ANALYSIS OF CURRENT STATUS OF MALNUTRITION IN INDIAN SCHOOL CHILDREN AND FUTURE PROSPECTIVE

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ABSTRACT
Malnutrition, a global health issue, is defined as a lack of sufficient nutrition. Malnutrition has the potential to be disastrous. Children under the age of two are particularly vulnerable to malnutrition, but children under the age of five, the elderly, and those with chronic diseases are also vulnerable. As a result, the study intends to assess malnutrition in school children as well as their mothers' knowledge, attitude, and practices surrounding malnutrition in India. According to the findings of the current study, mothers' nutritional awareness, which included their knowledge of food and nutrients, the health benefits of food and nutrition, the cooking procedure, cleanliness, hygiene, and sanitation, and healthy food habits, all played a positive role in their children's nutritional status.

KEYWORDS: Knowledge, Attitude, Malnutrition, Practice, Mother, Children, India

INTRODUCTION
In less developed nations, children fewer than 5 and between 2 and 5 are most susceptible. Many feel a community's new-borns and toddlers' nutritional condition is an indicator of its overall health and nutrition [Agbon C, Okeke E, Omotayo, 2010;2(6):336-339, 2]. There's a complicated link between parental education and preschool meals. Higher education is linked to a better understanding of children's needs and superior child care approaches. Higher education means more time. Parents with more education should be able to offer healthier, more nutritious meals for their children, regardless of their family's finances. (1984) The relationship between pre-schoolers' diet, physical health, and care may affect their nutritional well-being positively and negatively [Caulfield, L. E., Richard, S. A., Rivera, J. A., Musgrove, P., & Black, R. E. (2006). 8]. Many developing nations still have challenges with insufficient food, energy, and nutrition [Faber M. & Laubscher R. (2008) 12]. Poor nutrition is connected to undernourishment, infectious, and chronic diseases [Ansuya, Nayak, B.S., Unnikrishnan, B. et al. 4]. Malnutrition, low food intake, and infectious illness form a vicious cycle because inadequate intake leads to disease and disease leads to insufficient intake [Katona, Peter. (2000). 15]. Daily food intake affects a child's overall health [Nicklaus, Sophie & Boggio, Vincent & Chabanet, Claire & Issanchou, Sylvie. (2005). 17]. 195 million under-5 children in poor nations have stunted development due to intrauterine nutritional insufficiency. Insufficiency happens when a pregnant woman isn't well-nourished (UNICEF 2008). Malnutrition may include Malnutrition, overnutrition, and vitamin and mineral deficiencies (or excesses). Malnutrition is any lack of nutrition. Nutrition and food access.

MALNUTRITION
Malnutrition refers to deficiencies, excess or imbalance in a person's intake of energy and/or nutrients [31]. The term malnutrition addresses 3 broad groups of conditions:

- under nutrition, which include wasting (low weight-for- height), stunting (Low height-for-age) and underweight (Low weight-for-age)
- Micronutrient- related malnutrition, which includes micronutrient deficiencies (a lack of important vitamins and minerals) or micronutrient excess; and
- Overweight, obesity and diet-related Nano communicable diseases (such as heart disease, stroke, diabetes, and some cancers) [31].

VARIOUS FORMS OF MALNUTRITION
There are 4 broad sub-forms of under-nutrition, wasting, stunting, underweight and deficiencies in minerals and vitamins.

- Low weight-for-height is known as wasting. It usually indicates recent and severe weight loss, because a person has not had enough food to eat and/or they have had an infectious disease, such as diarrhoea, which has caused them to lose weight. A young child who is moderately or severely wasted has an increased risk of death, but treatment is possible.
- Low height-for-age is known as stunting. It is the result of chronic or recurrent under-nutrition, usually associated with poor socioeconomic conditions, poor maternal health and nutrition, frequent illness, and/or inappropriate infant and young child feeding and care in early life. Stunting holds children back from reaching their physical and cognitive potential.
- Low weight-for-age is known as underweight. A child who is underweight may be stunted, wasted or both.
- Inadequacies in intake of vitamins and minerals often referred to as micronutrients, can also be grouped together. Micronutrients enable the body to produce enzymes, hormones, and other substances that are essential for proper growth and development. Iodine, vitamin A, and iron are the most important in global public health terms; their deficiency represents a major threat to the health and development of populations worldwide, particularly children and pregnant woman in low-income countries [30].

