The Scientific Temper (2024) Vol. 15 (2): 2009-2017
E-ISSN: 2231-6396, ISSN: 0976-8653
Doi: 10.58414/SCIENTIFICTEMPER.2024.15.2.07
https://scientifictemper.com/

REVIEW ARTICLE

Urban slum children in Lucknow: Exploring nutritional status and complementary feeding practices

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Abstract

The world health organization (WHO) (2010) defines malnutrition as deficiencies, excesses, or imbalances in nutrients. This global health concern holds significant implications, with approximately one-third of deaths among children under the age of five being directly or indirectly linked to undernutrition. Malnutrition not only hinders immediate growth but also engenders a heightened vulnerability to a spectrum of metabolic ailments in adulthood.

Objectives: 1. To assess the nutritional status of children in urban slums of Lucknow. 2. To assess the knowledge of caregivers regarding complementary feeding practices. 3. To examine the relationship between demographic variables and the nutritional status of children in the urban slums of Lucknow.

Methodology: A survey method was employed, involving interviews with caregivers using self-structured questionnaires to gather data on demographic information, nutritional status assessment, and knowledge regarding complementary feeding practices. The sample consisted of 400 mothers and their children selected purposively from various urban slum areas in Lucknow. Data collected was meticulously recorded in a Microsoft Excel sheet and analyzed using SPSS for statistical interpretation.

Result: Regarding the results, only 32.3% of mothers initiated complementary feeding at six months, indicating inadequate awareness. Similarly, 27.3% exhibited high complementary feeding knowledge, signifying the need for improved education. Nutritional assessments revealed concerning levels of moderate (23.8%), severe (15.3%), and very severe malnutrition (12.5%) among children, demanding urgent interventions and healthcare measures. The study's associations between maternal factors and nutritional status provided valuable insights into the complex interplay affecting child health, reinforcing the need for targeted nutritional programs and community-based interventions to address malnutrition effectively.

Keywords: Complementary Feeding, Malnutrition, Urban slum, Nutritional Status.

Introduction

Malnutrition is a broad and encompassing term that encompasses various nutritional imbalances, predominantly undernutrition caused by insufficient nutrient intake, poor nutrient absorption, or excessive nutrient loss. However, it also includes the issue of overnutrition (Narayan and Ramdas, 2019). The present study seeks not only to understand the factors contributing to malnutrition but also to devise and implement effective interventions that can rectify and enhance the complementary feeding practices within urban slums, ultimately fostering healthier and more promising futures for the children who call these marginalized areas home. This research endeavors to address a pressing concern at the root of malnutrition and, in doing so, aims to make a significant stride toward improving the health and well-being of India's future generations. The Indian National Family Health Survey-4 (NFHS-4) reported. In Figure 1, 17.9% of children under the age of 5 were classified as wasted, with 6% of them being severely wasted. Comparatively, in NFHS-5, the numbers showed a slight increase, with 17.3% being wasted and 7.3% being severely wasted. This indicates that the percentage of wasted children remained relatively consistent over time (IIPS, 2020-21).

Complementary feeding is the term used to describe the process that begins when a baby's nutritional needs cannot be adequately met by breast milk alone. At this

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How to cite this article: Fatima, S., Suryavanshi, P. (2024). Urban slum children in Lucknow: Exploring nutritional status and complementary feeding practices. The Scientific Temper, **15**(2):2009-2017.
Doi: 10.58414/SCIENTIFICTEMPER.2024.15.2.07

Source of support: Nil

Conflict of interest: None.

Received: 03/04/2024 **Accepted:** 04/05/2024 **Published**: 15/06/2024

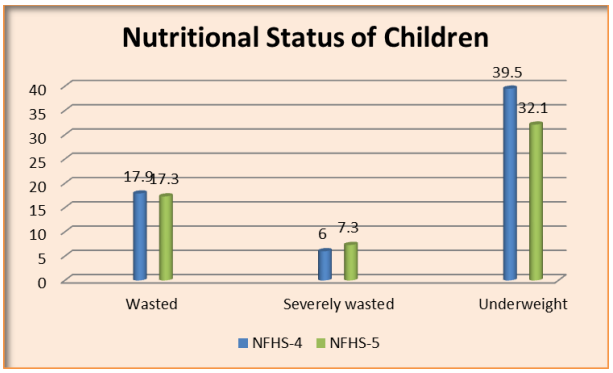

Figure 1: National family health survey-4 and 5 nutritional status of the children (IIPS, 2020-21)

stage, additional foods and liquids become necessary alongside continued breastfeeding to ensure the child receives the essential nutrients required for healthy growth (PAHO, 2003). Data from the National Family Health Survey-4 (NFHS-4) showed that 32.6% of children were introduced to complementary feeds while continuing to breastfeed at the age of 6 to 8 months. However, in the subsequent NFHS-5 survey, this percentage slightly decreased to 31% (IIPS, 2020-21).

