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Effect of Mothers Working and Non-Working Status on the Nutritional Status of Pre School Children

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INTRODUCTION

Health and nutritional status are two crucial and interlinked aspects of human development, which in to interact with demographic variables Malnutrition (a condition that occurs due to intake of inadequate amount of nutrients leading to insufficient nourishment) continues to be a problem of considerable magnitude in most of the developing countries in the world. Preschool children are one of the most nutritionally vulnerable segments of the population. Nutrition during the first 5 years has not only an impact on growth and morbidity during childhood, but also acts as a determinant of nutritional status in adolescent and adult life. Global comparative data indicate that contrary to common perception, prevalence of under nutrition is highest in South Asian children. India has the highest occurrence of childhood malnutrition in the world. Malnutrition is responsible for 55 percent of all deaths of children younger than 5 years of age globally. Malnutrition makes a child susceptible to infections and delayed recovery, thus increasing mortality and morbidity. It is therefore logical to direct attention to the quality of life of the survivors (Bose and Das, 2010).

Pre-school children constitute 20 percent of the Indian population. This is a huge human resource and needs to be developed and nurtured for the country to progress Pre-school children are extremely vulnerable. When the diet is poor in quality and quantity, infectious diseases and infestations are widespread. Pre-school years are foundation years, during this period the development of brain is more rapid along with increase in height, weight of other organs of the body are much more rapid than in other age groups. Therefore pre-school children require balanced diet for their proper development (Swaminathan, 2003).

In modern era malnutrition is going to be a serious public health problem and has for al long time been recognized as a consequence of poverty since most of the world's malnourished children live in developing nations of Asia, Africa, and Latin America: where they are mostly affected from low income families. The children from households with a low or very low socioeconomic status had 2.5 times the risk of being underweight relative to children who came from households with middle to upper socio economic status. Low level of nutrition adversely affects physical and mental growth of children. Malnutrition in early child hood is associated with significant functional impairment in adult life, reduced work capacity and decreased economic productivity (Babar et al. 2010).

More women will be working for earnings in the next 20 years, particularly when their children are young. Although the smaller family sizes associated with urbanization should decrease the time needed for childcare. Many urban parents will have their children achooled in order to attain the best opportunities for a successful life. The consequent focus on developing children's language and social skills may increase rather than decrease commitments adequate urban children will nutritional health urban society. Model urban programs, Friendly Cities Programs, invest childcare working hb efforts enough. Innovative approaches needed provide childcare, especially youngest group. These approaches must rely partnerships between employers, workers, government provide adequate care. Innovative strategies include support parental childcare cooperatives, social insurance mothers fathers home birth child, childcare schools, involvement elders childcare. Good childcare investments perhaps most important next generation working women Lower middle income nation face the having malnourished nourished population, with most overweight children urbanization and demographic trends associated communicable diseases unhealthy lifestyles described as the "Lifestyle Syndrome" "New World Syndrome". suggested most important etiology obesity consequent morbidity considered healthiness social status (Engle, 2000).

The problem of malnutrition in children goes hand in hand with a lack of disposable income within a family, poor knowledge of basic nutrition and hygiene practices and poor access to medical help, clean water and decent accommodation. All these factors play a part in this cycle of deprivation. Children who are malnourished have lower resistance to infection and are more likely to die from common childhood ailments such as diarrhoeal diseases and respiratory infections. Those who survive may be locked into a vicious cycle of recurring sickness and faulty growth, often with irreversible damage to their cognitive and social development. Under nutrition is an underlying cause of an

estimated 53 percent of all under 5 year old deaths (Ramirez, 2012).

The benefits of mother's education for children's health outcomes and nutritional status commonly accrue through higher socioeconomic status, which in turn operates through a set of "proximate determinants" of health that directly influence child's health outcomes and nutritional status. The proximate determinants include fertility factor, environmental hazards, feeding practices, injury and utilization of health services. Studies using household-level data have found mother's education to be positively associated with a number of measures of infant and child health and nutritional status. Results pointing to the importance of socioeconomic status indicators such as mother's education to children's nutritional status are consistent with findings that poor growth status among Asian children as measured by low birth weight, low height for age, and low weight for height is greatly associated with nutritional and health determinants rather than genetic factor (Miller and Rodgers, 2009).

In many developing countries, poor women have multiple roles, and often their time constraints are so severe that their participation in income-generating activities results in reduced childcare time, which in turn affects child health. Previous studies have tended to investigate how child care support influence nutrition of children with working mother's based on comparison with non-working mothers. However, non-working mothers are not a homogeneous group, and therefore needed to distinguish between those who need not work and those who wish to but cannot work due to a lack of substitute caregivers (Nakahara et al. 2006).

Protein energy malnutrition, which is manifested as decrease in weight for age or height for age or weight for height, is the most widely prevalent form of malnutrition among under-five children. Nutritional status of children is an indicator of nutritional profile of the community. Studies conducted worldwide showed that 150 million (26.6 percent) children are underweight, while 182 million (32.5 percent) are stunted all over the world. More than half of the world' undernourished people live in India. Fifty-four children are underweight, 52 percent are stunted, while 17 which are responsible for the higher prevalence of malnutrition in south Asian countries 7 percent are wasted. Factors including India comprise low birth weight, maternal health problems, and delay in introduction of complementary feeds, faulty child care and other poor environmental conditions which are again more prevalent in slums. These factors are in turn influenced percent by various factors like age at marriage, child bearing, child spacing, family size patterns, level of education, economic status, customs and beliefs, role of women in society etc. Mental and social development of the child is dependent on the mother and if the mother dies, the child's growth and development are affected. The mother is also the first teacher of the child, and that is why the mother and child are treated as one unit (Ahluwalia et al. 2007).

