Center of Excellence in Pediatric Nutrition

Research group

Sirinuch Chomtho MD PhD
Head of Center of Excellence in Pediatric Nutrition

Chonnikant Visuthranukul MD PhD
Gut microbiota in health and disease

Orapa Suteerojtrakul MD
Public health nutrition

Our research group comprises four active researchers who are current faculty members of the Department of Pediatrics, as well as five supporting staff members (2 nurses, 2 dietitians, and a medical technologist) and four pediatric nutrition clinical fellows.

The head of the CE is **Professor Sirinuch Chomtho**, MD, PhD who focuses on clinical nutrition research and clinical trials. She actively conceives and conducts research on new nutritional interventions, such as dietary intervention in childhood obesity and children with growth faltering, early life nutrition, breastfeeding medicine, body composition, the ketogenic diet and inborn errors of metabolism.

Associate Professor Chonnikant Visuthranukul, MD, PhD has special interests in research related to gut microbiota and microbiota-derived metabolites in health and disease, prebiotics and synbiotics, multi-omics and precision nutrition approaches, dietary interventions in childhood obesity.

Associate Professor Orapa Suteerojntrakool, MD actively engages in research on public health nutrition, with a particular focus on breastfeeding, complementary feeding, interventions to address and overcome childhood malnutrition, and the development of nutritional reference standards for Thai children.

Research group

Jaraspong Uaariyapanichkul MD
Trials of nutritional intervention in sick children

Eakkarin Mekangkul MD
Clinical nutrition and human milk research

Supporting personel

Nuntaporn Charoenphol
Nurse

Supak Puangbaidee
Nurse

Parewa Anantaset
Medical Technologist

Nathawan Khunsri
Research Dietitian

Strategic objectives

1. For excellent research, creating new knowledge in pediatric nutrition that can be published in international academic journals and applied in patient care and child health promotion. This information can also be used as data for changing healthcare practices at the national and international level.
2. For outstanding medical education, the goal is to produce skilled medical professionals specialized in pediatric nutrition and graduate at both doctoral and master's levels to be important national forces in the field of pediatric nutrition.
3. For leading-edge medical services, the aim is to provide forefront healthcare services by applying knowledge derived from research. This includes delivering academic services to the public.

Research Areas of Interest

We welcome all opportunities in nutrition research. Our primary areas of interest include, but are not limited to, the following.

- **Clinical nutrition**: childhood obesity, nutrition in critical illness and indirect calorimetry monitoring, breastfeeding medicine and breast milk research, inborn errors of metabolism, ketogenic diet, intestinal failure and home parenteral nutrition, food allergy, feeding difficulties etc.
- **Gut microbiota**: focus on gut microbiota, prebiotics, probiotics, and synbiotics
- **Public health nutrition:** focus on strategies to prevent undernutrition and overnutrition, mitigate micronutrient deficiencies, and strengthen school-based nutrition programs, while advancing public health policies that support breastfeeding, optimal complementary feeding, and the application of food-based dietary guidelines (FBDG) across preschool, school-age, and adolescent populations.

Research collaboration

1. Collaboration with Ludwig-Maximilians University (Germany), University of Southampton (United Kingdom), Universitatea Politehnica (Romania), Mahidol University (Thailand), University of Malaya and University of Kebangsaan (Malaysia) to create an e-learning platform ENeA SEA (Early Nutrition e-Academy SouthEast Asia)

2. Collaboration with the Institute of Nutrition, Mahidol University and the International Atomic Energy Agency for researching into the energy expenditure of infants and toddler in South East Asia and study the relationship between breastfeeding and body composition

3. Collaboration with Dairy Goat Co-operative (N.Z.) Ltd. and the New Zealand Ministry for Primary Industries (as part of the Caprine Innovations NZ Sustainable Food & Fibre Futures Partnership programme for Clinical trials and Infant feeding survey during the COVID-19 pandemic

4. Collaboration with Danone Specialized Nutrition, Thailand, Ltd. for new formulation of a medical formula and conducting a clinical trial

5. Collaboration with the National Science and Technology Development Agency (NSTDA) to produce a specific strain of bacteria suitable for the production of new synbiotics under a Material Transfer Agreement (MTA)

6. Collaboration with the Hub of Talents in Microbiome Medicine and Microbial Technology for One Health, supported by the National Science and Technology Development Agency (NSTDA), to jointly advance microbiome medicine and microbial technology research at national and international levels

