

# REFINE Resource Review: November 2017

The **REFINE Resource Review** is a collection of materials to keep you updated on research related to food aid products and malnutrition. Resources identified and added between April 1<sup>st</sup> – November 26<sup>th</sup> are detailed below and are available on the [REFINE website](#).

The goal of Research Engagement on Food Innovations for Nutritional Effectiveness (REFINE) is to enhance the accessibility to, and exchange of, rigorous, operational and policy relevant research on **nutrition-directed interventions that improve nutrition in both emergency and non-emergency contexts**.

Please direct all questions or comments to [maria.wrabel@tufts.edu](mailto:maria.wrabel@tufts.edu).

## Ongoing Clinical Trials Added to REFINE Roster

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### **Benefits and Risks of Iron interventions in Children (BRISC): a randomized controlled trial in Bangladesh**

- [ACTRN12617000660381](#): To evaluate the impact of iron supplementation and MMPs on cognitive development in young children, compared with placebo.
- Principal Investigator: Professor Beverley-Ann Biggs, Melbourne Health, Australia
- Anticipated completion date: December 2019

### **A study on effect of Integrated Nutrition, WASH, Care and Support Interventions during the Pre-pregnancy, Pregnancy and Early Childhood on linear growth of children**

- [CTRI/2017/06/008908](#): To study the effect of an integrated program on child growth and development throughout various stages of the early life cycle in Indian children and mothers.
- Principal Investigator: Nita Bhandari, Centre for Health Research and Development, Society for Applied Studies, India
- Anticipated completion date: July 2023

### **A Prospective randomized controlled study to evaluate the efficacy of indigenously made fortified complementary food in children with Moderate Acute Malnutrition**

- [CTRI/2017/08/009260](#): To examine the impact of an indigenously prepared fortified complementary food on improvements in weight, height, MUAC, and recovery among children with MAM in India.
- Principal Investigator: Dr. Alka Jadhav, Lokmanya Tilak Municipal General Hospital, India
- Anticipated completion date: August 2017

### **The Ready-to-Use Supplementary Food's impact on indicators of malnutrition in Mild and Moderately Wasted Children: a randomized controlled trial**

- [IRCT2017021315536N6](#): To understand the impact of local RUSF and childhood education sessions on recovery from mild and moderate acute malnutrition.
- Principal Investigator: Mohamad Javad Hosseinzadeh, Tehran University of Medical Sciences, Department of Nutrition and Dietetics, Iran
- Anticipated completion date: February 2018

### **Biofortification with zinc in flour for eliminating deficiency**

- [ISRCTN83678069](#): To examine whether or not consuming the flour made from the high zinc grain has a beneficial impact on the zinc status of zinc deficient women living in a rural community in North West Pakistan

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- Principal Investigator: Professor Nicola Lowe, Faculty of Health and Well-Being, University of Central Lancashire, UK
- Anticipated completion date: April 2019

### **The effect of rice-based, lactose-free F-75 therapeutic formula on diarrhoea in the treatment of children with severe acute malnutrition**

- [ISRCTN98124592](#): To find out whether rice-based, lactose-free F-75 can reduce diarrhoea in hospitalized children with severe acute malnutrition in Uganda.
- Principal Investigator: Professor Henrik Friis, University of Copenhagen, Denmark
- Anticipated completion date: August 2019

### **WASH Benefits Bangladesh**

- [NCT01590095](#): To measure the effect of nutrition and WASH interventions on child illness, growth, and development.
- Principal Investigator: Dr. Stephen Luby, Stanford University, USA
- Anticipated completion date: December 2017

### **NutFish and Nutrient Supplementation in Pregnancy Class to Improve Maternal and Birth Outcomes**

- [NCT02959125](#): To evaluate the intervention of NutFish-based cookies, micronutrients supplementation and pregnancy class to improve maternal and birth outcomes among pregnant women in Indonesia.
- Principal Investigator: Dr. Kun Susiloretni, Semarang Health Polytechnic, Indonesia
- Anticipated completion date: December 2017

### **Feeding Malnourished Children Different Types of Fatty Acids to Promote Neurocognitive Development**

- [NCT03094247](#): To evaluate how novel RUTF with balanced fatty acids improve the metabolic and neurocognitive effects in young children in Malawi recovering from SAM.
- Principal Investigator: Dr. Mark Manary, Washington University School of Medicine, USA
- Anticipated completion date: September 2019

### **Comparison of Four Different Supplementary Foods in the Treatment of Moderate Acute Malnutrition**

- [NCT03146897](#): to determine the relative effectiveness and cost effectiveness of alternative supplementary foods in the treatment of moderate acute malnutrition (MAM) in normal program settings
- Principal Investigator: Dr. Beatrice Rogers, Tufts University, USA
- Anticipated completion date: December 2018

