Original Article

Role of Maternal Education & Occupation in the nutritional status of under three children

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ABSTRACT

Research question: What is the role of maternal education & occupation in the nutritional status of under 3yrs children. **Objectives:** To assess the role of maternal education & occupation in the nutritional status of under 3 yrs children. **Study design:** Cross sectional study. **Settings:** Field practice area of Department of Community Medicine, Dehradun. **Participants:** 500 children between 0-3years. **Statistical Analysis:** Chi Square. **Results:** Majority of mothers (41.20%) was found to be illiterate & of these 73.30% had undernourished children. In our study, most (92.20%) of the mothers were housewives or were unemployed ,whereas maximum under-nutrition (88.46%) was found in children whose mothers were unskilled labourer by occupation, whereas children of housewives were found to be only 59.22% undernourished.

Key words: Undernourished, maternal education, maternal occupation.

Introduction:

Hunger and malnutrition remain among the most devastating problems currently being faced by the majority of the world's poor [(1).] However, child malnutrition has worsened significantly over the past few decades in many developing countries [(2)]. It should be noted that the traditional role division has largely laid the responsibility of childcare on women. This begins at conception and continues until infancy, teenage and adulthood. Therefore, women are key players in the growth and development of children. However, it is not until recently that the role of mothers' education & occupation in enhancing the quality of care and nutritional status of children is being emphasized in empirical research [(3)].

Children in preschool stage require most attention, as this is the period of rapid growth and development, which makes them highly vulnerable to malnutrition. Malnutrition in this stage has far reaching consequences on child's future by severely effecting child's physical and mental development [(4)]. Malnutrition among preschool is widely prevalent in South East Asia region (Smith and Haddad 2000) more so in India. As per available data about half of children in this age group suffer from different grades of malnutrition[(5)]. Malnutrition in turn weakens the immune system of the child, thereby contributes to more than 50 % of deaths associated with infectious diseases among this age group [(4)].

During preschool period child is mostly dependent on mother for all its nutritional needs. Hence it is argued that the mother being the major care provider for the child during preschool period, her status in the family may have bearing on nutritional status of her child [(6)]. This paper therefore tries to examine relationship between mother's status in the family which includes her employment & educational status, with the nutritional status of her under three children in a rural area of Dehradun. Thus the study was planned with following objectives: 1. To assess status of mother in the family as measured by her education & occupation. 2. To assess the nutritional status of their under three children as measured by WFA (underweight) HFA (stunting) & WFH (wasting) measurement. 3. To correlate maternal status in the family with nutritional status of under three children.

Material and Methods:

Study area: The study was carried out in eight villages under the Rural Health Training Center (RHTC) of the Department of Community Medicine. The period of the study was from May 2009 to April 2010. Population of the study villages was approximately 12,588 distributed in 1916 families. Study population: Mothers of children under three years of age and their children constituted the study population. Criteria for selection: A total of 507 families had children less than three years of which, 58 families had more than one child in this age group. Therefore the total number of children in 0-3years age group was 565. In families with more than one child, in 0-3year age group, only the younger child was selected for the present study. Seven children could not be included in the study, because their parents refused to give consent Thus, the actual study population comprised of 500 children in 0-3 year age group. Study Design: Cross -sectional (observational) study. Sample size: All the children in 0-3 years age group (500) residing in the registered population of RHTC, Rajeev Nagar were included in the study after obtaining oral consent from the parents/guardian. Data collection: A house-to-house survey of all the families registered with RHTC, Rajeev Nagar was undertaken. Families with children up to 36 months were selected for study purpose. In families with more than one child in 0-36months of age group, the younger one was selected for the present study. Age of child was

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confirmed by further interviewing the family members and scrutinizing the available records. Height/length and weight of the child was recorded using standard techniques and instruments by experienced and trained field personnel. After ensuring the confidentiality and building a rapport, in depth interview of mothers of under three children and other family members was undertaken to record the social status of mother covering following areas: Mothers education, Mother's employment. Reliability of these questions was checked and suitable modifications were made, before finally administering them to respondents. To keep a check on validity of the data, 10% of it was cross checked. Whole process of data collection was monitored by independent observers and supervised by the investigator. Data analysis: Data was processed on SPSS (Version 10.0), EPI-Info 2003 & Microsoft Excel 2007. Chi-square test was applied as and where found appropriate. All variables included to record mother's status were categorized and coded. To assess child's nutritional status, proportion of underweight, stunting & wasting were calculated using New WHO standards(MGRS 2006),with the help of Anthropometric calculator (Version 2.0.2). Each variable of mother's status was related independently with the nutritional status of children (proportion of underweight, stunting & wasting) to examine any association.