CAUSES OF MALNUTRITION

There can be many underlying causes of malnutrition. A conceptual framework on the causes of malnutrition was developed in 1990 by UNICEF. The framework shows that causes of malnutrition are multi-sectoral and classified as – Basic, Underlying, and Immediate [26].

- Immediate causes of malnutrition are at individual level including inadequate dietary intake and frequent illness and diseases.
- An individual's dietary intake and exposure to disease are affected by underlying factors at household/family level such as lack of availability of, access to and/or utilization of diverse diet, inadequate care and feeding practices for children combined with unhealthy household and surrounding environment and inaccessible and inadequate health care.
- Basic causes including the social, economic, and political factors that neglect human rights, perpetuates poverty, denying the access of vulnerable populations to essential resources. These function at the Society level.
- The causes of under nutrition and over nutrition are in many ways similar and interlinked. Factors such as poverty, lack of knowledge and access to adequate diet, poor infant and young child feeding practices, inadequate health care etc. can lead to under nutrition as well as overweight and obesity. Therefore, Malnutrition has serious ill-effects. The people affected by malnutrition suffer from deficiencies of different nutrients and have infections. They also have poor physical as well as mental growth and development which cause various handicaps. Malnutrition can also lead to deaths. Approximately 12 million children younger than 5 years of age die every year; most of these children live in developing countries [4].

CONSEQUENCES OF MALNUTRITION

Malnutrition may have devastating consequences. Children under two are most at risk for malnutrition, but children under five, the elderly, and those with chronic conditions are also at risk. Pregnant or breastfeeding teens are also at risk. Malnutrition contributes to both death and morbidity (illness). Chronic malnutrition throughout pregnancy and infancy may cause stunted development and wasting. Stunted growth means short for age (Low weight for height). Malnourished youngsters don't reach their full physical and intellectual potential in their first few years. Both the child's body and intellect are affected. Malnutrition may occur early in a person's life. Stunting increases the chance of unfavourable pregnancy outcomes (such as a low birth weight), diminished cognition that leads to poor scholastic performance, and lower economic output and earnings. Lack of nutrition in infancy hinders the body from receiving adequate nutrients, causing stunting. Undernutrition causes stunting.

(2014)If a person doesn't achieve their maximum height potential throughout their formative years, they're more likely to become fat and develop non-communicable disorders including cardiovascular disease, diabetes, and hypertension. Anemia, mental retardation, and permanent blindness may be induced by micronutrient-deficient diets. Rickets, a type of juvenile arthritis, is another micronutrient -related condition. Undernourished people have a compromised immune system, increasing their sickness risk. They recover from illness less quickly and fully and become sick more often. Malnutrition increases the risk of illness by causing appetite loss and digestive issues. Malnutrition makes people sicker. This increases the body's desire for nutrients, resulting in hunger and a vicious cycle of illness and malnutrition [23].

TYPES OF MALNUTRITION

There are two types of malnutrition

Protein-Energy-Malnutrition –

PEM is one of the major nutritional problems in our country. It can occur at any age, but it mainly affects the young children. It results due to lack of energy and proteins and lack of proteins alone in the diet. Energy deficiency can cause protein deficiency. The body gets energy from carbohydrates and fats. When these are not present in adequate amount in the diet, the body cannot meet its energy needs. It then uses proteins for the supply of energy thereby resulting in deficiency of proteins in the body, hence PEM.