Previous studies have maternal health behavior is associated with specific disease in children. Maternal smoking with respiratory illness and maternal physical activity and eating habit with obesity. Child health is predicted by the socioeconomic status of the household and family, such as income and parents education level. More over poor housing condition, family context, such as poor parenting, and low interest in the child increase the risk morbidity and mortality among the children. Besides preventing diseases and illness, promoting health and well-being is recognized as an indispensible aspect in recent health policies. The present study examined the relationship between good and poor health in preschool children including health and behavior of children and mothers, as well as socioeconomic and environmental characteristic of household in an urban area (Watanabe, 2006).

The association between mother's part-time employment and mother's well being. parenting, and family functioning was also examined. Concurrent comparisons were made between families where mothers were employed part-time and those where mothers were not employed and those where mothers were employed full time. Using multivariate analysis of covariance with extensive control, result indicate that mother's employed part time had fewer depressive symptoms during the infancy and preschool years and better self-reported health usually than non employed mothers. Across the time span studied. mother's working part time tends to report less conflict between work and family than those are working fulltime. During their children's preschool years, mothers employed part time exhibited more sensitive parenting than did other mothers. Mother's employed part time reported doing a higher proportion of child care and house work than mother's employed full time (Buehler and Brien, 2011).

JUSTIFICATION:

When mothers are employed, they cannot get enough time for preparing healthy nutritious meals for their children. They depend mainly on junk food and ready to eat food. The children also like to eat such foods influenced by the television advertisements. Preschool children are usually considered one of the groups at greatest nutritional risk. Malnutrition affects the rate of morbidity and mortality among the young and poses a threat to their physical and mental development. Preschool children account for a disproportionately large share of the deaths in most developing countries. Nutritional deprivation is either directly or indirectly associated with most of those deaths. The very young are less able to cope physiologically with nutritional deficiencies than older children and adults. In addition, children who suffer a loss of growth due to early nutritional deprivation have only a limited capacity to overcome the resulting stunting For these reasons, there is particular interest in the determination of the nutrition and health status of preschool children in developing countries. (Garcia and Benjamin, 1991)

OBJECTIVES:

- To assess the anthropometric measurement of preschool children whose mothers are working and not-working.
- To find out nutrient intake of preschool children whose mothers are working and not-working.

REVIEW OF LITERATURE

Arya and Devi (1991) studied that the impact of maternal literacy status nutritional status of pre-school children in Parbhani was studied. Results revealed that the children of literate mothers had better anthropometric measurements than children of illiterate mothers. Nutrient deficiency signs especially of protein energy malnutrition I were more predominant among the children of illiterate mothers. Food consumption pattern was better in children with literate

mothers as compared to children of illiterate mothers. The consumption of milk and milk products, fruits, sugar and jaggery was significantly greater in children with literate mothers.

Macewen and Barling (1991) found that approximately two third of the mothers with dependent children are employed outside the home, concern remains that maternal employment exerts negative effect on mothers work and home lives. Most concern and empirical attention has been devoted to the question of whether children of employed mothers suffer ill effects. Because an employed mother is at home less than a non employed mother. It has been assumed that employed mother deprives her child of energy and time, needed to establish and maintain a healthy parent child relationship.

Basu and Basu (1991) found that women's employment in spite of other benefits, probably has one crucial adverse consequence: a higher level of child mortality rate isfound among women, who do not work. They examine various intermediate mechanisms for this relationship and conclude that a shortage of time is one of the major reasons for this negative relation between maternal employment and child survival. There is one aspect which is positively affected by female employment, the disadvantage to girls in survival which is characteristic of South Asia seems to be smaller among working mothers. This is in contrast to the effect of maternal education which may often have no clear relation to the sex ratio of childhood mortality even though absolute levels of child mortality are lower for educated mothers.

Govindasamy and Ramesh (1997) examined that the relationship between maternal schooling and factors known to reduce risk of maternal and child mortality, namely health-care practices, for selected northern and southern states in India. It is hypothesized that the practices of educated women are quite different from those of uneducated women with regard to pregnancy, childbirth, immunization, and management of childhood diseases such as diarrhoea and acute respiratory infection (ARI). However, there exists a number of potentially confounding factors, including various aspects of socioeconomic status, that are associated with maternal education, so that it is necessary to statistically control for these other factors. The findings indicate that a higher level of maternal education results in improved child survival because health services that effectively prevent fatal childhood diseases are used to a greater extent by mothers with more education than by those with little or no education. These effects of maternal education persist when the other socioeconomic factors are statistically controlled.

UNICEF (1997) carried out extensive surveys in rural and urban areas of India and reported that the diets are predominantly cereal based and thus deficient in several nutrients. Deficiencies of nutrients therefore occur frequently and to a greater degree among children.

