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Growth and development of children of employed and unemployed mothers in hospitals of Gangtok, Sikkim India

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Abstract

Background: Growth is a necessary part of existence the process of growth begins at conception and continues until the child reaches adulthood. The maternal factor has a significant impact on a child's growth and development. The study was aimed to assess and compare the growth and development of children of employed and unemployed mothers and find out the association of growth and development of children with selected demographic variables.

Methods: A non-experimental quantitative research approach and descriptive comparative design was used for the study. The study was conducted at STNM Hospital Sochaygang Gangtok Sikkim with a total of 152 samples were taken from which 76 were children of employed mothers while 76 were children of unemployed mothers using a nonprobability purposive sampling technique. Data entry and statistical analysis was performed with the help of SPSS version 24.0. Height for age, weight for age was done using WHO z-score and mid-upper arm circumference was analysed using UNICEF Mid-upper arm circumference grading and development was assessed using Denver's developmental screening test.

Results: Findings shows that weight for age among children of employed mothers, majority 69(90.8%) children were having normal weight for age, 6(7.9%) were having mild underweight and 1(1.3%) were having moderately underweight. Among unemployed mothers, the majority 64(84.2%) children were having normal weight for age, 10(13.2%) were having mild underweight and 1(1.3%) had moderate underweight. Height for age in employed and unemployed mothers revealed that among employed mothers 67(88.2%) of children were having normal height for age and 9(11.8%) were having mild stunting. Among unemployed mothers 60(78.9%) of children were having normal height for age, 10(13.2%) were having mild stunting and 6(7.9%) were having moderate stunting. Mid-arm circumference in employed and unemployed mothers revealed that among employed mothers 67(88.2%) of children were well nourished and 9(11.8%) of children were moderately acute nourished. Among unemployed mothers 64(84.2%) of children were well nourished and 12(15.8%) of children were moderately acute nourished. Development of children according to Denver's developmental screening in employed and unemployed mothers revealed that among employed mothers 62(81.6%) of children were having normal development, 7(9.2%) were having suspected development and 7(9.2%) of children were untestable. Among unemployed mothers 68(89.5%) of children were having normal development, 5(6.6%) of children were untestable and 3(3.9%) were having suspected development. There was a significant association of growth with the selected demographic variable i.e., qualification of the mothers with p-value of 0.032 and 0.035. There is a significant difference in the mid upper arm circumference of children, in employed mothers mean value was 14.32 ± 1.225 and in unemployed mothers was 13.83 ± 1.187 with mean difference in mid-arm circumference was 0.49 with a calculated t-value ($t=2.501$ at $DF=150$) was statistically significant at $p < 0.05$ level. The major conclusion of the study drawn on the basis of the findings of the study was that the majority of the children from both the children of employed and unemployed mothers were normal for their weight for age, height for age and mid upper arm circumference, also recognised the difference in the growth and development of children of employed and unemployed mothers.

Keywords: Growth, development of children, unemployment

Introduction

Growth is a necessary part of existence. The process of growth begins at conception and continues until the child reaches adulthood. Although the terms growth and development are frequently used interchangeably, they refer to two distinct aspects of change dynamics namely quantity and quality.

The course as a whole is a dynamic process with multiple interconnected dimensions [1].

Growth and development are influenced by a number of things. The maternal factor has a significant impact on a child's growth and development. Women are no longer confined to the domestic realm; they have begun to engage in a variety of professional pursuits outside the home. Women are increasingly engaged in the labour force in emerging countries, allowing them to contribute to the family income and achieve economic independence. Women's increased employment engagement has been driving employment trends and narrowing gender gaps in labour force participation [2].

There are an increasing number of working mothers whose demands at work are having an increasingly negative impact on their children's well-being. A working woman's mentality is similar to that of a housewife because she is responsible for both her home and her job. In today's society, mothers are forced to choose between their child and family and their work and financial security. People may accept the idea of career women, but they are not willing to absolve them of their other domestic responsibilities [3].

