

## Oral Health Behaviour Among Bhils of Rajasthan

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### INTRODUCTION

Methodical daily cleaning assist in maintaining healthy teeth. It dislodges bacterial plaque around teeth. Every culture has its own concepts of health, sickness and health promotion depicting values, beliefs, knowledge and practices shared by its people. Alike all health problems, dental and oral diseases are a product of economic, social, cultural, environmental and behavioral factors.

Poor hygiene, poor nutrition and smoking contribute to dental and oral problems. In such matters learned behaviour (individual or collective) is of utmost importance, which in turn is linked to environmental and socio-economic conditions. Studies have shown that health behavior is far removed from illness behavior and sick- role behaviour (Kash and Cobb, 1966). Health behavior includes all activities undertaken individually or collectively for the purpose of prevention of diseases. Studies have been carried which point out the circumstances under which and why individuals health behavior shift towards prevention measures (Kirsch, 1983). The earlier studies were carried within frame work of the health belief model, a paradigm for explaining promotive health behavior at the level of individual decision making (Becker, 1974; Mikhail, 1981).

### PRESENT STUDY

The present study deals with the oral behaviour among Bhils, a tribal community of Rajasthan who have been discriminated and marginalized due to several historical, cultural and socio-economic reasons. The fieldwork for study was conducted between 1997-1998. The data were collected through range of methods, including personal narrations, household surveys, conversations, observations, observation and interviews with the help of schedules in the selected villages. This report forms part of a much larger study, "Human Settlements, Human Activities and Health Among Tribals of Rajasthan". During the course of study, 200 Bhil families from villages in Jhadol and Kotra tehsils in Udaipur district have been studied. The

data comprise men, women and children in all age groups. Their educational levels, economic condition and exposure to media were taken in to account. Help of dentist was taken in order to know about the deficiency diseases and dental problems. As already mentioned like all other health problems, dental and oral diseases are product of economic, social, cultural, environmental and behavioral factors. Owing to the nature of the socio-historical factors, Bhils occupy distinct, and unequal position with regard to their access to material resources, knowledge base and social conditions existing in the society. Amenities and services are largely available in the region, as are a host of private health and education facilities. However tribal villages remain at the periphery and are devoid of these facilities. The ecological conditions in the area dictate many aspects of traditional life; especially settlement and disease pattern. The Bhils possess poor assets, meager resources and petty means of livelihood. Small, hilly fragmented infertile landholdings devoid of irrigation facilities are the basic assets. The forests, which were main source of their food, fodder and fuel are rapidly depleting.

### THE BHILS

Bhils constitute the third largest tribal group of India, next to the Gonds and the Santhals. The 1981 census gives a total number of 1,862,502 Bhils in Rajasthan; they constitute 44.50 per cent of the total population of Scheduled Tribes. They live at the borders of Rajasthan, Gujarat, Maharashtra and Madhya Pradesh, in the forests of Vindhya and Satpura Hills in Rajasthan, the Bhils form 39 per cent of the Rajasthan's tribal population and inhabit mainly the southern district of Rajasthan. Their stronghold is in Banswara followed by Dungarpur, Udaipur and Chittorgarh.

Bhil villages that form the part of this study are from Jhadol and Kotra tehsils of Udaipur district. The Udaipur district is located between latitude 23°46' to 26° 2' N and latitudes 73° 0 to 74° 35' E. The southern part of the district is mostly covered with rocks, hills and fairly dense forest. The western part of the district, better known as the Hilly Tract of Mewar, is composed of

Aravalli range. Only 37 per cent of the district area is available for cultivation. The slopes are covered with forests, stones and jungles supporting big game.

Jhadol is situated 58 km. south west of Udaipur city and has the sub-divisional office, tehsil and Panchayat Samiti of the same name. The place has facilities like a post and telegraph office, a telephone public call office, a P.W.D. bungalow, a primary health center, a dispensary, a veterinary hospital and a post-basic higher secondary school (private). Jhadol is rich in asbestos and calcite deposits.

Kotra is situated 120 km in northwest of Udaipur city, amidst a valley near the confluence of the Wakal and Sabarmati rivers. The adjacent area is the hilliest tract of the district. It is located 73°44' longitude and 24°22' latitude and is the headquarter of the tehsil and the panchayat samiti of the same name.