Kishore and Parashuram (1998) found that, mothers who are employed have a 10 percent higher infant mortality rate and a 36 percent higher child mortality rate than mothers who are not employed. Male child mortality increases more than female child mortality if mothers work. A further finding is that employment of mothers in urban areas has more detrimental effects on infant and child survival than employment of mothers in rural areas. These findings do not imply that mother's employment should be discouraged. Instead, they indicate the need for viable child-care alternatives for women who work and for a renegotiation of gender roles and gender relations.

Connelly and Kimmel (2000) reported that there is a marginal effect upon child care when mothers are employed or not. Both the two groups indicate higher child care cost, which increases the probability of the mothers being employed.

Engle (2000) noticed that day care in the urban areas of developing countries, particularly for children under three, is usually woefully inadequate in coverage and quality. The most common day-care centers are run by governments or private voluntary organizations. These centers are likely to be attended only by children over three and have extremely limited coverage because of the large investment needed in buildings and equipment, Yet childcare is clearly necessary. United Nations data from 23 countries in Africa, Asia, and Latin America show that a majority of working women with children under five work away from home.

George and Daga (2000) revealed that 51.6 percent under five children were under weight, 46 percent were stunted, and 11 percent were wasted. Per capita income increase birth order, family size, house hold size, literacy level of the mother. Women with high school education were twice as likely to have well nourished children compared to illiterate and primary educated mothers.

Retherford and Mishra (2000) estimated the levels of child malnutrition and examined the effects of mother's education and other demographic and socioeconomic factors on the nutritional status of children. Results indicate that more than half of all children under age four are malnourished. Children whose mothers have little or no education tend to have a lower nutritional status than do children of more-educated women, even after controlling for a number of other potentially confounding demographic and socioeconomic variables. This finding suggests that women's education and literacy programs could play an important role in improving children's nutritional status.

Hallman et al. (2002) found that mothers work behavior may depend on the availability of daycare. Mothers were employed in a variety of occupation and used different formal and informal childcare arrangement. Maternal education is an important determinant of use of formal daycare. It was investigate whether a mother's status within her household influence her entry into the labor force or not. The study explored the impact of child care prices on a mother's earning, conditional on her decision to work.

Mian et al. (2002) determined the nutritional status of under five school aged children living in urban Islamabad Measurement of height and body weight revealed a high prevalence of malnutrition among these children. The prevalence of underweight was 29,5 percent, wasting 13 percent, and stunting 35 percent. Severe malnutrition was present in 15.4 percent children.

Patricia (2002) noticed the impact of mother's employment upon children as being overweight or obese. They observed that mothers employment and children getting tendency of being overweight increased dramatically within past few decades. This condition had been observed when mother's are more educated and have a good income level.

Tamer (2003) studied the impact of work of mother on child health which was assessed by comparing 200 working educated mothers and their 408 children with 200 non working mothers and their 440 children. Children's health status was determined by anthropometry, immunization status and morbidity pattern. Significantly more children were malnourished in the study group. Malnutrition showed a significant co-relation with mother's length of service, type of substitute child care and type of mother's profession. Significant numbers of children in study group were reported to have psychological problem as perceived by the mothers. Working of the mothers produced a significant nutritional and psychological impact on the children.

Kitsara and Kounenou (2004) concluded that parent child relationship plays a crucial role in chronic disease and especially in the course of childhood diabetes type 1. The study explores the characteristics of parent-child interaction among Greek families in which one child suffers from diabetes. It has been observed that family environment has an effect upon child's mental and physical state.

Haider et al. (2005) found that malnourished children are much more likely to die as a result of a common childhood disease than those who are adequately nourished. Malnutrition lowers the body's ability to resist infection by inactivating the functioning of the main immune-response mechanism. This leads to longer, more severe and more frequent episodes of illness. Of the nearly 12 million children under 5 who dic each year in developing countries mainly from preventable causes, the deaths of over 6 million, or $5 percent, are either directly or indirectly attributable to malnutrition. Some 2.2 million children die from diarrhoeal dehydration as a result of persistent diarrhoea that is often aggravated by malnutrition. According to the national figures of Pakistan given by the State of world's children UNICEF 2004, adult literacy rate in females is only 28 percent and mother's literacy status must be much lower than this actual figure. Prevalence of stunting and wasting is 32.50 percent and 16.5 percent respectively in rural areas of Pakistan which is higher in comparison to the urban areas. This difference may be attributed to limited access and utilization of health services. Only 35percent of rural areas have access to health whereas 90percent of urban areas have these facilities.

Waldfogel (2007) concluded that dramatic increase in maternal employment had taken place. As a result family life has changed significantly. Forty years ago two thirds of American children had stay at home parents, but now only one third have stay at home parents. As 46 percent live with two working parents and 20 percent live with a single working parent.

Gupta et al. (2008) concluded that mother's transitioning to work after welfare reform often requires child care for unhealthy children. The majority of child care was carried by the family members. Most of the mothers have concern about their child car estrangements. Mother's of unhealthy children had trouble arranging care and look for emergency child care. They received child care subsidies at lower rates. Improved access to quality child care and child care subsidies, especially for mothers with unhealthy children might reduce barriers to mother's work and increase achievements of welfare reforms employment goals.