Objectives

- To assess the nutritional status of children in the urban slums of Lucknow.
- To assess the knowledge of caregivers regarding complementary feeding practices.
- To examine the relationship between demographic variables and the nutritional status of children in the urban slums of Lucknow.

Methodology

Research Design

The study commenced with the adoption of a survey methodology, serving as the foundational stage in research design. This phase aimed to amass comprehensive data concerning the complementary feeding knowledge of mothers and the nutritional status of children residing in Lucknow's urban slums. Anthropometric measurements were instrumental in assessing the nutritional state of children, providing essential baseline data crucial for our analytical endeavors.

A purposive sampling strategy was implemented to construct our study sample, comprising 400 mothers and their respective children, totaling 400 children overall. These participants were selected from various urban slum areas within Lucknow city.

Within the administrative framework of the Integrated Child Development Services (ICDS) in Lucknow district, Uttar Pradesh, India, specific urban blocks were identified. Notably, Aliganj and Alamnagar blocks were purposively chosen based on the researcher's familiarity with these areas. Sectors within both the Aliganj and Alam Nagar blocks were designated for data collection purposes. This meticulous approach facilitated the selection of 400 children and 400 mothers from these urban slum localities. Subsequent to a comprehensive growth assessment, malnourished children meeting the study's criteria were identified and included in the research cohort.

Identification and Enlistment of Respondents

The process of identifying and enlisting respondents involved recruiting children aged 6 to 24 months from eight distinct zones within the designated structures. Anganwadi workers (AWWs) stationed at each Anganwadi Center (AWC) utilized birth records and survey registers as components of the registration protocol.

Techniques and Tools Utilized

Development of interview schedule

To ensure thorough data collection, an interview schedule was meticulously crafted after a comprehensive review of existing research. This schedule was designed to gather detailed information from respondents, covering various aspects such as demographic profile, knowledge of complementary feeding, and anthropometric measurements. These measurements were obtained using tools such as an electronic weighing scale, an infantometer, a MUAC tape, and WHO growth charts to assess the severity of malnutrition.

Tools Used for Anthropometry

Electronic weighing machine

An electronic weighing machine was employed to obtain accurate measurements during the study.

Infantometer

This tool, equipped with a headboard and a sliding footpiece, was used for precise length measurements of infants.

During the weighing and length measurement processes, children were kept calm and were dressed in minimal clothing. In situations where a scale with tare weighing functionality was unavailable, alternative weighing methods included beam scales and dangling scales (Salter type), as outlined in the facility-based care of severe malnutrition guidelines from the Ministry of Health and Family Welfare, India (2013).

Mid-upper arm circumference tape

Another crucial tool utilized in the study was the mid-upper arm circumference (MUAC) tape, which was used to measure the circumference of the mid-upper arm of children.

Results and Discussion

Table 1 presents the demographic profile of the respondents involved in the study. The gender distribution of the children showed a near-even split, with 196 (49.0%) boys and 204

Table 1: Demographic profile of the respondents (n = 400)

Demographic profile	*Frequency*	*%*
Gender of child		
Boy	196	49.0
Girl	204	51.0
Age group of children		
(6–11) months	142	35.5
(12–18) months	113	28.2
(19–24) months	145	36.3
Mother's age group		
< 18 years	0	0.0
18–25 years	174	43.5
> 25 years	226	56.5
Mothers age at marriage		
< 18 years	95	23.8
18–25 years	278	69.5
> 25 years	27	6.8
Religion		
Hindu	214	53.5
Muslim	186	46.5
Others	0	0.0
Caste		
General	166	41.5
OBC	187	46.8
SC/ST	47	11.8

(51.0%) girls participating in the study. This balanced representation ensures that the study can adequately account for gender-specific factors in complementary feeding practices.