### **Developmental Screening and Nutritional intervention of Severe Acute Malnourished Children in Southern Punjab, Pakistan**

- [NCT03170479](#): to examine the impact of malnutrition on development quotient of children, and to determine the effectiveness of Ready to Use Therapeutic Food (RUTF) in improving the development quotient of severe acute malnourished children under five years of age, to investigate the outcome of Vitamin D therapeutic doses intervention with RUTF rehabilitation on growth and development of malnourished children.
- Principal Investigator: Dr. Muhammad Zakar, University of the Punjab, Pakistan

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- Anticipated completion date: May 2017

### Comparative analysis of complementary feeds in children with moderate acute malnutrition

- [PACTR201704002119141](#): This study aims at comparing the effectiveness, tolerability and adverse effect of milk-based nutritional formulation, non-milk based formulation and standard hospital based formulation in the management of children aged 6 months to 35 months with moderate acute malnutrition.
- Principal Investigator: Dr. Ekong Emmanuel Udoh, University of Uyo Teaching Hospital, Nigeria
- Anticipated completion date: April 2017

### Published Food Aid Product Studies added to REFINE

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*This section includes publications from individual clinical trials testing food aid products, and reports and evaluations from programs using food aid products.*

- Ackatia-Armah, R. S., McDonald, C., Doubmia, S., & Brown, K. H. (2012). **Effect of selected dietary regimens on recovery from moderate acute malnutrition in young Malian children.** *The FASEB Journal*, 26(1), supp 1031.10. Retrieved from [http://www.fasebj.org/content/26/1\\_Supplement/1031.10.abstract](http://www.fasebj.org/content/26/1_Supplement/1031.10.abstract)
- Adams, A. M., Ahmed, R., Latif, A. H., Rasheed, S., Das, S. K., Hasib, E., . . . Faruque, A. (2017). **Impact of fortified biscuits on micronutrient deficiencies among primary school children in Bangladesh.** *Plos One*, 12(4). doi:10.1371/journal.pone.0174673
- Adu-Afarwuah, S., Lartey, A., Okronipa, H., Ashorn, P., Zeilani, M., Baldiviez, L. M., . . . Dewey, K. G. (2016). **Impact of small-quantity lipid-based nutrient supplement on hemoglobin, iron status and biomarkers of inflammation in pregnant Ghanaian women.** *Maternal & Child Nutrition*, 13(2). doi:10.1111/mcn.12262
- Akparibo, R., Harris, J., Blank, L., Campbell, M. J., & Holdsworth, M. (2017). **Severe acute malnutrition in children aged under 5 years can be successfully managed in a non-emergency routine community healthcare setting in Ghana.** *Maternal & Child Nutrition*, 13(4). doi:10.1111/mcn.12417
- Ashorn, P., Poelman, B., Dewey, K. G., Maleta, K., Klein, N., Rogerson, S., . . . The LNS-RTI Study Team. (2017, March). **The Impact of Dietary Supplementation with Lipid-Based Nutrient Supplements on Maternal Health and Pregnancy Outcomes in Rural Malawi** (Rep.). Retrieved <https://www.fantaproject.org/sites/default/files/resources/FANTA-LNS-RTI-Part-I-Mar2017.pdf>
- Avula, R., Frongillo, E. A., Arabi, M., Sharma, S., & Schultink, W. (2011). **Enhancements to Nutrition Program in Indian Integrated Child Development Services Increased Growth and Energy Intake of Children.** *Journal of Nutrition*, 141(4), 680-684. doi:10.3945/jn.109.116954
- Bahwere, P., Akomo, P., Mwale, M., Murakami, H., Banda, C., Kathumba, S., . . . Collins, S. (2017). **Soya, maize, and sorghum-based ready-to-use therapeutic food with amino acid is as efficacious as the standard milk and peanut paste-based formulation for the treatment of severe acute malnutrition in children: A noninferiority individually**