Hubbard (2008) found that, Childhood obesity rates have increased dramatically in United States since the late 1970s. During the same period the nation has witnessed an upward trend in women's labor force participation. The effect of mother's employment and child care decisions on several alternatives measures of children's body mass status in the first, third, and fifth grades using Early Childhood Longitudinal Survey Kindergarten Cohort. He found that maternal employment fulltime increase the risk of being obese by 3.7 percent and of being overweight by 0.5 percent.

Lears (2008) concluded that, employment status is not a significant predictor of the quality of home environment among single mothers of young children when family size and welfare use are controlled. Among single working mothers several job conditions were related to the quality of the home environment. Single who were employed part and in low wage jobs had significantly poorer home environment.

Bose and Mandal (2009) studied a cross sectional observational study of 894 children,20 Integrated Child Development Services (ICDS) Scheme Centers to determine their nutritional status using mid-upper arm circumference (MUAC) in Bali Gram Hooghly District of West Bengal, India. The study area of remote villages located approximately hundred km from Kolkata. information on age and ethnicity (all were of Bengali Hindu ethnicity) of the children were collected from their parents following face to face interview and verified from official records. The measurement (in centimeters) was taken by the following the standard technique. Nutritional status was determined following the World Health Organization age and sex-specific cut-off points. Results revealed that mean MUAC among boys was higher than girls at all ages except five years. The age-combined rates of overall (moderate + severe) under nutrition were similar in both sexes. This result implied that both the sexes were experiencing similar nutritional stress. Under nutrition were also similar in both sexes. In general, there was an increasing trend in the rates of overall under nutrition from 3 to 5 years in both sexes. In conclusion, the study clearly indicated that the nutritional status of these pre-school children was serious with very high rates of under nutrition in both sexes. Thus, it seems that there is scope for much improvement in the form enhanced supplementary nutrition than what is currently being offered by the ICDS scheme in Hooghly District of West Bengal. Therefore, it is imperative that the ICDS authorities urgently consider the enhancement of the supplementary being currently given to them.

Chandran (2009) found that mother's education could bring about a noteworthy reduction in the incident of underweight in preschool children. Mother's education has a milder influence on the wasting than on stunting preschool children. 14 percent of preschool children's mothers with at most primary education are moderately wasted. This the importance and necessity of female education in improving child's status and hence the future generation.

Hill et al. (2009) found that maternal employment affects the child health Employment may increase family income, which can be spent on better quality food products and higher standard both which are expected to produce positive health outcomes. But it is observed that, children whose mothers are employed have increased to respiratory, ear and gastrointestinal infections.

Hope (2009) found that children of working mothers tend to have a less healthy lifestyle than those whose mothers

stay at home. They snack on more junk food, spend more time in front of the TV and do less exercise. Those whose mothers work part-time follow slightly healthier regime, while the children of stay-at-home mums have the most nutritious diets and enjoy more curtise. However, researchers insist the results do not pl that mothers should not work. But they say there is a definite link between paid pment and a lifestyle that leaves children more at risk from obesity and de They suggest a lack of time is the biggest factor keeping the healthiest lifestyles of reach of many working families.

Institute of Child Health (2009) found that children whose mothers work, are less than those with stay-at-home mums. Working mothers are more likely to drive der children to school and the youngsters are more likely to watch TV, drink fizzy pop and eat too few portions of fruit and vegetables. A total of 30 percent of the mothers had st worked since the birth of their child but the rest ware employed, typically working 21 en per week. The mothers were questioned about the hours they worked and their n's diet, exercise and activity levels when the youngsters were 5. This included much sweets and crisps, sugary drinks, fruit and vegetables the child ate and drank, her they took part in organized exercise, and how they got to school. The research that many children had habits that could lead to them becoming overweight 37 percent of children mostly ate crisps or sweets between meals and 41 percent mostly sweetened drinks, while a total of 61 percent watched television or used the computer for at least 2 hours a day. When the researchers took away factors that might ce the results, such as socio-economic background, they found a definite link been a mother working and the health of her child.

Azad *et al.* (2011) found that the majority of boys were overweight and there was a clear at indication of obesity found among the girls. The dietary and activity pattern showed hvoritism of fast food and other junk food with T.V. watching, computer and video sa major leisure time activities.

MATERIALS AND METHODS

The present study entitled "Effect of mothers working and non-working status on the nutritional status of pre-school children."

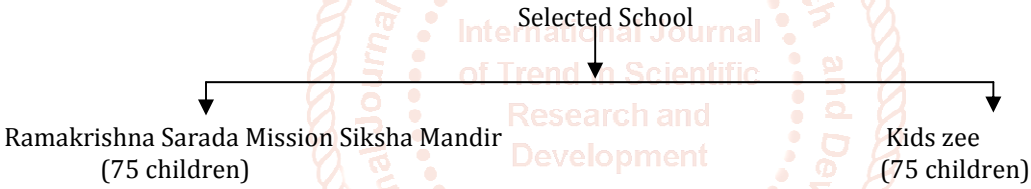
The study was conducted by using the following methodology -

Location of study- North 24 Pargana District of West Bengal was selected as the study area purposively. Because it was Kolkata's suburbs area and maximum women were working there.

Selection of municipal areas - There were 27 municipal area in North 24 Pargana District of West Bengal. Two municipal areas were selected randomly and one school was selected randomly from each municipal area.

