

**ASSESSING THE DIETARY PRACTICES AND REASONS BEHIND
MALNOURISHMENT AMONG CHILDREN AGED 6 MONTHS - 3 YEARS
OF NAND GHAR BENEFICIARIES OF URBAN JAIPUR, RAJASTHAN.**

DISSERTATION PRESENTATION

NAME: PRAGYA GUPTA

MBA (DEVELOPMENT MANAGEMENT)

ENROLMENT NUMBER: IIHMR-U/10/2022-24/0033

FACULTY MENTOR

Dr. HEMANTA KUMAR MISHRA
ASSISTANT PROFESSOR, IIHMR, JAIPUR

ORGANIZATION MENTOR

Dr. SHACHI ADESH
STATE TEAM LEAD, MAMTA HIMC, RAJASTHAN

TABLE OF CONTENTS



INTRODUCTION



**LITERATURE REVIEW &
PROBLEM STATEMENT**



RATIONALE



**RESEARCH QUESTION
&
OBJECTIVE**



METHODOLOGY



RESULTS



CONCLUSION



RECOMMENDATION



REFERENCES

INTRODUCTION

MALNUTRITION

The cellular imbalance between the supply of nutrients and energy and body's demand for them to ensure growth , maintenance and specific functions.



Malnutrition in India has been called The Silent Emergency.

(World Bank,2013)



- Malnutrition, includes undernutrition (wasting, stunting, underweight), inadequate vitamins or minerals, overweight, obesity, and resulting diet-related noncommunicable diseases. (WHO, 2024)
- Globally in 2022, 149 million children under 5 were estimated to be stunted (too short for age), 45 million were estimated to be wasted (too thin for height). (WHO, 2024)
- Nearly half of deaths among children under 5 years of age are linked to undernutrition. Malnutrition. (WHO, 2024)
- Early years of life are crucial and vulnerable as growth is rapid nutritional needs are high. Adequate nutrition primarily through breast feeding, complementary feeding and supplementary feeding is important during this phase of life.
- Living in unhygienic conditions can increase the risk of infection, which contributes to malnutrition

LITERATURE REVIEW & PROBLEM STATEMENT

Global Context:

- Half of the world's wasted children live in India: 25.5 million out of 50.5 million⁽⁴⁾ .
- Malnutrition is the cause of 68% of child deaths in India (Swaminathan et al., 2019)⁽⁴⁾.

	National Family Health Survey (NFHS-5) 2019-21 Fact Sheet INDIA		National Family Health Survey (NFHS-5) 2019-21 Fact Sheet RAJASTHAN		National Family Health Survey (NFHS-5) 2019-21 District Fact Sheet JAIPUR, RAJASTHAN	
INDICATORS	NFHS-5 (2019-21)	NFHS-4 (2015-16)	NFHS-5 (2019-21)	NFHS-4 (2015-16)	NFHS-5 (2019-21)	NFHS-4 (2015-16)
Total children aged 6-23 months receiving an adequate diet (%)	11.3	9.6	8.3	3.4	5.8	2.8
Children under 5 years who are stunted (height-for-age) (%)	35.5	38.4	31.8	39.1	25.0	35.7
Children under 5 years who are wasted (weight-for-height) (%)	19.3	21.0	16.8	23.0	14.6	12.8
Children under 5 years who are underweight (weight-for-age) (%)	32.1	35.8	27.6	36.7	20.8	25.2
Children under 5 years who are overweight (weight-for-height) (%)	3.4	2.1	3.3	2.1	2.0	2.0

Number of stunted children <5y, 2019-2021	
Number of stunted children2 = 2,650,179	
HIGHEST BURDEN DISTRICTS	
JAIPUR	183,716
ALWAR	159,246
JODHPUR	156,141
BARMER	155,309
BHARATPUR	139,598
No. of districts with public health concern: 33 of 33	
(POSHAN, 2022)	

Number of underweight children <5y, 2019-2021	
Number of underweight children2 = 2,305,043	
HIGHEST BURDEN DISTRICTS	
JAIPUR	152,485
BARMER	126,044
JODHPUR	121,885
ALWAR	112,467
UDAIPUR	107,561
No. of districts with public health concern: 31 of 33	
(POSHAN, 2022)	

Number of wasted children <5y, 2019-2021	
Number of wasted children2 = 1,419,109	
HIGHEST BURDEN DISTRICTS	
JAIPUR	107,143
BIKANER	80,772
ALWAR	73,148
NAGAU	64,449
JODHPUR	63,769
No. of districts with public health concern: 32 of 33	
(POSHAN, 2022)	

Highest number of malnourished children in JAIPUR, Rajasthan (POSHAN, 2022)		
STUNTED	WASTED	UNDERWEIGHT
183,716	107,143	152,485
(POSHAN, 2022)		

Addressing malnutrition in

Jaipur, Rajasthan

is crucial for improving child health and development.

VARIOUS PROGRAMMES ON MALNUTRITION IN INDIA



- Integrated Child Development Services
- Mid Day Meal Scheme
- National Nutrition Mission
- Matritva Sahyog Yojana
- POSHAN Abhiyaan
- Pradhan Mantri Matru Vandana Yojana
- Balwadi Nutrition Programme
- National Food Security Mission
- National Health Mission
- Special Nutrition Programme
- Anemia Mukh Bharat abhiyan

Despite various nutrition and health programs by the Government of India and Government of Rajasthan, **malnutrition remains a significant issue.**

- ✓ A study (**Kohli et al., 2017**) reveals that less than 55% of mothers and children in Rajasthan receive essential health and nutrition inputs like THR, leading to high malnutrition rates.

An illustration of an Anganwadi center. A woman in a white sari with a red border is holding a clipboard and talking to a group of women. One woman is holding a baby in a blue sling. In the background, there is a clock and a sign with the letters 'A' and 'B'.

आंगनवाड़ी केंद्र

RATIONALE

- There are **61,625 Anganwadi centers in Rajasthan**, which provide varying levels of healthcare & services such as: supplementary nutrition, immunization, health education, health check-ups, and referrals to higher centers. These centers also provide **Take-Home-Rations or “PoshAhar”** to their beneficiaries, which consist of items such as Dalia, khichadi, pulses such as moong Dal, & additional packages for children between the age group of 3 to 6 years called “BalHaar” premix. & **Food supplements to children in the age group of 6 months to 3 Years.**
- However, many limitations exist, such as the is low coverage of these interventions under the ICDS in Rajasthan over the last 10 years, according to a study by (Kohli et. al., 2017).
- THR provided by the government under ICDS at the AWCs was underutilized due to various reasons. e.g., The **THR was treated as cattle fodder** by a few members of the farming community, instead of consumption by children (**Malik, F. (2016, July 16). ‘Take-home rations used to feed cattle.’ Hindustan Times**).
- Traditional rural practices can restrict pregnant and lactating women from consuming nutritious foods like **curd and papayas.** (**Chakrabarti & Chakrabarti, 2019**).

NAND GHAR

About the Nand Ghar program

Nand Ghars are a network of modern Anganwadis with an integrated approach to child welfare and skill development for women.

Nand Ghars, a CSR initiative by Vedanta Group in collaboration with the Indian government

The Nand Ghar initiative aims to:

- Provide quality education to children aged 3-6 years.
- Ensure no malnourished children by offering nutritious hot-cooked meals.
- Offer doorstep primary healthcare for children and women.
- To develop skills through entrepreneurship training for women who are above 18 years of age



RESEARCH QUESTION

1. What is the status of malnourishment among the 6 months to 3 years children in Jaipur city.
2. What are the current dietary practices among the 6 months to 3 years children and what are the reasons behind malnourishment among children age (6 months-3 years) of Nand Ghars beneficiaries of urban Jaipur, Rajasthan?
3. What are the factors contributing to malnutrition among the above-said target group in the city and how it could be reduced?

OBJECTIVES

1. Study the socio-demographic profiles & dietary practices of Nand Ghars beneficiaries in urban Jaipur.
2. Analyze the utilization patterns of Take-Home-Ration (THR) provided by the Nand Ghars to Nand Ghars beneficiaries and identify the underlying reasons behind malnourishment of Nand Ghars beneficiaries, and
3. Develop suggestions for improving nutritional outcomes within Nand Ghars beneficiaries.

METHODOLOGY

STUDY DESIGN:	Analytical and cross-sectional in nature and has followed a mixed methodology.
STUDY AREA:	Nand Ghars, situated in the semi-urban areas of Jaipur city, Rajasthan.
STUDY POPULATION:	Beneficiaries of the Nand Ghars having children aged 6 month – 3 years in the urban area of Jaipur city, Rajasthan.
DURATION OF STUDY:	15th March 2024 to 15th June 2024
STUDY UNIT:	Children aged 6 months to 3 years
SAMPLE SIZE:	197 Nand Ghars beneficiaries having children aged 6 months-36 months
SAMPLING TECHNIQUE:	Cluster Sampling. 1st Stage : Firstly, Jaipur district was divided into two zones that is southwest zone and southeast Zone to form a cluster. 2nd Stage: Secondly, segregation of Nand Ghars in which Mamta institute is working from the rest. 3rd Stage: Finaly, from each cluster around 10 Nand Ghars altogether will be selected by random Sampling method and from each selected Nand Ghars, 10 respondents will be selected to get interviewed.
DATA COLLECTION TOOL	Semi-Structured interview schedule and FGDs
DATA ANALYSIS:	MS Excel (2*2 bivariate analysis) was conducted to assess the relationship between the various sociodemographic factors, dietary practices and utilization pattern of THR.

