

# **Children's nutritional status and maternal knowledge and feeding practices on childhood nutrition in selected Rural Municipalities in Mugu district**

## **Authors**

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# Background

- Nutritional status is a key indicator of overall public health. Malnutrition, particularly undernutrition remains a public health issue, significantly contributing to morbidity and mortality, mostly in developing countries (1,2).
- Globally, under-nutrition accounts for more than one third of the deaths among under-five children (3).
- Poor nutrition can impact a child's physical, mental and emotional well-being, and cause challenges in cognitive development leading to intellectual disabilities (4).

# Background

- During the last three decades, Nepal has achieved significant reductions in stunting and wasting among children under five years, seeing declines from 57% to 25% and 15% to 8% respectively (5). However, underweight and anemia are still a major challenge in Nepal (5).
- Nepal Multi-Indicator Cluster Survey reported higher prevalence of Moderate Acute malnutrition and Severe Acute Malnutrition in Karnali province compared to other provinces (5).
- Mugu is one of the most remote and least developed districts of Karnali province of Nepal, facing food insufficiency and failing to meet minimum meal frequency standards (6).

# Objective

To assess the nutritional status of under-5 children and knowledge and practice of nutrition among mothers, and to compare among the PHASE Nepal's intervention area and non-intervention areas in Mugu district of Nepal

# Methodology

- Study design: Cross-sectional study
- Study site: Mugu district
- Study population: Mothers of under-five children in selected areas of Mugu
- Sample size: 971 (724 from intervention areas, covering 33 % of the total households and 247 from non-intervention areas)

# Methodology

- Sampling: We purposively selected different areas of Mugu and includes Dhainakot, Hyanglu, Jima, Natharpu, Photu, Ruga as intervention areas, where PHASE Nepal had implemented health and nutrition related projects. We also included Bhi, Kalai and Rara village as non-intervention areas, where intervention programs were not implemented. Then systematic sampling technique was used.
- Data collection: Interviews using semi-structured questionnaire and anthropometric assessment.
- Data analysis: Descriptive analysis, including frequency and percentage was done using SPSS 24.

# PHASE Nepal's Interventions

- Health Post Strengthening: Deployed health staffs to government health posts, providing clinic-based services three days a week.
- Community Outreach: Home visits three days a week to identify and support pregnant/lactating women and under-five children, promoting utilization of maternal and child health services.
- Nutrition Monitoring: Regularly assessed children's nutritional status and provided targeted support to families of malnourished children.
- Nutrition workshops to demonstrate healthy feeding practices for infants and young children.
- Community Mobilization: Mothers' Groups and FCHVs engagement through monthly meetings and orientations to promote health behaviors.
- Home gardening support.

# Results

## Socio-demographic characteristics of the household participants

Variables	PHASE intervention areas	PHASE non-intervention areas
<b>Socio-demographic variables</b>	Frequency (%)	Frequency (%)
<b>Sex</b>		
Female	701 (80.4)	233 (94.3)
Male	23 (19.6)	14 (5.7)
<b>Age</b>		
≤20 years	34 (3.9)	7 (2.8)
21-30	529 (60.3)	154 (63.1)
31-40	182 (20.7)	54 (22)
41-50	58 (6.6)	22 (9)
51-60	36 (4.1)	5 (2)
More than 60 years	39 (4.4)	2 (0.8)
<b>Ethnicity</b>		
Brahmin/Chhetri	382 (52.8)	126 (51)
Dalit	159 (22)	65 (26.3)
Janajati	3 (0.4)	0
Thakuri	180 (24.9)	39 (15.8)
Others	0	17 (6.9)
<b>Literacy</b>		
Illiterate	234 (32.3)	92 (37.2)
Literate	490 (67.7)	155 (62.8)
<b>Occupation</b>		
Agriculture	641 (88.5)	226 (91.5)
Housewife	1 (0.1)	6 (2.4)
Housewife/ Agriculture	45 (6.2)	1 (0.4)
Non-Agriculture	36 (5)	12 (4.9)
Unemployed	1 (0.1)	2 (0.8)