Sample selection -

Sample size 150 children.



Method of enquiry and data collection-Pre-tested and pre-structured interview schedule was used for the collection of data from the respondents. The schedule was included the aspects which lead to the fulfillment of the objectives of the study.

The interview schedule had following information:

- General profile
- Dietary intake (24 hrs. dietary recall method)
- Anthropometric assessment
- Clinical assessment

General profile:

This covered the aspects including respondents name, age, sex, type of family and occupation of parents. All these were important for knowing the respondents socio economic status.

Dietary intake:

The food consumption frequency was recorded in terms of cereals, pulses, milk and milk products, green leaty vegetables, other vegetables, fruits, poultry, fat and oil and sugar and jaggery. Information related to dietary pattern, food habit, food intake and food frequency was also recorded. The food intake was recorded by 24 hours dietary recall method and nutrient intake in terms of energy, protein, fat, iron and - carotene was calculated. Calculation of nutrient intake was done with the help of food consumption tables given by Gopalan et al. (2007) and compared with the recommended dietary allowances given by ICMR (2007).

Anthropometric assessment:

Anthropometric assessment was concerned with the measurement of variations of physical dimensions followed-

Height:

Height in centimeter of the subject was recorded with the help of a measuring tape by sticking the subject to the wall. The subject was made to stand erect, looking straight, buttocks, shoulders and head should touch the wall, heel together, toes apart and hands should be hanging loosely by the sides. Height was recorded in the centimeter (ICMR, 1996).

Weight:

The weighing scale with maximum capacity of 120 kg and the minimum division of 0.5 kg was used to weight all the subjects. The respondents were made to stand erect on the weighing scale, with minimum cloths, without foot ware, without leaning

against or holding anything and the weight was recorded in kilograms (kg). Three consecutive reading was taken for all subjects and the mean value was recorded. The scale was adjusted to zero after each measurement (ICMR, 2007).

Chest circumference:
Chest circunference was measured with the help of a inch tape in centimeter (ICMR,1994)

Mid upper arm circumference:
Mid upper arm circumference was measured with the help of a measuring tape in centimeter (ICMR, 1994)

Clinical assessment:
The hair, eyes, nails, lips, gun, teeth, skin and general appearance of each subject was nained, in order to find out if any signs and symptoms of nutritional deficiency are prent (Park, 2002)

Statistical analysis:
The data was statistically analyzed by using Standard Error, Paired t test and other propriate techniques (Bhardwaj, 2006).

RESULTS AND DISCUSSION
The result of the present study '' Effect of mother working and non working status on the nutritional status of preschool children" are discussed in this chapter.

Age (In Years)	Group I (Non-Working mothers) N=75				Group II (Working mothers) N=75				Total N=150	%
	Boys	%	Girls	%	Boys	%	Girls	%		
3 Yrs	12	16	15	20	10	13.33	14	18.66	51	34
4 Yrs	16	21.33	10	13.33	16	21.33	12	16	54	36
5 Yrs	4	5.33	8	24	13	17.33	10	13.33	45	30
Types of family										
Joint	9	12	12	16	4	5.33	8	10.66	33	22
Nuclear	23	30.66	31	41.33	35	46.66	28	37.33	117	78
Family income in Rs. Per month										
<Rs. 10000	6	8	5	6.66	4	5.33	5	6.66	20	13.33
Rs. 10000-20000	14	18.66	23	30.66	20	26.66	13	17.33	70	46.66
>Rs 20000	12	16	15	20	15	20	18	24	60	40

Table 4.1 shows the following-

Age: The pooled data showed the maximum number of the respondents were of 4 yrs. of 36percent followed by 3 yrs of age ie. 34 percent and the rest were of 5 yrs of it. 30percent.

Types of family: The majority of respondents were from nuclear family le. 78 percent. seilar result was reported by Rita (1998) and Srivastav (1991), in their studies carried at in different parts of Udham Sing Nagar district Uttranchal, and only 22 percent respondents were from joint family.

Family income: 40 percent families had the income level of above Rs. 20,000, 46.66 percent of the families had the income level of between 10,000 to 20,000 and rest of the families ie. 13.33 percent had the income level of below Rs. 10,000.