Micronutrient deficiency diseases

a) Vitamin A deficiency
b) Iron deficiency
c) Iodine deficiency
d) Zinc deficiency
e) Riboflavin deficiency
f) Niacin deficiency

ASSESSMENT OF NUTRITIONAL STATUS

The process of the determining the nutritional status of an individual or a group is known as nutritional assessment.

The Physical Growth

The physical growth is most rapid during early childhood. Therefore, children below 5 years of age are most susceptible to malnutrition. Growth can be determined by measuring the body weight and height. A child at a particular age must have a specific height and weight. In other words, the body weight and height of the child can become the indicator of his/her nutritional status. Summary of studies on Anthropometry of under-5 children is presented in table 1.1

Table 1.1: Summary of studies on anthropometry of under-five children

Author, year	Subjects	Parameters studies	Major Findings
Purohit et al., 2017	300	Nutritional status of children in urban slum area	69% under-nutrition, 55.3% underweight 75% wasting, 42% stunting.
Radhamani et al., 2017	150	Nutritional status of Anganwadi children	14.6% were underweight, 10.6% stunted, 16.6% wasted.

Sentikumar et al; 2018	206	Prevalence& determinants of malnutrition	51% malnourished children consist of 41.3% underweight, 11.2% severely underweight, and 32.5% stunted, 6.3% severely stunted, 21.8% wasted and 6.8% severely wasted.
Camala et al., 2018	30	To assess the nutritional status of under-five children	56.66% well nourished, 10% wasting, 16.66% moderate and severely wasting. 23.33% stunted, 5% moderate and severe stunted.23.33% underweight, 10% moderate underweight, 23.33% severely underweight.
Gautam et al.,2018	390	Nutritional status under-five slum children	31.28 & 13.59% stunting & severe stunting respectively. 14.62% & 6.15% wasting & severe wasting respectively. 40.51% & 7.95% mild-moderate malnutrition & severe malnutrition respectively.
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[1] conducted a study in which they examined the nutritional condition of 390 children under the age of five who were living in slums in Kanpur Nagar, India. The children were all under the age of five (2018). The ages of the youngsters varied anywhere from one month to sixty months. It was discovered that the prevalence of stunting was 31. 28%, while the prevalence of severe stunting was reported to be

13. 59%. It was found that 14. 62% of the persons who took part in the study had wasted bodies, and 6. 15% of those people had severe wasting. The mid-upper arm circumference test revealed that 40. 51 percent of the population was suffering from mild to moderate malnutrition, while 7. 95 percent of the population was suffering from severe malnutrition. The researchers found that a significant correlation existed between the participants' ages and their levels of undernourishment.

A cross-sectional study on the nutritional status of Anganwadi children aged 2 to 5 years old was conducted by [20] in a rural area located in Cheruthazham, Kannur district, in the northern part of Kerala. The area was chosen because of its proximity to Cheruthazham, where the study was

conducted. The research discovered that 14. 6% of children were underweight, 10. 6% of children had stunted growth, and 16. 6% of children were wasting. Children who were between the ages of two and three had the greatest prevalence of being underweight, having stunted growth, and wasting, while children who were between the ages of three and four had the lowest frequency of being underweight, having stunted growth, and wasting. When compared with their male counterparts, girls had a much greater risk of being underweight or wasted as compared to the whole population.

Children between the ages of 2 and 5 years old who lived in a tribal community in the Coimbatore district were the subjects of a study that was conducted by Senthikumar et al., 2018 in order to investigate the prevalence of malnutrition and the factors that contributed to it. The study looked at children who lived in the Coimbatore district. It was discovered that 51% of the population was suffering from some kind of malnutrition once the research was completed. These 51 percent (105) malnourished children comprised 41.3% underweight youngsters, 11. 2% of whom were considered severely underweight. There was an overall frequency of stunting in the population of 32. 5%, with 6.3% of persons being severely stunted. There were around 21.8% of children that were not being properly cared for, with 6. 8% of those children being severely neglected. According to the findings of the study, certain socio-demographic factors were found to be significantly associated with malnutrition. These factors included the total number of family members being greater than four, the mother's educational status, the father's educational status, the mother's occupational status, the socio-economic status, the consumption of alcohol by any family member, and the nutritional status of the mother.