All parents are a child's first teachers and the first influence in his or her life who shapes his or her character. No one can take the position of a mother or father in the lives of their children. The parent's influence on the child's attitude on life is significant. His attitude, ideas, aspirations, and overall outlook on life are largely influenced by what he acquired

from his parents. What a child learns in his early years leaves an indelible mark on his mind.

Materials and methods

A non-experimental quantitative research approach and descriptive comparative design was used for the study. The study was conducted at STNM hospital Sochaygang with a total of 152 samples were taken from which 76 were children of employed mothers while 76 were children of unemployed mothers using a nonprobability purposive sampling technique. Data entry and statistical analysis was performed with the help of SPSS version 24.0. Height for age, weight for age was done using the WHO z-score and mid-upper arm circumference was analysed using UNICEF Mid-upper arm circumference grading and development was assessed using Denver's developmental screening test.

Results and Discussion

Section 1: Findings related to demographic characteristics of children of employed and unemployed mothers

The section elaborates on the analysis of the data related to demographic variables such as gender, age in years, religion, education of the child, qualification of the mother, type of family, monthly income habitat, birthplace, mode of delivery, birth order immunization status, availability of immunization card these variables are described in frequency and percentage.

Table 1: Demographic characteristics of children of employed and unemployed mothers

Si Demographic Variable No	Employed	Mother	Unemployed	Mothers
	Frequency (F)	Percentage (%)	Frequency (F)	Percentage (%)
1. Gender				
1.1 Male	44	57.9	43	56.6
1.2 Female	32	42.1	33	43.4
2. Age in years				
2.1 1 Year	23	30.2	25	32.9
2.2 2 Years	18	23.7	7	9.2
2.2.1 3 Years	13	17.1	19	25
2.3 4 Years	10	13.2	13	17.1
2.4 2 years	12	15.8	12	15.8
3. Religion				
3.1 Hinduism	47	61.8	54	71.1
3.2. Buddhism	15	19.7	8	10.5
3.3. Christianity	14	18.4	11	14.5
3.4. Others	0	0	3	3.9
4. Education of the child				
4.1. No formal education	19	51.3	34	44.7
4.2. ICDS	4	5.3	5	6.6
4.3. Playschool	3	3.9	3	3.9
4.4 Pre-primary school	30	39.5	34	44.7
Si Demographic Variables No	Employed mothers		Unemployed mothers	
	Frequency (F)	Percentage (%)	Frequency (F)	Percentage (%)
5. Qualification of mother				
5.1 No Formal Education	1	1.3	8	10.5
5.2 Primary education	1	1.3	11	14.5
5.3 Secondary Education	20	26.3	22	28.9
5.4. High School	10	13.2	21	27.6
5.5 Graduate	35	46.1	14	18.4

Section II: Findings related to the frequency and percentage distribution of growth of children according to weight for age in employed and unemployed mothers