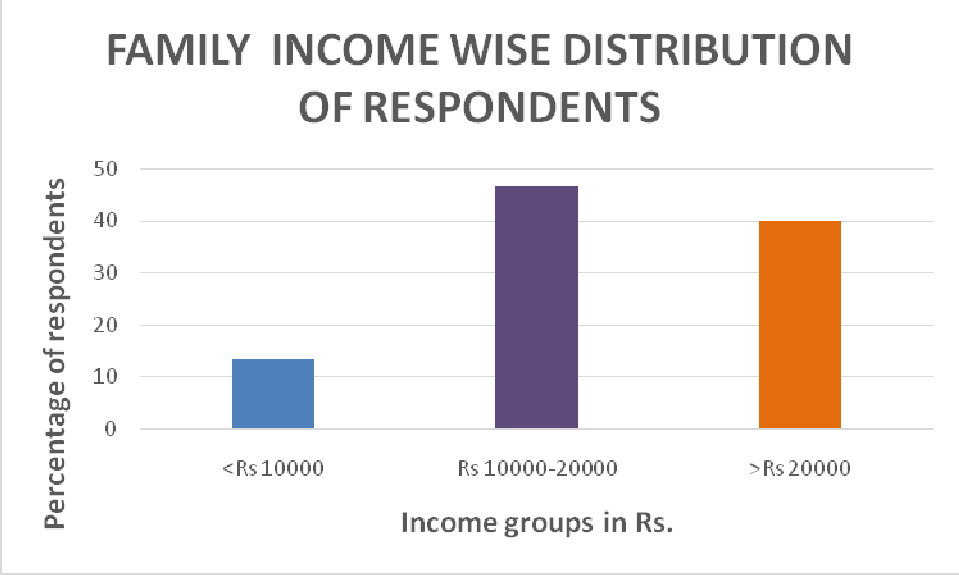


Fig: -4.2-Distribution of selected preschool children according to the total family income

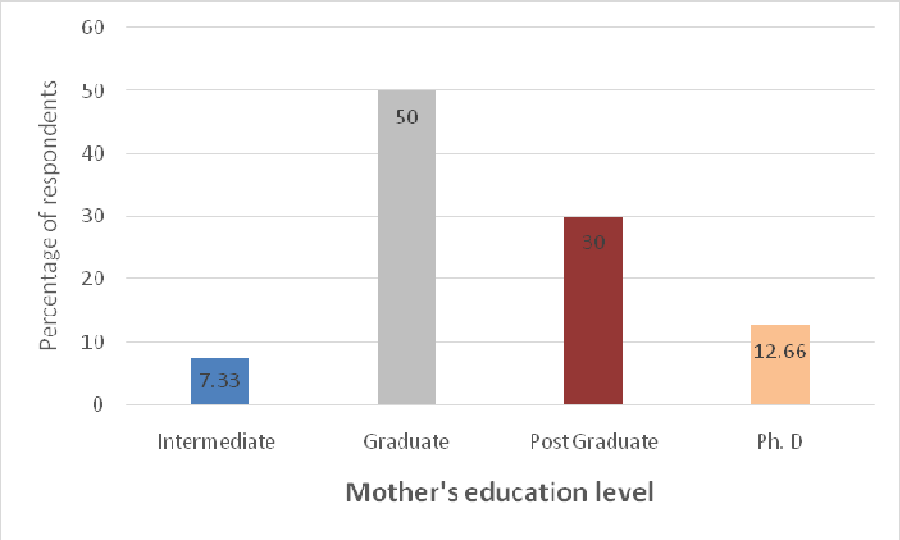


Fig-4.3-Distribution of selected preschool children according to the total family income

Fig 4.3 shows that maximum number of respondent's mothers were graduate ie. 50 per followed by 30 percent respondent's mothers Master's degree and 12.66 percent respondent's mothers had Ph.D. degree, 7.33 percent respondent's mothers were intermediate pass. On comparison between group-1 and group-2, it was found that maximum numbers of mothers were higher educated in group-2 compare to group-1. In the year 2009, Chandran observed that mother's education could bring about a noteworthy reduction in the incidence of underweight in preschool children.

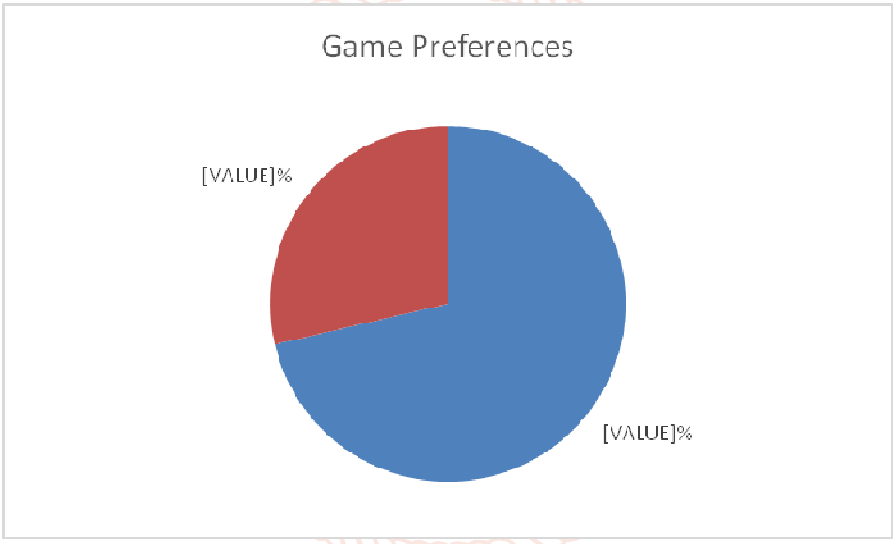


Fig-4.4-Distribution of selected preschool children according to game preference

Fig 4.4 shows that the majority of respondents preferred indoor games (71.33%) and rest of the respondents preferred outdoor games (28.66%). On comparing working and non-working mother's children, showed that maximum number of respondents from group-2 prefers indoor games compared to group-1.Similar findings are also reported by Azad et. al.(2011) at Jammu and Kashmir that T.V. watching, computer and video games are major leisure time activity of children.