[7] conducted a descriptive cross-sectional study on the nutritional status of children under the age of five in the hamlet of Kethireddipuli, which is located in the Moinabad Mandal of Telangana. Their goal was to determine how well the children were able to meet their nutritional needs. When the results were analysed using the WHO Z score, it was discovered that 17 (56. 6%) of children under the age of five had appropriate nutrition, while 3 (10%) of them had mild wasting. This was the conclusion reached after analysing the data. Five of them, or 16. 66%, had moderate wasting, while the other two, respectively, had severe wasting. The percentage of children under the age of five who were classified to have moderate or severe stunting was just three (five percent), but the percentage of children who had mild stunting was seven (23. 33 percent). 7(23. 33%) under five children were underweight and 3(10%) were moderately underweight and 7(23. 33%) were very underweight. According to the IAP classification of the nutritional status of children under the age

of five, 21 (70%) of children under the age of five were considered to be well nourished, 6 (20%) of these children had mild PEM, 3 (10%) of these children had moderate PEM, and none of these children had severe PEM. None of these children had a severe form of PEM. The signs of PEM, which include hair that has lost its colour and a belly that protrudes forward. It was discovered that 17 children under the age of five, representing 56. 66% of the total, exhibited symptoms such as lack of appetite, emaciation, hollow cheeks and temples, dull and dry hair, irritability, thin and sparse hair, easily pluckable hair, thin and sparse hair, and easily pluckable hair. It was observed that 15 children under the age of five, which is equivalent to fifty percent of the total, had indications of vitamin D deficiency. These signs included delayed dentition as well as a smaller than normal pelvis. In children under the age

of five, indications of anaemia such as brittle nails and a pale complexion, as well as symptoms of vitamin B such as stomatitis, were seen in one of the children (3. 3% of the total population). The findings of this study indicate that the inhabitants of the hamlet of Kethireddipalli have a high degree of nutritional quality. In contrast to the results of NFHS-4, which show that the nutritional status of children under the age of five has not considerably improved, this demonstrates that there has been no progress made in this area.

[19] conducted a cross-sectional study in an urban slum neighbourhood in the city of Berhampur. The neighbourhood in question was located in the city of Berhampur. The material for this research came from 300 different mothers whose infants ranged in age from 6 months to 59 months. in addition to analysing the children's weight, height, and MUAC, utilising pre-tested and semi-structured questionnaires to assess the youngsters. The findings of this recent study showed that 69 percent of the total sample size of 300 children suffered from some kind of malnutrition. This included children who were underweight (55. 3%), wasted (75%) or stunted (42%). The third age bracket, between the ages of 37 and 60 months, has the largest frequency of children who are underweight, with 52. 6% of the total, followed by the first and second age brackets. 21. 3% of the population was in an excessive state of wastefulness, while 20% of the population was in a severe state of underweight.

By determining dietary intake

It is the second method of assessment. To assess the nutritional status one needs to record all the food items consumed in the last 24 hours. Household measures are used for recording the food intake. By comparison, we can know whether a person is consuming a normal/recommended diet or not. The amount of intake indicates clearly whether a person has normal nutritional status or not. The method of determining the nutritional status-

I. Note down whatever food items are eaten on one particular day along with the amounts of raw food items, in grams.
II. Now group the food items into different food groups and find out the respective total amounts.
III. Lastly, compare the differences in amounts of each food group with the recommended dietary intake for the age and sex. The dietary intakes similar to the recommended dietary intakes will mean a normal nutritional status.

What are the basic nutrients recommended for pre-schooler?