In terms of the age groups of the children, it is notable that the majority of children, 145 (36.3%), fall within the (19–24) months category, while 142 (35.5%) are in the (6–11) months group, and 113 (28.2%) belong to the (12–18) months category. The mothers' age group is also a critical factor in understanding the context of the study. No mothers were below the age of 18 years, and the majority, 226 (56.5%), were above 25 years of age. The remaining 174 (43.5%) mothers fell within the 18 to 25 years age group. Another essential aspect of the mothers' demographic information is their age at marriage. Nearly seven in ten mothers (69.5%) were married between the ages of 18 to 25 years, while 23.8% were married before the age of 18, and a smaller proportion (6.8%) were married after the age of 25. This data underscores the cultural context of early marriages and its potential implications for child nutrition. In this study, the majority, 214 (53.5%), of respondents were Hindus, while 186 (46.5%) belonged to the Muslim religion. Lastly, the caste distribution among the respondents is noteworthy.

Table 2: Socio-demographic profile of respondents (n = 400)

S. No.	*Variable*	*Frequency*	*%*
1	Family type		
A.	Nuclear	251	62.7
B.	Joint	149	37.3
2	Mother's education status	Frequency	%
A.	Illiterate	107	26.8
B.	Primary school	77	19.3
C.	Middle school	68	17.0
D.	High school	63	15.8
E.	Intermediate	40	10.0
F.	Graduate	35	8.8
G.	Professional	10	2.5
3	Mother's occupation	Frequency	%
A.	Homemaker	333	83.3
B.	Private sector job	4	1.0
C.	Government sector	5	1.3
D.	Business	21	5.3
E.	Laborer	37	9.3
4	Father's education status	Frequency	%
A.	Illiterate	102	25.5
B.	Primary school	100	25.0
C.	Middle school	43	10.8
D.	High school	73	18.3
E.	Intermediate	51	12.8
F.	Graduate	23	5.8
G.	Professional	8	2.0
5	Father's occupation	Frequency	%
A.	Unemployed	13	3.3
B.	Private sector job	74	18.5
C	Government Sector	5	1.3
D	Business	60	15.0
E	Laborer	248	62.0

A significant portion, 187 (46.8%), belonged to the OBC category, followed by the general category at 166 (41.5%), and the SC/ST category at 47 (11.8%).

Table 2 reveals that most of the respondents come from nuclear families, with 251 (62.7%) belonging to this family structure. In contrast, 149 (37.3%) respondents are part of joint families. The composition of families is significant as it can influence the available support system for childcare, which in turn may impact the implementation of complementary feeding practices. A substantial portion of the respondents, 107 (26.8%), are illiterate. However, the data shows a gradient of educational attainment, with 77 (19.3%) having primary school education, 68 (17.0%) with middle school education, and 63 (15.8%) with high school education.

Furthermore, 40 (10.0%) have intermediate education, 35 (8.8%) are graduates, and 10 (2.5%) are engaged in professional work. This diversity in education levels suggests a broad spectrum of knowledge and skills among mothers regarding childcare and nutrition. The occupation of mothers is a crucial factor as it influences their availability for childcare and their ability to provide for their children's nutritional needs. An overwhelming majority, 333 (83.3%) of the respondents, are homemakers, dedicating their time to household and caregiving responsibilities. Only a small proportion of mothers are engaged in other professions: 4 (1.0%) in private sector jobs, 5 (1.3%) in government sector jobs, 21 (5.3%) in business and 37 (9.3%) working as laborers. The education status of fathers is another important factor that can influence family dynamics and access to resources. The data shows that 25.5% of fathers are illiterate, while 25.0% have primary school education. The remainder of fathers includes those with middle school (10.8%), high school (18.3%), intermediate (12.8%), and graduate (5.8%) education levels. Only a small percentage, 2.0%, is engaged in professional work. The majority of fathers are laborers (62.0%), which is often associated with manual, low-income work. This indicates a potential financial limitation in the households of these respondents. A smaller percentage of fathers are engaged in other occupations, with 18.5% in private sector jobs, 1.3% in government sector jobs, and 15.0% involved in different kinds of businesses. And relatively small portions, 3.3%, are unemployed.

