



# Current Updates on Childhood Nutrition & Development

The Regional Conference on  
South East Asian Nutrition Surveys

## Programme & Abstracts

VENUE :  
Hilton Kuala Lumpur

DATE :  
6<sup>th</sup> - 7<sup>th</sup> November 2012

ORGANISED BY :





## ABOUT SEANUTS

**South East Asian Nutrition Surveys (SEANUTS)** is a multi-center study that was simultaneously carried out among 16,744 children aged 6 months to 12 years in four countries – Malaysia, Indonesia, Thailand, and Vietnam. The study was commissioned and sponsored by FrieslandCampina.

The study aimed to comprehensively examine the children's nutritional status, dietary intake and habits, physical activity, blood biochemistry, as well as assessing bone health and cognitive function, providing relevant insights for gaps in information.

In Malaysia, SEANUTS was conducted in collaboration with Universiti Kebangsaan Malaysia (UKM), in Indonesia with PERSAGI (Persatuan Ahli Gizi Indonesia), in Thailand with Mahidol University (MAHIDOL) and in Vietnam with the National Institute of Nutrition (NIN) – Vien Dinh Duong.

SEANUTS provides robust and comprehensive data on the nutritional and health situation of children in South East Asia.

Results from SEANUTS can be used by local governments and policy makers to make informed decisions and develop programs towards addressing the health of nation's young potential.

# SCIENTIFIC PROGRAMME

## SCIENTIFIC PROGRAMME

DAY 1 6 November, 2012, Tuesday		
0815 hrs	Registration	
0900 hrs	<b>Welcome remarks</b> <b>KEYNOTE ADDRESS</b> <b>Chairperson: Tee E Siong</b> <i>Nutrition Society of Malaysia, Malaysia</i>	
0915 hrs	<b>Insights into child nutritional status and programmes in Malaysia: Policies and Programs</b> <i>Khor Geok Lin, International Medical University, Malaysia</i>	1340 hrs
0955 hrs	<b>SESSION 1:</b> <b>Chairperson: Khor Geok Lin</b> <i>International Medical University, Malaysia</i>	1410 hrs
1005 hrs	<b>Nutrition and health status of children – what is the scientific basis?</b> <i>Martin Bloem, World Food Program, Italy</i>	1420 hrs
1035 hrs	<b>Designing a multi-centric nutrition survey – Learning from other surveys.</b> <i>Yannis Manios, Harokopio University, Greece</i>	1450 hrs
1105 hrs	Discussion and Observations	1520 hrs
1115 hrs	<b>SESSION 2:</b> <b>Chairperson: Emorn Wasantuwisut</b> <i>Institute of Nutrition Mahidol University, Thailand</i>	1530 hrs
1130 hrs	<b>Genesis and implementation in SEANUTS</b> <i>Paul Deurenberg, Lighthouse Training &amp; Consultancies, Malaysia</i>	1545 hrs
1200 hrs	<b>Design and quality assurance of SEANUTS</b> <i>Wim Calame, Statistical BV, The Netherlands</i>	1615 hrs
1230 hrs	Discussion and Observations	1645 hrs
1240 hrs	Lunch	1800 hrs
		<b>SESSION 3:</b> <b>Chairperson: Minarto</b> <i>Ministry of Health, Indonesia</i>
		<b>Nutrition and health scenario in South East Asia - Key regional findings from SEANUTS</b> <i>Nipa Rojroongwasinkul, Mahidol University, Thailand</i>
		<b>SESSION 4:</b> <b>Chairperson: Le Thi Hop</b> <i>National Institute of Nutrition, Vietnam</i>
		<b>Dual burden of malnutrition</b> <i>Zulfiqar Bhutta, Aga Khan University, Pakistan</i>
		<b>Are South East Asia children active enough?</b> <i>Sumathi Swaminathan, St John's Research Institute, India</i>
		<b>SESSION 5:</b> <b>Pattanee Winichagoon</b> <i>Institute of Nutrition Mahidol University, Thailand</i>
		<b>Iron – Is it still a concern in South East Asia?</b> <i>Jacques Berger, Institute of Research for Development, France</i>
		<b>Emergence of Vitamin D epidemic and its consequences</b> <i>Reinhold Vieth, University of Toronto, Canada</i>
		<b>Refreshments</b> <b>Dinner</b>
DAY 2 7 November, 2012, Wednesday		
0900 hrs	<b>Highlights of the previous day</b> <i>Tee E Siong, Nutrition Society of Malaysia, Malaysia</i>	
	<b>PLENARY LECTURE</b> <b>Chairperson: Martin Bloem</b> <i>World Food Program, Italy</i>	
0910 hrs	<b>Nutritional status of children in South East Asia: Do we need more information?</b> <i>Corazon Barba, University of the Philippines, Philippines</i>	
0955 hrs	<b>SESSION 1</b> <b>Chairperson: Mohd Nasir Mohd Taib</b> <i>Universiti Putra Malaysia, Malaysia</i>	
1000 hrs	<b>Nutrition Survey of Malaysia – Results from the multi-ethnic population aged 0.5 – 12 years</b> <i>Poh Bee Koon, Universiti Kebangsaan Malaysia, Malaysia</i>	
1040 hrs	Discussion and Observations	
1050 hrs	<b>WORKSHOP SESSION</b> <b>Chairperson: Norimah A. Karim</b> <i>Universiti Kebangsaan Malaysia, Malaysia</i>	
1100 hrs	<b>Briefing and distribution for Working Groups (WG)</b>	
1110 hrs	<b>WG 1: Optimizing growth and developmental potential of infants and toddlers</b> <b>WG 2: Investing in School Health and Nutrition</b> <b>WG 3: SEANUTS and policy options: Contributions and potential for national policies / programs</b>	
1240 hrs	<b>WG 1-3: Summary, conclusions and recommendations</b>	
1320 hrs	<b>Concluding remarks</b> <i>Tee E- Siong, Nutrition Society of Malaysia, Malaysia</i>	
1330 hrs	Lunch	