Food and beverages are composed of six nutrients that are vital to the pre-schooler for producing energy, contributing to the growth and development of tissues, regulating body processes and preventing deficiency and degenerative diseases. The six nutrients are classified as essential nutrients. They are carbohydrates, proteins, fats, vitamins, minerals, and water. The body requires these nutrients to function properly. However, the body is unable to endogenously manufacture them in the quantities needed daily [29]. These recommended allowances are the minimum necessary to ensure proper growth and bodily functions.

Macronutrients

Energy

Energy requirements for 1-3 years are 1060 kcal per day. RDA (ICMR 2010)
Energy requirements for 4-6 years are 1350 kcal per day. RDA (ICMR 2010)

Carbohydrates

Carbohydrates are an important source of energy. Starchy food such as pasta, bread & rice should be plentiful in the diet. Payne in 1991 found that the main source of sugar in the diet of pre-school children, were pure fruit Juices & black currant syrups. There are strong links between sugar intake and

the incidence of dental caries, particularly in pre-school children. Also, frequent consumption of sugary drinks, and snacks should be discouraged as this influence the child's appetite.
Carbohydrate requirement in pre-schooler is 60-65% 0f energy levels. (ICMR 2010)

Protein
Protein intake range is 16.7g|day for 1-3 years and 20.1g|day for 4-6 years. RDA (ICMR 2010) All preschool children should have adequate intake of protein & they can eat meat, dairy produce, eggs, chicken, seeds and fish to meet their protein needs.

Fat
A low-fat diet for children can result in insufficient energy. Fat intake range is 27g|d for 1-3 years of children and 25g|d for 4-6 years of children according to RDA. Fat is a concentrated source of energy and necessary to absorb fat soluble vitamins (A, D, E, K), to provide essential fatty acids, protect vital organs and provide insulation. It is necessary to educate parents that low fat milk & foods are not suitable for young children [27].

Micronutrients
Iron
Iron intake in children has been shown to be low and many preschool children found to be anaemic. The practice nurse can educate parents with regards to increasing iron in the diet through iron rich foods such as red meat, Liver, fortified cereals, and green vegetables. Vitamin C increases the absorption of iron from food and small drink of juice should be offered at mealtimes. Iron requirements for 1-3 years children are 9 mg per day. RDA (ICMR 2010)

Iron requirements for 4-6 years children are 13 mg per day. RDA (ICMR 2010)

Calcium
The requirement of calcium for 1-3 years of children as well as 4-6 years of children is 600 mg per day RDA (ICMR2010)

Vitamin A
The requirement of vitamin A for 1-3 years of children as well as 4-6 years of children is 400 mg per day (RDA) ICMR2010)

Fluid
Fluid intake is a matter of concern in preschool children. A study was carried out in 1995 demonstrated that squash was the most popular drink, with milk coming in second. Plain water was much lower in popularity. Children with a high intake of squash may have a diminished appetite as a result miss out on valuable nutrient at meal times.

Fibre
Fibre foods are bulky and young children with small appetites who are offered a diet high in fibre may not ingest adequate energy. Phytate, a substance associated with cereal fibre, can bind with & prevent the efficient absorption of certain minerals such as Calcium, Phosphorous, Iron, Copper

and Zinc. Dietary fibre should be encouraged but not excessively. So, in small children whole meal bread, whole meal breakfast cereals green vegetable and vegetables all should be encouraged.

Table 1.2: Summary of Studies on Nutrient Intake of Preschool Children

Author, year	Subjects	Parameters Studied	Major Findings
Robson et al., 2015	30	Dietary Intake of Children	Mean energy intake consumed was more than the recommended target range.
Denney et al., 2017	Total=2057 (2-4) years=1108	Food sources of Energy and Nutrients	This study showed that low nutrient-dense cookies, sweetened breads, and traditional beverages were among the core foods consumed early in life in Mexico. This compromises the intake of more nutritious foods such as vegetables and fortified cereals and increases the risk of obesity.
Welker et al., 2018	1461	24 hour recall method	This study showed that fruit about 70% of children consumed vegetables and (73%) as a distinct food item. French fries and other fried potatoes were the most commonly consumed vegetable. About 85% of children consumed some type of sweetened beverage, dessert, sweet, or salty snack in a day.
Wallace et al., 2018	40	24-hour recall dietary intake	Intake of energy and macronutrients examined based on parental report were higher than those based on true intake.

