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# Determinants of Health Among the Sarania Kacharis of Baksa and Odalguri (BTAD) Districts, Assam(India): A Synopsis

Sarat Chandra Bhuyan

Assistant professor, Deptt. of Anthropology, M.C.College, Barpeta, Assam(India)

**ABSTRACT:** Health is the only keynote to success in life. The term 'Health' is viewed differently by different scholars all over the world. Health is a multi-factorial entity and a host of determinants, background characteristics and public policies interact in a largely unknown fashion to determine health levels of community. WHO defines health as, "the state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity". Whether people are healthy or not, is determined by their circumstances and environment. The range of personal, social, economic and environmental factors that influence health status are known as determinants of health. The present paper attempts to determine the various factors operating among the Sarania Kacharis of Baksa and Odalguri districts of Assam which evaluates their health status.

**Key Words:** Health, multi-factorial entity, determinants, wellbeing, infirmity, environment.

## INTRODUCTION

Many factors combine together to affect the health of individuals and communities. To a large extent, factors such as where we live, the state of our environment, genetics, our income and education level, and our relationships with friends and family all have considerable impacts on health, whereas the more commonly considered factors such as access and use of health care services often have less of an impact (WHO, 2014).

"Health determinants predict the incidence of disease but do not specify the mechanism of disease causation" (Health Determinants, 2014).

The determinants of health include

- The social and economic environment.
- The physical environment and
- The person's individual characteristics and behaviours
- Income and social status – higher income and social status are linked to better health. The greater the gap between the richest and poorest people, the greater the differences in health.
- Education – low education levels are linked with poor health, more stress and lower self-confidence.

- Physical environment – safe water and clean air, healthy workplaces, safe houses, communities and roads all contribute to good health. Employment and working conditions – people in employment are healthier, particularly those who have more control over their working conditions.
- Social support networks – greater support from families, friends and communities is linked to better health. Culture – customs and traditions, and the beliefs of the family and community all affect health.
- Genetics – inheritance plays a part in determining lifespan, healthiness and the likelihood of developing certain illnesses. Personal behaviour and coping skills – balanced eating, keeping active, smoking, drinking, and how we deal with life's stresses and challenges all affect health.
- Health services – access and use of services that prevent and treat disease influences health.
- Gender – Men and Women suffer from different types of diseases at different ages (WHO, 2014).

These 'determinants', probably more appropriately called 'ecologic' ( Institute of Medicine, 2011) are complex and interrelated; they include income, education, employment, stress, social networks and support, working and living conditions, gender, and behavioural aspects, all of which are 'integrated' in terms of autonomy and the capacity to participate fully in society ( Marmot, 2004). Related to these are cultural factors, such as traditions, attitudes, beliefs, and customs. Together, these social and cultural factors also have a major influence on a person's behaviour (Carson et al., 2007).

All anthropometric and health-related behavioural factors may account for social inequalities in the health of children with PAE (Parental Alcohol Exposure), if they are related to LBW ( Low Birth Weight) and socioeconomic conditions (Finder, 2014).

Anthropometry (the use of body measurements to assess nutritional status) is a practical and immediately applicable technique for assessing children's development patterns during the first years of life. An evaluation of their growth also provides useful insights into the nutrition and health situation of entire population groups. Anthropometric indicators are less accurate than clinical and bio-chemical techniques when it comes to assessing individual nutritional status.

Human body proportions are developmentally plastic. Environmental factors are powerful determinants of body size and body proportion (Bogin and Varela-Silva, 2003). The physical growth of human populations serves as a sensitive indicator of the quality of the environment. The precision of this gauge of environmental quality is increased when the plasticity and variability of human growth are viewed from life history and bio-cultural perspectives. Growth and development are affected by several factors like environmental, behavioural, genetic, hormonal etc. that interact with one another to determine an individual's growth pattern:

The most important environmental factors causing growth differences in children are quality of their diet, exposure to illness, and the combination of the two. Dietary adequacy and frequency of illness are related to income and education levels. For example, poorer children may fall behind children of higher socio economic status in growth. And the risk of having a low birth weight baby is higher for women with little or no

education. Qualities of housing, sanitation, diet, and health care, as well as life styles that promote health vary widely among socio economic groups.