7. Collaboration with Department of Food Technology, the Faculty of Science and the Faculty of Pharmaceutical Sciences, Chulalongkorn University, to produce synbiotics for research purposes and to develop inulin extraction methods for research and technology transfer

8. Collaboration with the Center of Excellence in Metabolomics for Life Sciences and the Center of Excellent in Natural products and Nanoparticles (NP2), the Faculty of Pharmaceutical Sciences, Chulalongkorn University, to do research of inulin and gut microbiota in children with obesity

9. Collaboration with the Faculty of Science, Chulalongkorn University, to produce symbiotic freeze-dried yogurt for research purposes

10. Collaboration with King Mongkut's University of Technology Thonburi in conducting 16S rRNA sequencing using next-generation sequencing technology

11. Collaboration with the industrial sector, specifically with Brothers work Co., Ltd., to jointly develop innovative prebiotic nutritional supplements. This involves the development of inulin extracted from Jerusalem artichoke using a new patented method (Petty patent number. 15858). The resulting product, branded as "Inulio," includes a cocoa-flavored inulin beverage (registered with the Food and Drug Administration under No. 10-1-12859-5-0172) and a green tea-flavored variant (registered under No. 10-1-12859-5-0186). Additionally, providing support for inulin extraction to be used as a component in the production of a new synbiotics.

12. Collaboration with the University of Vermont Larner College of Medicine, the United States to study the types and diversity of bacteria in the intestines of preterm infants and their relationships with breast milk, nutrition, and growth. This collaboration involves exchanging technological information and jointly developing new symbiotic.

13. Collaboration in the integrated project for enhancing Thailand’s competitiveness in food, in partnership with the Thai Dietetic Association, the Nutrition Association of Thailand, the Society of Pediatric Nutrition of Thailand, the Society of Parenteral and Enteral Nutrition of Thailand (SPENT), and the Food Science and Technology Association of Thailand, to strengthen national capacity in food and nutrition research and innovation.

14. Collaboration with Nutrition Society of Thailand and Thai Health Promotion Foundation (ThaiHealth) in producing media about appropriate nutrition counselling for infants and young children

Publications (2018 to 2025)

Year	Ranking	Publication
2018	**Q2**	1. **Uaariyapanichkul J, Chomtho S**, Suphapeetiporn K, Shotelersuk V, Punnahitananda S, Chinjarernpan P, **Suteerojntrakool O. Age-Related Reference Intervals for Blood Amino Acids in Thai Pediatric Population Measured by Liquid Chromatography Tandem Mass Spectrometry**. Journal of Nutrition and Metabolism 2018;2018:5124035. doi: 10.1155/2018/5124035.
2019	**P5**	1. **Visuthranukul C**, Abrams SA, Hawthorne KM, Hagan JL, Hair AB. **Premature small for gestational age infants fed an exclusive human milk-based diet achieve catch-up growth without metabolic consequences at 2 years of age.** Archives of Disease in Childhood: Fetal and Neonatal Edition 2019;104(3):F242-F247. doi: 10.1136/archdischild-2017-314547.
	Q4	1. Saengpanit P, **Chomtho S**, Sriswasdi S, Rodpan A, Joyjinda Y, Panichsillaphakit E, **Uaariyapanichkul J**, Tempark T, Bongsebandhu-phubhakdi C, **Suteerojntrakool O**, **Visuthranukul C. Dietary Fiber Intake and Its Relationships with Lipid Profiles and Gut Microbiota in Obese Thai Children: A Pilot Study.** Journal of the Medical Association of Thailand 2019;102(12):1282-1288.
2020	**P5**	1. Brands B, **Chomtho S**, Suthutvoravut U, et al. **Early Nutrition eAcademy Southeast Asia e-Learning for Enhancing Knowledge on Nutrition during the First 1000 Days of Life.** Nutrients 2020;12(6):1817. 2. Bergner EM, Shypailo R, **Visuthranukul C**, Hagan J, O'Donnell AR, Hawthorne KM, et al. **Growth, Body Composition, and Neurodevelopmental Outcomes at 2 Years Among Preterm Infants Fed an Exclusive Human Milk Diet in the Neonatal Intensive Care Unit: A Pilot Study**. Breastfeeding Medicine 2020;15(5):304-311. doi: 10.1089/bfm.2019.0210.
2021	**P5**	1. Engevik MA, Luck B, **Visuthranukul C**, Ihekweazu FD, Engevik AC, Shi Z, Danhof HA, Chang-Graham AL, Hall A, et al. **Human-Derived Bifidobacterium dentium Modulates the Mammalian Serotonergic System and Gut-Brain Axis.** Cellular and Molecular Gastroenterology and Hepatology 2021;11(1):221-248. doi: 10.1016/j.jcmgh.2020.08.002.
2021	**Q1**	1. Laohabutr P, Subchartanan J, **Suteerojntrakool O**, Tempark T, Bongsebandhu-phubhakdi C. **Thai teens' privacy-related practices on Facebook**. Journal of Children and Media 2021;16.1-9. doi: 10.1080/17482798.2021.1993288. 2. **Suteerojntrakool O,** Khongcharoensombat T, **Chomtho S,** Bongsebandhu-phubhakdi C, Tempark T, Fewtrell M. **Anthropometric Markers and Iron Status of 6–12-Year-Old Thai Children: Associations and Predictors.** Journal of Nutrition and Metabolism 2021;1-8. doi: 10.1155/2021/9629718**.**