According to the statistics illustrated in Table 3, about 32.3% of mothers started complementary feeding at six months, as recommended. Surprisingly, 6.3% of mothers started introducing solids before the recommended age. Early initiation can be problematic as it may expose infants to an increased risk of infections and interfere with exclusive breastfeeding, which is essential during the first six months of life. A substantial portion of mothers, 37.5%, initiated complementary feeding between 7 to 11 months, while 12.5% initiated it between 12 to 24 months of age. Delayed initiation of complementary feeding can lead to nutritional gaps in a child's diet during critical developmental stages. It is concerning that 11.5% of mothers did not initiate complementary feeding at all. Shrestha S. (2020) studied that only 139 mothers (55.6%) sincerely started supplemental feeding at the appropriate age, 161 women (64.4%) were knowledgeable about it. Ananda *et al*., (2013) performed a study in Karnataka with 110 nursing mothers. The findings showed that mothers believed complementary foods should be postponed since they are incomprehensible for the infant. Das *et al*., (2013) suggested with 342 mothers of infants aged 0 to 23 months. The belief that "the child will vomit everything" is the leading cause of delay in introducing supplemental eating. Lodha and Bharti (2013) examined complementary feeding practices in mothers of 6 to 12-month-old children. Out of 100 infants, 14% had never started complementary foods and only 40% received them at six months. Most incorrect practices that delayed complementary feeding were "tried but failed as child vomits food" (40%).

Table 3: Complementary feeding information for the children (n = 400)

S. No.	*Complementary feeding initiation*	*Frequency*	*%*
1	< 6 months	25	6.3
2	At 6 months	129	32.3
3	(7–11) months	150	37.5
4	(12–24) months	50	12.5
5	No CF initiation	46	11.5

Table 4: Complementary feeding knowledge of the respondents (n = 400)

S. No.	*Complementary feeding knowledge*	*Frequency*	*%*
1	Low knowledge	83	20.8
2	Average knowledge	208	52.0
3	High knowledge	109	27.3

Table 4, classified respondents' knowledge about complementary feeding into three categories: High, average, and low. Most respondents, accounting for 52.0% of the total, fell into the "average knowledge" category. This suggests that a significant portion of the surveyed population has a moderate level of understanding regarding complementary feeding practices. This is encouraging since it shows that just a minority of mothers in the sample are nutritionally illiterate when it comes to their infants and young children. According to Mallesh V. *et al*., (2020), only 18.2% initiated complementary feedings on time. A study conducted in Karnataka reveals that mothers followed inappropriate child-feeding practices and lacked enough information regarding how to feed young children and infants. Approximately 27.7% of respondents were found to have high knowledge about complementary feeding. This is an encouraging sign as it suggests that a notable portion of mothers are well-informed and introduce corresponding foods to their children. The study identifies a significant gap in maternal knowledge regarding the timing and practices of complementary feeding. Most mothers are unaware of the current recommendation, which raises concerns about the capability of balancing feeding methods in the community. Research by Chakrabarty *et al*. (2019) in a Kolkata slum indicated that women there lacked information about complementary feeding methods. Disha and Kumar (2019) observed that mothers in a Delhi slum have limited information on complementary feeding methods in Delhi. Garg and Gupta (2018) discovered that mothers

Table 5: Nutritional status of the children (n = 400)

S. No.	*Weight for length (Z- score)*	*Frequency*	*%*
1	Normal (< -1SD)	194	48.5
2	Moderate malnutrition (< -2SD)	95	23.8
3	Severe malnutrition (< -3SD)	61	15.3
4	Very severe malnutrition (<-4SD)	50	12.5

lacked adequate awareness about complementary feeding techniques. Ahmad and Khalique, (2017). About half of the mothers in the study were found to be using insufficient complementary feeding methods, and between 42.6 and 50.9% of the children had MMD, 35.6 had MMF, and 35.6 had MAD.

