forms were brought back to the dental school and data analysis was done.

RESULTS

Table 1: Percentage of children below 5 years of age affected by dental caries.

Age in years	Gender	Number of subjects	% affected by caries	Mean overall dmft
0-5	Male	15	80	2.46
	Female	15	40	

Table 2: Percentage of children between 6-10 years of age affected by dental caries

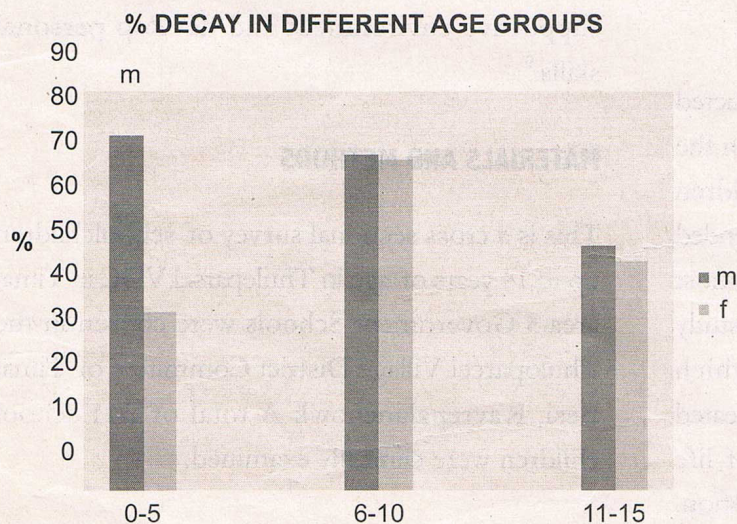
Age in years	Gender	Number of subjects	% affected by dental caries	Mean overall DMFT (dmft)
6-10	Male	90	75.6	2.81
	Female	82	74.4	

Table 3: Percentage of children between 11-14 years of age affected by dental caries

Age in years	Gender	Number of subjects	% affected by dental caries	Mean overall DMFT
11-14	Male	56	55.36	1.46
	Female	83	51.87	

Figure 1:

Summary of subjects affected by dental caries in different age groups.



The overall proportion of children with dental caries was 64.8%

The results also showed that all these children suffering from tooth decay had 100% untreated dental caries. On clinical examination the children also showed signs of gingivitis But it was not recorded. some of the children were found to have

Chronic peripical abscess related to decayed tooth,

DISCUSSION

Although more colleges are emerging and many more dental surgeons being produced by the colleges here and abroad, there are minimal dentist in the health posts and sub health posts in the rural areas. The government needs to make strategies that can address the oral health problems of Nepal. Allocation of resources rather than the production of more workforces who ultimately serve the urban and the much affluent part of Nepal is important. A lack of community oriented oral health programs is also seen in Nepal. According to Alma-Ata health conference held in the then USSR in 1978, World Health Organization (WHO) has adopted a goal of "Health for all by the year 2000 A.D." One of the measures of success for achieving PHC is the provision of health care to all people. Being signatory to Alma Ata Health Conference although Nepal has pledged to meet the PHC to the people, it still remains only a dream for most Nepalese people. There is no primary healthcare approach for dentistry in Nepal. As reported in this study though it has its own limitations; many disadvantaged communities in Nepal are left without any basic oral health care services.

For countries like Nepal with a low gross domestic product ART along with oral health education should be given to the children as a preventive measure. The World Health Organization actively promotes Atraumatic Restorative Treatment as a viable approach to meet the need for treatment of dental caries.

The cost-effectiveness of Atraumatic restorative treatment also has been established, considering costs of equipment, materials, and wages. Atraumatic restorative treatment is currently used in 25 countries and is part of regular training programs for oral personnel in at least 3 countries. In Nepal, the cost of restoring one carious tooth with an amalgam filling would be Rs. 300- 350. (app. US\$ 5). The money is rather used for basic living purposes for most families in Nepal and

restoring teeth would simply be out of question for the economically marginalized families.

Schools provide an important setting for providing oral health education and oral healthcare services. Children spend most of their time in school and teachers play a very influential role in motivating these children in adopting good health behaviors. WHO launched the Global school oral health initiative program in 1995 with the goal of improving the health of students, families and communities. In Nepal, the promotion of health through schools is a recent initiative. School children are a potential target groups for preventive programs.

CONCLUSION

The school children fall short of the WHO global goal of having 50% of all 5-6 years old caries free by the year 2000. 100% of the carious teeth were left untreated. This will eventually lead to pain and then loss of teeth. At this rate, the global goals will never be met for developing countries like Nepal in such socioeconomically marginalized children.

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