Jhadol and Kotra are backward tehsils having all the three backward productive sectors (agriculture, general industries and small-scale industries). Significant portion of their geographical area is under forest and uncultivable land leaving a small percentage for cultivation. Physio-climatic conditions have led to poor economic and social infra structural facilities. Lack of infra structural facilities hinder the growth of Productive sectors. If proper infrastructure is provided, the region can attract entrepreneurs and capitol to exploit natural resources available in the region and develop industrial sector.

In Kotra and Jhadol tehsils, Bhil settlements are scattered over a large area in the thickness of hills and forests. The houses are mostly located amidst fields. Clusters of two to three Bhil houses are quite common as a married son often establishes his house next to his father and a few such clusters form a *phala* or *phalia*. The Bhils were shifting cultivators. In the 19<sup>th</sup> century, the British government put an end to slash-and-burn cultivation. Shifting cultivation involves a lot of displacement. The settlements were not stable on the one hand, and people tend to live in small groups of a few families. Shifting cultivation had a centrifugal effect on the distribution of settlements and the Bhils are still sticking to that arrangement. Bhils seem to be averse to any form of centralization. Land is divided immediately after the wedding of a son. The economy of the Bhils is based on small units and the whole social structure is reflected in their housing pattern.

Forest, land and human labour are principal economic resources of the Bhils. The Bhils undertake various economic activities. They have covered a long journey from subsistence economy to a competitive economy, from isolation to involvement in the local mainstream and from lawlessness to a law-abiding community.

Different spirits, gods, goddesses, deities, worship, fear, awe, reverence etc represent the religious sphere of Bhils. Images of some of these super naturals are housed in small structures, and other religious structures are open to sky. The Bhils believe in witchcraft, once identified, the witches meet a severe treatment. It is believed that the witches cause sickness with the help of spirits. The traditional religious beliefs of the Bhils have been largely influenced and modified by the impact of Hindu sects. In many areas, Bhagat movement that includes worshipping of Hindu gods, taking vegetarian food, abhorring liquor and adopting a new pattern of life, has modified the religious field of Bhils. It is a socio-religious renaissance among the Bhils.

Majority of the Bhils have no idea about causation and prevention of diseases. The belief in the interference of a supernatural agency is strong in the context of health and disease. Bhils of Rajasthan believe that sickness is caused by social offences against dead or living or celestial world. Natural forces are responsible for minor ailments like cuts, bruises, and burns. Similarly they classify some diseases like colds, fevers and other respiratory infections as illnesses of cold (*sardi ki bimariyan*); and problems like boils, ulcers, piles, genito-urinary disorders are believed to be the illnesses of heat (*garmi ki bimariyan*). These illnesses are supposedly caused by excessive internal cold or heat in the body respectively. This heat or cold does not correspond to body temperature but rather to internal humoral state. Treatment of such illnesses is always accompanied by dietary modifications. The Bhils differentiate between food having hot (*garam*) and cold (*thanda*) traits. *Tendu, Mahua, Bajra* and jaggery produce heat in the body whereas grams, wheat, milk of goat and cow and Beri have a cooling effect. In case of illnesses caused by cold, foodstuffs producing 'hot' effect are increased in diet and foodstuffs having 'cold' effect are prohibited and opposite scheme are followed in case of illnesses caused by internal heat. In case of fever (*taap*) during hot weather a Bhil would eat *Bicchhan* that is made by mixing

powered *beri* in water with little salt and sugar. The binary classification of 'hot' and 'cold' refers to an ecological premise (Zimmerman, 1987) which is the basis of Ayurvedic medicine as well.

Different spirits and deities are allegedly linked with diverse types of diseases. All deities have their own respective departments and areas of influence. However, they have started to realize the efficacy of scientific methods of treatments and prevention as evident by the number of tribals who avail the services of biomedical practitioners.

Dental caries is one of the most common oral health problems among Bhils. Like caries; the frequency of periodontal disease of the oral cavity is high. Periodontal disease is disease of teeth itself and it afflicts the supporting structure of the teeth, especially the gingival, the alveolar bone, the periodontal ligament and the cementum. These four structures constitute a single functional unit called the periodontium, which is responsible for the healthy maintenance of the tooth in its alveolus. Diseases in the tooth are characterized by modifications in the colour, bleeding, puffiness, friability and ulceration or sloughing of the gums.

Dental diseases are caused by malnutrition, unhygienic habits, bacterial infections, and betel chewing, smoking and chewing of tobacco. The negligence of oral hygiene assists in the accumulation of dental plaque that produces anaerobic organisms, which cause inflammation. Inflammatory conditions spread to deeper structures of the periodontium and finally lead to exfoliation of teeth.