Fig 4.5-Distribution of selected preschool children according to fast food preference

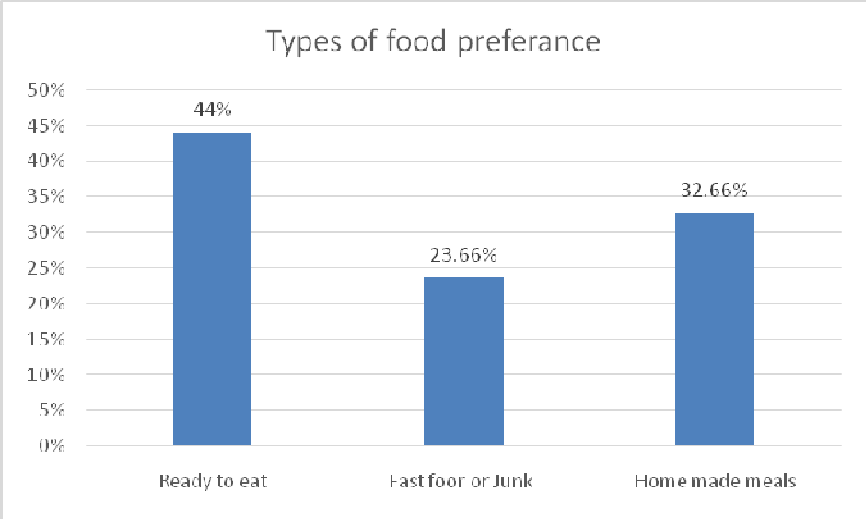


Fig 4.6 Distribution of selected preschool children according to the type of food preference

Fig 4.5 & 4.6- Shows that maximum number of respondents preferred ready to eat foods (44 followed by 32.66% respondents who preferred homemade meals and percent respondents preferred fast or junk food. On comparing working and non-working mothers' children it was found that maximum numbers of non-working mothers cent), preferred homemade meals compared to the children of working on other hand maximum number of working mothers children preferred ready to eat

Group -1 (Non-working mother's children)

Table-4.7 Average daily nutrient intake of preschool children:

Age Group	Particulers	Calories (kcal.)	CHO (g)	Prot. (g)	Fat (g)	β – carotene (µg)	Vit. B-1 (µg)	Calcium (mg)
3 yrs.	Avg. Intake	1246.81	200.9	39.4	31	1515	0.55	266.6
(N = 27)	S.E.	± 0.4	±0.34	±0.93	±0.70	±12.3	±0.38	±5.74
	RDA 2007	1240	186	22	25	1600	0.6	400
	Difference	+6.81	+14.9	+17.4	+6	-85	-0.05	-133.34
	t-cal	16.66	42.25	18.09	8.34	6.80	0.13	15.15
	t-table	2.01	2.01	2.01	2.01	2.01	2.01	2.01
	Reasult	**S**	**S**	**S**	**S**	**S**	**NS**	**S**
Age Group	**Particulers**	**Calories (kcal.)**	**CHO (g)**	**Prot. (g)**	**Fat (g)**	**β – carotene (µg)**	**Vit. B-1 (µg)**	**Calcium (mg)**
4 & 5 yrs.	Avg. Intake	1728.95	311.83	48.66	31.29	1527	0.76	327.5
(N = 48)	S.E	±0.44	±0.52	±0.69	±0.41	±6.33	±0.23	±6.16
	RDA 2007	1690	253.5	30	25	1600	0.9	400
	Difference	+38.95	+58.33	+18.66	+6.29	-73	-0.14	-72.5
	t-cal	88.66	109.68	26.56	15	5.22	0.73	1.28
	t-table	2.01	2.01	2.01	2.01	2.01	2.01	2.01
	Result	**S**	**S**	**S**	**S**	**S**	**NS**	**NS**

S = Significant / NS = Non – Significant

Group-2 (Working mother's children)

Age Group	Particulers	Calories (kcal.)	CHO (g)	Prot. (g)	Fat (g)	β – carotene (µg)	Vit. B-1 (µg)	Calcium (mg)
3 yrs.	Avg. Intake	1270.58	208.58	36.4	33.5	1542	0.5	268.33
(N = 27)	S.E.	± 5.3	±0.27	±0.82	±0.88	±7.43	±0.34	±4.7
	RDA 2007	1240	186	22	25	1600	0.6	400
	Difference	+30.58	+22.58	+14.4	+8.5	-58	-0.1	-131.67
	t-cal	2.14	50.64	27.83	9.38	2.75	0.28	5.74
	t-table	2.01	2.01	2.01	2.01	2.01	2.01	2.01
	Reasult	**S**	**S**	**S**	**S**	**S**	**NS**	**S**
Age Group	**Particulers**	**Calories (kcal.)**	**CHO (g)**	**Prot. (g)**	**Fat (g)**	**β – carotene (µg)**	**Vit. B-1 (µg)**	**Calcium (mg)**
4 & 5 yrs.	Avg. Intake	1730.33	306.45	45.56	35.68	1504	0.8	318.82
(N = 48)	S.E	±0.23	±0.31	±0.77	±0.59	±6.03	±0.23	±4.91
	RDA 2007	1690	253.5	30	25	1600	0.9	400
	Difference	+40.33	+52.95	+15.56	+10.68	-96	-0.1	-81.18
	t-cal	167.41	172.63	19.98	17.69	16.94	0.41	16.53
	t-table	2.01	2.01	2.01	2.01	2.01	2.01	2.01
	Result	**S**	**S**	**S**	**S**	**S**	**NS**	**NS**

