International Journal of Science and Research (IJSR)
ISSN (Online): 2319-7064
Index Copernicus Value (2013): 6.14 | Impact Factor (2015): 6.391

Analyzing the Determinants Influencing the Nutritional Status of Urban Slum Children of Raipur, Chhattisgarh

Sharmistha Roy[1], Dr Aruna Palta[2]

[1]Research Scholar, Govt. Dudha Dhari Bajrang Girls' P.G. Autonomous College, Raipur (C.G.), India

[2]Principal, Dr. Radha Bai Govt. Naveen Kanya Mahavidyalaya, Raipur (C.G.), India

Abstract: ***To explore the determinants influencing the infant and young child feeding practices among 163 under 5 children in urban slums of Raipur, Chhattisgarh, India. Purposively 4 urban slums from 4 zones of Raipur were made. Pre tested structured questionnaire were used to collect the information related to socio demographic, dietary practices, meal pattern, and physical activity pattern of the children. Comparison of Minimum dietary diversity between the breastfed and non-breastfed infant showed a significant difference at 0.0001 level (highly significant). The study showed that maternal education influences the nutritional status of the children (r =+0.9). The result showed that exclusive breast-feeding among the urban slum children was highly satisfactory (79.7%). Nutritional status was measured, Weight for Height Z score (WFHZ), showed that 8% children showed WFHZ score less than <-3SD, which indicate that more number of severe acute malnourished cases are in urban slums. The result of the study showed that high numbers of mild malnourished cases are residing in urban slums of Raipur. Mild and moderate malnourished cases can be managed at home with proper nutrition, responsive feeding, and adequate hygiene. Mothers can be made aware on this through proper counseling or training.***

Keywords: exclusive breast-feeding, complementary feeding, dietary diversity, mid upper arm circumference, urban slum, weight for height z-score

1. Introduction

Health of children influences the productivity of a nation. Every child has the right to good nutrition **(Convention on the rights of the children)**. Nutrition has a major impact on the health of the children. Nutrition of the child is predisposed not solely by food but simultaneously with hygiene, physical and emotional care. Proper nutrition not only reduces the episodes of diseases by boosting the immunity, additionally it improves the cognitive performance through proper growth of brain cells thus in turn increases the productivity of the individual in terms of work output and ultimately a healthy social and economic development of the nation occurs. There are various determinants of nutrition which influence the nutritional status of the children directly or indirectly. Intake of food or hygiene maintenance and providing emotional care is influenced by the educational level of the mother, total number of children in the family, frequency of diseases suffered etc. Proper nutrition of urban slum children is of concern as **NFHS 3** stated that the nutritional status of urban children is worse than the rural counterpart. Under 5 mortality rate has reduced consistently than before in urban, but separate number for U5MR for urban slum is not projected. MDG 4 target is yet to be reached which was aimed to reduce the number by two-thirds. The **12th Five Year Plan** target to reduce the number of undernutrition to half in under 3 years children as per the NFHS 3 data.

Undernutrition is the attributable for nearly half of under 5 mortality. 45% of under 5 mortality is associated with undernutrition **Black et al. (2013)**. Stunting i.e. low height for age a chronic form of malnutrition is due to poor nutrition in the first 1000 days of life, this condition is irreversible and associated with reduced output in terms of physical and cognitive performance.

Only countable numbers of children are receiving nutritionally adequate and safe complementary foods, less than 25% of 6-23 months children meet the criteria of dietary diversity and feeding frequency **WHO, (2016).**

2. Review of literature

Khan et al. (2012), conducted a cross sectional study on diet pattern of children less than 2 years in reference to the Infant and Young child feeding (IYCF) indicators. Total 374 children were enrolled for the study. Children of age group less than 24 months who were visiting the immunization clinic. It was found that 57.1% children less than 6 months were exclusively breast fed. Compared to the WHO IYCF indicators it was found that adequate number of minimum dietary diversity, minimum meal frequency and minimum acceptable diet among 6 months to 2 years aged children were seen among 32.6%, 48.6& and 19.7% children respectively.

Maiti et al. (2015), performed a cross sectional study of 286 children coming to the immunization clinic of Hi-Tech medical college & hospital, Bhubaneswar, Odisha. The study was to assess the knowledge, attitude and actual practices of breast-feeding in the mothers of children less than 2 years. It was found that 52.785 mothers have knowledge on initiating breast-feeding within half an hour of birth and 40% have idea on importance of colostrum. Only 34.97 mothers were found to be aware about exclusive breast-feeding and 48% initiated breast-feeding within half an hour of birth and 75% mothers were found to fed colostrum to their newborns. Exclusive breastfeeding practice for the first 6 months was found among 61% and

90% mothers were feeding children at night as well. Age appropriate weaning was (supplementary feeding) was only found among 15% children.

3. Problem Definition

Undernutrition seems to overrule the nutritional status of the urban slum children. Multiple factors are challenging the nutritional status of the children. Food availability, food diversity is not only the cause of optimal health, proper hygiene and emotional care plays a major role to maintain a good nutritional status. Breast-feeding practices also play a crucial role. Frequent episodes of diarrhoea and pneumonia have made the child vulnerable to nutrition depletion. Environmental factors like overcrowding, open sewage, lack of sanitation trigger the risk of nutrition depletion and result in different forms of malnutrition and micro nutrient deficiencies.