		3. Panichsillaphakit E, **Suteerojntrakool O**, Pancharoen C, Nuchprayoon I, **Chomtho S**. **The Association between Hepcidin and Iron Status in Children and Adolescents with Obesity.** Journal of Nutrition and Metabolism 2021;1-7. doi: 10.1155/2021/9944035. 4. Panichsillaphakit E, Chongpison Y, Saengpanit P, Kwanbunbumpen T, **Uaariyapanichkul J, Chomtho S**, Pancharoen C, **Visuthranukul C**. **Children's Eating Behavior Questionnaire Correlated with Body Compositions of Thai Children and Adolescents with Obesity: A Pilot Study.** Journal of Nutrition and Metabolism 2021;1-8. doi: 10.1155/6496134. 5. **Visuthranukul C**, Hurst C, **Chomtho S**. **Effects of low-glycemic index diet on plasma adipokines in obese children.** Pediatric Research 2021;90(5):1009-1015. doi: 10.1038/s41390-021-01463-0.
	Q2	1. Engevik MA, Ruan W, Esparza M, Fultz R, Shi Z, Engevik KA, Engevik AC, Ihekweazu FD, **Visuthranukul C**, et al. **Immunomodulation of dendritic cells by Lactobacillus reuteri surface components and metabolites.** Physiological Report 2021;9(2):e14719. doi: 10.14814/phy2.14719. 2. Chienwittayakun K, **Suteerojntrakool O**, Techavichit P, Bongsebandhu-Phubhakdi C, Subchartanan J, Tempark, T. **Adherence to Screening for Anemia in 9-Month-Old Full-Term Infants in Bangkok, Thailand**. Journal of Tropical Pediatrics 2021;67(3):fmaa054. doi: 10.1093/tropej/fmaa054. 3. Engevik M, Ruan W, **Visuthranukul C**, Shi Z, Engevik KA, Engevik AC, et al. **Limosilactobacillus reuteri ATCC 6475 metabolites upregulate the serotonin transporter in the intestinal epithelium.** Beneficial Microbes 2021;12(6):583-599. doi: 10.3920/BM2020.0216.
2021	**Q3**	1. Santiworakul C, Chomtho K, **Chomtho S. Growth and nutritional status of pediatric patients treated with the ketogenic diet.** Asia Pacific Journal of Clinical Nutrition 2021;30(2):231-237. doi: 10.6133/apjcn.202106_30(2).0007.
2022	**T1**	1. **Visuthranukul C**, Chamni S, Kwanbunbumpen T, Saengpanit P, Chongpison Y, Tepaamorndech S, Panichsillaphakit E, **Uaariyapanichkul J**, Nonpat N, **Chomtho S**. **Effects of inulin supplementation on body composition and metabolic outcomes in children with obesity.** Scientific Reports 2022;12(1):13014. doi: 10.1038/s41598-022-17220-0. 2. Ua-areechit T, **Suteerojntrakool O,** Pongcharoen T, Winichagoon P, Judprasong K, Murphy-Alford AJ, Lee WTK, Potip B, Sridonpai P, Tongchom W, **Chomtho S**. **Breastfeeding duration is associated with higher adiposity at 6–8 months of age.** Maternal and Child Nutrition 2022;19(1):e13438. doi: 10.1111/mcn.13438. 3. Furangseroj T, **Suteerojntrakool O**, Hongvisitagul P, Chatchatee P, Suratannon N, Sapwarobol S, Techasukthavorn V, Dahlan W, **Chomtho S. Effects of Maternal Exclusion Diet for Infants Suspected Food Allergy on Fatty Acid Composition in Breast Milk**. Breastfeeding Medicine 2022;17(7):611-617. doi: 10.1089/bfm.2021.0352.