Figure 1: Distribution of Marital Status of respondents by gender.

- **Total Married = 99.49%**
- **Females making up the majority (90.86%).**
- This Highlights a higher marriage rate for females.

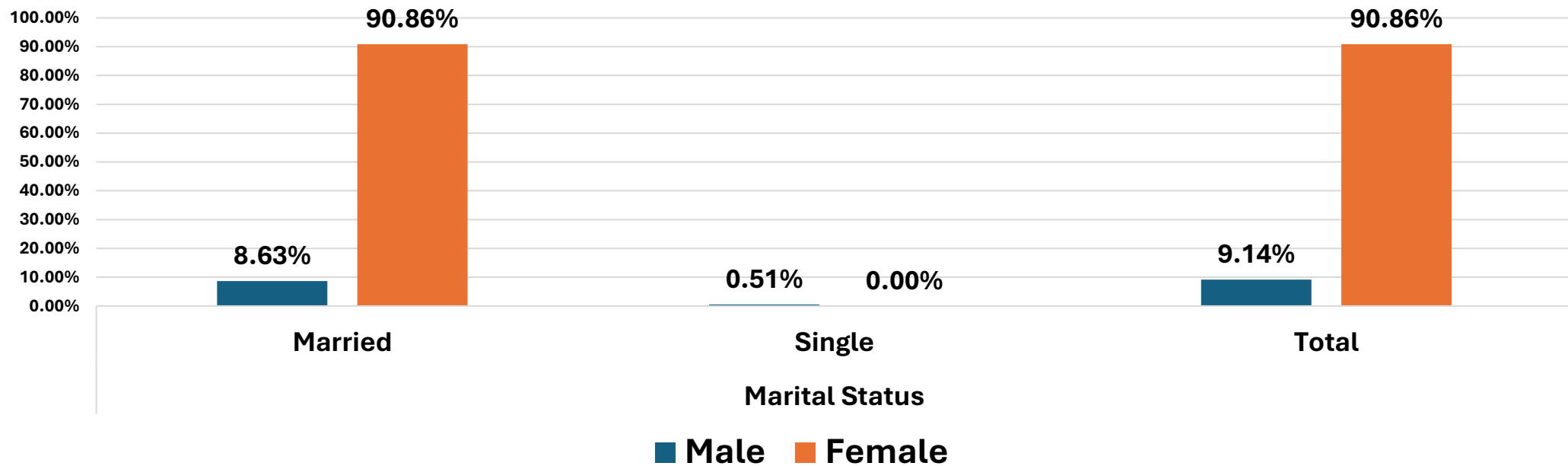


Figure 2: Distribution of respondents religion by gender.

- Among the 179 female respondents, **83.25% are Hindu**.
- Additionally, **(6.60%) are Muslim**, and **(1.02%) are Sikh**.
- **All 18 male respondents are Hindu**.
- This indicates a predominant Hindu representation among both genders, with notable age-specific distributions.

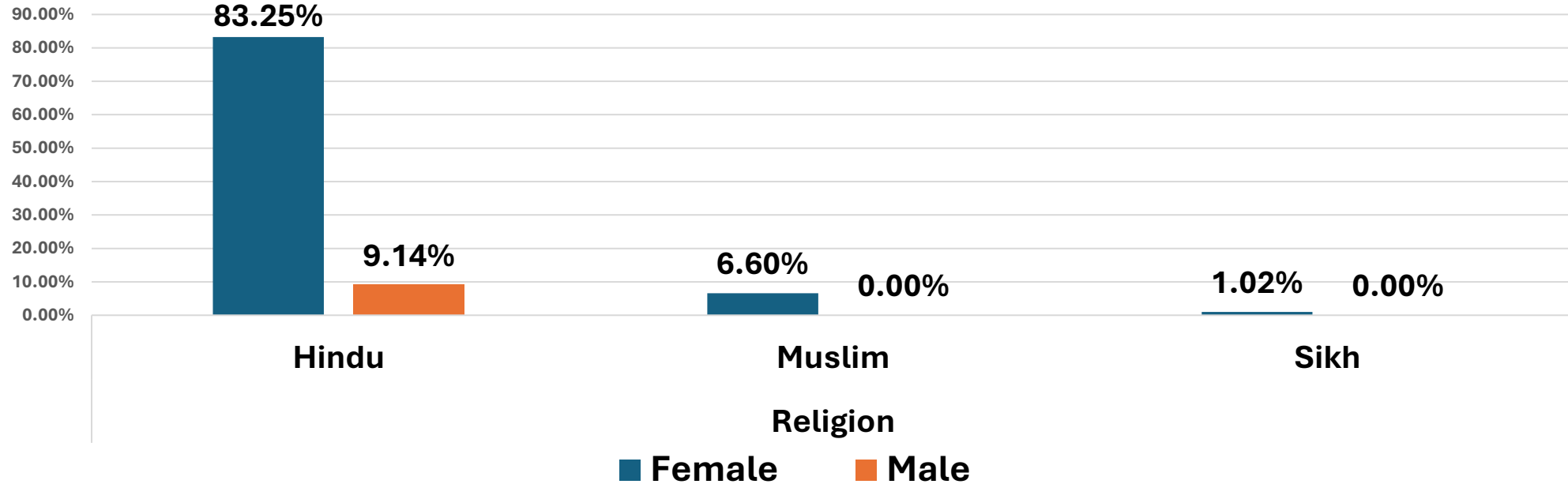


Figure 3: Distribution of Number of children among respondents, categorized by age group and gender.

- **Total Females 90.86% compared to 9.14% male.**
- Among females, **largest age group is 27-31 years old, with 29.44% having one child and 20.81% having two children.**
- Among males are aged 32-36, with **3.55% having one child and 4.57% having two children.**
- Overall, the **figure shows a higher prevalence of one-child families (56.85%) compared to two-child families (43.15%).**

