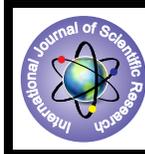


## A Comparative Study on Nutritional Status among Children (3-5 Years) of Employed and Unemployed Mothers in Selected Areas at Mangalore



### Medical Science

**KEYWORDS :** Malnutrition, Nutritional status, Undernutrition, Overnutrition, Underweight, Overweight

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### ABSTRACT

*Malnutrition is widely recognized as a major problem in developing countries. Descriptive comparative design was used. Purposive sampling technique was used. The data was obtained by using demographic proforma and WHO Child Growth Standards. The result showed that 2% and 10% children of the employed and unemployed mothers were severely stunted. There was no significant difference in height and weight of children of employed and unemployed mothers ( $t_{98}=1.960$ ,  $p<0.05$ ). Study showed significant association between the educational status of employed mothers with the height for age and weight for age ( $P = 0.019, 0.015$ ). Age of the unemployed mothers were significant with the height for age ( $P = 0.013$ ) and birth weight of their children with the weight for age and weight for height ( $P = 0.006, 0.009$ ) respectively. The study concluded that the prevalence of over-nutrition was more among children of employed mothers whereas undernutrition was more among children of unemployed mothers.*

### Introduction or back ground:

Child malnutrition in the world, despite its declining trend is still a major problem in the poor economic countries like India. The combination of people living in poverty and the recent economic growth of India has led to the co-emergence of two types of malnutrition: undernutrition and overnutrition.<sup>1</sup> In developing countries like India, maternal employment has increased rapidly. Changing patterns of family life have been suggested to be contributing to the rising prevalence of childhood obesity. Increasing trends in child overweight prevalence affect all world regions, not only developed countries. Consequently, a decrease in child-care activities during this vulnerable age is bound to affect the children's nutrition and health status negatively.<sup>2</sup>

**Need for the study:** India accounts for 51 million malnourished children which is more than that of Africa's 47 million. In Karnataka state, 37.6% of children are underweight, 28.1% of the population is undernourished and 5.5% of children, who die under the age of 5, die from hunger. Overweight and obesity has become a major health problem in developed and developing countries. Several studies have shown that nutritional status of the children of mothers working outside the home is poorer than that of children of non-working mothers. The mother is also the first teacher of the child, and that is why the mother and the child are treated as one unit.<sup>3</sup>

### Material and Methods:

Descriptive comparative design was used to compare the nutritional status of children (3-5 years) of employed and unemployed mothers at selected nursery schools of Mangalore. A conceptual framework was prepared to assess the nutritional status of 3-5 years children. Purposive sampling technique was used to select the sample. Of the total 100 children (3-5 years), 50 children were from the employed groups and 50 were from the unemployed groups. The study instrument was a questionnaire with two sections. Section I obtained information about the demographic variables of the child and the mother. Section II included the recording of height and weight of the child and mother was briefed about the study and consent was obtained for the same. The height and weight were compared with WHO Child Growth Standards and classification given by WHO for grading weight for age (WZA), height for age (HZA) and weight for height (WZH). Weight for height (WZH) was graded as normal (Z-score cut off point between -2 to +2 SD), as moderate undernutrition (Z-score cut off point < -2 SD), as severe undernutrition (Z-score cut off point < -3 SD), as moderate overnutrition (Z-score cut off point > +2 SD) and as severe overnutrition (Z-score cut off point > +3 SD). The data was compiled and statistically analyzed using unpaired 't' test and Chi-square test.

### Results:

Maximum numbers of employed mothers (54%) were in the age group of 29-38 years when compared with 36% of unemployed mothers. Majority of children of employed mothers (72%) and of unemployed mothers (70%) were in the age group of 3-4 years. More than half of children of employed mothers (54%) and unemployed mothers (56%) were females. Less than half of children of employed mother (44%) and of unemployed mothers (56%) had the birth weight between 2.5 to 3.5 kg.

The data in table 1 showed that very few (2%) children of the employed mothers and 10% children of unemployed mothers were severely stunted. 6% and 2% children of employed mothers and 8% and 4% children of unemployed mothers were moderately and severely wasted whereas 12% and 6% children of employed mothers were moderately overweight and obese respectively when compared with 4% and 2% of children of unemployed mothers.

To compare the significant differences between nutritional status of children of employed and unemployed mothers, unpaired 't' test was computed.

Data in table 2 showed that, the mean height and weight of children of employed mothers (98.451±8.332) and (15.561±3.512) were significantly higher than unemployed mothers (96.142±7.387) and (14.19±2.364) respectively at  $t_{98}=1.960$ ,  $p<0.05$ . Thus there was no difference between maternal employment and nutritional status as measured by height and weight of children.