Existing research shows that under favourable environmental conditions people grow taller and that much of the increase in stature is due to proportionately longer legs. Taller longer-legged people tend to be healthier and more productive (Bogin, 1999). Body weight, especially body fatness is another indicator of health. Young people who are wasted (low weight for height) and young people who are overweight or obese tend to have more health problems. Undesirable body weight is not only linked to poor health during years of growth, but also in adulthood.

The forces capable of holding back growth may be biological, social, economic or political in nature (Tanner, 1962). Adverse growth in the first 20 years of life is associated with poor health during both the growing years and in adulthood. It is generally assumed that interaction among genes, hormones, nutrients and energy are the primary determinants of variation in growth and maturation of healthy children and adolescents.

The shared cultural environment also affects growth and maturation. These include present lifestyle characteristics and those transmitted from parents to children through modeling, education and socio-economic status. These are potentially important sources of variation in growth and maturation, especially transgenerational secular changes, which may be either positive or negative (Malina, 2010).

The usefulness of various anthropometric classification systems of nutritional status in predicting the subsequent risk of mortality in a rural area of Bangladesh was studied by Chen et al., 1980. The indices investigated included: weight-for-age; weight-for-height; height-for-age; arm circumference-for-age; arm circumference-for-height; weight quotient; and height quotient. Results indicated that severely malnourished children, according to all indices, experienced substantially higher mortality risk. Normal, mild, and moderately malnourished children all experienced the same risk. All indices were found to discriminate mortality risk; weight/age and arm circumference/age were strongest and weight/height weakest. For each index, a

threshold level was noted below which mortality risk climbed sharply. The discriminating power of anthropometry was enhanced when maternal weight, maternal height, or housing size was included. They concluded that the selection of an index or indices depends upon many factors, and no one index is completely adequate in all situations. Z-Scores have several properties that make them superior to the other two scales. A third issue was limitations in the growth reference when it uses two different populations.

The nutritional assessment of a community, according to Jelliffe (1966) is to map out the magnitude and geographic distribution of malnutrition as a public health problem, to discover and analyze its ecological factors that are indirectly responsible and guiding action intended to improve nutrition and health.

Malnutrition is undoubtedly the biggest public health problem in our country. A number of nutrition and diet surveys carried out among adult of the country have confirmed the existence of widespread

malnutrition among the poorer sections of our population. (Rao and Balakrishna, 1990; Wakhlu, 1972 ; Satyanarayana et al., 1980; Srikantia, 1986).

Anthropometric indicators are most effectively used to describe the nutritional status of populations as an expression of the magnitude and distribution of under nutrition. They are less accurate than other methods, however, when it comes to assessing individual nutritional status (Gorstein and Akre, 1988). The classical use of anthropometry as the most readily available method of assessing nutritional status is therefore logical although other methods, such as biochemical and immunological tests are being increasingly used in clinical practice (WHO, 1986).

Therefore to gauge the health status of the Sarania Kacharis, the present study is being undertaken and the factors operating behind it which may have the capability of holding back their growth status will be detected.

#### Review of literature

The World Health Organisation's Commission on Social Determinants of Health (CSDH) embedded the goal of universal healthcare in strategies that include improving daily living conditions, tackling the inequitable distribution of money, power, and resources, as well as measuring and understanding health inequities. The CSDH defines the Social Determinants of Health (SDH) as "the conditions in which people are born, grow, live, work and age, including the health system."

(Wilkinson and Marmot, 2003)

At the turn of the 21st century, India was plagued by significant rural-urban, inter-state and inter-district inequities in health. For example, in 2004, the infant mortality rate (IMR) was 24 points higher in rural areas compared to urban areas. To address these inequities, to strengthen the rural health system (a major determinant of health in itself) and to facilitate action on other determinants of health, India launched the National Rural Health Mission (NRHM) in April 2005 (Registrar General, 2006).