## FACULTY



TEE E SIONG

**Tee E Siong PhD**, is President of the Nutrition Society of Malaysia (NSM) since 1996. In this capacity, he has led the implementation of various community nutrition promotion programmes which included the publication of various education booklets and press articles. He is also Chair of the National Steering Committee for Nutrition Month Malaysia since 2002. He represents NSM in several Technical Working Groups in the Ministry of Health Malaysia, including the National Coordinating Committee for Food and Nutrition (NCCFN) and the Technical Working Group for Nutritional Guidelines. He was Advisor to the Food Safety and Quality Division of the Ministry of Health Malaysia from 2002 till 2011, and in that capacity, was Chair person/member of several sub-committees related to food regulations and Codex Alimentarius. Dr Tee is also a member of the Board of Scientific Directors of the International Life Sciences Institute (ILSI) (Southeast Asia Region).

Tee was Head of the Cardiovascular, Diabetes and Nutrition Research Centre of the Institute for Medical Research (IMR) until his retirement in February 2002, after serving for 30 years.

## FACULTY



KHOR GEOK LIN

**Khor Geok Lin** is Dean of the School of Health Sciences in the International Medical University, Malaysia. Prior to joining IMU in 2010, she was Professor of Community Nutrition in Universiti Putra Malaysia. Prof Khor is actively involved in research on Maternal and Child Nutrition, Public Health Nutrition and Micronutrients. Khor has published widely and is a member of the editorial board of several international journals. She is a member of the World Food Program Technical Advisory Group and a Scientific Advisor of ILSI Southeast Asia. In Malaysia, Khor chairs nutrition training in the Ministry of Health under its National Plan of Action for Nutrition.

FACULTY (continued)



YANNIS MANIOS

**Yannis Manios (M.Med.Sc., M.Phil, Ph.D)** is Assistant Professor at the Department of Nutrition & Dietetics, Harokopio University, Greece with a Ph.D. in Preventive Medicine and Nutrition, Medical School, University Of Crete, Greece with specialization in Nutritional Assessment, Counseling and Health Promotion.

His areas of research and interest include assessment of dietary intake, lifestyle behaviours and health indices in children, adolescents, adults and elderly, health and nutrition education, prevention and rehabilitation from chronic diseases in children and adults and functional foods and their role in prevention and/or treatment of chronic diseases.

He is currently under a grant by the European Union on 'Determining factors and critical periods in food habit formation and breaking in early childhood: a multidisciplinary approach (HabEat)'.

He has worked with the Europe Against Cancer Programme, Ministry of Health, Ministry of Education and Ministry of Education (National Foundation for the Youth). He also serves as the President of the Editorial Board of the bimonthly Newsletter of the Working Group of Lifestyle, Psychosocial Parameters and Atherosclerosis of the Hellenic Atherosclerosis Society and President of the Working Group of Lifestyle, Psychosocial Parameters and Atherosclerosis of the Hellenic Atherosclerosis Society.

He has been published in International Scientific Journals (116), Greek Scientific Journals (9), Academic Manuscripts (7, Medical & Consumer leaflets, School Nutrition Books and Web sites (35) and Presentations in conferences (115).



EMORN WASANTWISUT

**Emorn Wasantwisut (Udomkesmalee)**, PhD, is the Senior Advisor and Former Director of the Institute of Nutrition, Mahidol University, Thailand. She holds a current position of Adjunct Associate Professor in the Department of International Health, Bloomberg School of Public Health, Johns Hopkins University. Dr. Wasantwisut holds a PhD in nutritional biochemistry and metabolism from Massachusetts Institute of Technology, Massachusetts, USA (1985). She is a member of several international bodies such as the Country Network of the Scaling Up Nutrition (SUN) Movement; WHO Nutrition Guidance Expert Advisory Group on Micronutrients; the International Zinc Nutrition Consultative Group; the International Union of Nutritional Sciences (IUNS) Council; the Global Alliance for Improved Nutrition (GAIN) Partnership Council; International Food Policy Research Institute (IFPRI) Strategic Advisory Council; the CIA's Worlds of Healthy Flavors Scientific and Public Health Advisory Committee as well as the Scientific Director of ILSI South East Asia Region.

FACULTY (continued)



PAUL DEURENBERG

**Paul DEURENBERG is currently the** Associate Professor National University Singapore (part-time) and the Nutrition Consultant, Singapore. His research studies include the areas of **Energy metabolism, Body composition and Food consumption**.

**He has consulted for** FAO/WHO: Ethiopia/Addis Ababa, WHO, University North Carolina at Chapel Hill, department of Nutrition & Epidemiology, Mahidol University Bangkok and Thailand, National Nutrition Institute Vietnam (Hanoi) among numerous others.



W.H.A. CALAME

**Wim Calame** is the founder and director of StatistiCal BV, a consultancy in Statistics and Experimental Design. His area of specialisation includes sample size determinations, power calculations, statistical analysis and mathematical modeling both in the medical and food science. Some of his previous roles include Principal Scientist, FrieslandCampina and Director, Science, Clinical Trials and Statistics at Kerry International and Kerry Group Technical Nutrition Centre, based in Almere, The Netherlands and Coördinator of European Union-project 'Meta-analysis of European Colorectal Cancer Screening trials, using stochastic modeling', Institute of Public Health, Erasmus University Rotterdam among other roles.

