



Comparison of Nutritional Status between Brahmin and Bote Children at Devghat Rural Municipality

Madhabi Sapkota ^a ✉

✉madhabi144@gmail.com

^a Graduate School of Education, Tribhuvan University

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Abstract

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This paper aims at comparing the nutritional status of Brahmin and Bote children. Descriptive design was used to garner and analyze the data collected from different sources. In this study, 25 children from the Brahmin community and 25 from the Bote community (altogether 50 children) and their mothers were selected as the sample by using the purposive sampling method. The study was especially based on primary sources of data. Data were collected by using an interview schedule and document analysis. This study depicted that the socio-economic and demographic status, knowledge, and attitude of Brahmin mothers towards nutrition were found quite better than Bote mothers. The practices of health behaviors regarding colostrum feeding, time of first pregnancy, frequency of breastfeeding, knowledge of preparing super flour, provision of additional food to children, and immunization practice in the Brahmin community were found quite good in the comparison of health behaviors that were found in Bote community. Most of the females from the Bote community faced early pregnancy than Brahmin females. In the Brahmin community, the majority of the mothers became pregnant for the first time at the age of 20 years and above. Similarly, in the Bote community, only 21.74 percent of mothers became pregnant at the age of 20 and above. Bote mothers were found less knowledgeable about the advantages of colostrum than the mothers who come from the Brahmin community.

Keywords: Bote children, Brahmin children, Family size, Nutritional status, Socio-economic status

Introduction

Nepal is a developing country populated by approximately 30 million people within 1,47,181 square kilometers (National Statistics Office, 2021). Nepal is indeed a multi-lingual, multi-religious, multi-ethnic, and multi-cultural country (National Statistics Office, 2021). A significant number of communities are disadvantaged, backward, and marginal due to the unequal distribution of resources (UNICEF, 2005), where about 20 percent of people are in absolute poverty (National Statistics Office, 2021). It has a low level of life expectancy where people live till the age of 68 years (World Health Organization, 2023). The Child Death Rate (CDR) is seven and the Infant mortality rate (IMR) is 33 per thousand in Nepal, which is better than the global scenario (Population Education and Health Research Center, 2016), the maternal mortality rate (MMR) is 151 per lakh (National Statistics Office, 2021), which is considerably lesser than 280 per lakh in 2006 (Ministry of Health and Population, 2006). The above data depict that some communities including Bote are living a very miserable life with severe problems. In this regard, good health may be the effective elevator to remove or minimize these problems from their lives.

Nutritional deficiency is a major public health challenge in Nepal, which impacts not only the health of the vulnerable population but to the national economy too (Devkota et al., 2015). Approximately 70 percent of under-five-year-old children have been suffering from malnutrition due to the lack of a balanced diet, illiteracy, hunger, social taboos, superstition, and other traditional misconceptions. Hence, nutrition may be defined as science of food and its relationship to health. The nutrition refers to a process of nourishing or being nourished for good health and growth” (Merriam Webster, 2022). It concerns primarily with the part played by nutrition in body growth (Park, 2008). Human beings need to have adequate nutrition to maintain physical growth and healthy life. Eating a wide variety of food is important since different foods contribute to different nutrition. If people fail to consume sufficient quantity and quality of nutrition, they suffer from hunger and malnutrition. Malnutrition is seen variety of forms. In Nepal, the main types of

malnutrition are seen in protein energy malnutrition or undernutrition. Due to the effect of undernutrition, many children in developing countries like Nepal are suffering from Marasmus, Kwashiorkor, Nutritional Anemia, Xerophthalmia, Endemic Goiter, etc. (Acharya, 2010). Thus, malnourished children and women are more likely to be at high risk of death due to a lack of resistance against common infectious diseases.

Good nutrition plays a vital role in the promotion of health, prevention of disease, to production of productive and healthy manpower in the country. The economic costs of malnutrition are very high (approximately 2-3 % of GDP) (World Bank, 2012). Nepal loses 250 to 375 million US dollars every year on account of vitamin and mineral deficiencies alone (Ibid). Scaling up key interventions to address these deficiencies will cost a small fraction of that amount (World Bank, 2012). But in Nepal, more than three in 100 children born in Nepal die before their fifth birthday (Population Education and Health Research Center, 2016). Eighty-five percent of deaths among children under five occur during the first year of life (Ministry of Health and Population, 2011). Infant mortality is 17 per 1,000 live births (National Statistics Office, 2021). A study denotes that 78 percent of school-age children and 90 percent of the 5-11-month-old children have suffered from Anemia. Likewise, 68 percent of childbearing-age women and 75 percent of pregnant women also suffer from Anemia and the nutritional status of mothers and children under five year is extremely poor (Upreti, 2018). Thus, there are so many problems due to poor nutrition status. The government should provide educational opportunities, employment, awareness programs, and other intervention programs to improve above mentioned problems.