The Table 5 indicates the weight for length (Z-score). Nearly 50% of the children (48.5%) fit into this category, indicating that a sizable proportion of the population has a normal weight for their height based on WHO guidelines. This category includes 23.8% of children, indicating a concerning prevalence of moderate malnutrition. To properly address this issue, early intervention and adequate nutrition methods are required. This category includes 15.3% of children, indicating a considerable proportion with severe malnutrition. Urgent and intense nutritional assistance, as well as healthcare measures, are crucial for their recovery and well-being. This category includes 12.5% of children, suggesting a dangerous situation requiring quick and specialized medical and nutritional intervention to avoid serious health repercussions and mortality. Aggarwal and Srivastava (2017) conducted a study in the urban slums of Lucknow to determine the prevalence of malnutrition among children under the age of five in the labor population had an underweight rate of 34.4%, a stunted rate of 58.8%, and a wasting rate of 17.6%, according to the report. Kumar *et al*. (2012) assessed Indian urban slum school children for nutritional status. The survey found most school-aged slum children are malnourished. Bernardus H., *et al*. (2015) examined Iranian children's nutritional condition and maternal age. The study indicated that maternal age greatly affected child nutrition. Mamulwar *et al*. (2014) examined the nutrition of 658 under-5 years in Pune slums. The prevalence rate of being underweight, stunted, or wasted was found to be 33.5%. The numbers are 587 to 16.9 for each group. Girls were also found with a higher prevalence of being underweight. In a cross-sectional study (Gupta *et al*., 2019), researchers conducted the study among 600 children between the ages of one and five years in a rural area of the Rohtak district. Girls have a higher frequency of stunting and being underweight than boys, as shown by the study's findings that showed 41.3% of children were stunted and 54.4% of children were underweight according to the "Composite index of anthropometric failure (CIAF)". Malnutrition in the community should be reduced through the implementation of policies and interventions.

Table 6 shows a correlation between maternal age and her children's nutritional status was discovered (p = 0.037). This link demonstrates how maternal age affects their children's diets. Normal nutritional status was more common among children born to mothers aged 18 to 25 than among those born to mothers aged 25 and older. The observed pattern shows that as mothers age, their odds of having normal-weight children decrease. This correlation could be explained by a variety of factors, including larger families led by older mothers and the resultant rivalry for scarce resources. Mothers tend to have more children as they become older, resulting in a bigger family size. Bernardus Harry H., *et al*. (2015) examined Iranian children's nutritional condition and maternal age. The study indicated that maternal age greatly affected child nutrition. Children of mothers aged 18 to 25 had a less percentage (moderate -34.7%, severe- 34.4% and very severe- 46%) of malnourished children than those of mothers over 25 years of age.

Table 7 shows the number and percentage of children with normal, moderate, severe, and very severe malnutrition for each delivery type and place of delivery group. For delivery type, there were 254 (63.5%) normal deliveries and 146 (36.5%) cesarean deliveries. Regarding nutritional status, 60.8% of normal deliveries had normal nutritional status, while 39.2% had moderate malnutrition. For cesarean deliveries, 70.5% had moderate malnutrition, and 29.5% had normal nutritional status. The Pearson Chi-square test

Table 6: Association between mother's age group and child nutritional status (n = 400)

	Children's nutritional status							
	Normal (n = 194)		*Moderate malnutrition (n = 95)*		*Severe malnutrition (n = 61)*		*Very malnutrition (n = 50)*	
Mother's age group	No.	(%)	No.	(%)	No.	(%)	No.	(%)
< 18 years (n = 0)	00	0.0	00	0.0	00	0.0	00	0.0
18 – 25 years (n = 174)	97	50.0	33	34.7	21	34.4	23	46.0
> 25 years (n = 226)	97	50.0	62	65.3	40	65.6	27	54.0
Pearson Chi-square = 8.474, (df = 3); p = 0.037 [Significant]								

Table 7: Association between delivery type and place of delivery group and children's nutritional status (n = 400)

		Children's nutritional status							
		Normal (n = 194)		*Moderate malnutrition (n = 95)*		*Severe malnutrition (n = 61)*		*Very severe malnutrition (n = 50)*	
		No.	*(%)*	*No.*	*(%)*	*No.*	*(%)*	*No.*	*(%)*
Delivery type	Normal (n = 254)	118	60.8	67	70.5	40	65.6	29	58.0
	Caesarian (n = 146)	76	39.2	28	29.5	21	34.4	21	42.0
Pearson Chi-Square = 3.388 (df = 3); p = 0.336 [Not Significant]									
Delivery place	Intuitional government hospital (n = 258)	111	57.2	69	72.6	39	63.9	39	78.0
	Private hospital (n = 101)	59	30.4	16	16.8	16	26.2	10	20.0
	Home (n = 41)	24	12.4	10	10.5	6	9.8	1	2.0
Pearson Chi-square = 13.451 (df = 6); *p* = 0.036 [Significant]									