Ministry of Health and Family Welfare, Government of India, held a one-day National level Consultation on Social Determinants of Health on 27 February 2012, at New Delhi, to build a sustainable national movement for action on health equity and social determinants, linking governments, international organizations, research institutions, civil society, and communities. The ministry also released a book entitled 'Unite for Health- Addressing the Social Determinants' for insights into the concept of social determinants of health in Indian sociopolitical context and to motivate action on SDH (Prasad, 2013).

The usefulness of various anthropometric classification systems of nutritional status in estimating the subsequent risk of mortality among 2019 children aged 13 to 23 months residing in a rural area of Bangladesh was done by Chen et al.(1980) . The indices investigated included: weight-for-age; weight-for-height; height-for-age; arm circumference-for-age; arm circumference-for-height; weight quotient; and height quotient. Results indicated that severely malnourished children, according to all indices, experienced substantially higher mortality risk. Normal, mild, and moderately malnourished children all experienced the same risk. All

Indices were found to discriminate mortality risk; weight/age and arm circumference/age were strongest and weight/height weakest. For each index, a threshold level was noted below which mortality risk climbed sharply. The discriminating power of anthropometry was enhanced when maternal weight, maternal height or housing size were included.

Estimates of the relative risks of mortality among young children 6-24 months after they had been identified as having mild-to-moderate or severe malnutrition was done by Schroeder and Brown (1994). These risk estimates, along with global malnutrition prevalence data, were then used to calculate the total number of young-childhood deaths "attributable" to malnutrition in developing countries. Young children (6-60 months of age) with mild-to-moderate malnutrition (60-80% of the median weight-for-age of the reference population) had 2.2 times the risk of dying during the follow-up period than their better nourished counterparts (> 80% of the median reference weight-for-age). Severely malnourished young children (< 60% of the reference median weight-for-age) had 6.8 times the risk of dying during the follow-up period than better nourished children. Each year approximately 2.3 million deaths of young children in developing countries (41% of the total for this age group) are associated with malnutrition.

The use and interpretation of anthropometry were discussed at the level of the population and of the individual by Gorstein et al. (1994). The first issue was the index or indices of choice: weight-for-height versus height-for-age versus weight-for-age. The selection of an index or indices depends upon many factors, and no one index is completely adequate in all situations. Proposed criteria are provided to assess the severity of low anthropometry within populations. The second issue was the scale of the index: z-scores (or standard deviations) versus percentiles versus percent-of-median. z-Scores have several properties that make them superior to the other two scales. A third issue dealt with limitations in the current growth reference; one of them was the disjunction between the growth curves at 2 years of age, resulting from the use of two different populations in the reference.

The Ramalingaswami Centre for Social Determinants of Health and supported by grant from the UK-based BUPA Foundation and with funding from the V. Ramalingaswami Foundation is working to contribute substantially in improving the health of India's population, especially the disadvantaged groups at the Public Health Foundation of India.

Choudhury, Begum and Barua (1992) did cross sectional study of growth in Guwahati city (Assam), to look into the growth variation among school children of three groups. Assamese, Bengali and Hindi speaking children from four to ten years were measured for six anthropometric traits. Assamese children were found to be the tallest and heaviest.

Begum (1994) made a cross sectional study in growth of the indigenous Assamese Muslims of Kamrup districts of Assam. The level of malnutrition prevalent among this community was 42.07 percent among boys and 45.39 percent among girls.

In 1994 Choudhury and Bhuyan did a growth and nutritional study among the Kalita population of Kamrup, the same district. The neo-Assamese Muslims population of Kamrup district was studied by

Choudhury and Gogoi (1995) for their growth status in the pre-adolescent period and was compared with the indigenous Muslims of the same district.