He is a reviewer of various Journals in the Food science and Vice Chairman of the Forum Human Nutrition and Health at Leatherhead Food International, Leatherhead, UK. Wim is also the Winner 'Hercules High Achievement Award' (1997). He has a Ph.D. in Immunology from the University of Leiden, The Netherlands.

FACULTY (continued)



MINARTO, MPS

**Minarto, MPS is the Director of Public Health Nutrition, Ministry of Health Republic of Indonesia and Chairperson PERSAGI (Indonesian Nutritionist Association). He has a Doctorate in Nutrition School of Public Health, University of Indonesia.**

He has previously served as Head of Macro Nutrition, Ministry of Health (2002 – 2010, Head of Nutrition Division, Ministry of Health (1997 – 2002, ), Head of Nutrition Division, Ministry of Health (1997 – 2002), Head of Nutrition Section, KANWIL South Sumatera Province (1987 – 1996) and Head of Nutrition, OKI Region South Sumatera (1978 – 1986).

Minarto earned his Master Degree from UPLB Philippines and his BA in Nutrition from Nutrition Academy Jakarta.



NIPA ROJROONGWASINKUL

**Nipa Rojroongwasinkul is the Head of Biostatistics Unit and former Deputy Director of Institute of Nutrition, Mahidol University, Thailand. She holds a Bachelor of Science in Statistics from Kasetsart University, a Master of Science in Biostatistics and Ph.D in Demography from Mahidol University. She has 25 years working experience in food and nutrition research regarding dietary assessment, applied statistical analysis and nutritional epidemiology. She conducted the First National Food Consumption Survey in Thailand (2003 to 2005). She is a participating member of the Development of Food Based Dietary Guideline for the Thais. Her most recent activities including project on a nutritional survey of Thai children aged 6 months – 12 years (SEANUTS study) as well as a preparation for conducting the 2nd National Food Consumption Survey in 2014.**

FACULTY (continued)



LE THI HOP

**Associate Professor Le Thi Hop is a highly respected medical doctor and a scientific researcher, from Vietnam. Hop has progressively held many senior positions in her country's nutrition organizations.**

Currently, Hop is the Director of National Institute of Nutrition Vietnam, which she co-founded with fellow directors in 1980. The institute is one of Vietnam's six national health institutes that conducts research studies on nutritional requirements and dietary intake of its people, as part of the government's aim to improve health, provide prevention and treatment of diseases related to human nutrition. The institute also undertakes research on nutritive values and health aspects on Vietnamese foods, food hygiene and food safety and dietetics. It is the main institution to have implemented the National Nutrition Strategy 2001- 2010 and now on to the malnutrition control programme.

Together with her team of researchers, Hop has published numerous scientific articles in national and international journals. Amongst her recent publications are papers on qualitative and quantitative assessment of the nutritional status and lifestyles of Vietnamese adolescents, breastfeeding campaigns to address the high numbers of stunted Vietnamese children, the consumption of meat and obesity amongst Vietnamese.

Hop is also the Chairwoman of the Vietnam Nutrition Association and a member of the advisory panel for the Malaysian Journal of Nutrition.

Hop has earned her medical degree from the Tashkent Medical University and Ph.D from the Regional SEAMEO-TROPED Centre in Jakarta, Indonesia.

FACULTY (continued)



ZULFIQAR A. BHUTTA

**Zulfiqar A. Bhutta** is the Noordin Noormahomed Sheriif Endowed Professor and Founding Chair of the Division of Women and Child Health, Aga Khan University, Karachi, Pakistan. He holds adjunct professorships at several leading Universities globally including the Schools of Public Health at Johns Hopkins (Baltimore), Harvard School of Public Health, Tuft University (Boston), University of Alberta, Sick Kids Toronto as well as the London School of Hygiene & Tropical Medicine. He is also the Distinguished National Professor of the Government of Pakistan in 2007 and as Chairman of the National Research Ethics Committee of the Government of Pakistan. He is one of the seven member Independent Expert Review Group set by WHO and the UN Secretary General in September 2011 for monitoring global progress in maternal and child health MDGs.

He obtained his PhD from the Karolinska Institute, Sweden. He is a Fellow of the Royal College of Physicians (Edinburgh), the Royal College of Paediatrics and Child Health (London), American Academy of Pediatrics and the Pakistan Academy of Sciences.

He is an executive committee member of the International Paediatric Association and the Board of the Global Partnership for Maternal, Newborn and Child Health (PMNCH). He was a Foundation Council member of the Global Forum for Health Research, a council member for the International Society for Infectious Diseases and serves on the governing council for the World Alliance for Patient Safety Research. Dr Bhutta is currently a member of the WHO Strategic Advisory Committee for Vaccines (SAGE), the Expert Advisory Group for Vaccine Research, the Advisory Committee for Health Research of WHO EMRO, and its apex Regional Consultative Committee.

He has won several awards, including the Tamgha-i-Imtiaz (Medal of Excellence) by the President of Pakistan for contributions towards education and research (2000), the President of Pakistan Gold Medal for contributions to Child Health in Pakistan (2004) and the Outstanding Pediatrician of Asia award by the Asia Pacific Pediatric Association (2006). He is also the first recipient of the Aga Khan University Distinguished Faculty Award for Research (2005). He was awarded the inaugural Global Child Health award (2009) by the Program for Global Pediatric Research for outstanding contributions to Global Child Health and Research and the Kenneth Warren prize for the best systematic review of community based interventions by the Cochrane collaboration in 2011. He was awarded the Advocacy Prize by the Royal College of Paediatrics & Child Health in 2012. His research interests include newborn and child survival, maternal and child undernutrition and micronutrient deficiencies.