Results:

Table1 depicts that majority (41.20%) of illiterate mothers had undernourished children (73.30%) as compared to graduate mothers in whom, the prevalence of undernourished children was found to be (35%). According to distribution of undernourished children, a similar pattern was observed for stunted children. The association was also found to be statistically significant.

Table1: Nutritional Status of 0-36 months children according to their Mother's Education

Mother's Education	No of children		Distribution of undernourished children		
	Wellnourished	Undernourished	Wasted	Underweight	Stunted
Illiterate (n=206)	55 (26.70)	151 73.30	74 49.01	111 73.51	114 75.50
Upto Junior High School (n=164)	70 (42.68)	94 57.32	41 (43.62	58 61.70	56 59.97
High School-Intermediate (n=90)	51 (56.67)	39 43.33	24 61.54	26 68.24	19 48.72
Graduate & above (n=40)	26 (65.00)	14 35.00	7 50.00	9 64.28	9 64.28
Total (N=500)	202 (40.40)	298 (59.60)	146 48.99	204 68.46	198 66.44

Undernourished: $\chi^2 = 36.36$, df=2, p<.001 & Stunted: $^2 = 13.06$, df=2, p<.01

Table2 shows that mothers who were working had maximum number of undernourished children (64.10%) in comparison to mothers who were housewives, (59.22%). Statistically, the association was not found to be significant.

Table2: Nutritional status of children according to their Mother's Occupation

Mother's Occupation	No of children		Total
	Wellnourished	Undernourished	
Working mothers	14(35.90)	25(64.10)	39(7.8)
Housewife	188(40.78)	273(59.22)	461(92.2)
Total	202(40.40)	298(59.60)	500

Undernourished: $\chi^2 = .36$, df=1, p>.05

Discussion and Conclusion:

The present study revealed that majority of mothers (41.20%) was illiterate. Similarly, 53.10% mothers were found to be illiterate in a study by Bhasin et al (1991) [8]. 55.06% mothers were illiterate in another study by Ray et al (2000) at Calcutta [9]. Additionally, our study found that, majority of illiterate mothers had undernourished children (73.30%). Similarly another study in Punjab by Benjamin et al (1993) observed a highly significant association of higher maternal education with lower prevalence of undernutrition i.e. majority (41.20%) of undernourished children had illiterate mothers [10]. Mittal et al at Patiala (2004) also noted that the prevalence of undernutrition in children was highest where mothers were illiterate (60.90%) [11]. Another study by Kumar et al at Allahabad (2003) further, supported the finding that illiterate/just literate mothers had higher number of children i.e. 33.90% underweight, 55.40% stunted & 6.20% wasted[12]. According to another study by Israt et al at Bangladesh (1999) the prevalence of stunting, wasting & underweight was maximum i.e. 52.60%, 12.20% & 55.70% respectively among children with illiterate mothers. He further observed that, risk of stunting was 11% & 37% lower among the children whose mothers had primary education & secondary education respectively as compared to the children of illiterate mothers [13]. Additionally, Ali et al at Karanchi (2005) reported that, among children of illiterate mothers, 56.43% were underweight, 40.75% were stunted, & 21.63% were wasted i.e. illiterate mothers are a risk for the development of undernutrition in <3yrs children especially underweight[14]. This shows that, the educational level of mothers was positively related to the better nutritional status of children. Educated mothers are more conscious about their child's health and they tend to look after their children in a better way. Better nutritional profile of under-three children of educated mothers indicates that the right to have education and to achieve 100% literacy will help in promoting the nutritional status of children as educated mothers are more aware of the health services available and also the acceptance to utilize the same is better among

them. Literate mothers can easily introduce new feeding practices scientifically, which helps to improve the nutritional status of their children.

In our study, most (92.20%) of the mothers were housewives. Similarly 91.90% & 92% mothers were housewives in other studies by Mittal et al (2004) at Patiala[11]. Moreover, in our study, maximum under nutrition (88.46%) was found in children whose mothers were working by occupation, whereas children of housewives were found to be 59.22% undernourished. This can be compared with Mittal et al at Patiala (2004)[11] who reported that, mother's occupation did seem to affect the nutritional status of the child as he observed that, 46.15% were underweight and 58.97% were stunted where the mother was working as compared to 37.80% who were underweight and 44.80% being stunted where the mother was a housewife in his study. Chances of being underweight increased if the mother was employed (46.15%) than the group where the mother was unemployed (37.80%). This shows that, the mothers working outside are not able to take proper care of their child as compared to mothers who were housewives and are able to spend maximum time with their children & are more conscious about their child's health and they tend to look after their children in a better way, hence rear them well.

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