In order to determine whether or not the food intakes of pre-school children can be trusted, [28] conducted a study in Canada using a web-based online self-administered 24-hour recall method. Because the study was conducted on children ranging in age from 2 to 5 years old at a day care centre, it was able to standardise the meals and drinks that were provided and to immediately examine how much was ingested by each participant. According to the findings of this investigation, the estimations of intake for energy and the three primary macronutrients that were evaluated (carbohydrates, fat, and protein), which were based on parental reports, were significantly higher than those that were based on actual (observed) consumption.

[6] conducted a cross-sectional study between November 2009 and January 2011 on the nutritional consumption of children who attended full-time child care and what those children ate when they were not at the Child-Care Centre. The research focused on the nutritional consumption of children who attended full-time child care. The child's current weight and their dietary intake, which includes thechild's total daily energy intake as well as their servings of fruits, vegetables, milk, 100% juice, sugar- sweetened beverages, and snack foods. The child's dietary intake is defined as the food and beverages consumed outside the setting in which the child receives child care from the time the child is picked up from the centre until the time the child goes to bed. According to the findings of this study, the quantity of energy that was consumed on average when participants were away from the centre was more than the target range that was indicated (68517 kcal) (433 to 650 kcal). The recommended amount of vegetables, fruits, and milk was consumed less often than the average amount of these foods.

[22] conducted a population-based cross-sectional survey with the objective of characterizing the eating habits and health status of the Mexican population. The study was carried out in 2017. The

current research used information collected from a total of 2057 newborns and young children (ages 0 to 4 years old). The results are presented in the following age brackets: babies aged 6–11. 9 months (n = 229), toddlers aged 12–23. 9 months (n = 538), and young children aged 24–47. 9 months (n = 1108). Cow's milk was shown to be the greatest source of both calories and minerals, particularly for younger age groups. This was the case for all age groups. It was discovered that soups and stews, cookies, fruit, tortillas, eggs and egg dishes, and traditional beverages are the best nutritional sources of energy for infants between the ages of 6 and 11. 9 months. The traditional drinks fared quite well in the rankings. These items, along with sweetened breads, dried beans, sandwiches, and tortes, were often consumed as the principal sources of energy by infants, toddlers, and young children. The foods that had the greatest quantities of iron and zinc were determined to be milk, soups, and stews, respectively. According to the results of this study, throughout infancy in Mexico, some of the most prevalent kinds of foods consumed were traditional beverages, sweetened breads, and sweets with a low nutritional value.

[30]. conducted a study to learn more about the usual feeding patterns of young children. There were 1,461 total participants in the sample, and the majority of them were children aged two to three years old. The percentage of children in the whole sample of children between 2 and 3 years old who ingested foods from different food categories was estimated, and the findings were broken down by year of age separately. the children in the sample were all between the ages of 2 and 3. Daily consumption of whole milk was observed in around one third of children aged 2 years old and one quarter of children aged 3 years old. During least once a day, almost seventieth of toddlers aged two and three had vegetables as a standalone course at their meal. The most common type of vegetable consumption was potatoes cooked in a variety of fried preparations, such as French fries and other goods made from potatoes that had been fried. Almost three quarters of children and adolescents (73%) consume fruit as a stand-alone food item on a daily basis, and 59% consume fruit juice that is manufactured from one hundred percent fruit. The kind of fruit that was consumed most often was that which was consumed when it was still in its fresh form. On a daily basis, around 85 percent of children consume some form of sweetened beverage, dessert, sweet, or salty snack. This percentage is higher on weekends and holidays. In each trial, the proportion of children aged 3 years old who ingested such foods was much higher than that of children aged 2 years old. This difference was especially noticeable when comparing the results to those of children aged 2 years. According to the findings of this study, parents and other carers should be encouraged to encourage young children to consume a wide variety of fruits and vegetables, whole grains, low-fat dairy products, and healthier fats, and to limit consumption of foods and beverages that are high in energy density but low in nutrients. Additionally, parents should be encouraged to encourage young children to consume a wide variety of fruits and vegetables, whole grains, and low-fat dairy products. As a result of the fact that children of this age have relatively low calorie requirements in comparison to their high nutrient requirements, there is not a lot of room in their diets for things like these. The advice for diets should stress the significance of this fact. Parents are looking for advice that is comprehensive, relevant, and simple to put into action.