SUMATHI SWAMINATHAN

**Sumathi Swaminathan** is an Assistant Professor at the Division of Nutrition, St. John's Research Institute, Bangalore. Her research specializations include infant and child nutrition, nutritional epidemiology.

She has worked extensively in the areas of vitamin A, infant feeding, malnutrition (overweight, underweight) in children. Her area of work also includes supervision of a large multi-centre epidemiological cohort study related to cardiovascular disease on adults. She obtained her Ph.D at Bangalore University, Bangalore, India.

FACULTY (continued)



PATTANEE WINICHAGOON

**Pattanee Winichagoon:** PhD (Nutrition, major in International Nutrition), Cornell University; MSc (Nutrition) University of Hawaii; and BSc (Food Technology) Chulalongkorn University, Thailand. She was a Deputy Director of INMU during 2003-2007. She is a teaching faculty at the Institute of Nutrition, Mahidol University (INMU), Thailand.

She has focused her research efforts on intervention to improve iron and other micronutrients related to anemia of women and children.

She has conducted several field intervention studies, particularly, efficacy and effectiveness of iron supplementation and micronutrient fortification among pregnant women, school children, infants and reproductive-aged women in rural communities or factories. Most of her research are collaborative efforts with several internationally renowned scientists in Europe, New Zealand and US and scientists in the region.

She also played a pivotal role in documenting Thailand community-based nutrition program and anemia prevention and control during pregnancy, the success of which has received worldwide attention. She has served as a short term consultant for various UN and other international agencies in the neighboring countries, including Bangladesh, Pakistan, Bhutan, Myanmar, Cambodia and Laos.

She was the Chairperson of the Fifth International Conference on Dietary Assessment held in Thailand, and Vice-Chair of the scientific committee for the 19th International Congress of Nutrition, held in Bangkok in October 2009.



JACQUES BERGER

**Dr. Jacques Berger** is currently Director of Research of the French Institute of Research for Development (IRD) and director of the joined Research Unit IRD-Universities of Montpellier I and II, "Prevention of malnutrition and related diseases", based at the IRD Center in Montpellier, France.

After his first Ph.D degree obtained from the University of Science and Technology of Languedoc, Montpellier, France (1983) and a postdoctorate at the University of California, Davis, USA (1983-1985), Dr Berger joined IRD and worked successively in Africa (Lomé, Togo, 1988-1990) in the "Organisation de Coopération et de Coordination pour la lutte contre les Grandes Endémies (OCCGE)", then in Latin America (La Paz, Bolivia, 1990-1997) in the "Instituto Boliviano de Biología de Altura (IBBA)" and in South-east Asia (Hanoi, Vietnam, 1999-2007) in the "National Institute of Nutrition (NIN)". From 2000 to 2007, he was also the director of the Representative Office of IRD in Vietnam. Specialist in Public Nutrition, the main objectives of the studies carried out in partnership with researchers from South countries, were to design and evaluate strategies of intervention to control micronutrient deficiencies, especially iron deficiency, and to improve nutritional status of groups at risk such as women in childbearing age, infants and young children. These strategies included integrated interventions such as micronutrient supplementation, food fortification and food diversification. Beside research, Dr Berger is in charge of the training of students from different countries through academic courses in two French universities (Paris VI and Montpellier II Universities) and direction of professional and research masters and PhD theses. Dr Berger also works from time to time as an expert for several international organizations and foundations, and served as co-chairman of the Working Group "Micronutrients" of the Standing Committee of Nutrition of the United Nation System.

FACULTY (continued)



**Reinhold Vieth** is a Professor at the University of Toronto in the Department of Laboratory Medicine and Pathobiology, as well as in the Department of Nutritional Sciences. He is recipient of the Award for Research Excellence, from the Canadian Society of Clinical Chemists.

He is an expert on the clinical nutrition, pharmacology and safety of vitamin D, with well over 100 publications on the subject. He has served as an expert advising on vitamin D-related matters for the Institutes of Medicine, and the Centers for Disease Control in Washington, as well as the American Geriatric Society. Presently, he serves on a committee advising Health Canada on ways to modify public policy in that country in response to the new RDA's for vitamin D. He has been the principal investigator on many clinical trials involving vitamin D, and maintains a deep interest in the difficulties that evidence-based medicine faces when it comes to deciding on the role of nutrients, particularly vitamin D, for the prevention of disease.



**Martin W. Bloem** is Chief for Nutrition and HIV/AIDS Policy and UNAIDS Global Coordinator, at the United Nations World Food Programme, in Rome, Italy. He holds a medical degree from the University of Utrecht and a doctorate from the University of Maastricht and has joint faculty appointments at both Johns Hopkins University and Tufts University.