4. Methodology

An exploratory study was planned with an aim to address the existing gap prevailing in the infant and young child feeding practices and suggests necessary changes require improving the nutritional status of under 5 children. Purposively 4 slums from 4 zones will be selected. From each slum randomly 40 children above 6months but less than 5 years was selected. 163 children belonging to 7months to under 5 years formed the sample of the study. Mothers of children (>6 - 59 months) will be randomly selected from community with the help of Anganwadi workers, Mitanins and ANMs. Structured pre- tested questionnaires were used to collect general information from the mothers and record their anthropometric measures, dietary intake, food frequency.

5. Result and Discussion:

Composition of household

The families residing in the urban slums have a homogeneous characteristic. In this study majority of the households in the urban slums of Raipur have household who were Hindu (93.4%), a small proportion are Muslim (6%) and 0.6% were Christian.59.5% of household belong to other backward class,25.2% belong to scheduled caste and 8.6% belong to scheduled tribe. 6.7% of household belong to general caste. 55.8% have nuclear family. The family size was diverse, the number of children ranging in families were from 1 to 5. 55.8% have nuclear family. Total female children in the family were found to be 56.1% as compared to male children 43.9%. The children had a mean age of 3 years *(SD=1.33)* with a range from 8 months to 60 months.

Characteristic of household

Only 60% have puccka walls and concrete roof, 4% had temporary shelter (walls and roof made of plastic sheets) and rests have kutcha shelter. 71.8% had their own house, rest are living on rent. Sixty-four percent had no-toilet facility (open defecation), 35 % had proper toilet facility. 45.4% uses corporation supply water for cooking and drinking, 52.1% uses underground water and rest i.e. 2.5% uses water from well. Of the total only 19% were purifying water by boiling. 41.7% of household were using fossil fuel and wood as fuel for cooking.

Livelihood pattern

70% of the sample were found to be daily wage earners, 22.7% were in service, 4.3% had small scale business at home like grocery shop, vegetable shop and 3% were there where only the female member of the house were earning.

Health seeking behaviour

Grandparents and fathers are the main decision maker for treatment of the child. They decide where to send the child for proper treatment.85.8% respondents' approach the private doctor's for the treatment of their children. 7.9% opted treatment from government hospitals and nearby UPHC. 4.3% respondents go to both Government and private doctor to treat child. 2% told that they usually visit the nearby RMA for treatment of the children.

Education and nutritional status

It was found that 17.8% mothers had never gone to school or even had any informal education. 17.1% had completed primary education, 38.7% completed secondary education, 20.2% completed higher secondary education and 6.1% mothers were found to complete graduation and post graduation.

Mothers' educational status has an impact on the nutritional status of the child. As there is an increase in the level of education less were the numbers of severe malnourished cases, though very small variation was found in moderate malnutrition. Educational status of mother and nutritional status of children showed a strong linear co-relationship **(r=+0.99)**.

Breast-feeding practices

NFHS 3 figured out that 82% children less than 6 months of age were exclusively breast fed. About 92% children are receiving breast milk on the first day of birth.61.3% children were put to breast within the first hour of birth, including 33% initiated the breast-feeding within half an hour of birth. 6% of child, who were in the critical phase received intensive treatment and had breast milk after one day of birth.

The number of children on *exclusive breastfeeding* was found to be **79.7%.** The average age of breast-feeding of the slum children was found to be 20.7 months , which is 4 months less than as recommended by WHO (minimum 24 months of breast-feeding). 74.8% children had been introduced prelacteals like honey, sugar water on the first day.

Proper IYCF practices were measured using the WHO indicators among 6-23 months aged children. 74.8% of the children had *continued breast-feeding* till the age of one year.

Of the total sample selected 46.6% belong to age of 6-23months. 48.5% children had timely introduction of solid, semi-solid or soft foods. *Minimum dietary diversity* were calculated for the 6-23 months and it was found that only 15.3% were consuming 4 food groups daily, 52.8% were consuming 3 food groups and 31.9% were found to consume 2 food groups.

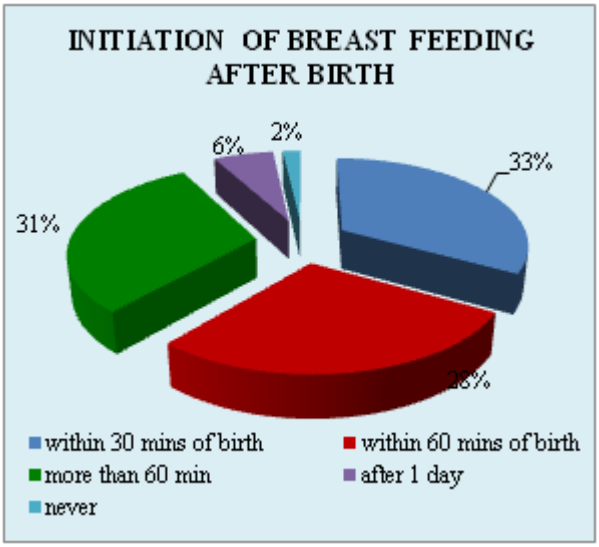

Figure 1

Association between MDD of breast fed and non- breast fed children. Minimum dietary diversity categorical values were compared between breast-fed and non breast fed children, a significant difference was observed between the two categories **(p=0.0001).**

Nutritional status of children

Body measurements to assess the nutritional status is termed as anthropometry, it is practical as well as applicable technique to assess the children growth and development during the first years of life **Gorstein et al., (1994)**.