Nutritional Deficiency Diseases

We can also assess the nutritional status of a person by observing the signs and symptoms of various nutritional deficiency diseases. The presence of one or more deficiencies will mean poor nutritional status. The nutrients which provide in the diet are either consumed below the required levels or are not properly utilized by the body. It results in the state of nutritional imbalance. This leads to ―nutritional deficiency‖ in the body.

LITERATURE REVIEW

The case for proper nutrition children’s diet can be influenced by a range of factors, including education environment (e.g. school or childcare) and media. Parents however, not only influence these other factors, they also create the environment within which food is sourced, prepared, consumed, celebrated, resisted or refused. Parents shape the development of children’s eating behaviour in a number of ways, but particularly through parental feeding practices: the specific behavioural strategies parents employ to control what, how much or when their children eat. Certain parental feeding practices are more likely to promote healthy eating patterns in children, while other are more likely to

lead to unhealthy or disordered eating, for example, parental feeding practices associated with the development of healthy eating include : repeated exposure to healthy and novel foods, positive reinforcement (using verbal praise) for healthy palatable, low nutrient foods, parental feeding practices linked to weight gain, disordered or unhealthy eating behaviours include : restriction by either reducing child dietary intake or limiting snack food intake, pressure to eat, and non-nutritive instrumental practices such as using food as a reward or to pacify. While parents tend to use these latter strategies with positive intentions, to encourage healthy eating or protect against weight gain, they can have unintended consequences on a child's food preferences, behavioural inhibition and self-regulation. Such feeding practices are therefore useful targets for preventive interventions aimed at improving parent's ability to foster healthy eating and healthy weight maintenance in their children. Summary of studies on knowledge, attitude and practices of mothers is presented in Table 1.3

Table 1.3: Summary of Studies on Knowledge, Attitude and Practices of Mothers

Author, year	Subjects	Parameters Studied	Major Findings
Edith et al., 2016	200	KAP analysis regarding Dietary practices in prevention of malnutrition	56% Moderately adequate Knowledge, 58% moderately adequate practice and 56%favorable attitude.
Halder et al., 2016	300	Nutritional Awareness of Mothers in relation to Nutritional status	The result showed that nutritional awareness of mother significantly influences the nutritional status of Children.
Sukandar et al., 2016	240	Effects of Nutrition Education on Mothers	Nutrition education had a significant effect on nutritional knowledge, attitude and practices among status of children.
Sangra et al., 2019	300	KAP analysis regarding Nutrition of under-five and prevention of Malnutrition	Adequate knowledge of Mothers regarding Dietary patterns.

[25] conducted a study in rural areas using a cross-sectional design with the intention of determining the knowledge, attitudes, and practises (KAP) of mothers regarding the nutrition of children under the age of five and the prevention of malnutrition. The research was carried out with the goal of determining the knowledge, attitudes, and practises (KAP) of mothers. The study was carried out with the objective of determining the knowledge, attitudes, and practises (KAP) of mothers. The research that was conducted for the aim of this study centred on the KAP of mothers as its primary topic of investigation. Participants in this community-based cross-sectional study comprised a total of three hundred mothers of children less than five years old. The neighbourhood served as the setting for the research project.