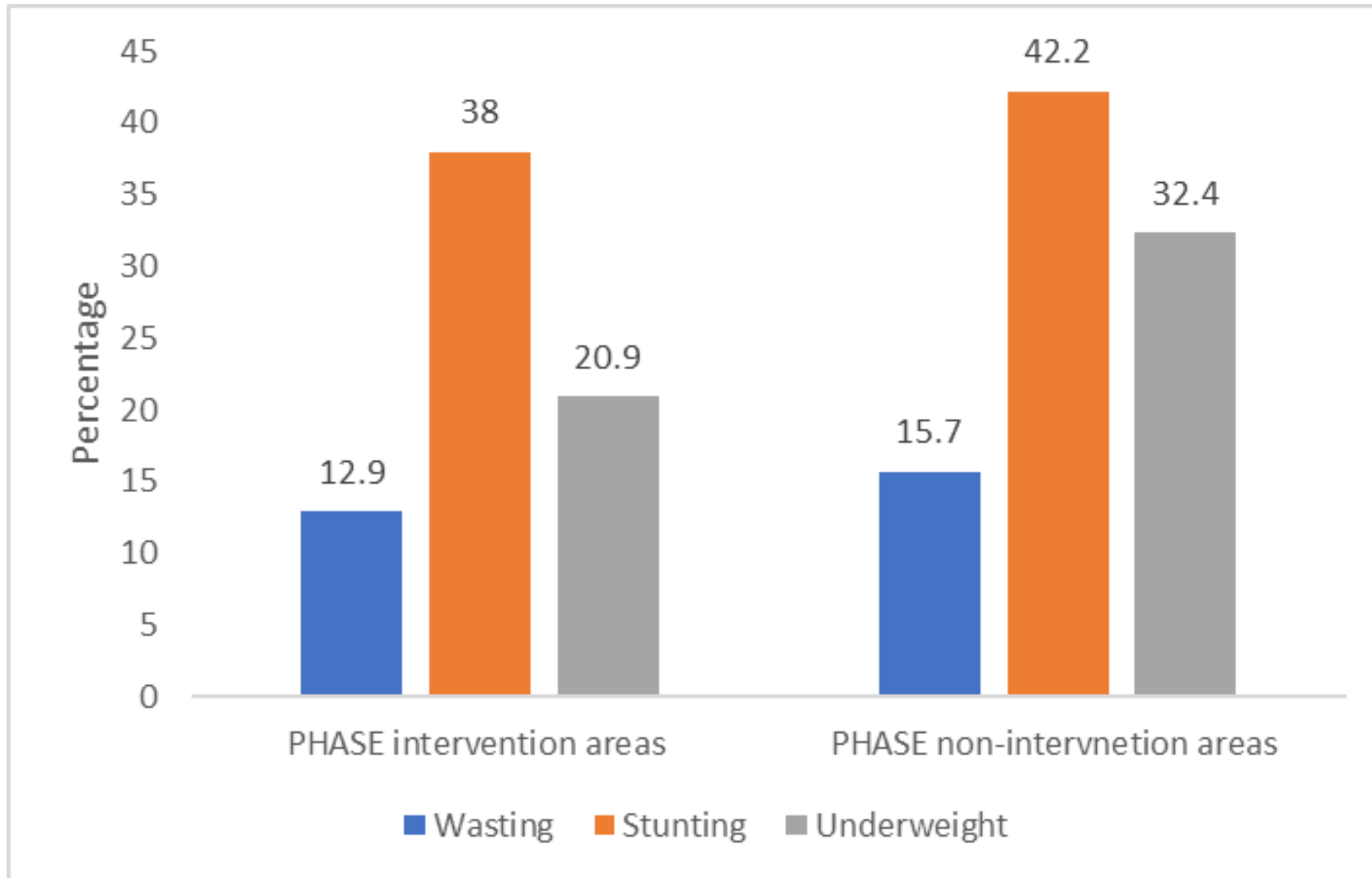
# Knowledge of mothers of children under 5 years

Knowledge	PHASE Intervention areas Frequency (%)	Non-PHASE intervention areas Frequency (%)
<b>Knowledge on initiating breastfeeding to the newborn</b>		
Within 1 hour	636 (87.8)	123 (49.8)
After 1 hour	71 (9.8)	107 (43.3)
No	17 (2.4)	17 (5.1)
<b>Knowledge on exclusive breastfeeding</b>		
Yes	598 (82.6)	40 (16.2)
No	126 (17.4)	207 (83.8)
<b>Knowledge on super flour and methods of preparation</b>		
Yes	443 (69.7)	48 (34.2)
No	192 (30.3)	93 (4)
<b>Knowledge on malnutrition</b>		
Yes	529 (73)	106 (42.9)
No	195 (27)	141 (57.1)
<b>Knowledge on 1000 golden days</b>		
Yes	331 (45.7)	13 (5.3)
No	393 (54.3)	234 (94.7)

# Mother's feeding practice

Practice	PHASE Intervention areas Frequency (%)	Non-PHASE intervention areas Frequency (%)
Initiation of breastfeeding to the newborn		
Within 1 hour	615 (84.9)	126 (51)
After 1 hour	103 (14.3)	107 (43.3)
No	6 (0.8)	14 (5.7)
Exclusive breastfeeding		
Upto 6 months	720 (99.4)	244 (98.7)
7 months- 1 year	4 (0.6)	3 (1.3)
Started feeding supplementary food		
Less than 1 month	0	1 (0.4)
1-3 months	11 (1.5)	9 (3.6)
4-5 months	51 (7)	20 (8.1)
6 or more months	662 (91.4)	217 (87.9)
Feeding green leafy vegetables		
Once a week	175 (24.2)	108 (43.7)
Twice a week	253 (34.9)	10 (4.0)
More than twice a week	296 (40.9)	129 (52.2)
Feeding meat or eggs		
Once a week	211 (29.2)	34 (13.8)
Twice a week	120 (16.6)	8 (3.2)
More than twice a week	393 (54.2)	205 (83)
Feeding milk or milk productions		
Once a week	114 (15.7)	50 (20.2)
Twice a week	128 (17.7)	8 (3.2)
More than twice a week	482 (66.6)	209 (84.6)

# Nutritional status of children under 5 years



# Conclusion

- Our findings suggest that PHASE Nepal's intervention areas demonstrate better nutritional outcomes, breastfeeding practices, and dietary diversity than non-intervention areas.
- However, gaps remain in complementary feeding and dietary diversity, emphasizing the need for further targeted interventions in non-intervention areas. Strengthening community nutrition programs and improving food security are essential for sustainable improvements in child nutrition in rural Nepal.

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# Researcher Bio

Rudra Bahadur Neupane is a senior development professional with over 28 years of experience in disaster risk management, rural development, and infrastructure planning. He holds master's degree in Disaster Risk Management and Rural Development from Tribhuvan University. His expertise spans emergency response, WASH, education, and reconstruction, having worked with PHASE Nepal, UNDP, JICA, and other organizations. As Program Manager at PHASE Nepal, he has played a key role in managing public health programs and other programs as post-earthquake recovery, community resilience building, and policy advocacy.



**Thank You**