

WASTING AND STUNTING IN LAO PDR: SIGNIFICANT CONTRIBUTIONS OF POOR WASH AND NUTRITION PRACTICES



BACKGROUND

Malnutrition is a multi-factorial condition, but little is known about how poor Water, Sanitation and Hygiene (WASH) and Infant and Young Child Feeding (IYCF) practices contribute to wasting (acute malnutrition) and stunting (chronic malnutrition) in children under 5 years of age (CU5) in Lao PDR.

RESEARCH QUESTION

The analysis aimed to assess whether poor WASH and feeding practices are associated with child growth (ponderal and linear) in Lao PDR and to which extent improved practices can contribute to the fight against malnutrition.

METHODS

The 2017 LSIS 2 data set was used for the analysis. The total sample was 11,598 CU5 for whom at least one anthropometric measurement was available. Water quality had been tested for 1,757 households. Outcome variables were anthropometric status and E.coli contamination in drinking water. WASH indicators were based on the WHO and UNICEF Joint Monitoring Programme for WASH. Unadjusted and adjusted logistic regression were used to assess the association between WASH indicators and child nutritional status.

KEY MESSAGES

- Prevalence of stunting (chronic malnutrition, 33%) and wasting (acute malnutrition, 9%) in children <5 years of age remains alarming high in Lao PDR.
- More than one in two households lived in households lacked basic water, sanitation and hygiene services. Lacked basic WASH services found in rural areas, poor families and low education caretakers.
- Over 70% of households consume drinking water that is highly contaminated with fecal bacteria (E.coli). Households lived in improved WASH have lower risk of E.coli contamination in drinking water.
- Poor WASH (Water, Sanitation and Hygiene) practices are prevalent and are significantly associated with stunting and wasting.
- Having just improved water, sanitation service (eliminate open defecation) and basic hygiene could reduce stunting 14.3%, 16.5% and 11.3% respectively compared to unimproved water, open defecation and no hygiene facility.
- Having just improved water, sanitation services (eliminate open defecation) and basic hygiene could reduce wasting by 11.9%, 10.9% and 10.8% respectively compared to unimproved water, open defecation and no hygiene facility.

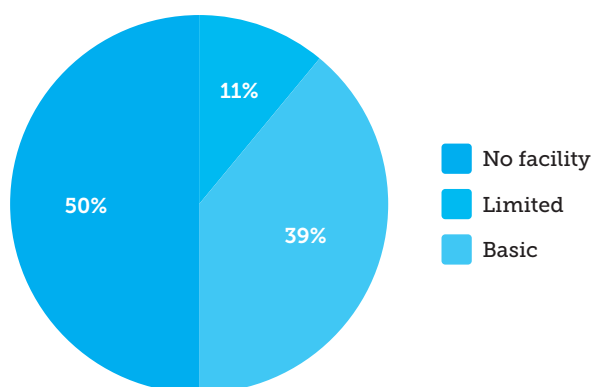
- Poor Infant and Young Child feeding (IYCF) practices are also associated with stunting and wasting. Intake ≥ 4 and ≥ 7 food groups could reduce stunting by 4.2% and 8.0% compared to intake 1-3 food groups. Intake adequate quantity of food (MMF) could reduce wasting by 9.8% compared to inadequate MMF.
- Intervention, linking improved WASH and improved IYCF practices are urgently needed to fight the high prevalence of child malnutrition in Lao PDR.



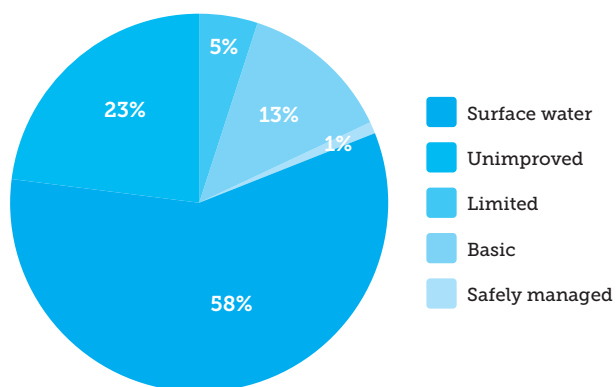
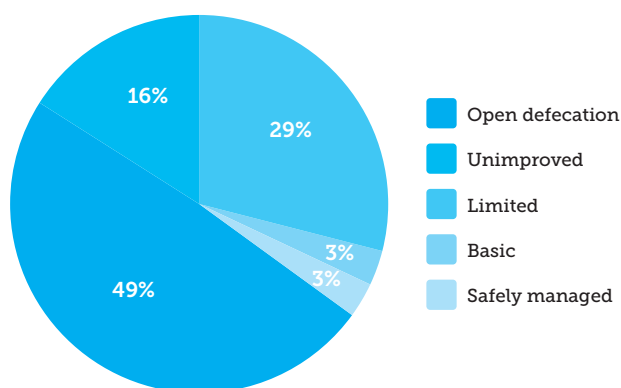
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MAIN RESULTS

We found 81% of households had access to at least basic water supply.



And 65% of households had at least basic sanitation facilities. But only 50% was using basic hygiene practices.