[11] did descriptive research with the objective of analysing the Knowledge, Attitude, and Practice (KAP) on dietary patterns among mothers of children under the age of five in order to

determine the most efficient strategy to prevent their children from suffering from malnutrition. The purpose of this research was to determine the method that proved to be the most successful in discouraging moms from giving their children harmful diets. The data came from one hundred and twenty different mothers who are in charge of the raising of children who are less than five years old. In the fight against malnutrition, the establishment of a structured interview schedule made it possible to collect information that includes demographic data as well as information about individuals' knowledge, attitude, and practise regarding their dietary practises. This information was gathered in order to better understand how individuals can improve their diets. Following the application of this information, following treatments could be more focused. According to the findings of this study, the vast majority of mothers (112/56%) possessed information that was fairly adequate and practises that were moderately sufficient (116/58%) regarding the role that dietary habits play in the prevention of malnutrition in their children. This was determined by looking at the percentage of mothers who possessed information that was fairly adequate and practises that were moderately sufficient. This was demonstrated by the fact that the majority of the moms (114 out of 56%) felt that their children ate a nutritious diet.

The researchers who worked on the study that was carried out by [13] were interested in determining whether or not there is a correlation between a mother's nutritional knowledge and the nutritional status of her kid (NSC). Children in the age range of three to four years old who attended kindergarten or pre-primary schools were included in the sample. All of the children in the sample resided in the city of Kolkata. There was a total of three hundred of these little youngsters. The instruments that were used for the purpose of conducting this research were the Nutritional Awareness of Mother (NAM) questionnaire and the Nutritional

Status Checklist (NSC), which included determining the ages, heights, and weights of children.

[18] conducted a study with the intention of determining the effect that nutrition education has on the nutritional knowledge, attitude, and practise of mothers, in addition to the nutritional status of children under the age of five. This study was carried out in order to establish the impact that nutrition education has. The goal of this study was to evaluate the impact that nutrition education has on the knowledge, attitude, and practises on nutrition held by mothers. This was the purpose of carrying out the research in the first place. Both the inquiry and the search took place in two of Bogor's more peripheral neighbourhoods. As part of this assessment, which was performed with the cooperation of the moms, a total of 240 women who had participated in the posyandus research were questioned using a survey. The questions were posed to the women after they had given birth to their child. After being randomly allocated to one of the groups, the posyandus in each particular sub-district were given the choice to participate in either the control group or the intervention group. An examination of the impact that nutrition education has on a mother's nutritional knowledge, attitude, and practise; children under the age of five years old's nutritional status as determined by Z-score; and overall was carried out.

CONCLUSION

The current study concluded that mothers' nutritional awareness, including their knowledge of food and nutrients, the health benefits of food and nutrition, the cooking procedure, cleanliness, hygiene, and sanitation, and healthy food habits, all played a positive role in their children's nutritional status. Recent research revealed this. After an investigation, the parties were given this judgement. After the inquiry, this conclusion was taken and communicated to everyone involved.

As the primary carers of children under 5, mothers may best prevent nutritional deficits and promote healthy growth. This makes moms the finest child-protectors. Because of their example, moms may prevent their children from developing poor eating habits. In most families, mothers care for children under five. These kids are "under the age of five" The mother's knowledge, attitude toward nutrition, and rituals may affect the child's eating pattern as they become older. Mother's routines may also affect child's eating habits. Moms must learn the numerous dietary

practises available to them to avoid malnutrition in their children.

RECOMMENDATIONS

Keeping in mind from above study the following recommendations were suggested: -

1. Follow food guidelines that promote a good intake of energy dense food, iron rich food, vitamin A rich food.
2. Promote educating and counselling mothers on child dietary practices and healthcare that will raise life-long good and healthy habits and will bring down the prevalence of diseases considerably.
3. Promote good and healthy practices at family level to lower the outbreak of diseases in future.
4. Junk and processed food should be avoided in the children

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