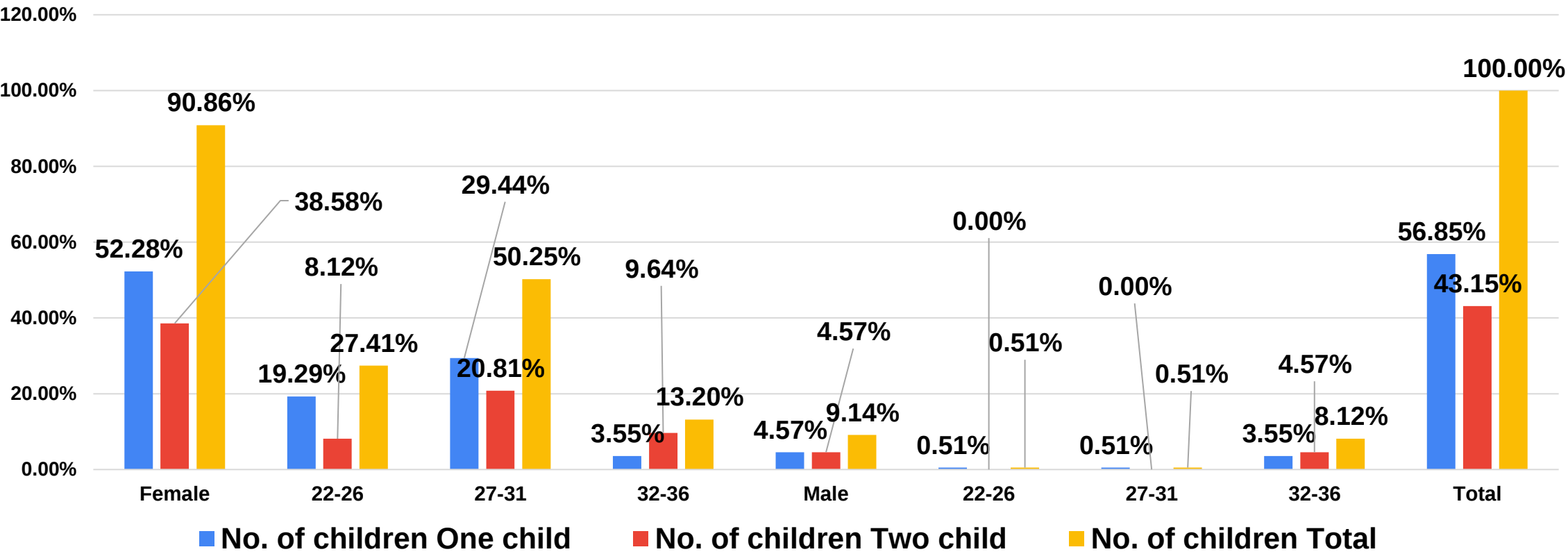
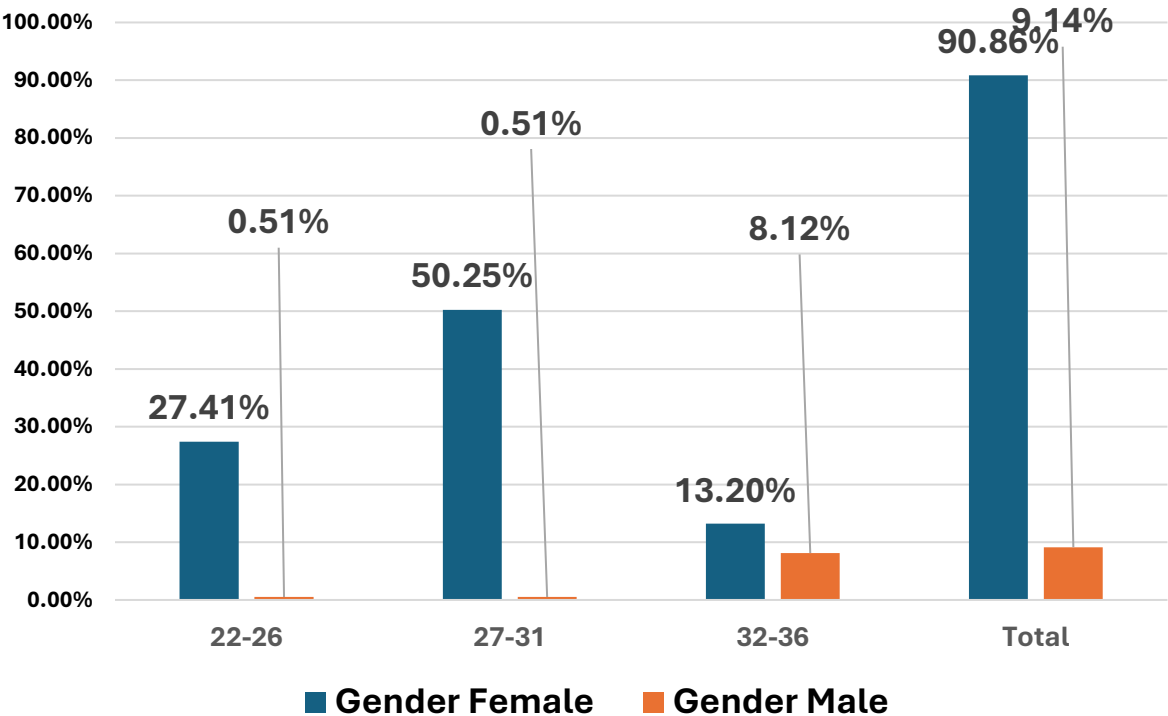
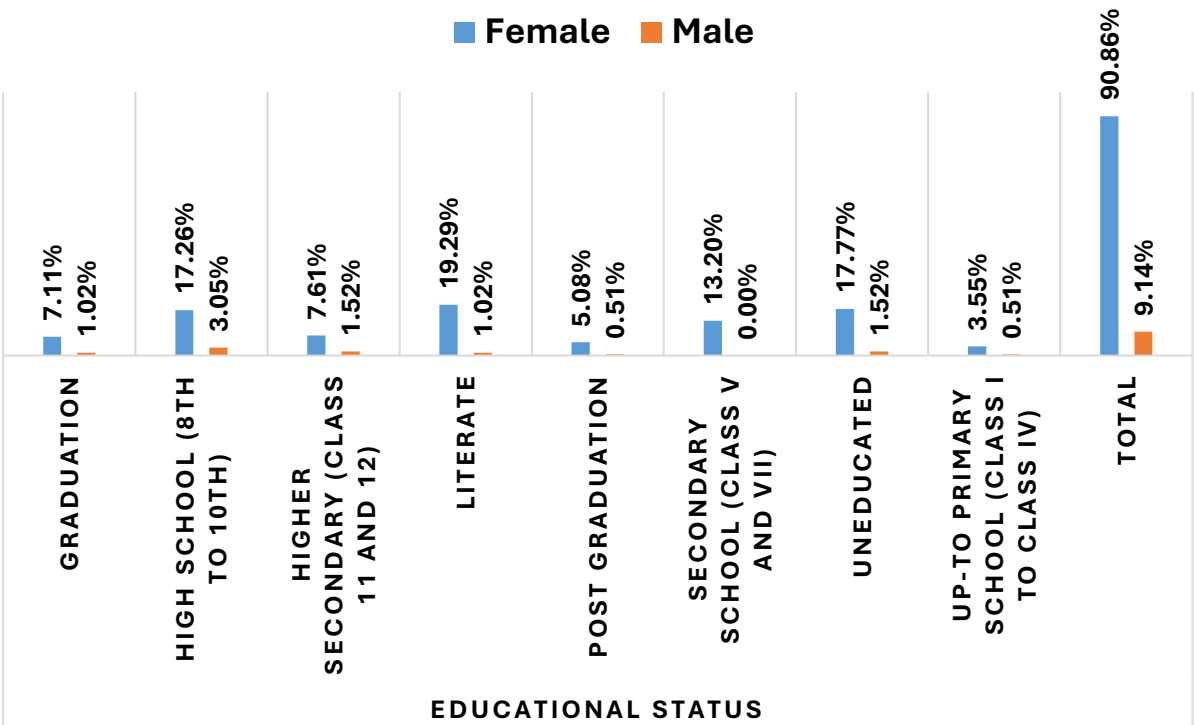


Figure 4: Distribution of respondents by age and gender.



- **Females** make up **90.86%** of the total respondents, while **males** are most present in the **32-36** age group (**8.12%**).
- The figure shows that most respondents are aged **27-31**, with nearly all **being female** (50.25%).

Figure 5: Distribution of Educational status of respondents by gender.



- **Females**, the highest percentages are in the **literate category** (19.29) followed by uneducated (17.77%).
- **Males**, the highest percentages are in the High school (3.05%).
- Overall, females have a significantly higher representation across all educational categories according to males.

Figure 6: Occupation distribution of respondents by gender.

- Among **females**, the highest percentages are **homemakers (74.11%)**, **unskilled workers (7.11%)** and **self-employed (5.58%)**,
- For **males**, the largest percentages are **self-employed (6.09%)**.
- Overall, **most females are homemakers**, significantly outnumbering males in this category, **indicating traditional gender roles**.

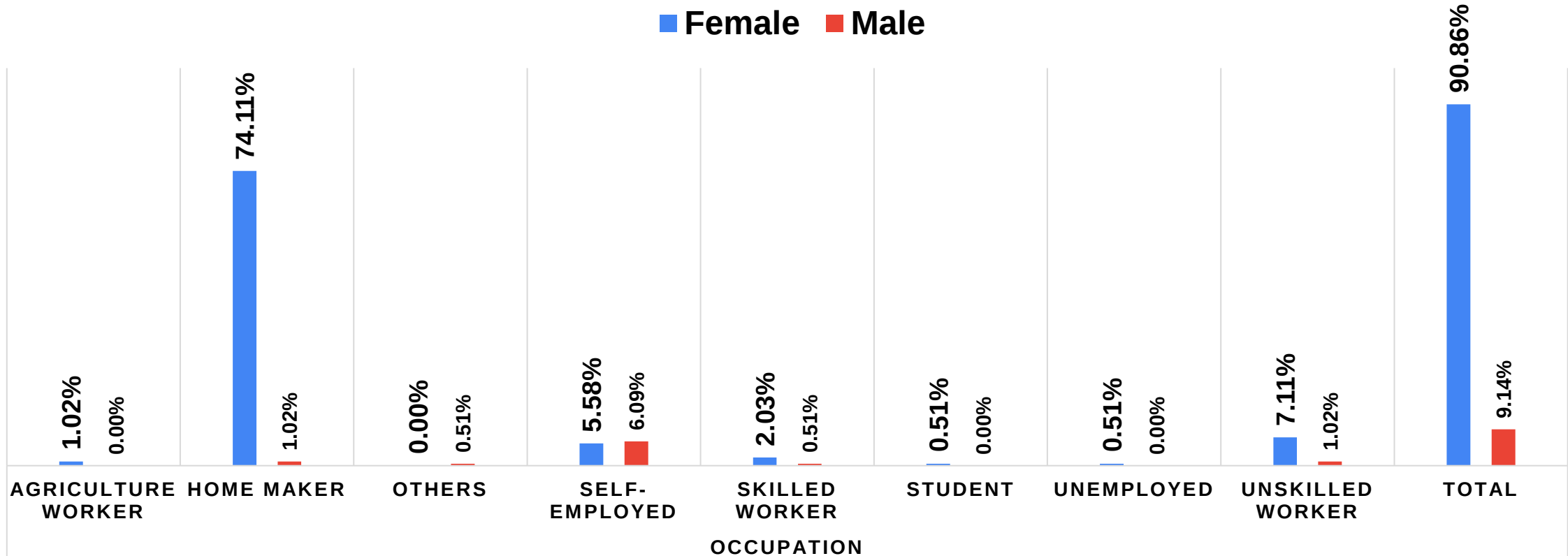
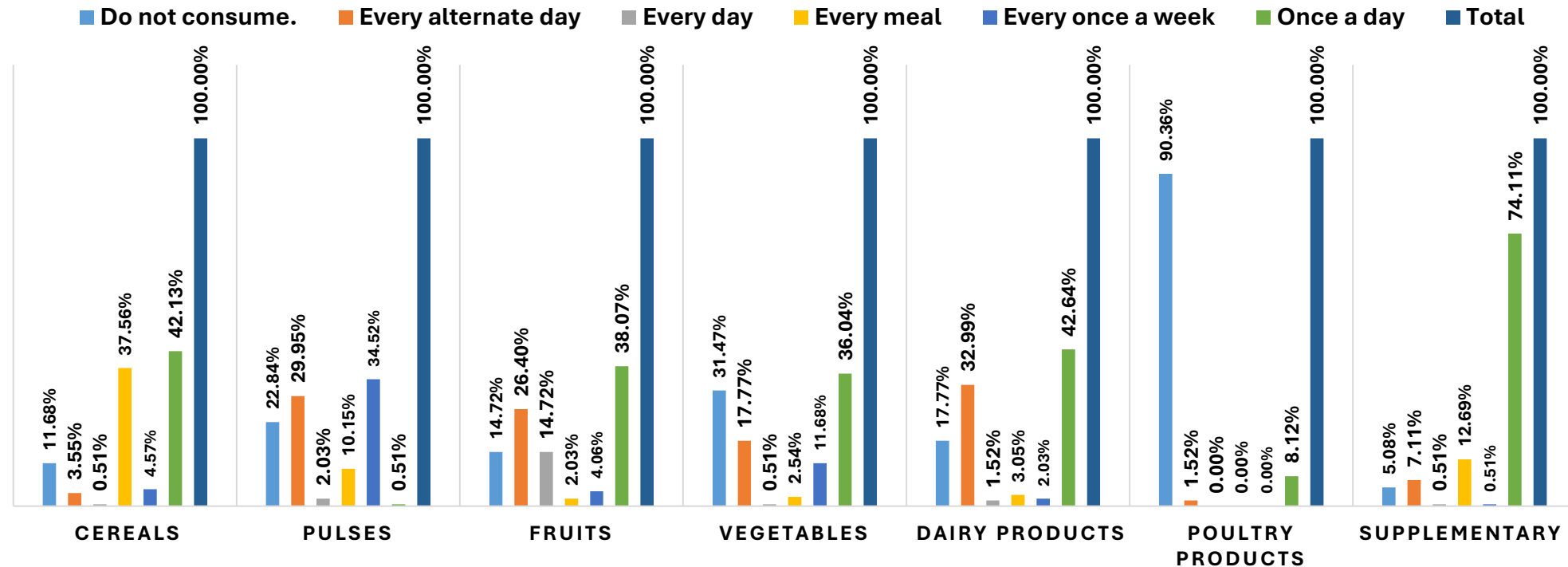


