

Emerging Societies – Coexistence of Childhood Malnutrition and Obesity

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**Emerging Societies –
Coexistence of Childhood
Malnutrition and Obesity**

Editors

Satish C. Kalhan, Cleveland, OH, USA

Andrew M. Prentice, London, UK

Chittaranjan S. Yajnik, Pune, India

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Contents

VII Preface

VIII Foreword

XI Contributors

Epidemiology of the Nutrition Transition

1 Global Changes in Diet and Activity Patterns as Drivers of the Nutrition Transition

Popkin, B.M. (USA)

15 Regional Case Studies – India

Reddy, K.S. (India)

25 Regional Case Studies – China

Yin, S. (China)

33 Regional Case Studies – Africa

Prentice, A.M. (UK/The Gambia)

Origins of Malnutrition and Links to Obesity

47 Obesity in Emerging Nations: Evolutionary Origins and the Impact of a Rapid Nutrition Transition

Prentice, A.M. (UK/The Gambia)

59 Prenatal Origins of Undernutrition

Christian, P. (USA)

79 Postnatal Origins of Undernutrition

Prost, M.-A. (UK)

95 Malnutrition, Long-Term Health and the Effect of Nutritional Recovery

Sawaya, A.L.; Martins, P.A.; Baccin Martins, V.J.; Florêncio, T.T.; Hoffman, D.; Franco, M.d.C.P.; das Neves, J. (Brazil)

Mechanisms of Metabolic Damage

- 109 The Role of Epigenetics in Mediating Environmental Effects on Phenotype**
Morgan, D.K.; Whitelaw, E. (Australia)
- 121 Metabolism of Methionine in Vivo: Impact of Pregnancy, Protein Restriction, and Fatty Liver Disease**
Kalhan, S.C. (USA)
- 135 Adiposity and Comorbidities: Favorable Impact of Caloric Restriction**
Ravussin, E.; Redman, L.M. (USA)
- 151 Obesity, Inflammation, and Macrophages**
Subramanian, V.; Ferrante, A.W., Jr. (USA)
- 163 Obesity, Hepatic Metabolism and Disease**
Edmison, J.M.; Kalhan, S.C.; McCullough, A.J. (USA)

Preventing the Projected Epidemic of Non-Communicable Diseases in Emerging Nations

- 177 Imperative of Preventive Measures Addressing the Life-Cycle**
Yajnik, C.S. (India)
- 195 New Approaches to Optimizing Early Diets**
Polberger, S. (Sweden)
- 209 Prevention of Low Birthweight**
Alam, D.S. (Bangladesh)
- 227 Community-Based Approaches to Address Childhood Undernutrition and Obesity in Developing Countries**
Shetty, P. (UK)
- 259 Concluding Remarks**
- 269 Subject Index**

Preface

The rapid transition in the developing and emerging societies has manifested as the double burden of disease: the coexistence of as yet unconquered malnutrition and the emerging epidemic of obesity and its related morbidities. A peculiar manifestation of such a double burden in a family is an undernourished child of obese parents, representing two phases of the dual nutritional insult which has led to the current epidemic of chronic non-communicable disease. The interrelationship between these two clinical entities, in spite of a large scientific data, remains to be defined. It perhaps originates in the poor care of pregnant mothers who give rise to a low birthweight baby. Attempts by the parents and the caregivers to feed this baby to 'normalize' its growth may lead to a rapid childhood growth and emergence of obesity and associated morbidities at a relatively young age which leads to higher incidence of type 2 diabetes, hypertension, dyslipidemias and coronary heart disease, the so-called metabolic syndrome. The relationship between intrauterine growth retardation and subsequent obesity, type 2 diabetes and coronary artery disease, described by Barker and colleagues, has now been confirmed in a number of different populations, especially from the developing countries in Asia, Africa and South America. It was in this context that the 63rd Nestlé Workshop was held in New Delhi, India, in order to highlight the coexistence of malnutrition and obesity in different emerging societies, to examine the origin of malnutrition and its links to obesity, to review the possible mechanisms of metabolic injury, and to evaluate the strategies for preventing the projected epidemic of non-communicable disease. Experts in their respective fields from across the world deliberated for 3 days, resulting in the enclosed summary of the state-of-the-art knowledge and the possible areas for future research. We are grateful to all the speakers and participants for a healthy, informative and scientifically exciting dialogue of the various issues. We also appreciate the support of Nestlé Nutrition Institute, in particular Prof. Ferdinand Haschke, Dr. Petra Klassen Wigger, and Elisabeth Chappuis for their support, and from Nestlé India Ltd., Natalie Wagemans and Jeji James for organizing an outstanding workshop. We hope you will find the proceedings both informative and stimulating.