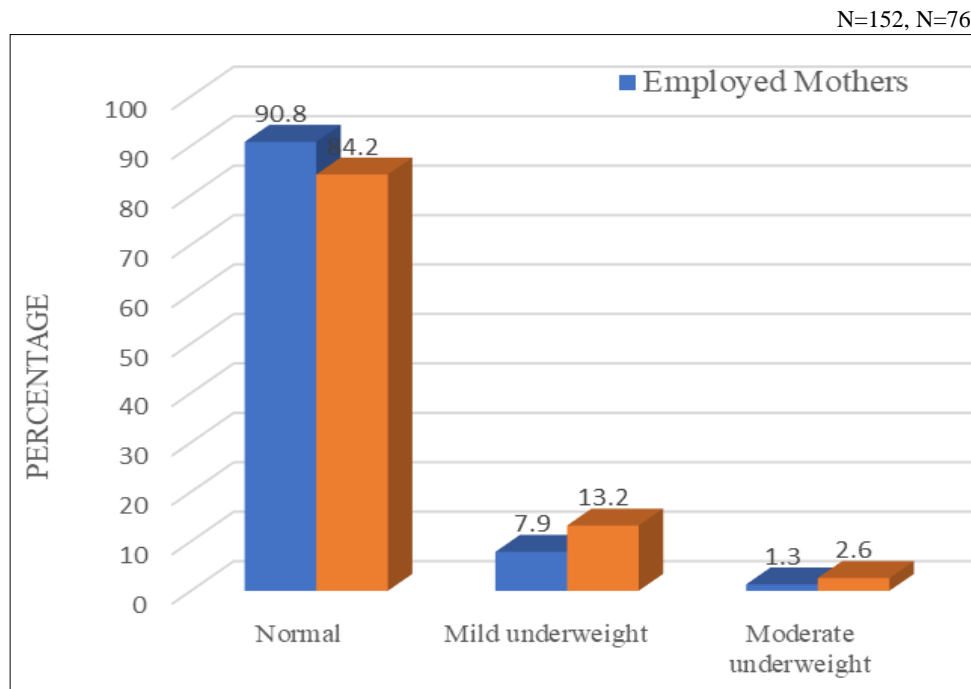


Fig 1: Weight for age

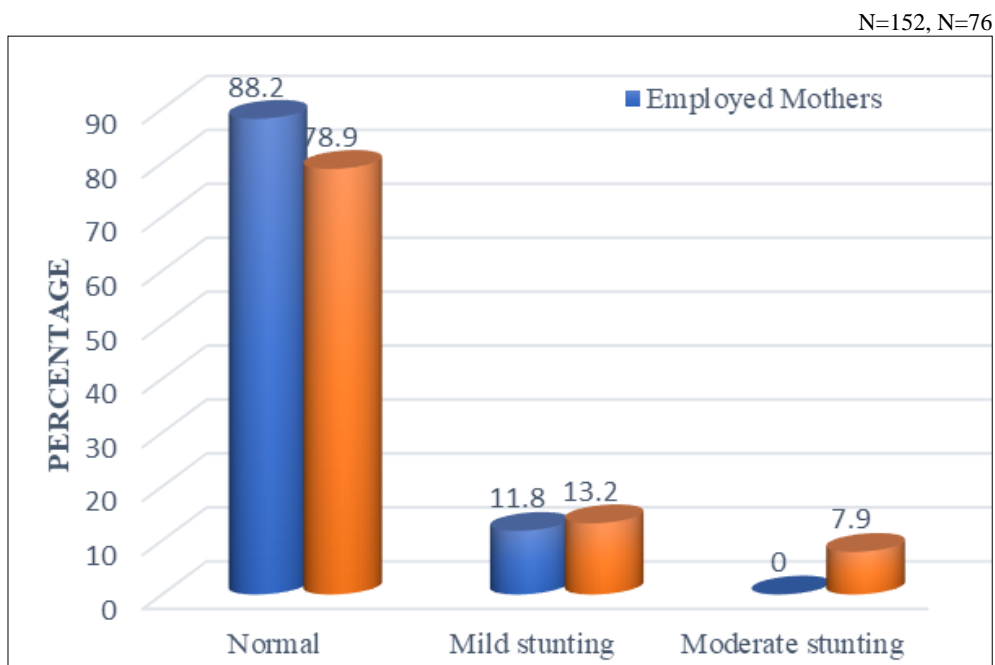


Fig 2: Height for age

Findings related to the frequency and percentage distribution of growth of children according to height for age in employed and unemployed mothers

Table 1: Frequency and percentage distribution of growth of children according to height for age in employed and unemployed mothers

N=152, N=76

Comparison		Mean	SD	Mean D	t-value	DF	P value
Weight	Employed	12.87	3.191	0.27	0.514	150	0.608 ^{NS}
	Unemployed	13.14	3.407				
Height	Employed	92.01	11.62	0.35	0.177	150	0.859 ^{NS}
	Unemployed	91.66	12.59				
MUAC	Employed	14.32	1.225	0.49	2.501	150	0.013*
	Unemployed	13.83	1.187				