Figure 7: Consumption frequency of various food categories among respondents.



- Dairy products are the most frequently consumed, with 90.36% of respondents incorporating them into every meal. Poultry products are the least consumed, with 90.36% of respondents not consuming them. Fruits are consumed daily by 38.07%, and vegetables by 31.47%. Cereals are primarily consumed once a day (42.13%), and pulses once a week (34.52%).
- These findings highlight **dairy products being the most prevalent** and **poultry products the least** among the surveyed population.

**Figure 8 : MUAC
distribution among
children across different
age groups**

- Among the children, **47.72%** are aged **0.5-1.5 years**, with **13.71%** experiencing moderate malnutrition.
- Additionally, **39.59%** are aged **1.5-2.5 years**, with **4.06%** experiencing moderate malnutrition.
- Only **0.51%** of children have severe malnutrition, all aged 0.5-1.5 years.

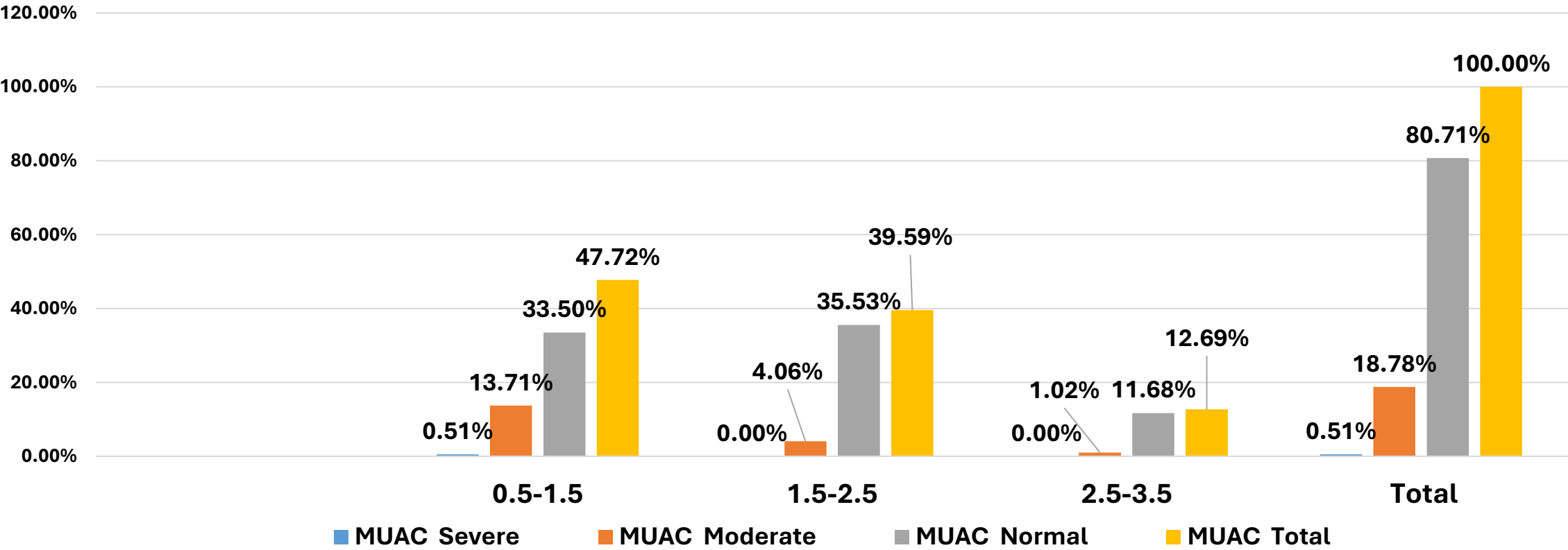
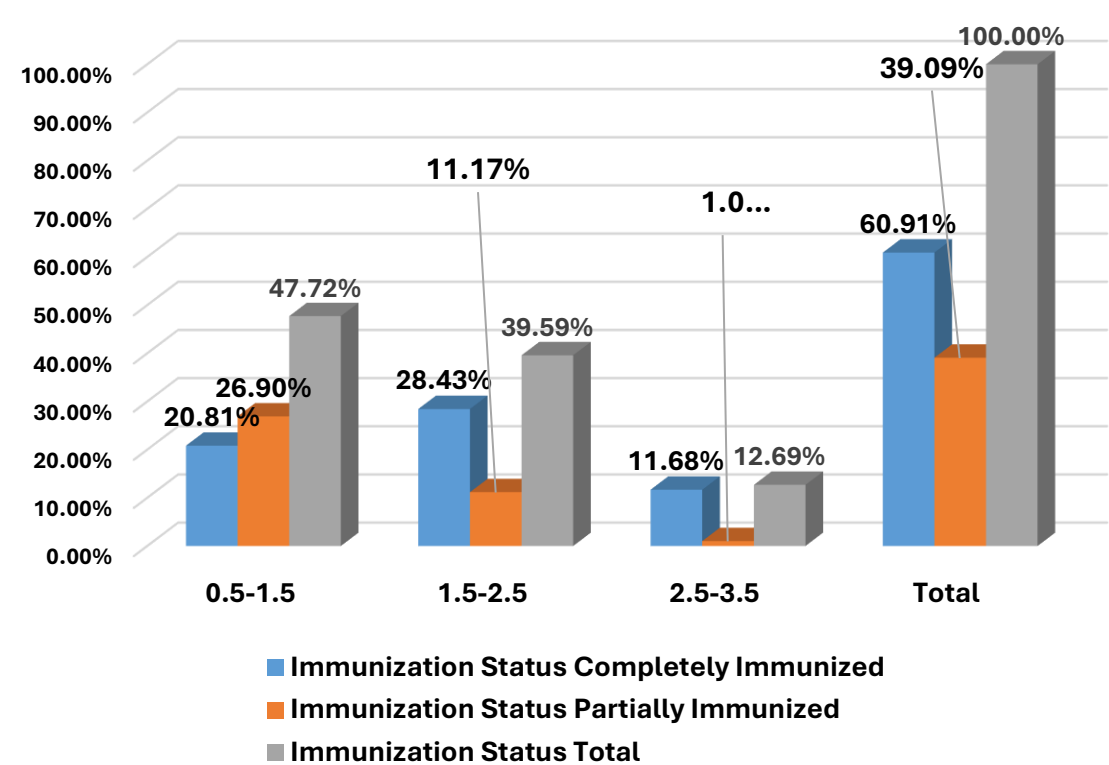
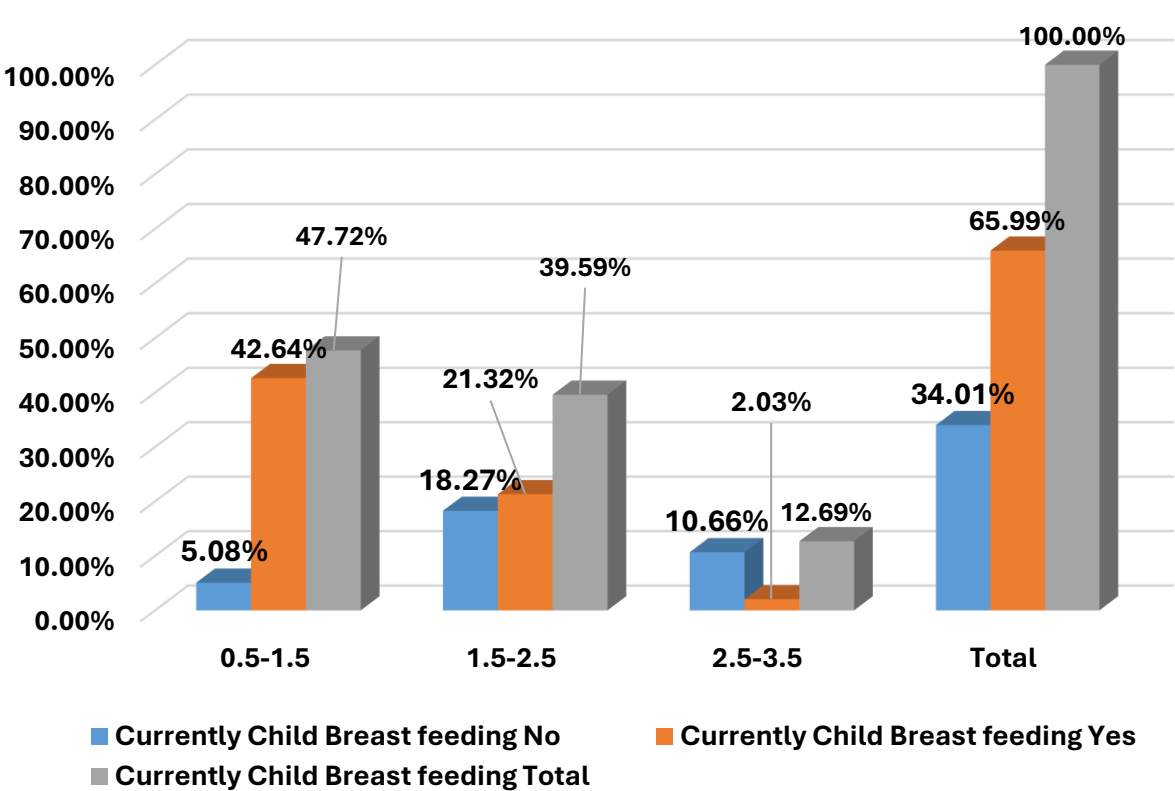