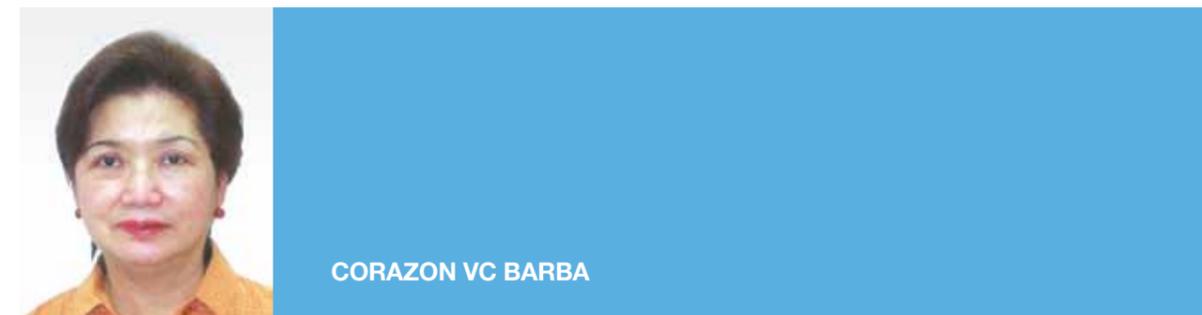
Martin has had more than two decades of experience in nutrition research and policy in developing countries. He was the Senior Vice President Chief Medical Officer of Helen Keller International prior to his appointment at the World Food Programme.

Martin has devoted his career to improving the effectiveness of public health and nutrition programs through applied research. He has participated in task forces convened by many organizations, including international non-governmental organizations, the UN Standing Committee on Nutrition, the United Nations International Children's Emergency Fund, the United States Agency for International Development, and the World Health Organization.

He has previously consulted for **United Nations Children's Fund (UNICEF), Asian Development Bank, World Health Organization, USAID/OMNI and Western Cape University, South Africa.**

**He has also written for numerous publications and edited books on these related subjects.**

FACULTY (continued)



**Corazon VC Barba** is Professor Emeritus of the Institute of Human Nutrition and Food of the College of Human Ecology, University of the Philippines Los Banos, Philippines and a Nutrition Consultant of the United Nations World Food Programme-Philippines. She is a visiting faculty of the SEAMEO Regional Center for Food and Nutrition (RECFON), University of Indonesia where she initiated the inception of the SEA Nutrition Leadership Programme (NLP). She is also an Executive Member and Scientific Director of ILSI Southeast Asia Region and chaired the ILSI SEA RDA Harmonization Project. Dr. Barba was the Resident Advisor of A2Z, the USAID Micronutrient Project Philippines from 2006 to 2011 and served as Director of the Food and Nutrition Research Institute (FNRI), Philippines from 1998 to 2004. She is a Fellow of the International Union of Nutritional Sciences and a recipient of the Asia-Pacific Clinical Nutrition Society Award in 2006 and the NDAP Presentation Perez Award in 2011. Presently, Dr. Barba is a Board member of the Philippine Association of Nutrition and sits in a number of Nutrition Task Forces and Committees, i.e., DRIs, Nutritional Guidelines, Micronutrients, in the country.



**Mohd Nasir Mohd Taib** is a senior lecturer at the Department of Nutrition and Dietetics, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia PM. He holds a doctoral degree (DrPH) in Public Health Nutrition. He started his career as a lecturer at UPM in October 1980 at the Department of Human Development Studies, Faculty of Agriculture. His area of specialization is Community Nutrition and Behavioral Epidemiology. He has been teaching courses at the undergraduate and postgraduate levels.

Nasir has held a number of administrative posts including as Head of Department of Nutrition and Community Health (2002-2005), Head of Department of Nutrition and Dietetics (2006-2009), Deputy Dean (Academic Affairs for Health Sciences), Faculty of Medicine and Health Sciences, Universiti Putra Malaysia (May 2009-April 2011).

Besides teaching, he is very much involved in research in the area of Obesity, Body Image and Behavioral Epidemiology, and HIV/AIDS among children, adolescents and young adults. He supervises local and international postgraduate students and has presented more than 100 oral and poster presentations at local and international conferences and published more than 50 papers in local and international journals in those subject areas.

Apart from his normal duty as a lecturer, he is also very active in voluntary and professional organizations. He has been a Council member of the Nutrition Society of Malaysia (NSM) since 2002, a council member of the Majlis Cegah Obesiti Malaysia (MCOM), a life member of the Malaysian Association for the Study of Obesity (MASO) and member of a number of other committees in the faculty, university, and other organizations.

He has often been invited to give lectures on Obesity, Healthy Living, Nutrition and Physical Activity to the public.

## FACULTY (continued)

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POH BEE KOON

**Poh Bee Koon** is Professor of Nutrition at Universiti Kebangsaan Malaysia. She is Head of the Nutritional Sciences Programme, and Leader of the Physical Activity and Energy Metabolism Research Group at the same university. Her research areas focus on childhood and adolescent nutrition, and her research projects are usually related to energy metabolism, physical activity and body composition. Poh was a co-researcher in the first national nutrition survey ever carried out in Malaysia, the Malaysian Adult Nutrition Survey. She has also been involved in several national task forces to formulate the National Nutrition Policy of Malaysia, the Recommended Nutrient Intakes of Malaysia, the Malaysian Dietary Guidelines, and others. More recently, Poh has been invited to join the Academy of Sciences Malaysia's Task Force on Obesity which is working to promote policies related to obesity reduction. Prof Poh is the Associate Editor for the Malaysian journal of Nutrition, and acts as reviewer for many international and local journals. She has published more than 100 articles in journals, proceedings, books and book chapters; and made more than 150 presentations at conferences in the international and national arena. Poh has won numerous awards, including the International Nutrition Foundation–Ellison Medical Foundation Short Term Fellowship, the IAEA Nobel Peace Prize Fund Schools in Nutrition fellowship, the SEAMEO TROPMED Regional Centre for Community Nutrition Fellowship, and many Excellent Teaching, Excellent Research as well as Excellent Service Awards from Universiti Kebangsaan Malaysia. She is a Fellow member of the Nutrition Society of Malaysia, the Honorary Secretary of the Malaysian Association for the Study of Obesity, and a member of the Global Child Nutrition Foundation.



