ANRCB News

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The Quarterly Newsletter for Nutrition Research in Lao PDR

INSIDE:

Dr Souphaxay demonstrates the dual energy X-ray absorptiometry machine installed at the Center of Nutrition

International Atomic Energy Agency supports nutrition research capacity building at CN

Since 2020, the IAEA has been supporting Lao PDR through the Center of Nutrition (CN) to increase their capacity to assess body composition and breast milk intake using nuclear techniques. The CN team have been trained in the stable isotope (non-nuclear) technique of deuterium dilution to assess body composition and have had all the lab equipment, supplies and analytical equipment procured to undertake these measures. Additional training will soon be provided at Mahidol University on procedures for measuring body composition and as well as the dose to mother deuterium technique that can be used to measure breastmilk intake. The CN has also received a dual energy X-ray absorptiometry machine which will enable bone density and body composition to be assessed, as well as a metabolic cart to assess resting metabolic rate. With this capacity, the CN team will start collecting data to inform the country nutrition programs, firstly undertaking body composition measurements in 3–5-year-olds in Vientiane later this year before taking the measurement to 9 provinces in 2024. The isotope technique will also be used to assess breastmilk intake in a research project next year.

If you would like to learn more about how nuclear technology is used in nutrition research, the *Journal of Nutrition* has a special collection titled "**Nuclear Techniques in Nutrition Research**" including papers that present results from IAEA-supported studies. You can access the collection at: **https://academic.oup.com/jn/pages/nuclear-techniques-cfp.**

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ANH 2023 Watch Party in Vientiane

The global annual Agriculture, Nutrition & Health Academy Conference is being held 19-30 June 2023 in Malawi and the ANRCB project will host a Watch Party to bring two days of research presentations to Laos.

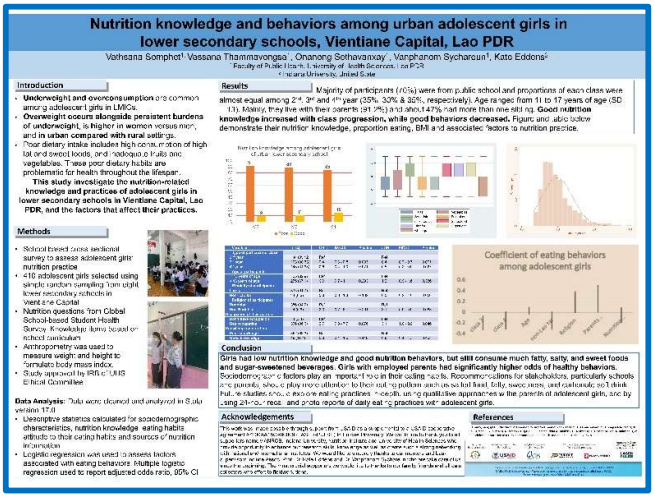
On 29 and 30 June, select thematic oral sessions will be streamed live with simultaneous Lao translation at Nalinthone café in Vientiane. University students and sector stakeholders are being invited to join in persons to get their first experience of an international research conference.

The Lao watch party will provide a selection of the conference, via two oral themed presentation sessions:

- Equity in Agriculture, food systems, nutrition, and health
- Behavioral research related to diets, nutrition, and health.

Go to https://www.anh-academy.org/academy-week/2023 to register and see the full program. Registration is free and uncapped. Email anrcb@crs.org if you would like to attend the watch party in person.

Next year the annual ANH research conference is expected to be held in Asia; you are encouraged to join this year's sessions online and prepare to be a presenter yourself in 2024!



Small Research Grant Teams advance to poster development

ANRCB's Small Research Grant Principal Investigators (PI) and their supervisors from CN, UHS and Lao TPHI visited Purdue and Indiana University in the US in March 2023. The visit was a follow up to the successful visit to Laos by a mentor team of professors in November 2022. The visit provided an opportunity for mentors and PIs to work together and learn new tools and techniques. Over the week teams analyzed their research data and learned visualization techniques. Finally, each team developed a poster, presented at a mini conference on the last day of the visit. The visit also enabled Lao academic leadership to meet with the deans of public health at both universities and discuss possible academic cooperation and exchange in the future.

Poster documents can be accessed at: https://bit.ly/43Pm9pq

Lao Research Spotlight

Micronutrient supplementation in children was discussed during the latest CN Nutrition Webinar. Here is one of the articles from the Lao Zinc Study that was discussed:

Effects of Daily Zinc, Daily Multiple Micronutrient Powder, or Therapeutic Zinc Supplementation for Diarrhea Prevention on Physical Growth, Anemia, and Micronutrient Status in Rural Laotian Children: A Randomized Controlled Trial

Barffour et al in *Journal Of Pediatrics*, April 2019
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6448681/

Study design: In total, 3407 children aged 6-23 months were randomized to receive either daily preventive zinc tablets (7 mg/d), high-zinc, low-iron micronutrient powder (10 mg/d zinc, 6 mg/d iron, and 13 other micronutrients), therapeutic zinc supplementation for diarrhea (20 mg/d for 10 days per episode), or daily placebo powder; all were followed for ~9 months. Anthropometry, hemoglobin, zinc, and iron status were assessed at baseline and endline. Analyses were by intention-to-treat, using linear and modified Poisson regression.

Results: At baseline, mean (±SD) age was 14.2 ± 5.1 months and stunting and anemia prevalence were 37.9% and 55.6%, respectively. At endline, zinc deficiency in the preventive zinc (50.7%) and micronutrient powder (59.1%) groups were significantly lower than in the therapeutic zinc (79.2%) and control groups (78.6%; P < .001), with no impact on stunting (37.1%-41.3% across the groups, P = .37). The micronutrient powder reduced iron deficiency by 44%-55% compared with other groups (P < .001), with no overall impact on anemia (P = .14). Micronutrient powder tended to reduce anemia by 11%-16% among children who were anemic at baseline (P = .06).