Figure 9 : Distribution of Immunization status of children across different age groups.



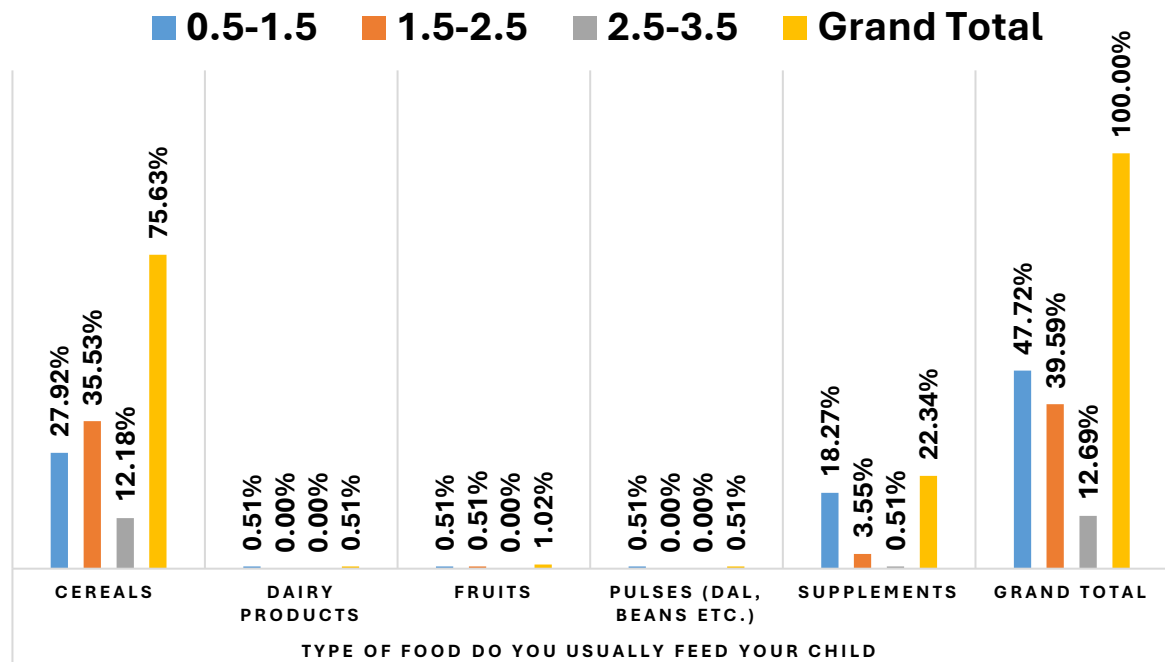
- Overall, **60.91%** are fully immunized.
- Nearly **half** of children aged **0.5-1.5** years are partially or completely immunized, with this proportion decreasing in older age groups.
- However, **39.09%** are not fully covered.
- **Highlighting the need for broader vaccination** efforts across all age groups.

Figure 10 : Distribution of Age of children by child breastfeeding.



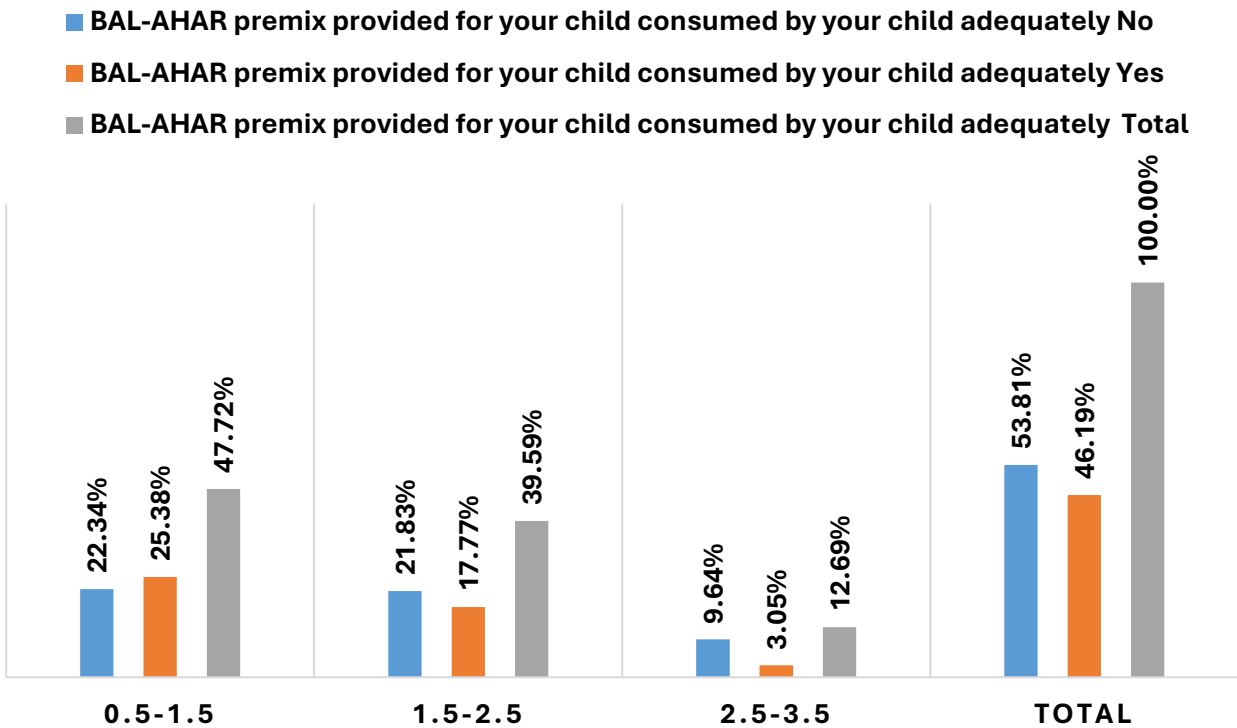
- **42.64%** of children aged **0.5-1.5** years are breastfed, while **5.08%** are not.
- Only **2.03%** of children aged **2.5-3.5** years are breastfed.
- **Breastfeeding rates significantly decline** as children **grow older**, dropping sharply by age 2.5-3.5 years.

Figure 11: Distribution of Types of food fed to children across different age groups.



- 0.5-1.5 years: Cereals (27.92%) and supplements (18.27%).
- 1.5-2.5 years: Cereals (35.53%), no dairy products.
- 2.5-3.5 years: Cereals (12.18%).
- Cereals are the most common food across all age groups, with pulses and fruits also popular.

Figure 12 : Distribution of Age of child by BAL-AHAR premix consumed by your child adequately.



- Overall adequate consumption: 46.19%.
- By age group: 0.5-1.5 years (25.38%), 1.5-2.5 years (17.77%), 2.5-3.5 years (3.05%).
- Adequate consumption of BAL-AHAR premix declines significantly with age.

Figure 13: Distribution of BMI by Age of child

- **87.82% of children are underweight**; 41.62% in the **0.5-1.5 years** age group.
- 9.64% have a normal BMI; 2.54% are overweight.
- High underweight prevalence, especially among young children, is a **critical public health concern**.