### OBJECTIVES OF THE STUDY

The present study will be done with the following objectives:

- i) To assess the nutritional status of the Sarania kacharis anthropometrically from 3 to 10 years and to study growth pattern from 10 to 18 years of age of both the sexes.
- ii) To study the effect of nutritional status – on the growth of children; during childhood, in their attainment of adolescence and maturity.
- iii) To compare their growth Pattern and nutritional status with the other available tribal and caste population of Assam.

### MATERIAL AND METHODS

The sample of Sarania Kacharis for the present study will be collected from the rural areas of Baksa and Odalguri districts of Assam.

The Sarania Kacharis are off-shoot of the greater Bodo Kachari tribe. They have adopted Hindu religion and the cultural practices associated with it. The term Sarania was recognized by Britishers in 1881 (Hakasam, 2013).

Similar phenomenon of division of the castes and sub-castes varying in size, mating patterns and even adaptive strategies have been found by Reddy et al (2001).

Data for the growth study will be collected cross-sectionally.

The anthropometric characters considered for the present study are stature, sitting height, horizontal circumference of head, length of lower extremities, arm circumference, chest circumference, abdominal circumference, waist circumference, hip circumference, calf circumference and body weight.

The nutritional status will be assessed anthropometrically considering both age-dependent and age-independent parameters.

The study proposes to measure 50 boys and 50 girls from 3 to 18 years of age at an interval of one year.

### A BRIEF ETHNOGRAPHY OF THE SARANIA KACHARI

The Saranias are one of the most distinct community, who belongs to Mongoloid racial stock like other tribal groups living in Assam. The Mongoloid people entered in this part of North east region from China-Tibet region in 2000 B.C.

In many cases the tribal people were sanskritized by adopting Hindu religion and cultural practices .A segment of kacharis bifurcated and called themselves Saranias by adopting Hinduism. Later the term Sarania kachari was finally recognized by the Britishers in 1881 in their census report.

The Sarania Kachari is a distinct tribe inhabiting the different areas of Assam. The major concentration of Sarania Kacharis is found in the north bank of the Brahmaputra river. They are widely distributed in the districts of Kamrup (rural), Nalbari, Baksa, Odalguri, Bongaigaon, Barpeta, Dhubri, Kokrajhar, Goalpara, Darrang, Sonitpur etc. According to the census conducted by the authorised body of the Sarania

Kachari community, the total population is above 5 lakhs out of which 2,85,704 (approx.) males and 2,14,000 (approx.) are females ( Hakasam , 2013).

So far as the physical features are concerned the Sarania Kachari possesses all the Mongoloid features like a yellowish brown skin colour, hair form which is straight and black in colour.

The 'Sarania Community' was formed when the Aryans entered Assam in 5th century AD. The British Rulers in 1881 census gave the identity to this community in their census report as Sarania'.

Social life of the Sarania Kachari is very simple. The Sarania Kachari society is composed of patrilineal families. The smallest social unit is the family.

Marriage among the Sarania Kacharis has both a religious and social aspect. The Sarania Kacharis are generally an endogamous tribe. One can marry anyone within the community.

Agriculture is the main occupation of the Sarania Kachari people. Ploughing with a traditional plough and a pair of bullock is a common sight in their paddy field. They also rear animals and poultry as secondary source of income.

The Sarania Kachari women seem to be born weavers. They are expert weavers and make colourful dresses for themselves. Weaving in the family looms and rearing of *eri* worm ( silk worm) are favoured pastimes for the womenfolk.

Rice is their staple food. They relish pork and fowl. They are very much fond of their native rice beverage.

The Sarania Kacharis are animistic. They worship various natural objects like river, trees, stones, animals etc. for peace and prosperity.

## HYPOTHESIS

The Sarania Kacharis being an agricultural community in the district are living amidst farming. The people as a whole are very hard working. The women folk are also engaged in agriculture, fishing and animal farming.

Of the various determinants, the dietary intake may come out as the main factor behind their health. Alcohol consumption is also an important feature of their diet, as it is prepared and consumed in almost every household. It is expected to play a role in their health.

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