Conclusions: Despite improving zinc status, preventive zinc and micronutrient powder had no impact on growth. The micronutrient powder improved iron status and tended to reduce anemia among the subset of previously anemic children.

Let's understand more the meaning of stunting, underweight and wasting relevant to nutrition among children under 5 years

The Center of Nutrition's forthcoming Lao-English Nutrition Glossary is designed to help explain key nutrition terms and ensure consistent and accurate translation. Here are three of the more than 200 terms included:

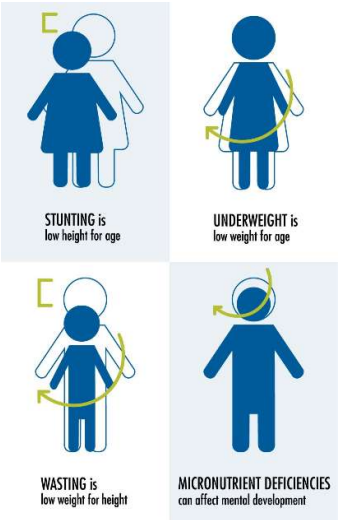


Image Source: Holt International 1

Stunting is low height-for-age. It results from chronic or recurrent undernutrition, usually associated with poverty, poor maternal health and nutrition, frequent illness and/or inappropriate feeding and care in early life. Stunting prevents children from reaching their physical and cognitive potential.

Underweight is weight below a reference standard for a given age. It may reflect either long-term (chronic) and/or short-term (acute) malnutrition, but these cannot be easily distinguished using this measure alone.

Wasting is low weight for a given height in comparison to a healthy reference population of the same age, typically indicating acute (short-term) malnutrition or health insults. Can be useful for examining short-term effects, seasonal changes in food supply, or short-term malnutrition.

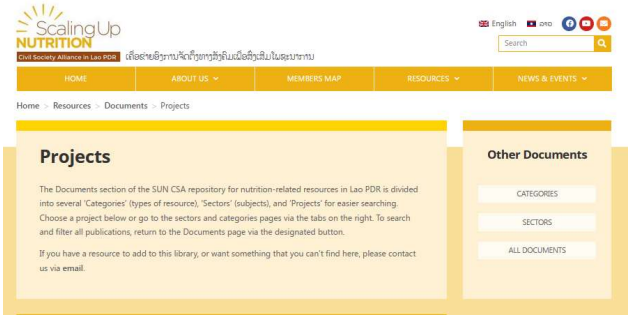
The 13th International Conference on Public Health among the Greater Mekong Subregion (GMS) Countries 2023

The 13th Greater Mekong Sub-region (GMS) public health conference will be held at Hue University of Medicine and Pharmacy (Hue City, Vietnam) June 30 – July 2, 2023. Lao nutrition research will be well represented with five studies from researchers from the University of Health Sciences chosen for the program:

- Dr. Vathsana Somphet, Nutrition knowledge and practice among adolescent girls in urban schools of Vientiane Capital, Lao PDR
- Souksamone Thongmixay, Macro and Micronutrient Intake and Its Adequacy in Children aged 12-23 months in Lao PDR: A Community Based Cross-sectional Study
- Onanong Setthavanxay, Salt intake behavior and high blood pressure among adult population over 35 years in community in Vientiane Capital, Lao PDR
- Ladsamee Rajsavong, Factors Associated with Total Gestational weight gain during pregnancy among delivery Women in Central Hospital.
- Vilamon Chanthaluexay, Dietary behavior and nutritional status among diabetic type 2 patients

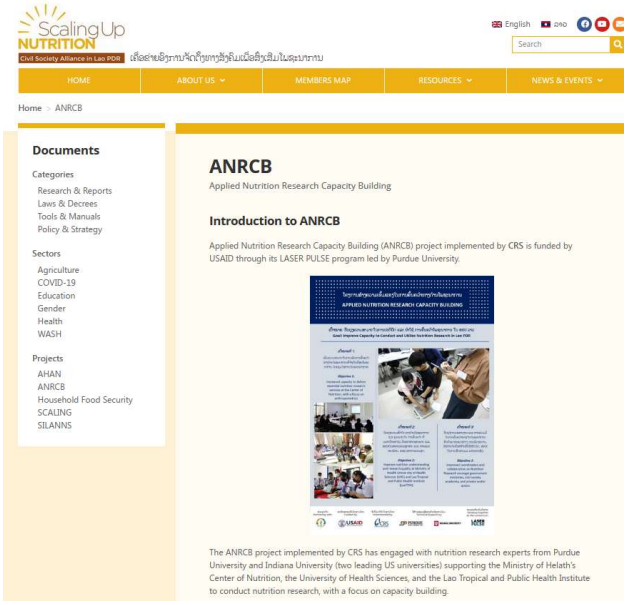
The 2024 GMS Public Health Conference will be hosted by the Lao University of Health Science in Luang Prabang in June 2024 with a special focus on nutrition.

Practitioner News



The SUN CSA Lao website hosts a library of nutrition information about the Lao PDR and now has a Project page that provides easy access to research and reports on household food security and leading nutrition projects implemented by civil society organizations.

https://suncsalaos.org/resources/documents/projects



The page also hosts all resources produced by the ANRCB project, including all the ANRCB Course Modules and Nutrition Webinar Videos in both Lao and English. See it at:

https://suncsalaos.org/resources/documents/projects/anrcb/