Maternal undernutrition is a severe problem in Nepal since one in four (24%) women of reproductive age has chronic energy deficiency (World Bank, 2012). Pregnancy increases nutrient needs, but protein, energy, vitamin and mineral, deficiencies are common during pregnancy (Upreti, 2018). Women and children also suffer from some of the world's highest levels of vitamin and mineral deficiencies (World Bank, 2012). Different communities in Nepal have various nutritional status because of their diverse access to nutritious food. Considering the reality, the Nepal Government has endorsed several nutritional policies, strategies, and guidelines for several decades to improve the nutritional status of people (Adhikari et al., 2023). Nevertheless, there are gray areas need to be improved to optimize nutritional status of the people especially from Bote community.

Brahmin people are more educationally, socially, economically, and politically forward than Bote (National Statistics Office, 2021). Therefore, they have managed a balanced diet due to their knowledge and favorable economic conditions. On the other side, Bote people have low economic status. They work as a laborer and engage in fishing to earn money. They don't have enough money to take a nutritional diet sufficiently. Due to the lack of food, most of them suffer from malnutrition which ultimately impacts their productivity. Improving nutrition contributes to productivity, economic development, and poverty reduction by improving physical work capacity, cognitive development, school performance, and health by reducing disease and mortality (World Bank, 2012). This study therefore attempts to identify the nutritional status of Brahmin and Bote communities.

In the Bote community, 75% of females are illiterate, 59.37% of women become pregnant at below 18 years, and only 59.38% of women participate in their health checkups during their pregnancy (Neupane, 2003). Similarly, 90.62% of women give birth to their infants at home, 9.38% give birth to their child at the hospital, and 81.25% of women feed colostrum to their child (Ibid). Thus, data depicts very measurable conditions of health practices in the Bote community. Therefore, proper health services should be provided to Bote families to uplift their health status in particular and ensure high productivity and quality of life in general. For this purpose, this study was concerned with identifying the nutritional status of Brahmin and Bote children for proper improvement.

The government has set a target of increasing the percentage of exclusive breastfeeding to >90% and reducing anemia to 10% by 2030 (Adhikari et al., 2023) to improve the health condition of people. Results of the study indicate that Bote and Brahmin communities represent contrasting health, education, and socio-economic backgrounds, which lead them to the nutritional status of their children. Bote community is an indigenous ethnic group that primarily relies on fishing, boating, and agriculture to a limited extent. Consequently, they face economic difficulties, poor access to education, and limited health services. On the other hand, Brahmins are a higher caste group getting better access to education, healthcare, and economic opportunities due to their historically privileged status. Nutritional indicators reveal significant differences between Bote and Brahmin children in the Devghat rural municipality. Brahmin families were found with higher incomes and better education. As a result, they can afford sufficient diets including fruits, vegetables, dairy products, and meat for their children. In contrast, Bote families rely heavily on main foods like rice and lentils with insufficient nutrients. Brahmin mothers are more knowledgeable about child nutrition and health practices due to higher

literacy rates and better educational backgrounds. On the other hand, Bote mothers have little to no knowledge about nutrition and health services provided to children due to the lack of education. As a result, Brahmin families have better access to health services and vaccination programs as compared to Bote communities.

The general objective of this study was to find out the nutritional status of under five years children of the Brahmin and Bote community of Devghat rural municipality of Tanahun district. The specific objective of this study was to compare the nutritional status of Brahmin and Bote children. Three research questions: How does the parent's educational status affect the nutritional status of children? What is the relationship between economic condition and the nutritional status of children? And does the size of the family impact on nutritional status of children? were answered to achieve the objective.

Research Method

This study is guided by a descriptive research design followed by both qualitative and quantitative information collected at the micro level, especially in Brahmin and Bote communities. To conduct the study, the Devghat rural municipality of Tanahun district was selected by using the convenience sampling method where significant numbers of Bote and Brahmin people reside. Furthermore, 25 children from each community were selected by using quota sampling and all the parents of sampled children were automatically selected to collect information concerning educational background, size of family, occupation, nutritional status, etc. through an interview schedule. Primarily, interview schedules and document analysis were used to garner information from chosen samples. Finally, the collected information was edited, transcribed, and analyzed by using descriptive approach to data analysis.