The nutritional status of children was measured in terms of weight for height and mid upper arm circumference (MUAC). The Weight for height Z score basically to assess stunting (chronic malnutrition) and MUAC reveals the wasting. MUAC is good at predicting mortality **Grellety et al**., **(2015).** MUAC is only used for age group of 1 to 5 years. Weight for height Z score chart (WHO) were used. The MUAC was measured with the help of UNICEF supplied tri colour MUAC tape. Both over and under nutrition were seen among the children of urban slums. ¼ of the total sample children was only within the median range (WFHZ), 30.1% children were found to be mild malnourished (WFHZ score-1SD), It is striking that severe acute malnourished (SAM) percentage is high (8%). Through MUAC 7.9% were found to be in the category of SAM (MUAC <11.5cm). 13.5% were found to be moderately malnourished.

One way ANOVA was carried among mild, moderate and normal category children based on MUAC measurements. Significant difference were observed among the group **(p=0.04)**

Mild, moderate and severe wasting were compared among breast fed and non-breast fed children and was found to be highly significant **(p=0.03)**

6. Limitations

The study sample is from urban slums. Therefore the results are not representative of population living in rural and city (urban) vicinity. Children living in slums are vulnerable and thus the results obtained are relevant to slum children.

7. Conclusion

Exploring on the different socio economic and feeding practices of children revealed that mother's education and nutritional status of the children under 5 have a linear correlation. Variation of nutritional status was observed among the 4 different slums. High numbers of SAM cases are there in urban slums of Raipur. Early referral of these cases should be done. Exclusive breast-feeding numbers were found at satisfactory level. While pounding on the IYCF indicators, it was noticed that less than half number of children were introduced semi solid food, minimum dietary diversity showed that one-sixth of the children were receiving a complementary feeding having four food group. The caregivers were actually confined with certain myths related to complementary feeding. Proper counseling of mother or Training of mothers at community level is required to improve the IYCF indicators of urban slum children.

8. Financial or Other Competing Interests

None

References

[1] Black E Robert, Allen H Lindsay, Bhutta A Zulifiqar,Caulfield E Laura,Onis de Mercedes, Ezzati Majid, Mathers Colin, Rivera Juan (2013)**,** The Maternal and child undernutrition and overweight in low-income and middle income countries. The Lancet series on maternal and child nutrition. Vol.382. p.427-451.

[2] Convention on the rights of children (1992).Fact sheet. UNICEF.

[3] Gorstein J., Sullivan K.,Yip R, Onis de M.,Trowbridge F., Fajans P.,Clugston G., (1994). Issues in the assessment of nutritional status using anthropometry. Bulletin of World Health Organization. Vol. 72(2): 273-283

[4] Grellety Emmanuel, Krause Kendall L, Eldin Shams Manal, Porten Klaudia and Isanaka Sheila (2015).Comparison of weight –for-height and mid-upper arm circumference (MUAC) in a therapeutic feeding programme in South Sudan:Is MUAC alone a sufficient criterion for admission of children at high risk of mortality? .Journal of Public Health Nutrition.

[5] Khan Maroof Amir, Kayina Priscilla, Agrawal Paras, Gupta Anita, Kannan Tupil Anjur (2012). A study on infant and young child feeding practices among mothers attending urban health center in east Delhi. *Indian Journal of Public Health*. Vol 56(4).

[6] Maiti Anindita, Sarangi Lisa, Sahu kumar Saroj, Mohanti Sucharita Soumya (2015). An assessment on sBreastfeeding and Weaning Practices in Odisha, India. American Journal of Public Health Research. Vol.3, no.4A,pp 49-52

[7] National Family Health Survey (2005-06). *State report-Chhattisgarh*. IIPHS. Mumbai. India.

[8] Twelfth Five Year Plan (2012-2017).Planning Commission, Government of India. Social Sectors.ISBN:978-81-321-1368-3(PB) Vol-III.
[9] World Health Organization. Infant and Young Child Feeding (2016). Media centre. Fact sheet.N 342.

Author Profile

Sharmistha Roy is Research Scholar, Govt. Dudha Dhari Bajrang Girls' P.G. Autonomous College, Raipur (C.G.)

Dr Aruna Palta is Principal, Dr. Radha Bai Govt. Naveen Kanya Mahavidyalaya, Raipur (C.G.).In the field of nutrition since last 35 years published 60 research papers in national and international journals, 17 books and 20 PhDs.