#### NUTRITION AND DENTAL HEALTH

Linkages of nutrition and dental health are well known. People suffering from malnutrition may fall an easy prey to intercurrent ailments. In addition to diseases directly attributable to malnutrition, it is now known that it aggravates the clinical course of many diseases. Malnutrition often appears in combination, such as protein-energy malnutrition and deficiencies in micronutrients. The symptoms and clinical manifestations of nutritional deficiencies in oral diseases are glossitis (inflammation of tongue) vitamin B deficiency; mottled enamel (marked with patches or spots of a different shade); angular stomatitis (inflammation at the corner of the mouth), vitamin B deficiency; and spongy to bleeding gums. As a consequence of dietary

deficiency, several nutritional deficiencies with clinical manifestations are encountered among Bhils, namely, protein-calorie malnutrition, vitamin A deficiency, iron deficiency and vitamin B2 deficiency. The major nutritional deficiency diseases among Bhils are bleeding and spongy gums (vitamin A deficiency); mottled enamel, characteristic of fluorosis (a chronic condition caused by excessive intake of fluorine compounds); and angular stomatitis, vitamin B2 deficiency.

The traditional tribal diet comes from unrefined cereals, such as maize, *jawar*, *bajra*. The staple food of Bhils of Rajasthan is *roti* (home made bread) of maize/*jawar* or *bajra* and boiled *dal* (pulse) or salt and chillies. Despite the fact that large numbers of vegetables are grown in the house garden of Bhils, these are not consumed by them, but are sold out in the nearby *haat*. Onion and buttermilk also form part of the diet. Fat content is less in their diet. From the field data it was calculated that their fats and oil intake of the household per consumption unit was 6.9 against RDA (Recommended Dietary Allowance) of 40. Apart from this the intake of foods like pulses, leafy and green vegetables, fruit, milk and milk-products is inadequate to overcome individual needs resulting in major nutritional deficiencies of vitamin A, vitamin B and protein. Diet of the Bhils is influenced by local conditions, religious customs and beliefs.

#### DENTAL CARE BY BHILS

Traditional methods and techniques of dental care among Bhils:

1. For cleaning teeth
  - (a) Bhils use baked clay from the earth.
  - (b) Bhils use twigs of *rattan jot* (*Jatropha curcas* and *Jatropha gossipifolia*) as tooth brush.
  - (c) Bhils use twigs of *Jhatbor* (*Ziziphus nummularia*) as tooth brush.
2. For loose teeth
  - (a) Bhil locally apply latex of *tuar* (*Euphorbia neriiifolia*) with cotton.
3. For teeth and jaw aches
  - (a) Bhil chew roots of *kanthar* (*Capparis sepiaria*);
  - (b) crushed paste of roots of *rattan-jot* is locally applied;
  - (c) leaves of *rattan-jot* are chewed in case of jaw ache;
  - (d) in case of toothache Bhils brush their

teeth with roots of *chltravar* (*Plumbago zeylanica*);

- (e) in case of jaw ache Bhils chew seeds of *Gulari* as well as inhale vapours of fumigated *Gulari* (*Solanum surattenc*) seeds;
  - (f) For toothache (*dant-me-dard*) they chew the stem of *bajdanti*, a shrub which grows in the river in the month of *Chait*. If a person is unable to chew the stick, it is rubbed on a stone and the liquid is applied.
  - (g) In case of toothache they apply clove oil (*laung ka tel*) or the juice of the leaves of the climbing bean (*sem-ki-phalli ke pat-ton ka ras*).
4. For tooth decay
- (a) twigs of *rattan jot* (*Jatropha curcas* & *Jatropha gossipifolia*) are used as tooth brush;
  - (b) for prevention of dental decay and disease Bhils chew roots of and selected twigs are used as tooth brush.
5. For swelling of gums
- (a) they wash their mouth with solution of *chilbaitha* fruit (*masuda phoolna*) boiled in water. They also use solution of bark of *kachnar* tree boiled in water as mouth-wash.
6. For dental caries
- they use gum of the *babool* (*Acacia nilotica*) to fill the cavity.
7. For relieving pain
- they burn the crust of a coconut and a plate is inverted on it to collect heat and smoke in a boll of cotton. This cotton is placed in cavity for relieving pain.