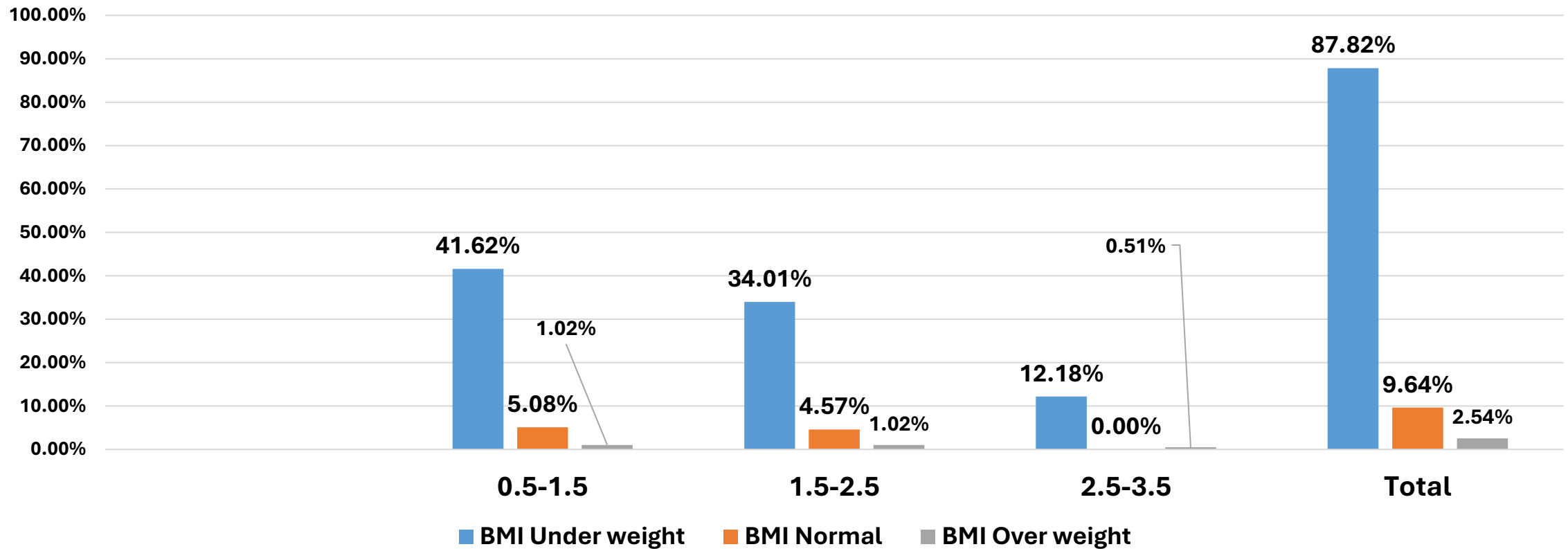


Figure 14: Distribution of BMI Categories Among Boys and Girls

- **87.82% of children are underweight:** boys (41.12%), girls (46.70%)..
- The prevalence of underweight children is alarmingly high, **especially among girls.**

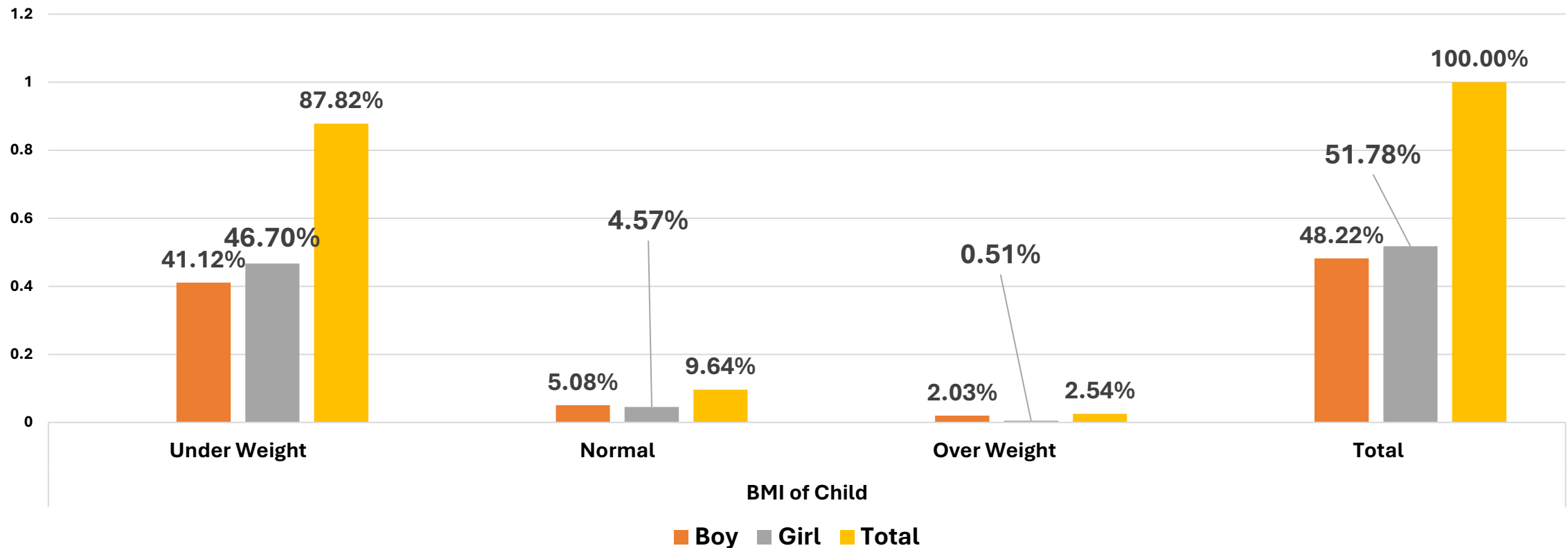
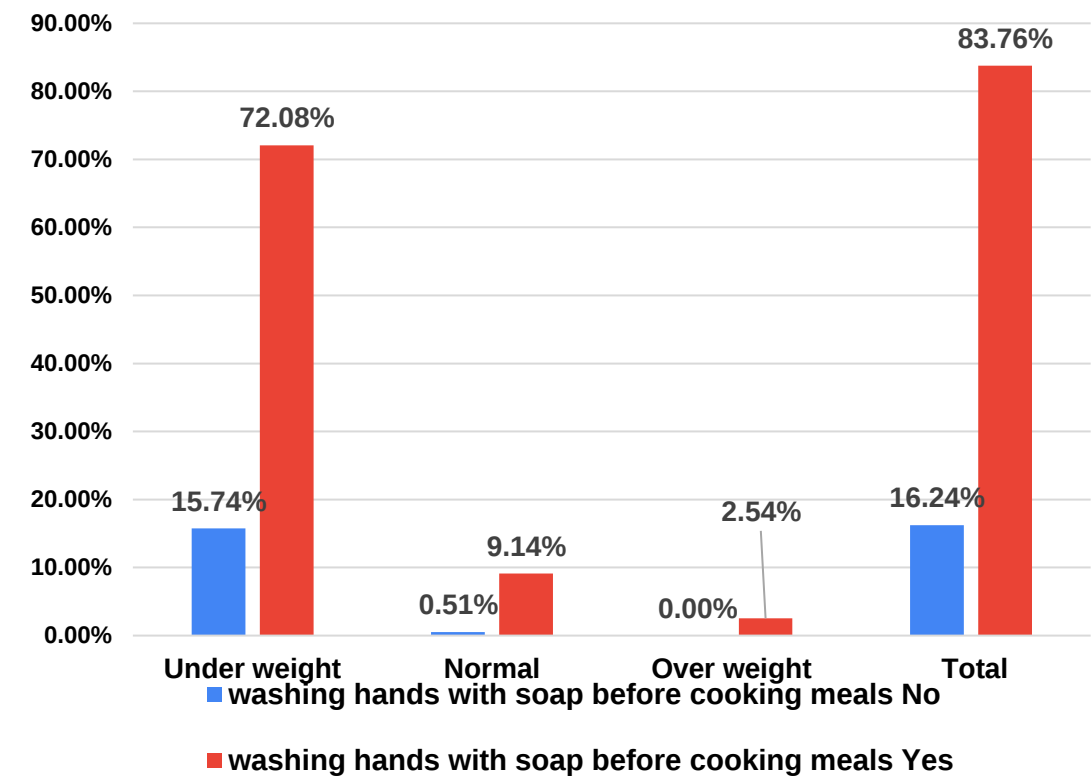
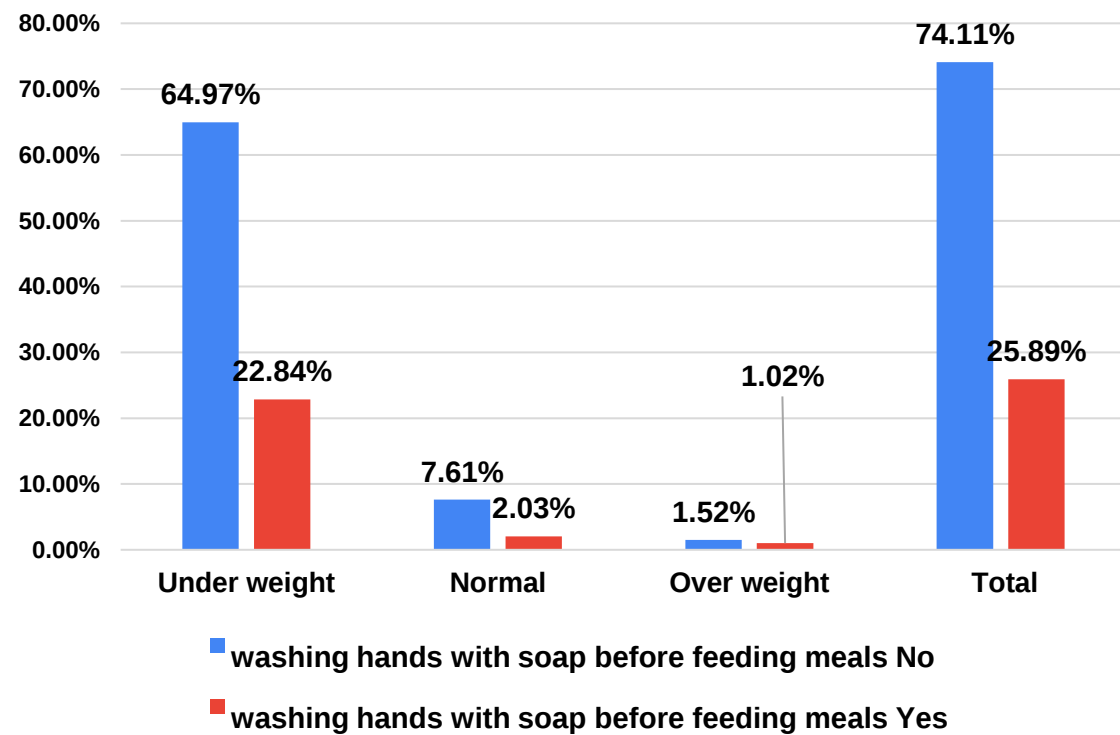