NORIMAH A.KARIM

**Norimah A Karum** has a BSc Biology, MSc Nutrition (Indiana U, Bloomington USA, PhD Nutrition) Southampton.

Her field of specialization is dietary assessment methods (FFQ), community nutrition (children, adolescents and adults) and body image. Some of her research projects include 'The Malaysian Cohort: a national research project to study the impact of genes, the environment and lifestyles on non-communicable diseases', 'Nutritional status of preschoolers in Peninsular Malaysia' and 'Study on iron and zinc deficiency among female adolescents non pregnant premenopausal women in Klang Valley'.

She is the Chair, School of Healthcare Sciences. She has published in more than 100 publication.

# ABSTRACTS

## ABSTRACTS

### INSIGHTS INTO CHILD NUTRITIONAL STATUS AND PROGRAMMES IN MALAYSIA KHOR GEOK LIN

Malaysia has a commendable healthcare delivery system that provides a comprehensive range of health services involving stakeholders from the public and private sectors. Together with rapid economic development over the past decades, the country has experienced marked declines in the mortality rates of infants, toddlers and children under-five years of age, all of which are indicative of improved nutritional care of young children. Based on the National Health and Morbidity Surveys of 2006 and 2011, stunting (HAZ < - 2SD) and thinness (BMI-for-age < - 2SD) prevalence of Malaysian children below 18 years are relatively low compared to the levels in most countries in Southeast Asia. In 2011, the overall stunting prevalence was 13.4% (male 13.6% males; female 13.2%), while that for thinness was 12.2% (male 13.6%; 10.8% female). Nonetheless, geographic disparities of childhood stunting and thinness prevailed, underscoring the need for further improvement in healthcare access equity. For example, stunting prevalence ranged from about 8% in Penang and Kuala Lumpur to almost 20% in Sabah, Terengganu and Kelantan in 2011. Meanwhile, the prevalence of obesity (BMI-for-age > 2SD) was 6.1% (male 7.6%; female 4.6%), and differentials ranged from about 3% in Penang to 9% in Perak. The urban-rural figures for these nutrition status indicators did not show wide differences, and this may be attributed to the fact that Malaysia is reportedly over 70% urbanized.

The National Nutrition Policy of Malaysia, promulgated in 2005 by the Nutrition Division of the Ministry of Health, spearheads nutrition activities under its National Plan of Action for Nutrition (NPAN). The NPAN for 2010-2015 comprises several strategies, including reducing protein-energy malnutrition and micronutrient deficiency, as well as reducing overweight and obesity in children and adults. Towards this end, the MOH and other agencies in the public and private sectors, including universities and industry, have collaborated in nutrition education and health promotion activities. Working in partnership is the key to success in combating nutrition challenges, including obesity and micronutrient deficiency, in resource-constrained countries.

### GENESIS AND IMPLEMENTATION IN SEANUTS PAUL DEURENBERG

The first plans to do a national nutrition study in Malaysia and perhaps 'later' also in other ASEAN countries did not suggest at all that we would be gathering here to discuss the main findings of such an extended regional nutritional Survey. What is achieved since the first discussion in Kuala Lumpur between Prof Jo Hautvast, emeritus professor in Human Nutrition, Dr Christien van Beusekom (FrieslandCampina) and I, somewhere in mid of November 2008 is enormous. A short historic overview of SEANUTS will be presented, lessons learned along the way will be discussed with data examples of the countries. Differences in body build between the countries will be highlighted as well as their impact on the interpretation of body mass index for age (BAZ). Dreams of an 'ideal' regional study will be shared.

### NUTRITION AND HEALTH SCENARIO IN SOUTH EAST ASIA - KEY REGIONAL FINDINGS FROM SEANUTS NIPA ROJROONGWASINKUL

To be shared after the Seanuts results publication in the British Journal of Nutrition (BJN). The publication is expected out soon.

## ABSTRACTS (continued)

### DUAL BURDEN OF MALNUTRITION ZULFIQAR A. BHUTTA

The Aga Khan University's Division of Women and Child Health, Pakistan's Federal Ministry of Health and UNICEF conducted the National Nutrition Survey in 2011, after a gap of 10 years. The survey assessed the overall nutritional status (anthropometric indices and micronutrient status) of target groups (pre-school children [6-59 months old], school aged children (6-11 years old), women of childbearing age (15-49 years old), and elderly persons (50 years and above)] based on. The findings provide relevant information for planning, implementation and monitoring appropriate population based interventions in Pakistan.

This was the first time a National Nutrition Survey provided provincial specificity with representative population based samples. A two stage stratified sampling design was adopted and an overall sample size of 30,000 households was selected and calculated on the basis of major nutrition indicators used in the 2001 NNS, including stunting in children and anaemia among women of reproductive age (WRA) and in children. A total Households interviewed totaled 27,963; 24,421 blood samples were taken (women 12,282; children 12,139); and 2,917 urine samples were collected from women (1,460) and children 6-12 years (1,457) for urinary iodine assessments. The NNS 2011 covered all provinces: Gilgit Baltistan (GB), Balochistan, Khyber Pakhtunkhwa (KP), Sindh, Punjab, Azad Jammu and Kashmir (AJK) and the Federally Administered Tribal Areas (FATA). This included 1,500 enumeration blocks (EBs)/villages and 30,000 households, with a 49% urban and 51% rural distribution. Renewed listing of all households in each enumeration block was conducted and twenty households were selected randomly using a computer automated selection process. Twenty-two survey teams conducted data collection across Pakistan.