*Satish C. Kalhan
Andrew M. Prentice
Chittranjan S. Yajnik*

Foreword

Three Nestlé Nutrition Institute Workshops have addressed the topics of obesity and malnutrition; namely the 49th NNW in 2001 on ‘Obesity in Childhood and Adolescence’, and ‘The Malnourished Child’ and ‘Linear Growth Retardation in Less Developing Countries’ in the 1980s. Since then, the problems of malnutrition and obesity and their associated health issues have worsened. The WHO estimates that 22 million children under 5 years of age are overweight at present. In the USA the number of overweight children has doubled since 1980. Despite an overall decrease in the prevalence of stunting in developing countries since 1980, childhood malnutrition remains at a disturbingly high level and as such a major public health problem. The coexistence of these two major public health concerns lead us to organize the 63rd Nestlé Nutrition Institute Workshop entitled ‘Emerging Societies – Coexistence of Childhood Malnutrition and Obesity’.

The coexistence of undernutrition (low birthweight, poor growth) alongside overnutrition (mainly obesity) is a phenomenon afflicting many countries as their economies develop and food availability increases. This phenomenon, otherwise known as the ‘nutrition transition’, is becoming increasingly prevalent in many emerging nations. To date, community-based interventions are the most widely used approaches to counteract malnutrition. However, evidence is growing that interventions targeting the improvement in maternal nutrition and health may deliver the most promising results for improving child nutrition. The nutrition transition now poses the challenge of how to balance short-term benefits versus long-term risks of increased metabolic diseases. India was cited as an example to demonstrate the magnitude of potential long-term consequences, with a 300% increase in the prevalence of diabetes amounting to an estimated 80 million cases by 2025. The contribution not only of nutritional factors, but also genetic background and epigenetic factors, to these outcomes were addressed. In this context, hypotheses such as the thrifty gene hypothesis were discussed as potential mechanisms to explain the increased susceptibility to obesity in emerging nations.

Considerable research still lies ahead in order to address the question of which population segments and at what stage(s) of their lifecycle should be targeted in order to have the most impactful results.

We are deeply indebted to the three chairpersons of this workshop: Prof. *Satish Kalhan* from the Case Western Reserve University in Cleveland; Prof.