N=152, N=76

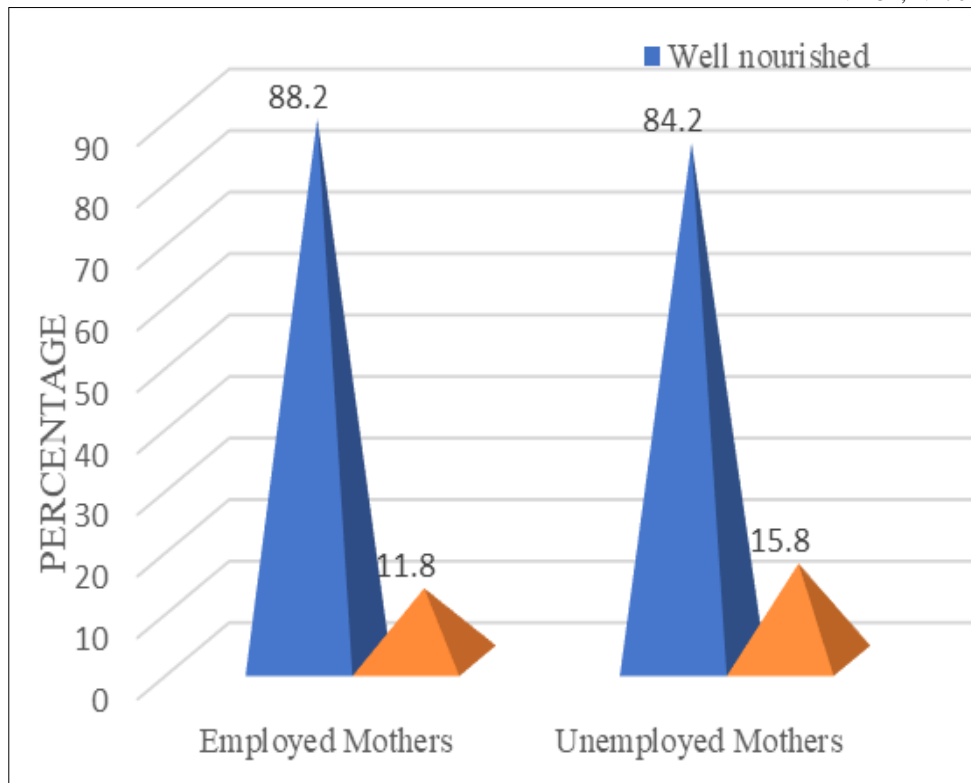
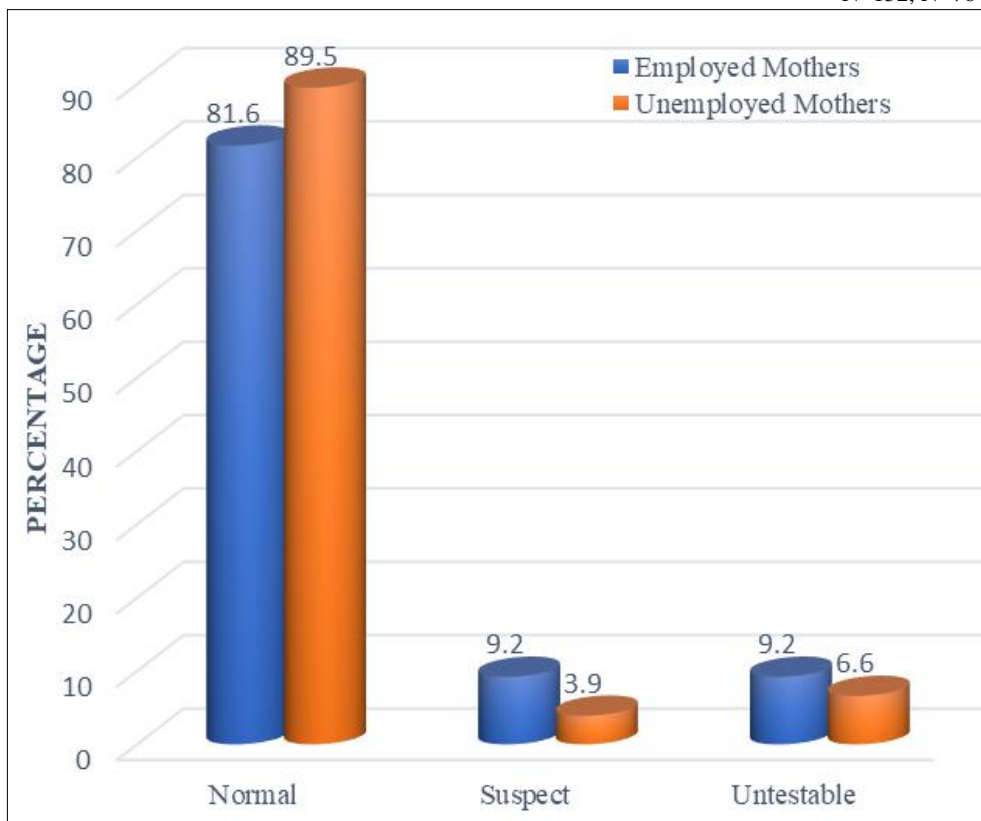