Results and Discussion

Educational background of parents, especially mothers, plays a crucial role in developing a child. Study results show a direct correlation between the educational background of mothers and nutritional status of children. It means; children from more educated families receive better nourishment and care compared to illiterate families. Socio-economic differences also lead to vivid practices in child care, breastfeeding, and nutrition that finally affect health and growth of children across various communities. Results of this study have been presented by generating six themes as below:

Educational background of parents and its impact on children: Study results show that there is a positive relationship between the educational background of mothers and the nutritional status of children. Childhood is a time of active growth in terms of physical size, and mental, emotional, and psychological development (Acharya et al., 2019). Parents' education and awareness level play a crucial role in the all-round development of a child. In this regard, the education level of Brahmin mothers was found higher than that of Bote mothers. The literacy rate of the Bote community was found 60.87%, which is lower than the literacy rate of Janajati (74.9%) in Devghat Rural Municipality (National Statistics Office, 2021). Most of the Brahmin mothers had got SLC and higher level education but Bote mothers only received education upto primary level. A respondent from Bote community indicated, *if I had not left school at a young age, I could not got a good job now... We both can share responsibility for upbringing our children.* Thus, poor educational background limits job opportunities for parents that directly influences their economic status in general and nutritional status in particular.

Occupational influence on nutritional outcomes: Study results indicate that most of the Bote families were involved in lower-level occupations (labour, porter, fishing, boting, etc. for example) and Brahmin families were in higher-level occupations (social service, agriculture, business etc. for example). To get better nutritional status of children, greater emphasis should be given to under five years children with community-based awareness programs formothers and caregivers (Acharya et al., 2019). The occupational status of the family also influences the nutritional status of children. Study findings reveal that forty-four percent of the Brahmin families were involved in service but 8.7 percent of the Bote families were involved in service. Similarly, only 24 percent of the Brahmin families produced sufficient foods required for their family members but 4.34 percent of Bote families produced sufficient foods required for their family. They do not produce sufficient food due to insufficient and unproductive land. Those families who produced sufficient food from their land were able to manage food for their children but who were unable to do so, they were conducting their lives by buying food through labor earning, fishing, and so on. The land-holding size of Brahmin families was found higher than the Bote families. In this case, 64 percent of Brahmin families were owners of more than five ropani (508.74 square metres in one ropani) (Ministry of Land Management, Cooperatives and Poverty Alleviation, 2024) land and 78.26

percent of Bote families were owners of less than five ropani land. However, some families from both communities did not have their farmland.

Family size and its impact on nutrition: Study results reveal that most of the families in both communities reside in the nuclear family. In this regard, 67 percent of families from the Brahmin community belonged to nuclear families but 24 percent lived in the joint family. Similarly, around 70 percent lived in a nuclear family on one side and around 30 percent were in a joint family in Bote community. Family size plays a significant role in the availability of nutrition for children. In joint families, resources such as food, vitamin, dairy products, etc. may be limited compared to nuclear families, leading to inadequate dietary intake and poor nutritional status for some children. Parents in large families might struggle to provide food adequately and face various health problems. On the other hand, smaller families can make available of more resources for each child and ensure better access to nutritious food, which supports better nutritional outcomes. Some respondents from both Bote and Brahmin families informed, *although it is difficult to take care of children, small families can afford more for their children's food, education and health...Children born in nuclear families have high chances of receiving nutritious food compared to joint families...* Although most of the families from Bote communities lived in nuclear families, they hardly provided nutritious food to their children due to poor economic background. It means; family type is not only the determinant of ensuring healthy food for children.

Pregnancy, colostrum feeding, and awareness: In the Brahmin community, 56 percent of mothers became pregnant for the first time at the age of 20 years and above. Similarly, in the Bote community, only 21.74 percent of mothers became pregnant at the age of 20 and above. Most of the females from the Bote community face early pregnancy than Brahmin females. Likewise, Bote mothers were found less knowledgeable about the advantages of colostrum than the mothers who come from the Brahmin community. In this case, 84 percent of Brahmin mothers fed colostrum to their infants but in the Bote community, 60.87 percent of mothers fed colostrum to their infants. But an informant revealed, *first milk comes from post-natal mother is very beneficial for new born child, but in our community, almost all throw it.* In the same line, another respondent said, *the first milk should be fed in order to increase the immune system of new born baby, but many parents do not have adequate knowledge about it...* Thus, a large number of postnatal mothers did not know the benefits of colostrum that they got naturally. The lower percentage of feeding colostrums among Bote mothers is attributed to unawareness, illiteracy, cultural taboos, and misconceptions, which ultimately lead to malnutrition and poor health in their children.