To associate the nutritional status of children with the demographic variables, Pearson chi square probability ( $\chi^2$ ) test was computed by using SPSS 17.0 at p value,  $P<0.05$ . The study showed significant association between the educational status of employed mothers with the height for age and weight for age ( $P = 0.019, 0.015$ ). Age of the unemployed mother were significant with the height for age ( $P = 0.013$ ) and birth weight of their children with the weight for age and weight for height ( $P = 0.006, 0.009$ ) respectively. The study concluded that the prevalence of overnutrition was more among children of employed mothers whereas undernutrition was more among children of unemployed mothers.

### Discussion / Conclusion:

In the present study, the highest percentage (54%) of employed mothers were in the age group of 29-38 years where as 48% of unemployed mothers were in the age group of 18-28 years. Maximum (60%) of employed and (50%) of unemployed mothers had the educational qualification up to degree and above and higher secondary education re-

spectively. Majority (72%) of children of employed mothers and (70%) of children of unemployed mothers were in the age group of 3-4 years. The findings of the study was consistent with the study conducted by Mittal A, Singh J, Ahluwalia SK to findout the effect of various maternal factors on the prevalence of underweight and stunting among 1-5-year-old children in urban slum population. Maximum (42.2%) of the mothers were in the age group of 21-25 years followed by 38.25% were in the age group of 26-30 years. Only 8.1% (39) mothers were employed. The highest percentages (70.75%) of the mothers were literate upto different levels followed by 29.25% of the illiterate mothers. Maximum (51.8%) children were in the age group between 36-47 months.<sup>4</sup>

The study showed that the prevalence of undernutrition is more among the children of unemployed mothers whereas overnutrition is more among the children of employed mothers. The study findings revealed that 2%, 10% and 6% children of employed mothers and 10%, 12%, and 8% children of unemployed mothers were severely stunted, moderately underweight and moderately wasting respectively whereas 6%, 10% and 4% children of employed mothers and 2%, 4% children of unemployed mothers were severely overnourished, moderately overnourished and obese respectively whereas 12% children of was moderately overnourished when compared to 6% of moderately overnourished children of unemployed mothers.

The study was supported by another similar study conducted by Shuhaimi F, Muniandy DN on maternal employment status on nutritional status among children in selected kindergartens in Selangor, Malaysia where the prevalence of severe wasting was higher in children of unemployed mothers (17%) than in those of employed mothers (8%).<sup>5</sup>

The mean height and weight of children of employed mothers (98.451±8.332), (15.561±3.512) were significantly higher than unemployed mothers (96.142±7.387), (14.19±2.364) respectively at t98=1.960, p<0.05. The present study revealed that the differences between the nutritional status of children of employed and unemployed mothers were statistically insignificant.

The findings of the study were supported by a similar study conducted to investigate the associations between mother's employment and nutrition habits in Japanese junior high school children the study found that BMI was significantly higher (p<0.001) among children of full time employed mothers than the non-employed mothers.<sup>6</sup>

The study showed that the demographic variables like educational status of the employed mothers were significant (p = 0.019) with the height for age and weight for age (p = 0.015) which is supported by the study conducted by Toyama N and group showing that mother's education and income of the formal worker's group were significantly higher than those of non-working mother's group (p<0.01).<sup>7</sup>

The age of the unemployed mother were significant with the height for age (P = 0.013) and birth weight of their children were significant with weight for age (p = 0.006), and weight for height (p = 0.009) which was consistent with the study

conducted to find out the effect of various maternal factors on the nutritional status among 1-5-year-old children in urban slum population. Mother's age showed highly significant (P = 0.001) effect on the prevalence of undernutrition i.e., where mother's age was < 20 years, the prevalence was 75% as compared to 32% where mothers age was >30 years.<sup>4</sup>

The findings of the study concluded that the age of the mother, educational status of the mother and the birth weight of the child had a significant association on the nutritional status of children.

**Table 1: Comparison (frequency and percentage) of nutritional status of children (3-5 years) of employed and unemployed mothers**  
N=50+50

Employed mothers						
Nutritional status	Height for age		Weight for age		Weight for height	
	f	%	f	%	f	%
Normal nutritional status	31	62	37	74	37	74
Moderate undernutrition	11	22	5	10	3	6
Severe undernutrition	1	2	1	2	1	2
Moderate overnutrition	6	12	5	10	6	12
Severe overnutrition	1	2	0	4	3	6
Total	50	100	50	100	50	100
Unemployed Mothers						
Normal nutritional status	31	62	40	80	41	82
Moderate undernutrition	11	22	6	12	4	8
Severe undernutrition	5	10	2	4	2	4
Moderate overnutrition	3	6	2	4	2	4
Severe overnutrition	0	0	0	0	1	2
Total	50	100	50	100	50	100

**Table no: 2 Comparison of nutritional status of children of employed and unemployed mothers.**  
N=50+50

Occupational status		Mean	SD	t' value	df	Table value	P value	Inferences
Height	Employed mother	98.451	8.332	1.547	98	1.960	0.05	Not significant
	Unemployed mother	96.142	7.387					
Weight	Employed mother	15.561	3.512	0.598	98	1.960	0.05	Not significant
	Unemployed mother	14.19	2.364					

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