Fig 3: Mid upper arm circumference of children

Section III: Findings related to frequency and percentage distribution of Development of children according to Denver’s developmental screening in employed and unemployed mothers

N=152, N=76



* $p < 0.05$ level of significance
 NS= non-significant

Fig 4: Development of children

Section IV: Comparison of the growth of children of employed and unemployed mothers

Comparison of the development of children of employed and unemployed mothers

Table 2: Development of children of employed and unemployed mothers

N=152, N=76

Development of children	Employed mothers		Unemployed mothers	
	Frequency (F)	Percentage (%)	Frequency (F)	Percentage (%)
Normal	62	81.6	68	89.5
Suspect	7	9.2	3	3.9
Untestable	7	9.2	5	6.6

Section V: Association between growths of children according to weight for age in employed mothers with selected demographic variables

The obtained chi square value was significant at 0.05 level of significance. There was no significant association between growth of children according to weight for age in children of employed mothers with variables such as gender, age in years, religion, education of the child, qualification of the mother, type of family, monthly income, habitat birthplace, mode of delivery and birth order.

Association between growths of children according to height for age in employed mothers with selected demographic variables

The obtained chi square value was significant at 0.05 level of significance. There was significant association between growth of children according to height for age in children of employed mothers with qualification of the mother while other variables such as gender, age in years, religion, education of the child, qualification of the mother, type of family, monthly income, habitat birthplace, mode of delivery and birth order had no significant association.

Association between growths of children according to Midarm circumference in employed mothers with selected demographic variables

The obtained chi square value was significant at 0.05 level of significance. There was significant association between growth of children according to mid arm circumference in children of employed mothers with qualification of the mother while other variables such as gender, age in years, religion, education of the child, qualification of the mother, type of family, monthly income, habitat birthplace, mode of delivery and birth order had no significant association.

Association between developments of children of employed mothers with selected demographic variables

The obtained chi square value was significant at 0.05 level of significance. There was no significant association between growth of children according to development in children of employed mothers with variables such as gender, age in years, religion, education of the child, qualification of the mother, type of family, monthly income, habitat birthplace, mode of delivery and birth order

Association between growths of children according to weight for age in unemployed mothers with selected demographic variables

The obtained chi square value was significant at 0.05 level of significance. There was no significant association between growth of children according to weight for age in children of unemployed mothers with variables such as

gender, age in years, religion, education of the child, qualification of the mother, type of family, monthly income, habitat birthplace, mode of delivery and birth order.

Association between growths of children according to height for age in unemployed mothers with selected demographic variables

The obtained chi square value was significant at 0.05 level of significance. There was no significant association between growth of children according to height for age in children of unemployed mothers with variables such as gender, age in years, religion, education of the child, qualification of the mother, type of family, monthly income, habitat birthplace, mode of delivery and birth order.

Association between growths of children according to Midarm circumference in unemployed mothers with selected demographic variables.

The obtained chi square value was significant at 0.05 level of significance. There was no significant association between growth of children according to mid arm circumference for age in children of unemployed mothers with variables such as gender, age in years, religion, education of the child, qualification of the mother, type of family, monthly income, habitat birthplace, mode of delivery and birth order.