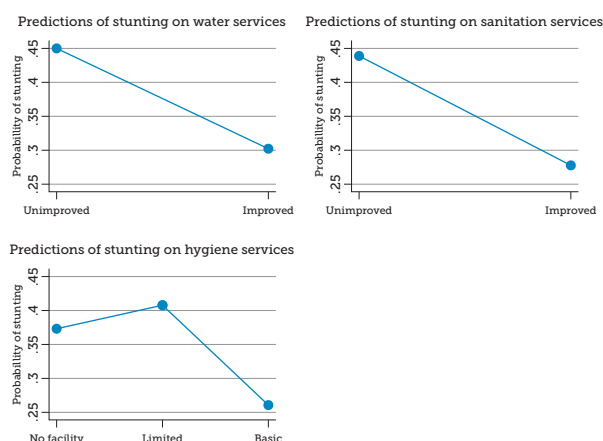
In the 1757 households where water quality was tested, over 70% of households was using drinking water contaminated with high to very high levels of *E.coli*.

<i>E.coli</i> in drinking water	Percentage
Low [<1 per 100ml]	12.4
Moderate [1-10 per 100ml]	16.0
High [11-100 per 100ml]	30.1
Very High [>100 per 100ml]	41.5

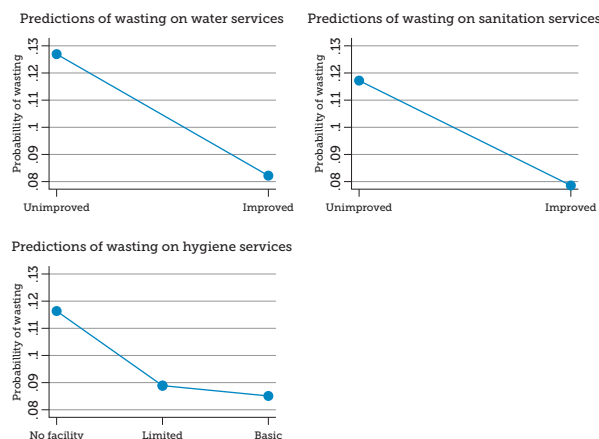
Improved WASH facilities were significantly associated with less *E.coli* contamination with risk for contamination ranging from 0.54 (improved sanitation) to 0.21 (basic hygiene).

	<i>E.coli</i> contamination in drinking water	
	OR	95%CI
Water services (Unimproved)	Reference	
Improved	0.51*	[0.28 ; 0.94]
Sanitation services (Unimproved)	Reference	
Improved	0.54***	[0.34 ; 0.85]
Hygiene services (No facility)	Reference	
Limited	0.35*	[0.13 ; 0.90]
Basic	0.21***	[0.08 ; 0.54]

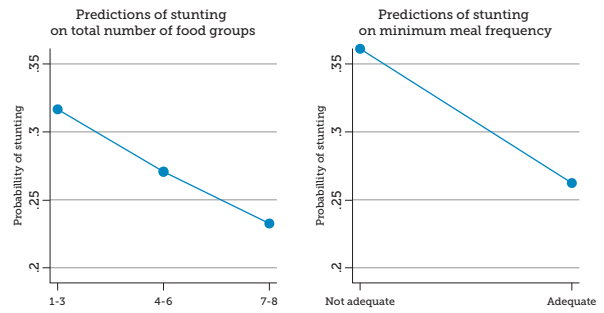
Improved WASH practices were also significantly associated with better anthropometric status. Improved water, sanitation services could reduce stunting by 14.3% and 16.5%, respectively compared to unimproved water and sanitation services. Households with handwashing facility on premises with soap and water (basic hygiene services) could reduce stunting by 11.3% compared children living in households with no handwashing facility.



Improved water, sanitation services will reduce stunting by 11.9% and 10.9%, respectively compared to unimproved water and sanitation services. Households with handwashing facility on premises with soap and water (basic hygiene services) could reduce stunting by 10.8% compared children living in households with no handwashing facility.



A more diverse diet (≥ 4 food groups), and an adequate meal frequency were associated with less stunting. Children who ate ≥ 4 food groups and adequate quantity dietary intake (MMF) had less chance of being stunted compared to those who ate 1-3 out of 8 food groups and inadequate quantity intake. There was a tendency for less wasting in children receiving a minimum acceptable diet (MAD).



CONCLUSIONS

Both poor WASH practices and inappropriate Infant and Young Child feeding practices are associated with wasting and stunting in Lao PDR. Concerted

intervention improving both WASH and IYCF practices are urgently needed.

POLICY RECOMMENDATIONS

Giving a strong association between child malnutrition and water quality, WASH services and IYCF, interventions should be focused on improved household water quality, WASH services and IYCF to reduce the prevalence of malnutrition (both stunting and wasting) in Lao PDR, especially among children living in rural areas and caretakers with low education and poor families. Some interventions will be harder to implement than others, but there are some "low hanging fruits" that could be implemented relatively soon. These interventions include:

- a. Making available handwashing facilities in all households, meaning that households use water and soap (basic hygiene services).
- b. Improve sanitation facilities and reduce the sharing of toilets with other households.

Interventions that will be harder to implement include:

- a. Increasing the dietary diversity of the child's diet and the number of meals given, as this will also require a behavioural change component.
- b. Improving the source of drinking water in households, which will hopefully lead to a reduction in contaminated water being consumed.

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