Results from the 2011 National Nutrition Survey (NNS) indicated little change over the last decade in terms of core maternal and childhood nutrition indicators. With regard to micronutrient deficiencies, while iodine status had improved nationally, vitamin A status had deteriorated and there had been little or no improvement in other areas linked to micronutrient deficiencies. The ratio of males to females was approximately 50.4% to 49.6% across Pakistan. A total of 45.7% of household heads were illiterate and 38.7% were workers or farmers. 15.5% of the population was unemployed - with higher rates in the urban population (17.5% urban unemployment, 13.7% rural unemployment). The NNS 2011 also revealed 58% of households were food insecure nationally. Sindh was the most food-deprived province followed by Balochistan. 72% of families in Sindh and 63.5% in Balochistan faced food insecurity. Overall, 18% of women were underweight in Pakistan - 14.4% from urban areas and 19.7% from rural areas. Only slightly over half (53.2%) of mothers had normal body mass indices (BMI). Night blindness prevalence reported by women who were pregnant at the time of this survey was 12.7% while night blindness prevalence reported by women during their last pregnancy was 15.6%. Approximately 42.8% of the population reported awareness of the importance of iodine whereas 64.2% reported awareness about the benefits of iodized salt. Only 39.8% reported using iodized salt whereas kit-testing results confirmed use at 69%. This is a significant improvement over the 2001 NNS result of 17%. Overall knowledge of the importance of vitamin A in Pakistan was 24%. Knowledge about other micronutrient deficiencies was very low with significant rural and urban differences. Widespread micronutrient deficiencies were found in women. For example, the survey discovered the following micronutrient deficiency levels in pregnant women: Anaemia 50.4%, iron deficiency anaemia 24.7%, vitamin A deficiency 42.5%, zinc deficiency 47.6%, hypocalcaemia 58.9% and vitamin D deficiency 68.9%. The prevalence of micronutrient deficiencies in non-pregnant women were as follows: Anaemia 51%, iron deficiency anaemia 19%, vitamin A deficiency 42.1%, zinc deficiency 41.3%, hypocalcaemia 52.1% and vitamin D deficiency 66.8%. Adequate iodine status was documented at national level and in most of the provinces. Balochistan, AJK and GB were the only provinces that documented inadequate levels (<100 µg/l median iodine excretion) of iodine status. The proportion of women who were breastfeeding was estimated on the basis of feeding practices in the past 24 hours dietary recall. Data indicated 64.7% of mothers predominantly breastfed children from 0-6 months of age and 77.6% of mothers continued breastfeeding up to 12-15 months.

Similar trends were found for continued breastfeeding - 72.3% of mothers breastfed their children at 12-15 months and 80.1% continued breastfeeding after this age. Nearly half (52.1%) of the women across Pakistan introduced semi-solid foods to their children between 6-8 months of age. Only 4.6% of women were practicing minimum dietary diversity for children from 6-23 months. All in all, only 8% of all children aged 6-23 months received a minimum acceptable diet nationwide. Anthropometry status has not changed much over the past decade. Among children under 5, 43.7% were stunted in 2011 as compared to 41.6% in the 2001 National Nutrition Survey. 15.1% were wasted compared to 14.3% in 2001 and 31.5% were underweight, which has not changed since 2001 (NNS 2001). The anthropometric indices were relatively better in urban areas.

Micronutrient deficiencies were also widespread in children. Biochemical analyses revealed the prevalence of various micronutrient deficiencies in children under 5 years of age: Anaemia 61.9%, iron deficiency 43.8%, vitamin A deficiency 54%, zinc deficiency 39.2% and vitamin D deficiency 40%. A total of 7,612 elderly persons were interviewed to determine their general health status. An estimated 29.2% reported moderate decrease in appetite, 10% reported a 1-3 kg weight loss in the preceding three months, 3.6% had restricted mobility and stayed mainly in their beds or chairs due to ailments, and 49.6% suffered from arthritis. The National Nutrition Survey 2011 indicates that stunting, wasting and micronutrient malnutrition is endemic in Pakistan. These are caused by a combination of dietary deficiencies; poor maternal and child health and nutrition; a high burden of morbidity; and low micronutrient content in the soil, especially iodine and zinc. Most of these micronutrients have profound effects on immunity, growth, and mental development. They may underlie the high burden of morbidity and mortality among women and children in Pakistan. Increasing rates of chronic and acute malnutrition in the country is primarily due to poverty, high illiteracy rates among mothers and food insecurity. Such rates can also be attributed to inherent problems in infant feeding practices and lack of access to the age-appropriate foods.

ABSTRACTS (continued)

**EMERGENCE OF THE VITAMIN D EPIDEMIC AND ITS CONSEQUENCES**  
REINHOLD VIETH

Human skin is a factory that responds to ultraviolet light by producing the vitamin D3 that the liver automatically metabolizes to the 25-hydroxyvitamin D [ 25(OH)D ] that is measured as the index of vitamin D nutrition. Although many tissues can make the active hormone, calcitriol or 1,25(OH)2D, it is 25(OH)D that is related to health outcomes. Low 25(OH)D, contentiously defined as either <50 [Institutes of Medicine, IOM] or <75 nmol/L [Endocrine Society, Osteoporosis Societies], relates to poor health outcomes. Clinical trials have proven with compelling evidence for bone, the benefit of vitamin D at 800 IU (20 mcg) daily. The problem we face is the question of what constitutes sufficiently "compelling evidence" to make us advise patients or the public to raise their 25(OH)D level through sun-exposure, by diet or supplements. In Kuala Lumpur, the reported mean 25(OH)D in men is 56 nmol/L, while in women the mean is 36 nmol/L, with wide variation among individuals around those means [Moy and Bulgiba BMC Public Health 2011, 11:735]. Even based on the conservative IOM basis for the RDA, >49 nmol/L 25(OH)D, there is an unacceptably high prevalence of insufficient vitamin D in the population. Most aspects of bone health are probably satisfied if 25(OH)D >49 nmol/L, and for most people this is assured with the RDA values of 600-800 IU daily.