Table 8: Association between mother's occupation and children's nutritional status (n = 400)

Mother's occupation	*Children's nutritional status*							
	Normal (n = 194)		*Moderate malnutrition (n = 95)*		*Severe malnutrition (n = 61)*		*Very severe malnutrition (n = 50)*	
	No.	*(%)*	*No.*	*(%)*	*No.*	*(%)*	*No.*	*(%)*
Homemaker (n = 333)	169	87.1	79	83.2	48	78.7	37	74.0
Private sector job (n = 4)	1	.5	1	1.1	2	3.3	00	0.0
Government sector (n = 5)	4	2.1	00	0.0	1	1.6	00	0.0
Business (n = 21)	10	5.2	6	6.3	3	4.9	2	4.0
Laborer (n = 37)	10	5.2	9	9.5	7	11.5	11	22.0
Pearson Chi-square = 21.056 (df = 12); *p* = 0.050 [Significant]								

indicated a non-significant association between delivery type and nutritional status ($p = 0.336$). For delivery places, 258 (64.5%) deliveries occurred at institutional government hospitals, 101 (25.25%) at private hospitals, and 41 (10.25%) at home. The majority of children born at institutional government hospitals had normal nutritional status (57.2%), while those born at private hospitals had a higher proportion of moderate malnutrition (16.8%). The Chi-square test revealed a significant association between delivery place and nutritional status ($p = 0.036$).

Table 8 represents the result is $p = 0.050$, which is equal to the standard significance level of 0.05. In this dataset, a *p-value* of less than or equal to 0.05 shows a significant relationship between the mother's work and the nutritional status of the children. The mother's profession was found to be significantly related to the nutritional status of her children. The homemaker occupation had the highest number of children (87.1%) in the normal nutritional status category, whereas the mothers engaged in other occupations had the lowest percentage of children in the normal category. Matin M. A., and Khan M. N., (2021) examine mother occupation and child nutritional status in Bangladesh using multilevel analysis. The study found that children of agricultural workers were more likely to be underweight. The study also found that maternal education, household affluence, and improved sanitation predicted child malnutrition.

Table 9 represents the association between child gender and child age and children's nutritional status by a *p-value* of less than 0.05. Male children were classified as severely malnourished (60.7%) and very severely malnourished (56.0%) at a higher rate than females. On the other hand, female children were classified as moderately malnourished (61.1%) in greater proportion. There is, however, no substantial relationship between the child's age group and nutritional status. Samuel, A. *et al*., (2022) examined gender disparities in nutritional status and associated determinants in Ethiopian infants aged 6 to 11 months children had much greater stunting and wasting rates than girls. Late complementary feeding initiation, not breastfeeding

Table 9: Association between child gender and child age and children's nutritional status (n = 400)

		Children's nutritional status							
		Normal (n = 194)		*Moderate malnutrition (n = 95)*		*Severe malnutrition (n = 61)*		*Very severe malnutrition (n = 50)*	
		No.	*(%)*	*No.*	*(%)*	*No.*	*(%)*	*No.*	*(%)*
Child gender	Male (n = 196)	94	48.5	37	38.9	37	60.7	28	56.0
	Female (n = 204)	100	51.5	58	61.1	24	39.3	22	44.0
Pearson Chi-square = 8.161 (df = 3); $p = 0.043$ [Significant]									
Child age group	(6–11) months (n = 142)	62	32.0	42	44.2	21	34.4	17	34.0
	(12–18) months (n = 113)	53	27.3	31	32.6	18	29.5	11	22.0
	(19–24) months (n = 145)	79	40.7	22	23.2	22	36.1	22	44.0
Pearson Chi-square = 10.589 (df = 6); p = 0.102 [Not Significant]									