S = Significant / NS = Non – Significant

Table 4.7-Shows the mean nutrient intake of respondents aged 3 years and 4-5 years. It was found that calculated value of t is greater than the table value of t at 5 percent probability level. There was highly significant difference in protein and fat intake RDA (2007). The mean nutrient intakes (carbohydrate, protein, fat, B-carotene, thiamine and calcium) were compared with ICMR RDA (2007) and it was found that regarding a significant difference in thiamine consumption in all age groups. Regarding macro nutrient consumption non-working mothers' children were in better position. On there is a non-comparing 3 years children of working and non-working mothers regarding calcium and intake it was found that working mothers were in better position, but regarding 4 and 5 years, non-working mothers children were in better position. In the year of 2011 -carotene Ganguli et. al explored dietary patterns in a urban Bengali population of women in West Bengal, 'red meat and high-fat dairy' pattern was more popular there, which is characterized by higher intakes of red meat, fish, high-fat dairy products, whole grain, high-energy drinks and condiments. On comparison between working and non-working mothers children then it was observed that, working mothers children consumed more calories compare to non-working mothers children because they consumed more junk foods.

SUMMARY AND CONCLUSION

The present study entitled "Effect of mother's working and non-working status the nutritional status of pre-school children" was conducted in 24 Parganas (1) District of West Bengal. The study was undertaken with the following objectives

- To assess the nutritional status of preschool children whose mothers are working to find out the effect of mothers working and non-working.
- To find out the effect of mothers working and status on preschool children's nutritional status.

A total of 150 pre-school children between the ages of 3 to 5 years were selected by random sample selection method. Among them 75 children belonged to working mothers and rest of the 75 children of non-working mothers.

Pooled data showed that maximum number of the respondents were of 4 yrs of age je percent, followed by respondents are of 3 yrs of age se. 34 percent and the rest were 5 yrs of age ie. 30 percent.

The majority numbers of respondents were from nuclear family ie 78 percent, and only 22 percent respondents were from joint family.

40 percent families had an income level of above Rs. 20,000, the income level of 46.66 percent families was between Rs. 10,000 to 20,000 and rest of the families (13.33 per cen) had the income level of below Rs. 10,000.

Maximum of respondents mothers were graduate (50 percent), followed by 30 percent respondents' mothers had Masters degree and 16 percent respondents' mothers had Ph.D. degree, 7.33 percent respondents mothers were intermediate pass.

Majority of the respondents preferred indoor games (71.33 percent) and rest of the pondents preferred outdoor games (28.66 percent).

Miximum number of respondents preferred fast food (68 percent) and rest of the pondents did not prefer fast food (32 percent),

Maximum number of respondents prefferred ready to eat foods (44 percent), followed by 32.66 percent respondents preferred homemade meals and 23.33 percent respondents ferred fast or junk food.

Maximum number of respondents consumed junk food as a snacks, ie. 63.33 percent followed by 26.66 percent respondents consumed junk food as an additional meal, and 10 percent respondents consumed junk food as a meal.

The man nutrient intake of respondents aged 3 years and 4-5 years when calculated, it was found that calculated value of t is greater than the table value of t at 5 percent probability level. There was highly significant difference in protein and fat intake regarding RDA (2007), The mean nutrient intakes (carbohydrate, protein, fat, β-carotene, thiamine and calcium) were compared with ICMR RDA (2007) and it was found that, there is a non significant difference in thiamine consumption in all groups Regarding and was found that working mothers' children were in better position. On comparing 3 years children of working and non-working mothers regarding calcium and β-carotene intake it was found that working mothers were in better position, but regarding and 5 years, non-working mothers children were in better position.

It was found that ICMR standard values were greater than the observed man height of school children. When t-test applied it was found that the calculated value of was ter than the table value of 1 at 5 percent probability level. Therefore it was conclude at the mean height of preschool children was significantly lower than the ICMR standard (1996).

It was also found that the ICMR standard values were greater than the observed mean sight of preschool children. When t-test applied it was found that the calculated value of was greater than the table value of t at 5 percent probability level, It was found that en height of preschool children was significantly lower than the ICMR standard (2007)

The mean chest circumference and mid upper arm circumference measurements of working and non working mothers children were comparable

Conclusion:

On the basis of the findings it is conclude that the nutritional status of preschool children whose mothers are working and not-working both the groups are consuming excess calories regarding to RDA giving by **ICMR (2007)**. Although the mothers who are not working their children are consuming less calories compare to working mother's children. The effect of mothers working and non-working condition on preschool children's nutritional status was that the weight of children of both group were greater than the **ICMR standard (2007)**, and there was a significant difference between the weight of working and not working mothers children. Working mothers children had grater weight compare to not working mothers children.

Recommendations:

- The calorie consumption was already greater than the RDA, **ICMR 2007**, so the mothers should pay attention upon the child's diet.
- Plenty of salad and other green leafy vegetable should be included in the children's diet.
- Mothers should prepare some healthy and nutritious dishes like upma, sandwiches for the snacking of the children.

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