Figure 15: Distribution of BMI Among Hand washing before cooking.



- **15.74% of non-hand washers are underweight.**
- **Hand washing before cooking is strongly linked to healthier BMI in children.**

Figure 16: Distribution of BMI Among Hand washing before feeding.



- **64.97% of children not washed with soap before meals are underweight.**
- **Lack of hand washing with soap before meals is linked to a higher prevalence of underweight children.**

Figure 17: Distribution of BMI Among Educational Status.

- Underweight rates are higher with less educated parents: **high school** (18.78%) , **Literate** (17.77%) and **uneducated** (17.26%).
- Higher parental education correlates with more children having a normal BMI.

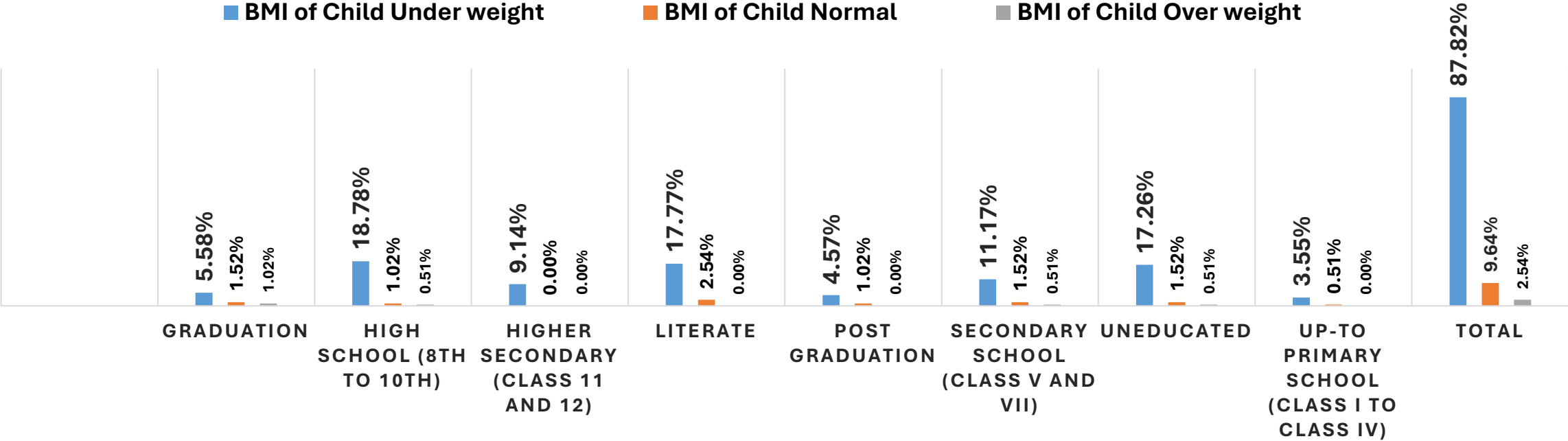


Figure 18: Distribution of BMI Among Monthly Income

- Families earning 6000 to 15999 have the highest percentage of underweight children (49.24%).
- Income increases  underweight children decreases 

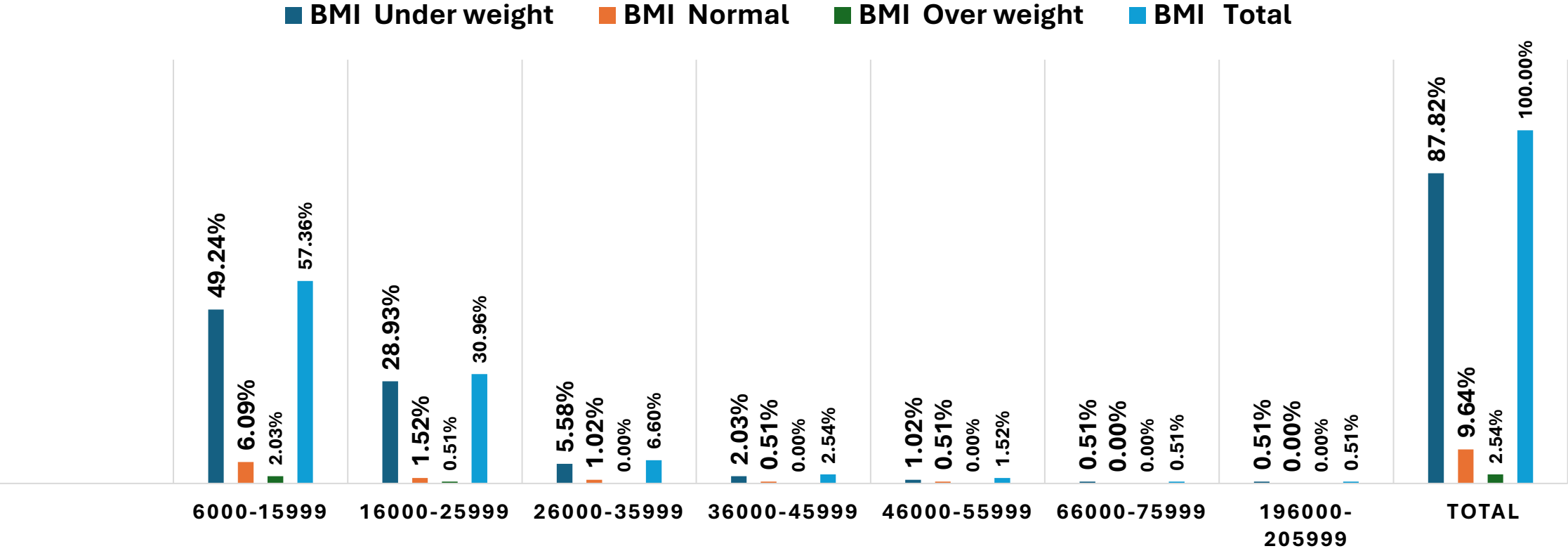


Table 19: Distribution of THR Consumption by BMI

- Total individuals are underweight = 87.82%
- Those consuming THR: 39.59% underweight.
- Those not consuming THR: 48.22% underweight.