#### OUTCOME AND ARGUMENT

The findings from this study indicated that there are no traditional or advanced/ improved methods of oral hygiene as such which form a part of tribe's health behavior for the maintenance of oral health and prevention of oral diseases. They do not brush their teeth. They clean their teeth with mouthful of water (*kulla karna*). They are in habit of smoking *bidis*, *chillum* and chewing tobacco and *paan* (beetle), which leave their teeth stained with a yellow tinge. Other castes and communities residing in the neighbourhood use *Neem* twigs to clean their teeth except tribals. Only during dental problems, they use some herbs to clean their teeth.

The data showed a gender difference in

prevalence of dental disease with males exhibiting a higher incidence of the disease than the females. However these gender differences are not statistically significant. Soft deposits and bleeding gums occur among most of the Bhils than the more severe expression of the disease. Income variation, which may partly reflect nutritional status, does not appear to influence the distribution of dental disease among Bhils. Majority of the Bhil households (88%) having mixed economy at subsistence level were in the low-income slab of Rs.10, 000 per annum. The Bhils in the study area are residing in the 'poverty square' of India, measured according to four indicators, infant mortality, female literacy, number below poverty line and per capita net domestic product (Bhasin, 2003). The Bhils in the study area are small landholders, tenants and landless labourers, who fulfill their subsistence requirements of fuel and fodder from Common Property Resources (CPR). With no permanent irrigation facilities, the Bhils do not depend on agriculture alone. They practice mixed economy wherein they undertake gathering, collecting, subsidiary agriculture and labour activities. The Bhil households mix these resources and activities across a given year according to seasonal fluctuations.

The state of literacy in the study area continues to be poor. 87.4 percent of males and 100 percent of females are illiterate. Of the remaining 12.6 percent male Bhils 5.1 percent are primary educated, 7.1 percent have attained education up to middle class and only one male is high school passed. The educational level affects nutritional status in various ways, such as by the number, quality, and relevance of technical training establishments, as well as the existence or non-existence, of schools and their involvement with nutrition education (Jelliffe and Jelliffe, 1982). Tribals, especially in the lower income group, lack awareness regarding the type of foodstuffs required to meet the dietary requirements. The educational level also have an effect on behavioral pattern regarding dental care and its overall result on health. Bhils are fond of dressing up and decorating themselves but lack that zeal about dental health. Joshi (1995) has described plants used in personal decoration and adornment among the tribals of Rajasthan. However, it does not mention any thing about mouth or oral care. Traditional methods of dental and oral care are used by some tribals but advanced and improved methods though available nearby are not part of everyday life. This is so because children follow

the ways of their parents and care of teeth has not been one of traits of beauty among Bhils. Traditional methods and techniques of dental care among Bhils for plaque removal, loose teeth, teeth and jaw aches, decay and diseases are being used since long as these are easily available and inexpensive. Actually use of modern oral hygiene methods have not been introduced and promoted in the educational programme of adults. No orientation courses have been introduced for the parents, who in turn will educate their children. The life style of the Bhils have, from birth been guided by their cultural beliefs, customs and values. Care of the teeth is not incorporated in beauty care and traditional methods of beauty care (cosmetics, perfumes, hair care, complexion care and tattooing) do not include anything related to oral care.

Population studies of the prevalence of periodontal disease and dental caries are an essential prerequisite for understanding the epidemiology and etiology. The published literature on these diseases in India is very little, hitherto crucial to the establishment of prevention and treatment programmes. Few studies have been carried about the periodontal diseases (Rami Reddy et al., 1992). Fundamental epidemiological and anthropological research is mandatory for public well-being and for the government to take effectual steps in combating these diseases. Awareness about the oral health problems should be raised through health education. Health education can be effectively incorporated in NGO-led development programmes in promoting the prevention of diseases and dental care can very well form the part of this. Development of the dental clinics and infrastructure to impart education about oral hygiene and dental care should form part of the health policy.

#### NOTE

1. *Rattan-jot* is not only anti microbial but also cleans the mouth of fungus infection following

malarial attack.

**KEYWORDS** Health care; dentition; environment; tribal

**ABSTRACT** The present study deals with the oral behaviour among Bhils, a tribal community of Rajasthan. The findings from this study indicated that there are no traditional or advanced/ improved methods of oral hygiene as such which form a part of tribe's health behavior for the maintenance of oral health and prevention of oral diseases. Health education can be effectively incorporated in NGO-led development programmes in promoting the prevention of diseases and dental care can very well form the part of this. Development of the dental clinics and infrastructure to impart education about oral hygiene and dental care should form part of the health policy.

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