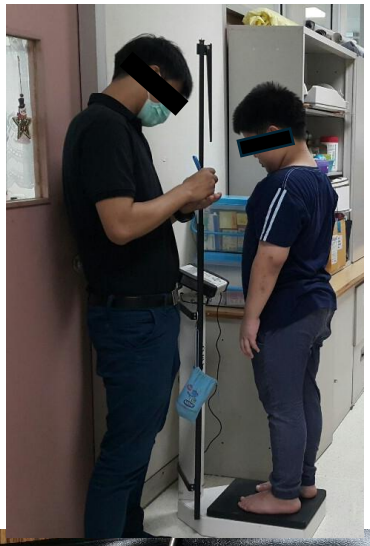
		4. **Visuthranukul C**, Kwanbunbumpen T, Chongpison Y, Chamni S, Panichsillaphakit E, **Uaariyapanichkul J**, Maholarnkij S, **Chomtho S. The Impact of Dietary Fiber as a Prebiotic on Inflammation in Children with Obesity.** Foods 2022;11(18):2856. doi: 10.3390/foods11182856.
	Q1	1. Lee YK, Wattanapisit A, Ng CJ, Boey CCM, Ahmad Kamar A, Choo YM, Hong JSS, Cheah FC, Tang SF, Poh BK, Chongviriyaphan N, Siwarom S, **Visuthranukul C**, Koletzko B. **Tailoring an online breastfeeding course for Southeast Asian paediatric trainees- A qualitative study of user experience from Malaysia and Thailand.** BMC Medical Education 2022;22(1):209. doi: 10.1186/s12909-022-03284-z. 2. **Chomtho S**, **Uaariyapanichkul J,** Chomtho K, **Outcomes of parenteral vs enteral ketogenic diet in pediatric super-refractory status epilepticus.** Seizure 2022;96:79-85. doi: 10.1016/j.seizure.2022.01.019. 3. Sirianansopa K, Rassameehirun C, **Chomtho S, Suteerojntrakool O,** Kongkiattikul L. **Optimal Enteral Nutrition Support Preserved Muscle Mass in Critically Ill Children.** Journal of Nutrition and Metabolism 2022;2022:7004543. doi: 10.1155/2022/7004543. 4. **Visuthranukul C**, Sampatanukul P, Aroonparkmongkol S, Sirimongkol P, **Chomtho S**. **Glycemic index and glycemic load of common fruit juices in Thailand.** Journal of Health, Population and Nutrition 2022;41(1):5. doi: 10.1186/s41043-022-00284-z.
2022	**Q2**	1. Rungsattatharm L, Kongkiattikul L, Samransamruajkit R, **Chomtho S**. **Achievement of nutritional goals after a pediatric intensive care unit nutrition support guideline implementation.** Clinical Nutrition ESPEN 2022;50:277-282. doi: 10.1016/j.clnesp.2022.05.002. 2. **Visuthranukul C**, Sriswasdi S, Tepaamorndech S, Joyjinda Y, Saengpanit P, Kwanbunbumpen T, Panichsillaphakit E, Uaariyapanichkul J, **Chomtho S**. **Association of Human Intestinal Microbiota with Lifestyle Activity, Adiposity, and Metabolic Profiles in Thai Children with Obesity**. Journal of Nutrition and Metabolism 2022;2022:3029582. doi: 10.1155/2022/3029582. 3. Sae-wong J, Tempark T, **Suteerojntrakool O**, Bongsebandhu-phubhakdi C. **Parents' Perception of School-aged Children's Body Weight, Height, and Body Shape.** Child Care in Practice 2022;28(3):355-367. doi: 10.1080/13575279.2020.1799756
	Q3	1. Panichsillaphakit E, Kwanbunbumpen T, **Chomtho S, Visuthranukul C**. **Copper-histidine therapy in an infant with novel splice-site variant in the ATP7A gene of Menkes disease: the first experience in South East Asia and literature review**. BMJ Case Reports 2022;15(4):e247937. doi: 10.1136/bcr-2021-247937. 2. **Chomtho S. 1.2.1 Clinical Evaluation and Anthropometry.** World Review of Nutrition and Dietetics 2022;124:7-15. doi: 10.1159/000516718.