exclusively by six months, residency, and low maternal education predicted stunting in male children. To combat moderate, severe, and very severe malnutrition, specific nutritional rehabilitation programs must be implemented in order to improve nutritional status and general health. In addition to medical care, these programs should also be implemented in community-based nutrition strategies. Many nutritional programs were developed in India with the goal of reducing malnutrition, and some of these programs are still active today; however, the burden of underneath diet in children has not decreased considerably (Nayak *et al*., 2023). Kashyap *et al*. (2022) evaluated the nutritional benefits of Spirulina Chikki supplementation on 6-month-to-6-year-olds after 12 months in a cross-Tumkur district covering 106 villages (108 Anganwadi Centers in nine circles). The investigation discovered stunting, waste, and being underweight. Both boys and girls improved in stunting, wasting, and underweight. A cross-sectional study by Khajjura *et al*. (2019) used a pre-design interview schedule to enroll 204 mother-infant pairs from 24 randomly selected clusters in Uganda concluded that nutritional education helps in the improvement of knowledge, eating, and hygiene practices. In Delhi's urban slums, peer counselors taught appropriate complementary feeding techniques which help in the improvement of the nutritional status of children (Vandana and Jain, 2014). An interventional study in Pondicherry showed that community-based follow-up health education effectively increased protein intake, calorie intake, and weight gain in malnourished children. The research emphasized the need to educate the public not just on the availability of supplementary feeding but also on proper complementary feeding techniques (Pavitra *et al*., 2019). According to Arikpo *et al*., (2018) systematic review, educational interventions can enhance primary caregivers' supplemental feeding behaviors for children less than 24 months of age. The review analyzed 11 studies and found that education improves complementary feeding practices, including dietary diversity, meal frequency, and the use of fortified foods. Various programs like the reproductive, maternal, newborn, child, and adolescent health (RMNCH+A) Strategy, the National Health Mission, the Integrated Child Development Service (ICDS), and Poshan Abhiyan are just a few of the government initiatives designed with the goal of enhancing the nation's nutritional status. Anganwadi workers and Accredited Social Health Activists (ASHA) are the main players in providing services to target groups at the local level. The promotion of exclusive breastfeeding for the first six months of life, followed by the addition of complementary feeding, is emphasized in all programs (Fatima S. and Suryavanshi P., 2021)

Conclusion

The study on nutritional status and complementary feeding practices among children in urban slums of Lucknow yielded several significant findings. The demographic profile revealed a balanced gender distribution among children and diverse maternal and paternal characteristics such as age, education, occupation, and family type. Complementary feeding initiation showed deviations from recommended practices, with some mothers starting too early or delaying initiation, potentially impacting child health. Additionally, there were variations in mothers' knowledge levels regarding complementary feeding, highlighting the need for education and awareness programs. Regarding nutritional status, the study identified a concerning prevalence of moderate, severe, and very severe malnutrition among children, emphasizing the urgency of intervention strategies. Maternal factors such as age were found to correlate with children's nutritional status, indicating the complex interplay of socio-demographic variables influencing child health outcomes. The associations between delivery type and place, mother's occupation, child gender, child age, and nutritional status provided valuable insights. Notably, children born via cesarean delivery and those from households with certain maternal occupations showed higher rates of malnutrition,

underscoring the need for targeted interventions. In conclusion, the study underscores the multifaceted nature of nutritional challenges faced by children in urban slums. It calls for comprehensive interventions addressing maternal education, healthcare access, complementary feeding practices, and community-based nutrition programs. Collaborative efforts involving healthcare providers, policymakers, and community stakeholders are essential to improve the nutritional status and well-being of children in these settings. Strengthening the Anganwadi system and providing continuous support to Anganwadi workers is crucial for implementing sustainable and impactful nutritional interventions in urban slums. Their role as frontline healthcare providers and community educators makes them an asset in the fight against malnutrition and improving child health outcomes.

Acknowledgment

We extend our heartfelt gratitude to the KMC Language University, Lucknow, for their invaluable support, insightful suggestions, and provision of necessary facilities, enabling us to conduct this research effectively. We also express our sincere appreciation to the CDPO, dedicated Anganwadi workers, diligent supervisors, and the nurturing mothers of the children involved in this study for their invaluable contributions towards enhancing child nutrition and well-being in urban slums.

Funding

This research received neither explicit support from any government, commercial, or non-profit institution.

Ethical Considerations

Before gathering data, we secured informed consent from all participating mothers regarding their responses, their children's nutritional health assessments, and the subsequent interventions provided.

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