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- Callaghan-Gillespie, M., Schaffner, A. A., Garcia, P., Fry, J., Eckert, R., Malek, S., . . . Papathakis, P. C. (2017). **Trial of ready-to-use supplemental food and corn-soy blend in pregnant Malawian women with moderate malnutrition: a randomized controlled clinical trial.** *The American Journal of Clinical Nutrition*, 106(4), 1062-1069. doi:10.3945/ajcn.117.157198
- Cardoso, M. A., Augusto, R. A., Bortolini, G. A., Oliveira, C. S., Tietzman, D. C., Sequeira, L. A., . . . Jaime, P. C. (2016). **Effect of Providing Multiple Micronutrients in Powder through Primary Healthcare on Anemia in Young Brazilian Children: A Multicentre Pragmatic Controlled Trial.** *Plos One*, 11(3). doi:10.1371/journal.pone.0151097
- Daly, Z., Northrup-Lyons, M., Reid, R., Cheung, M., & Hutchinson, D. (2015, June). **Effectiveness Study for the Development of a Home Fortification Programme for Young Children in Zambia - Endline Report** (Rep.). Retrieved [https://www.unicef.org/zambia/Effectiveness\\_Study\\_for\\_the\\_Development\\_of\\_a\\_Home\\_Fortification\\_Programme.pdf](https://www.unicef.org/zambia/Effectiveness_Study_for_the_Development_of_a_Home_Fortification_Programme.pdf)
- Delimont, N. M., Alavi, S. & Lindshield, B. (2017). **New formulations for fortified-blended foods: the MFFAPP Tanzania efficacy trial.** *The FASEB Journal*, 31(1), supplement 786.15. Retrieved from <http://www.fasebj.org/content/31/1/Supplement/786.15>
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- Dube, B., Rongsen, T., Mazumder, S., Taneja, S., Rafiqui, F., Bhandari, N., Bhan, M. K. (2009). **Comparison of ready-to-use therapeutic food with cereal legume-based Khichri among malnourished children.** *Indian Pediatrics* 46: 383-388. <http://www.indianpediatrics.net/may2009/383.pdf>
- Grellety, E., Babakazo, P., Bangana, A., Mwamba, G., Lezama, I., Zagre, N. M., & Atebo, E. (2017). **Effects of unconditional cash transfers on the outcome of treatment for severe acute malnutrition (SAM): a cluster-randomised trial in the Democratic Republic of the Congo.** *BMC Medicine*, 15(1). doi:10.1186/s12916-017-0848-y
- Harding, K. L., Matias, S. L., Moniruzzaman, M., Mridha, M. K., Vosti, S. A., Dewey, K. G. (2016). **Rang-Din Nutrition Study: assessment of adherence to lipid-based nutrient supplements and micronutrient powders among children 6-23 months in Bangladesh.** (Rep.) FANTA III Food and Nutrition Technical Assistance Report. Retrieved from [https://www.fantaproject.org/sites/default/files/resources/RDNS\\_LNS-MNP\\_Adherence\\_Children-Bangladesh.pdf](https://www.fantaproject.org/sites/default/files/resources/RDNS_LNS-MNP_Adherence_Children-Bangladesh.pdf)
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- Houngbe, F., Tonguet-Papucci, A., Altare, C., Ait-Aissa, M., Huneau, J., Huybregts, L., & Kolsteren, P. (2017). **Unconditional Cash Transfers Do Not Prevent Children's Undernutrition in the Moderate Acute Malnutrition Out (MAM'Out) Cluster-Randomized Controlled Trial in Rural Burkina Faso**. *The Journal of Nutrition*. doi:10.3945/jn.117.247858
- Humber, J., Vosti, S. A., Cummins, J., Mridha, M., Matias, S. L., Dewey, K. (2017). **The Rang-Din Nutrition Study in rural Bangladesh: the costs and cost-effectiveness of programmatic interventions to improve linear growth at birth and 18 months, and the costs of these interventions at 24 months**. (Rep.) FANTA III Food and Nutrition Technical Assistance Report. <https://www.fantaproject.org/sites/default/files/resources/RDNS-Cost-Effectiveness-July2017.pdf>
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- Lanyero, B., Namusoke, H., Nabukeera-Barungi, N., Grenov, B., Mupere, E., Michaelsen, K. F., . . . Briend, A. (2017). **Transition from F-75 to ready-to-use therapeutic food in children with severe acute malnutrition, an observational study in Uganda.** *Nutrition Journal*, 16(1). doi:10.1186/s12937-017-0276-z
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- Locks, L., Reerink, I., Brown, A. T., Gnegne, S., Ramalanjaona, N., Nanama, S., . . . Garg, A. (2017). **The Impact of Integrated Infant and Young Child Feeding and Micronutrient Powder Intervention on Feeding Practices and Anemia in Children Aged 6–23 Months in Madagascar.** *Nutrients*, 9(6), E581. doi:10.3390/nu9060581
- Magnin, M., Stoll, B., Voahangy, R., & Jeannot, E. (2017). **Most children who took part in a comprehensive malnutrition programme in Madagascar reached and maintained the recovery threshold.** *Acta Paediatrica*, 106(6), 960-966. doi:10.1111/apa.13796
- Manary, M., Callaghan, M., Wegner, D., & Papatthakis, P. (2017, March). **Randomized Controlled Trial of the Impact of Treating Moderately Malnourished Women in Pregnancy** (Rep.). Retrieved <https://www.fantaproject.org/sites/default/files/resources/MAM-Pregnancy-Report-Mar2017.pdf>
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- Rytter, M. J., Babirekere-Iriso, E., Namusoke, H., Christensen, V. B., Michaelsen, K. F., Ritz, C., . . . Friis, H. (2017). **Risk factors for death in children during inpatient treatment of severe acute malnutrition: a prospective cohort study.** *The American Journal of Clinical Nutrition*, 105(2), 494-502. doi:10.3945/ajcn.116.140822
- Schlossman, N., Brown, C., Batra, P., Sa, A. B., Balan, I., Balan, A., . . . Balé, C. (2017). **A Randomized Controlled Trial of Two Ready-to-Use Supplementary Foods Demonstrates Benefit of the Higher Dairy Supplement for Reduced Wasting in Mothers, and Differential Impact in Infants and Children Associated With Maternal Supplement Response.** *Food and Nutrition Bulletin*, 38(3), 275-290. doi:10.1177/0379572117700754
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- Weber, J. M., Ryan, K. N., Tandon, R., Mathur, M., Girma, T., Steiner-Asiedu, M., . . . Manary, M. J. (2016). **Acceptability of locally produced ready-to-use therapeutic foods in Ethiopia, Ghana, Pakistan and India.** *Maternal & Child Nutrition*, 13(2). doi:10.1111/mcn.12250
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### Other Publications Added to REFINE Library