2023	**T1**	1. **Suteerojntrakool O**., Mekangkul E., Ananta P., Maitreechit D., Khabuan S., Sodsai P., Hirankarn N., Thumbovorn R., **Chomtho S. The Persistence of Specific Immunoglobulin A Against SARS-CoV-2 in Human Milk After Maternal COVID-19 Vaccination.** Breastfeeding Medicine 2023;18(12):943-950. doi: 10.1089/bfm.2023.0210
2023	**Q1**	1. Chulapornsir C, Pradermdussadeeporn E, Pongpittayu S, Sutthithumthaworn A, Chulapornsiri C, Aninlabon W, Wisassittichok M, Maitongngam K, Subchartanan J, **Suteerojntrakool O,** et al. **The attitudes and expectation of caregivers of febrile child receiving medical services: a multicenter survey in Thailand**. Family practice 2023 ;40(2):226-232. doi: 10.1093/fampra/cmac080.
	Q2	1. Pironi L, Jezerski D, Sobocki J, Lal S, Vanuytsel T, Theilla M, Sasdelli AS, Chambrier C, Matysiak K, Aimasso U, Rasmussen HH, Jukes A, Kunecki M, Seguy D, Schneider SM, Daniels J, Poullenot F, Mundi MS, Matras P, Folwarski M, Crivelli A, Wyer N, Ellegard L, Santarpia L, Arvanitakis M, Spaggiari C, Lamprecht G, Guglielmi FW, Lezo A, Layec S, Boluda ER, Guz-Mark A, Gandullia P, Cuerda C, Osland E, Spagnuolo MI, Krznaric Z, Masconale L, Chapman B, Maíz-Jiménez M, Orlandoni P, Martins da Rocha MH, Virgili-Casas MN, Doitchinova-Simeonova M, Czako L, Van Gossum A, D'Antiga L, Ee LC, Warodomwichit D, Taus M, Kolaček S, Thibault R, Verlato G, Serralde-Zúñiga AE, Botella-Carretero JI, Aguayo PS, Olveira G, **Chomtho S**, …Joly F. **COVID-19 infection in patients on long-term home parenteral nutrition for chronic intestinal failure.** Clinical Nutrition ESPEN 2023;55:212-220. doi: 10.1016/j.clnesp.2023.03.008. 2. Charoensriwattanakul K, Wannaphahoon K, **Chomtho S**, Chatchatee P, Suratannon N, Kittipongpattana P, **Suteerojntrakool O. Feeding Difficulties and Feeding Behaviors of Thai Children with Cow's Milk Protein Allergy**. International Journal of Pediatrics (United Kingdom) 2023;2023:6630167. doi: 10.1155/2023/6630167.
2024	**T1**	1. **Visuthranukul C,** Leelahavanichkul A, Tepaamorndech S, Chamni S, Mekangkul E, **Chomtho S**. **Inulin supplementation exhibits increased muscle mass via gut-muscle axis in children with obesity: double evidence from clinical and in vitro studies.** Scientific Reports 2024;14(1):11181. doi: 10.1038/s41598-024-61781-1. 2. **Suteerojntrakool O**, Mekangkul E, Maitreechit D, Khabuan S, Sodsai P, Hirankarn N, Thumbovorn R, **Chomtho S**. **Preservation of Anti-SARS-CoV-2 Neutralizing Antibodies in Breast Milk: Impact of Maternal COVID-19 Vaccination and Infection.** Breastfeeding Medicine 2024;19(5):340-348. doi: 10.1089/bfm.2023.0323. 3. **Visuthranukul C**, Sriswasdi S, Tepaamorndech S, Chamni S, Leelahavanichkul A, Joyjinda Y, Aksornkitti V, **Chomtho S**. **Enhancing gut microbiota and microbial function with inulin supplementation in children with obesity**. International Journal of obesity 2024;48(12):1696-1704. doi: 10.1038/s41366-024-01590-8.
2025	**T1**	1. Tangtongsoong A, **Visuthranukul C**, Chongpison Y, **Chomtho S. Differential effects of dietary and physical activity interventions on adiposity of children with obesity**. Clinical and Experimental Pediatrics 2025;68(5):370-378. doi: 10.3345/cep.2024.01347.