There is growing evidence that higher 25(OH)D helps to prevent cancer, cardiovascular events and death. Large prevention clinical trials involving 2000-4000 IU daily of vitamin D vs placebo are currently in progress and will strengthen or refute that evidence. We will not know the outcomes of individual trials until at least 2017, and the meta-analyses that will be needed before those trials can affect government policy are not likely to happen until at least the year 2020. In conclusion, 25(OH)D levels are undesirably low in much of the population of South East Asia, the newest RDA for vitamin D will improve this, but the results to come in the next decade can dramatically change the way we think about vitamin D.

**NUTRITIONAL STATUS OF CHILDREN IN SOUTH EAST ASIA: DO WE NEED MORE INFORMATION?**  
CORAZON VC BARBA

The most recent key statistics on nutrition and nutrition-related indicators are presented in the State of the World's Children 2012 published by the United Nations Children's Fund (UNICEF). The report is derived from inter-agency estimates and nationally-representative household surveys such as the Demographic and Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS). In South East Asia, DHS and/or MICS have been conducted in all countries, except Brunei Darussalam, Malaysia and Singapore. In addition to DHS and MICS, data on nutrition can also be drawn from national surveys conducted by the SEA countries, either as stand alone nutrition survey or as part of national health and/or socio-economic surveys or surveillance systems. In the SOWC 2012, the prevalence of under-fives (2006-2010) in SEA countries, except Brunei Darussalam and Singapore, suffering from underweight, wasting, and stunting ranged from 7 to 45%, 5 to 19%, and 16 to 58%, respectively. Data indicates that undernutrition is still the predominant nutrition problem among under-fives in SEA; although the double burden of malnutrition has been noted in economically developed countries. Under-five mortality in the eleven SEA countries is highest in Myanmar (66) and lowest in Singapore (3).

Most SEA countries have sufficient data on nutritional status (using anthropometry) that are presented to show country variability by gender, urbanity, sub national levels and/or wealth quintiles; and some data on participation/utilization of nutrition and health services/ programs. Data, however on prevalence of micronutrient deficiencies and dietary intakes are scanty. Nationally representative data on nutritional status of older children are also wanting. The aforementioned surveys are also cross-sectional in nature and need to be augmented with longitudinal studies, which unfortunately are scarce in SEA.

Do we need more information? The audience response will probably be a resounding, "Yes". Surveys, however, are expensive and before we embark on more studies, researchers should take a second look on the available information and do further/in-depth analysis of existing data. Literature search indicates that data from the large surveys are generally under analysed/ utilized. The importance of qualitative studies, particularly on food, caring, and health seeking behaviors should also be considered in the design of further studies. Understanding our children's nutritional status through quality data and analysis are vital in decision making for setting/crafting our countries' nutrition policies and programs.

ABSTRACTS (continued)

**NUTRITION SURVEY OF MALAYSIA – RESULTS FROM THE MULTI-ETHNIC POPULATION AGED 0.5 – 12 YEARS**  
POH BEE KOON

To be shared after the Seanuts results publication in the British Journal of Nutrition (BJN). The publication is expected out soon.



Nutrition Society of Malaysia

# IMPROVING LIVES through **NUTRITION**

As a professional organisation, we are guided by a simple belief – the more people understand food and nutrition, the better they can care for their health and well-being.

For that reason, we support the advancement of research, sharing practical insights and important discoveries for the benefits for all.

We also support the Government's efforts in promoting healthy nutrition in the society to combat nutrient deficiencies as well as diet-related chronic diseases in the country (e.g. obesity, diabetes, hypertension and coronary heart disease).

In caring for the community, we continuously disseminate practical nutrition information to the young and old alike, guiding them to discover the benefits of good nutrition and a healthy lifestyle.

We are committed to improve lives through nutrition. It's our way of serving Malaysians.

For more information, visit our website:  
[www.nutriweb.org.my](http://www.nutriweb.org.my)

## Our Activities

- Annual scientific conferences
- Scientific update sessions
- Malaysian Journal of Nutrition
- Berita NSM
- Consultation with health, regulatory & scientific bodies
- Roadshows & exhibitions with nutrition screening & dietary advice for the public
- Public talks & workshops
- A comprehensive and authoritative website on nutrition for Malaysians - <http://www.nutriweb.org.my>
- Nutrition promotion programmes in collaboration with other professional bodies and private sector (eg Nutrition Month Malaysia, Healthy Kids Programme, Positive Parenting)
- Conduct research on specific community groups

## Our Major Publications

- Malaysian Journal of Nutrition
- Nutritionists' Choice Cookbook (Vol 1: Healthy Recipes for Your Little Ones)
- Resipi Sihat, Pilihan Bijak (Vol 1 & 2)
- Women@Heart *Wanita & Pemakanan* manual for professionals and leaflets for public
- Malaysian Dietary Guidelines leaflets
- NMM booklets on healthy eating and active living



Women@Heart *Wanita & Pemakanan* manual for professionals and leaflets for public



Nutritionists' Choice Cookbook, Resipi Sihat, Pilihan Bijak (Vol 1 & 2)



Malaysian Dietary Guidelines leaflets