Risk Factors of Underweight Among Under-Five Years Children in Rwanda, 2010

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Background

- Malnutrition contributes to high child morbidity and mortality, impaired psycho-motor development and loss in national productivity in developing countries.
- This study was conducted to determine prevalence and major risk factors of underweight in children aged 6 to 59 months in Rwanda.

Methods

- Secondary data analysis of Rwanda Demographic and Health Survey (RDHS)
- RDHS was conducted in 2010 - 2011
- Measurements of age and weight were obtained for 4 356 children aged 6–59 months in Rwanda

- Nutritional status of children in this study was measured by a Z-score
- Underweight was assessed by using weight-for-age index

- Case definition for underweight: a child whose weight-for-age is more than two standard deviations below the median of World Health Organization's reference population
- Descriptive analysis was followed by univariate and finally multivariate logistic regression procedures using STATA

Results

1. Prevalence of underweight in Under five years children in Rwanda, 2010

Overall, 11.4% (95% CI: 10.4 -12.5) of the children were underweight.

2. Risks factors of Underweight in U5 children in Rwanda, 2010

Variables	Odds ratios (95% CI)	P-value
Child's birth weight		
≥ 2.5*	–	
< 2.5	3.8 (1.8– 6.8)	< 0.000**
Child's sex		
Girls*	–	
Boys	2.3 (1.6 – 3.3)	< 0.000 **
Child's birth order		
1	-	
2	1.4 (0.7 – 2.5)	0.397
3	2.4 (1.4 – 4.2)	0.003 **
4+	2.5 (1.6 – 4.2)	0.000**
Child's breastfeeding		
Exclusive*	-	
Not exclusive	1.9 (1.2 – 3.2)	0.015**
Mother's education		
None*	–	
Primary or less	0.95 (0.64-1.41)	0.929
Secondary or higher	0.10(0.16-0.62)	0.014**
Iron supplementation by mother during pregnancy		
Yes*	–	
No	1.5 (1.04-2.2)	0.041**
Economic status		
Poorest	-	
Poorer	1.12 (0.7-1.8)	0.627
Middle	0.89 (0.6-1.6)	0.894
Richer	0.53 (0.28-0.97)	0.040**
Richest	0.42 (0.18-0.92)	0.032**

Conclusions

- Results of this study show that underweight is a major problem in Rwanda.
- Risk factors for underweight include:
  - ✓ Low birth weight
  - ✓ Boys
  - ✓ Higher birth order
  - ✓ Poorer households
  - ✓ Non-use of Iron supplementation during pregnancy
  - ✓ Lack of formal education for mothers
  - ✓ Non-exclusively breastfeeding

Recommendations

- Reinforce/ strengthen poverty alleviation program
- Continuous investment in girls' education
- Strengthen the routine distribution and uptake of Iron during pregnancy.
- Strengthen nutritional counseling and education of mothers during and after pregnancy

Public Health Actions

- The following interventions aimed at improving the nutritional status of children have been initiated:
  - ➢ Monitoring of malnutrition by CHWs through direct monthly household visits
  - ➢ Short-term education for mothers in order to increase their knowledge on nutrition needs and food handling.
  - ➢ Integrating nutritional education during Maternal and Child Health weeks

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