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*The REFINE Library is a collection of resources relating to food-supported interventions, including systematic reviews, meta-analyses, organizational documents, and general discussion pieces on key topics related to food aid products and interventions.*

- Barros, S. F., & Cardoso, M. A. (2016). **Adherence to and acceptability of home fortification with vitamins and minerals in children aged 6 to 23 months: a systematic review.** *BMC Public Health*, 16(1). doi:10.1186/s12889-016-2978-0
- Bhutta, Z. A., Berkley, J. A., Bandsma, R. H. J., Kerac, M., Trehan, I., & Briend, A. (2017). **Severe childhood malnutrition.** *Nature Reviews Diseases Primers* 3(17067). doi:10.1038/nrdp.2017.67
- Borresen, E. C., Zhang, L., Trehan, I., Nealon, N. J., Maleta, K. M., Manary, M. J., & Ryan, E. P. (2017). **The Nutrient and Metabolite Profile of 3 Complementary Legume Foods with Potential to Improve Gut Health in Rural Malawian Children.** *Current Developments in Nutrition*, 1(10). doi:10.3945/cdn.117.001610
- Callaghan, M., Oyama, M., & Manary, M. (2017). **Sufficient Protein Quality of Food Aid Varies with the Physiologic Status of Recipients.** *The Journal of Nutrition*. doi:10.3945/jn.116.239665



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- Carroll, G. J., Lama, S. D., Martinez-Brockman, J. L., & Pérez-Escamilla, R. (2017). **Evaluation of Nutrition Interventions in Children in Conflict Zones: A Narrative Review.** *Advances in Nutrition: An International Review Journal*,8(5), 770-779. doi:10.3945/an.117.016121
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## REFINE Resource Review: November 2017

Untoro, J., Childs, R., Bose, I., Winichagoon, P., Rudert, C., Hall, A., & Pee, S. D. (2017). **Tools to improve planning, implementation, monitoring, and evaluation of complementary feeding programmes.** *Maternal & Child Nutrition*, 13. doi:10.1111/mcn.12438

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### REFINE Search and Selection Criteria

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Search Criteria for consideration for REFINE:

- **Condition:** malnutrition OR undernutrition OR stunting OR stunted OR wasting OR wasted
- **Intervention:** supplement OR food OR RUF OR RUTF LNS OR “nutrition program”

Selection Criteria for Inclusion in REFINE:

- **Interventions:** Those that use food aid products, use foods that have been nutritionally enhanced, or study specific ingredients that are intended for use in food aid.
- **Study population:** Restricted to those without chronic conditions that confound nutritional health (e.g., diabetes, HIV/AIDS, etc.)
- **Outcome measures:** Eligible studies report outcome measures including birth weight, weight gain, height gain, weight-for-age, height-for-age, weight-for-height/length, mid-upper arm circumference, lean body mass, recovery, mortality, default, nutritional intake, cognitive abilities, and product acceptability. Studies investigating the intergenerational effects of an intervention are considered if outcomes measures include wasted or stunted status of the participants, or body composition in addition to another measure of recovery.