Breastfeeding practices: It is empirically proved that breastfeeding is very beneficial for infants up to two years of age. It provides all the necessary nutrients and antibodies to protect them from different types of diseases. Breastfeeding is very common in Nepal. Approximately 98% of children are breastfed with 4.2 months duration of exclusive breast feeding (Upreti, 2018). Therefore, mandatory breastfeeding for the first six months is highly recommended. However, study results reveal that many postnatal mothers primarily from the Bote community do not practice this due to a lack of knowledge and poor socio-economic conditions, which ultimately cause malnutrition and illness among infants. In the study area, few mothers continued breastfeeding until the child reached two years of age. Both Brahmin and Bote communities showed that infants were not fed colostrum as suggested by health professionals due to the busy schedules of mothers and insufficient awareness of its benefits to their infants.

In addition, regular breastfeeding is crucial for the smooth growth and development of a child. It is medically suggested that at least 6 to 8 feedings per day are required for an infant under six months of age. The study found that Brahmin mothers generally breastfed more frequently to their infants compared to the mothers from the Bote community. Study results depict that 52% of Brahmin mothers fed their babies more than eight times a day, while only 39.13% of Bote mothers did the same practice. It means that breastfeeding practices were found to be better in the Brahmin community than in the Bote community. Different factors such as education, awareness level, socio-economic status, and health consciousness played a crucial role in such differences. Although the overall breastfeeding frequency was satisfactory in the research site, some mothers fed their babies less than the prescribed amount. This gap leads to malnutrition and poor health outcomes for infants in both communities.

Supplementary food practices: Supplementary foods are crucial when breastfeeding alone is insufficient for an infant. Foods help infants meet their nutritional needs and keep them safe from different types of health hazards. The study revealed that though most families provided supplementary foods after six months to their children, they used different types of foods based on the ingredients available. Among Brahmin families, 17.78% used super flour, 31.11% used jauilo (composition of rice, dall, green vegetable, ghee etc) and others used milk, dal, rice, and commercial products

like Horlicks. In contrast, Bote families had a lower percentage of super flour usage and relied more on jaulo and milk. Socio-economic conditions and awareness levels of mothers from different communities influenced these practices. However, all parents recognized the importance of supplementary foods for their children's growth and development and tried their best to provide them sufficiently.

Conclusions

Adequate nutrition during infancy is crucial for child survival, optimal growth, and development throughout life. This study depicts that many factors such as family structure, mother's education, land holding size, food sufficiency, colostrum feeding, breastfeeding, etc. are the prominent determinants of the nutritional status of children. Health is considered a fundamental right of human beings and every child has an opportunity to get basic health services to a fuller extent. Furthermore, this study has indicated that Brahmin children are more nourished than Bote children. Large family size, illiteracy, poverty, early pregnancy, poor economic condition, low-level occupation, unawareness, early marriage, and so forth are seen as the major problems of those families whose children are found malnourished. This condition is found in both communities but the condition of Bote families has shown more severe than the Brahmin families. This situation underscores the need for targeted interventions based on the socio-economic background of the marginalized and disadvantaged communities, Bote community for example, to address the root causes of malnutrition.

Implications

Undernutrition remains a leading cause of ill health and mortality among children in developing countries. The study results highlight some educational implications mainly the need for interventions to bridge the educational and health awareness gaps between Brahmin and Bote communities. The higher education levels among Brahmin mothers correlate with better health practices, such as higher rates of colostrum feeding and more frequent breastfeeding. This indicates that educational attainment directly influences health behaviors and outcomes. Therefore, enhancing educational opportunities for Bote mothers could improve their knowledge and practices regarding child nutrition and health, reduce malnutrition, and improve children's health status in this community. Furthermore, socioeconomic disparities such as differences in land ownership, occupations, food production capabilities, etc. also play a crucial role in health behaviors. Brahmin families, with higher education levels and better economic status, have more resources to provide for their children, including sufficient food and healthcare. In contrast, Bote families, often engaged in lower-level occupations struggled with insufficient food production and faced difficulty in providing quality education and good health care to their children. Educational programs should also address these socioeconomic factors, providing practical knowledge on nutrition and health, including resources and support for sustainable food production and economic improvement especially for those families from poor socio-economic backgrounds, either Brahmin or Bote.

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