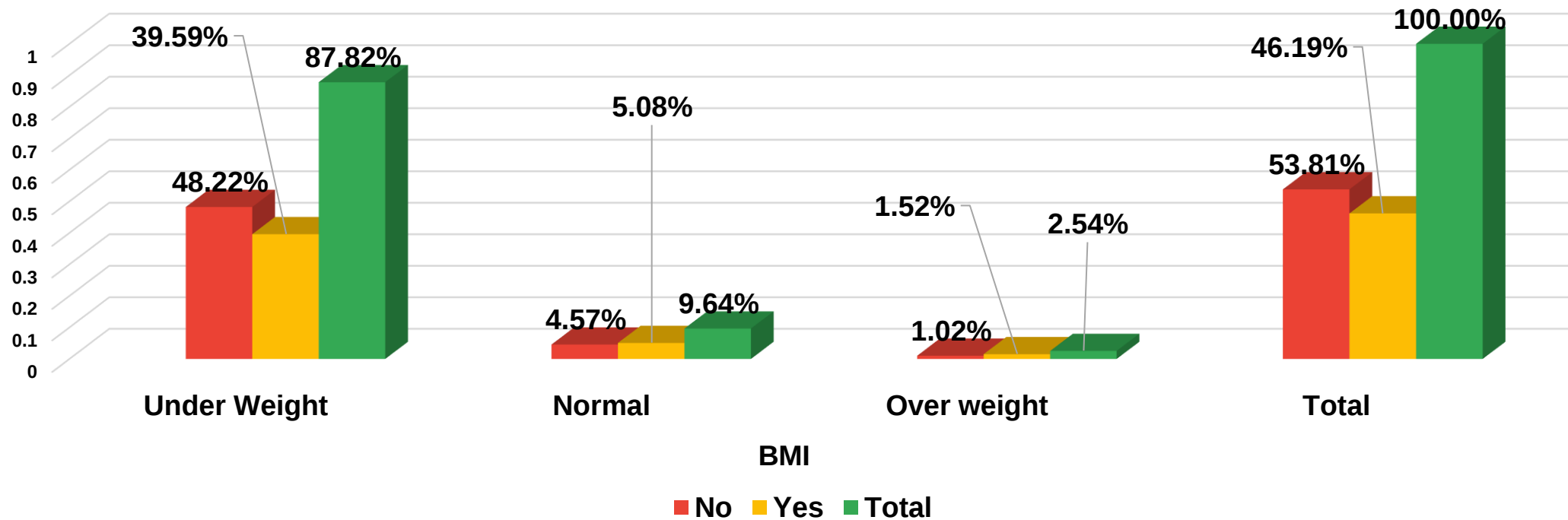
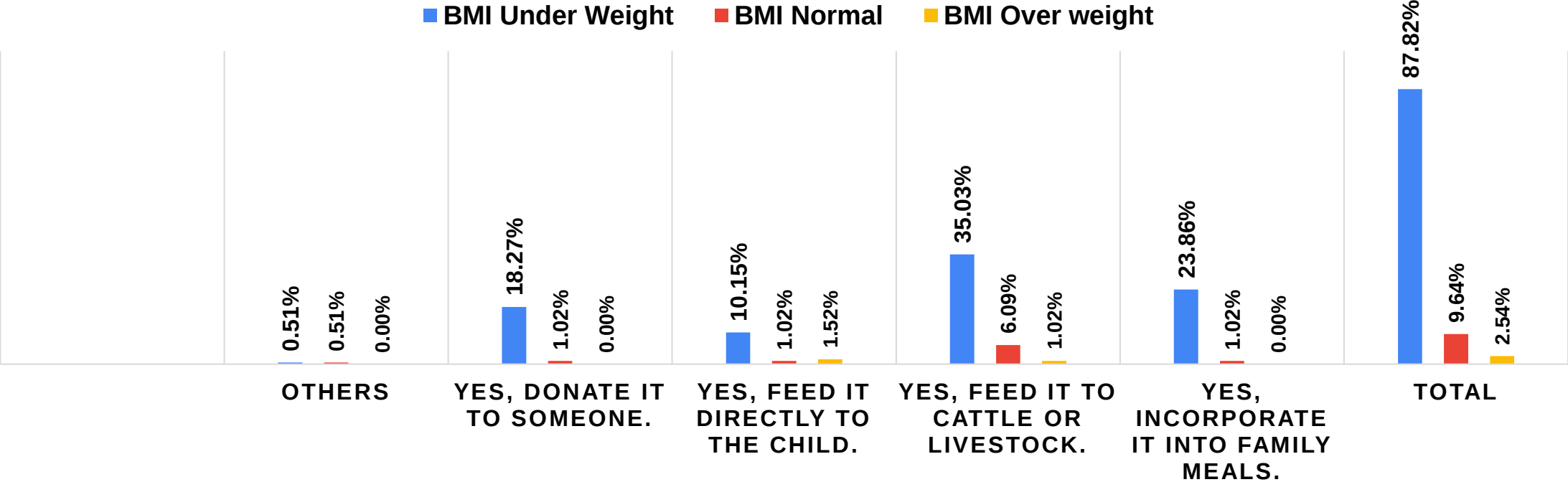


Figure 20: Distribution of utilization of THR for various purposes by BMI

- Total individuals underweight = 87.82%
- Most underweight individuals use THR for:
 - ✓ feeding livestock (35.03%)
 - ✓ incorporating it into family meals (23.86%).



CONCLUSION

- As a result, overall predominance of underweight, normal and overweight was 87.82%, 9.64% and 2.54% respectively in the Jaipur district of Rajasthan.
- **Sociodemographic Profiles of Nand Ghars Beneficiaries:** All sociodemographic factors such as age, gender, religion, category, educational status, occupation, type of family, monthly family income, number of children, BMI of the child, MUAC, immunization status, dietary practices, and hand washing practices were found to be related to malnutrition.
- **Dietary Practices of Nand Ghars Beneficiaries:** Nearly all children consume dairy products daily, but fruits, vegetables, cereals, and pulses are less frequent. Breastfeeding rates decline with the increase in child age. Poor handwashing before cooking, feeding and low parental education are linked to high rates of underweight children, highlighting the need for better dietary and hygiene practices.
- **Utilization Patterns of Take-Home Ration (THR):** THR misuse for feeding livestock or family meals leaves most children underweight, with minimal THR used for child nutrition.

RECOMMENDATIONS :

FOR THE GOVERNMENT, ICDS AND OTHER COLLABORATIVES:

1. **Enhance Knowledge about Child Nutrition** through Education, Communication Activities.
2. **Enhance Maternal Education through** Counselling on THR ,Awareness and Training.
3. **Encourage regular communication between Healthcare provider and Mother** through outreach camps, IEC Material and Telehealth services.
4. Distribute **simplified pamphlets in native languages** to mothers depicting food diversity and feeding frequency.
5. **Strengthen Healthcare provider training**, especially for ASHAs and Nand Ghars workers.
6. **Regularly monitor supplementary food distribution programs** to assess effectiveness and identify areas for improvement.
7. Implement **comprehensive training programs** targeting mothers, focusing on the importance of optimal complementary and supplementary feeding practices.

FOR THE COMMUNITY:

1. Child age specific attention should be given while feeding practices.
2. Give equal attention for both male and female while feeding the child.
3. Having enough food is not enough to ensure children are well-nourished. They also need someone to feed them, provide guidance, and take them to healthcare services.
4. After six months, breastfeeding should be combined with appropriate complementary foods and supplementary foods.
5. Encourage the regular consumption of dairy products, fruits, vegetables, cereals, and pulses.
6. Proper attention should be given to Immunization, ensure all children receive timely immunizations.
7. Promote hand hygiene to reduce disease transmission and improve nutritional outcomes.
8. Encourage and support greater access to educational opportunities, to enhance overall community development and individual well-being.

FOR NAND GHAR OFFICIALS:

1. **Training:** Regularly **train Anganwadi** workers in nutrition and health practices.
2. **Education:** Conduct awareness programs and provide educational materials for beneficiaries.
3. **Technology:** Use mobile apps and online platforms for **tracking growth and health** of children.
4. **Health Services:** Strengthen links with local health centers and involve nutritionists.

REFERENCES:

1. Bredekamp Caryn Das G Gragnolati, Michele, Lee, Yi Kyoung, Shekar, Meera. India's undernourished children : a call for reform and action [Internet]. World Bank. Available from: <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/552991468042034521/indias-undernourished-children-a-call-for-reform-and-action>
2. World Bank Group. Helping India combat persistently high rates of malnutrition [Internet]. World Bank. 2013. Available from: <https://www.worldbank.org/en/news/feature/2013/05/13/helping-india-combat-persistently-high-rates-of-malnutrition>
3. Government of India, Ministry of Health and Family Welfare, MANDAVIYA M. COMPENDIUM OF FACT SHEETS INDIA AND 14 STATES/UTs (Phase-11) National Family Health Survey (NFHS-5) 2019-21 [Internet]. 2021. Available from: https://main.mohfw.gov.in/sites/default/files/NFHS-5_Phase-II_0.pdf
4. Ministry of Health and Family Welfare, International Institute for Population Sciences (Deemed University). National Family Health Survey - 5 [Internet]. District Fact Sheet. International Institute for Population Sciences (Deemed University); 2021. Available from: https://rchiips.org/nfhs/nfhs-5_fcts/RJ/Jaipur.pdf
5. WHO. State nutrition Profile: Rajasthan [Internet]. No. 82. 2022 Mar. Available from: https://www.niti.gov.in/sites/default/files/2022-07/SNP_Rajasthan_Final.pdf
6. Rajasthan priorities: nutrition, Subramanian [Internet]. Copenhagen Consensus. Available from: [https://copenhagenconsensus.com/publication/rajasthan-priorities-nutrition-subramanian#:~:text=al.%2C%202017\).,rate%20of%20morbidity%20and%20mortality](https://copenhagenconsensus.com/publication/rajasthan-priorities-nutrition-subramanian#:~:text=al.%2C%202017).,rate%20of%20morbidity%20and%20mortality)
7. Malik F. 'Take-home rations used to feed cattle.' Hindustan Times [Internet]. 2016 Jul 16; Available from: <https://www.hindustantimes.com/mumbai-news/take-home-rations-used-to-feed-cattle/story-G3T9CkDgBV8jt0nHAmUaMJ.html>
8. Chakrabarti S, Chakrabarti A. Food taboos in pregnancy and early lactation among women living in a rural area of West Bengal. Journal of Family Medicine and Primary Care [Internet]. 2019 Jan 1;8(1):86. Available from: https://doi.org/10.4103/jfmpc.jfmpc_53_17