Association between developments of children of unemployed mothers with selected demographic variables

The obtained chi square value was significant at 0.05 level of significance. There was no significant association between growth of children according to development in children of unemployed mothers with variables such as gender, age in years, religion, education of the child, qualification of mother, type of family, monthly income, habitat birthplace, mode of delivery and birth order.

There is a significant association of growth and development with selected demographic variables hence H_2

Discussion

Development of children according to Denver's developmental screening in children of employed and unemployed mothers revealed that among children of employed mothers 62(81.6%) of children were having normal development, 7(9.2%) were having suspected development and 7(9.2%) of children were untestable. Among children of unemployed mothers 68(89.5%) of children were having normal development, 5(6.6%) of children were untestable and 3(3.9%) were having suspected development.

There is a difference between the growth and development of children of employed and unemployed mothers. Growth

is better in children of employed mother than the children of unemployed mothers while development is better in children of unemployed mothers.

Findings of growth of children of employed and unemployed mothers contradicts with the study conducted by Bharani Krishna Yeleswarapu, Samson Sanjeeva Rao Nallapu on comparative study of the nutritional status of pre-school children of employed and unemployed mothers to investigate selected anthropometric indices of employed and unemployed women's children in six randomly selected slums using the systemic random quota sampling method. The data was gathered using a questionnaire that consisted of closed-ended items that were coded for ease data entry. The study found that the children of unemployed moms weighed substantially more than those of employed mothers. In addition, the children of unemployed mothers were significantly taller than those of employed mothers ^[4]. Another study conducted by Mohammad Kadir on effect on maternal employment status on the nutritional status and child caring practices among children of 6 to 59 months. The results from both the mothers indicated the prevalence of child malnutrition (wasting, stunting and underweight). The prevalence of wasting, stunting and underweight were about 11.7%, 21.8%, 20.4% and 12.5%, 39.4% and 28.2% respectively from both the children of employed and unemployed mothers. While in this study 7.9% and 13.2% mild underweight in children of employed mothers and of unemployed mothers respectively, 11.8%, 13.2% mild stunting in children of employed and unemployed mothers respectively ^[5].

The findings of the development assessment where the children under the category of suspect and untestable of employed mothers are 9.2% and 9.2% respectively while children of unemployed mothers has 6.6% and 3.9% respectively was supported by Kaniz Fatima Mohsin et al study on the Impact of Mothers' Employment on Child Development. A total sample of 112 mothers is selected for the analysis, where 60 are working mother and 52 non-working children of both employed and unemployed mothers. A semi-structured interview schedule had been prepared. The study was both explanatory and exploratory in nature. From the analysis, the evidence shown is that the development of children of non-working mothers are better than those of the working category ^[4].

Also, another study conducted by Simon Odey Ering on Mothers Employment Demands and Child Development where the findings show that there is a connection between mother's employment demands and a child Behavioural pattern and poor development of child verbal and social skills because of the absence of parental care ^[6].

The findings of another study conducted by Jennifer L. Hill *et al.* on Maternal Employment and Child Development also reveals that maternal employment has a slight but significant detrimental impact on children's cognitive outcomes for full-time employment ^[7].

Conclusion

The major conclusion of the study drawn on the basis of the findings of the study was that the majority of the children from both the children of employed and unemployed mothers were normal for their weight for age, height for age and mid-upper arm circumference, also recognised the difference in the growth and development of children of employed and unemployed mothers. The differences drawn

were that the children of employed mothers had better findings in the aspect of growth while the children of unemployed mothers were better in the aspects of development.

As the quality of future human resources depends on the present-day children, it's integral for us to focus on holistic child development in overall aspects of growth and development. Mothers play an essential role in nurturing their children so mothers should understand it's not just the nutrition that the child requires but also positive stimuli, communication, a healthy relationship, a stress-free environment, and love and care from both their parents in order to achieve optimal growth and development.

Healthcare professionals should extensively participate in growth and developmental assessment to identify children with developmental delays and provide interventions accordingly.

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Ethical clearance

Ethical permission was sought from the institutional review committee of Sikkim Manipal University. Written consent was obtained from the respondents prior to the interview.

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Conflict of interest: None declared

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Not available

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