	Q1	1. Panichsillaphakit E, **Visuthranukul C**, Chongpison Y, Chuaypen N, Kwanbunbumpen T, **Uaariyapanichkul J**, **Chomtho S**. **The effects of inulin supplementation on eating behaviours in children and adolescents with obesity: a randomized double-blinded placebo-controlled study.** Nutrition and Metabolism 2025;22(1):97. doi: 10.1186/s12986-025-00995-0. 2. Suriwong P, Thinkohkaew K, **Visuthranukul C,** Chavarnakul T, Potiyaraj P, Suppavorasatit I. **Effect of cocoa powder on the physicochemical, microbial, and sensory properties of synbiotic freeze-dried yogurt.** Journal of Agriculture and Food Research 2025;19. 101589, ISSN 2666-1543,https://doi.org/10.1016/j.jafr.2024.101589. 3. Ananta P, **Chomtho S,** Khabuan S, Mekangkul E, Wannaphahoon K, Maitreechit D, Gallier S, **Suteerojntrakool O. Longitudinal survey of knowledge, attitude, and practice of breastfeeding during the COVID-19 pandemic.** European Journal of Midwifery 2025;1-9. doi:10.18332/ejm/203448. 4. Kassaie H, Cheawsamoot C, Kanchanasutthiyakorn S, Santawong K, **Chomtho S**, Thangpong R, Shotelersuk V. **Genome sequencing identifies uniparental isodisomy of chromosome 2p and a homozygous ABCG5 variant, enabling effective treatment of pediatric hypercholesterolemia after 13 years of therapeutic resistance: A case report.** Biomed Rep. 2025;23(5):178. doi: 10.3892/br.2025.2056. 5. Andriyas T, Sriswasdi S, Tansawat R, **Uaariyapanichkul J, Chomtho S, Visuthranukul C**. **Inulin supplementation modulates gut microbiota derived metabolites related to brain function in children with obesity.** Sci Rep. 2025;15(1):34843. doi: 10.1038/s41598-025-21079-2.
2025	**Q3**	1. Jinda P, Kitpoka P, Thienphopirak W, Chiawchan S, Prommas S, Sukprasong R, Rachanakul J, Wiwattanakul S, **Suteerojntrakool O**, et al. **Thiopurine S-methyltransferase (TPMT) activity cutoffs in the Thai population.** Annals of Clinical Biochemistry 2025;45632251381058. doi: 10.1177/00045632251381058.

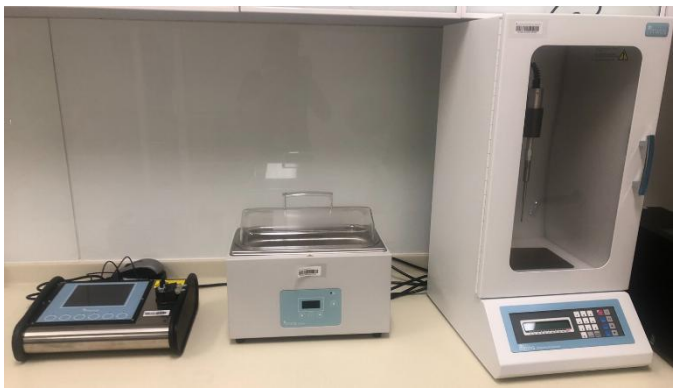
Research resource and equipment

We have supporting equipments and systems specifically for nutrition research.



Anthropometric measurement

Body composition analysis



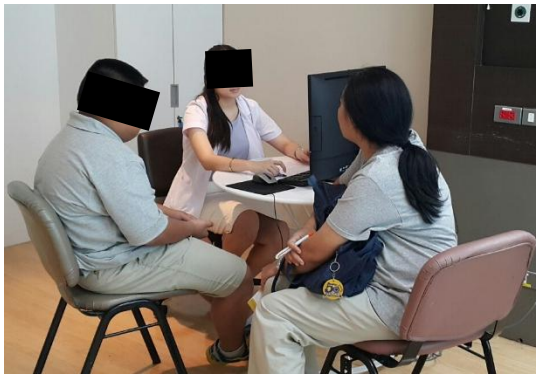
Human milk analysis for clinical care and research

Skimmed breast milk for clinical care

Indirect calorimetry

Metabolic kitchen

Freezer and centrifuge



Clinic for childhood obesity

We welcome collaboration with researchers from Thailand and abroad.

Interested individuals are invited to contact us via the address provided below.

Address:

Faculty of Medicine, Chulalongkorn University, Sorkor Bld. 3rd FL. 1873 Rama 4 Road, Pathumwan, Bankok 10330

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