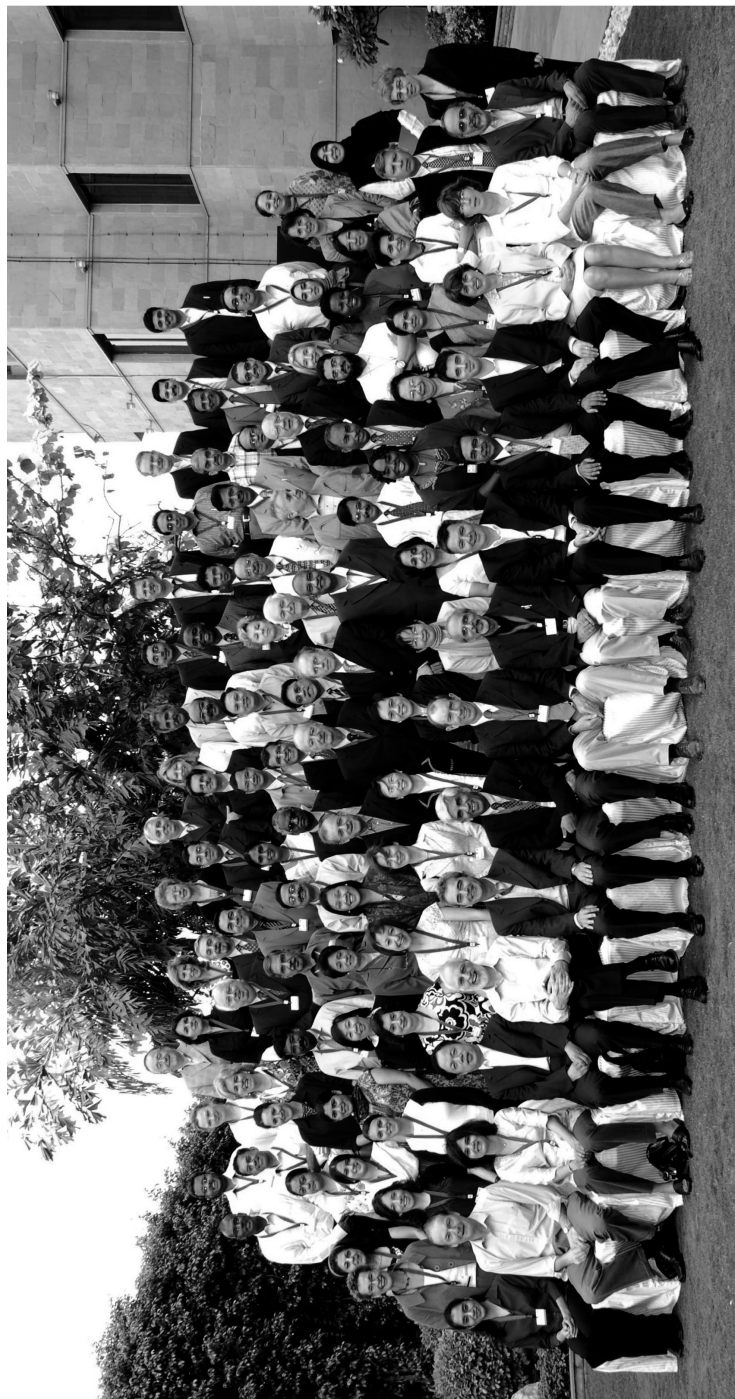
Foreword

Andrew Prentice from the London School of Hygiene, and Prof. *Chittaranjan Yajnik* from the King Edward Memorial Hospital in Pune, experts recognized worldwide in their respective fields in nutrition research. Our warm thanks go also to Dr. *Natalia Wagemans* and her team for their excellent logistic support of the workshop and for enabling the participants to enjoy the wonderful Indian culture.

Prof. Ferdinand Haschke, MD, PhD
Chairman
Nestlé Nutrition Institute
Vevey, Switzerland

Dr. Petra Klassen, PhD
Scientific Advisor
Nestlé Nutrition Institute
Vevey, Switzerland





63rd Nestlé Nutrition Institute Workshop
Pediatric Program
New Delhi, March 30–April 3, 2008

Contributors

Chairpersons & Speakers

Dr. Dewan Shamsul Alam

Public Health Sciences Division
ICDDR, B
68 Shaheed Tajuddin Ahmed Sharani
Mohakhali, Dhaka 1212
Bangladesh
E-Mail dsalam@icddr.org

Prof. Parul Christian

Department of International Health
Program in Human Nutrition
Johns Hopkins Bloomberg School of
Public Health
615 N. Wolfe Street, Rm E2541
Baltimore, MD 21205
USA
E-Mail pchristi@jhsph.edu

Prof. Satish C. Kalhan

Department of Medicine
Cleveland Clinic Lerner College of
Medicine
Case Western Reserve University
Staff, Departments of Pathobiology
and Hepatology, Cleveland Clinic
9500 Euclid Av NE-40
Cleveland, OH 44195
USA
E-Mail sck@case.edu

Prof. Arthur McCullough

Department of Gastroenterology and
Hepatology
Cleveland Clinic Lerner College of
Medicine
9500 Euclid Avenue
Cleveland, OH 44195
USA
E-Mail mcculla@ccf.org

Prof. Staffan Polberger

Neonatal Intensive Care Unit
Department of Paediatrics
University Hospital
SE-221 85 Lund
Sweden
E-Mail Staffan.Polberger@skane.se

Prof. B.M. Popkin

Interdisciplinary Obesity Center
Department of Nutrition
School of Public Health
University of North Carolina
Carolina Population Center
123 West Franklin Street
Chapel Hill, NC 27516-3997
USA
E-Mail popkin@unc.edu

Contributors

Prof. Andrew M. Prentice

MRC International Nutrition Group
London School of Hygiene and
Tropical Medicine
Keppel Street
London WC1E 7HT
UK
E-Mail andrew.prentice@lshtm.ac.uk

Prof. Marc-André Prost

MRC International Nutrition Group
Nutrition & Public Health
Intervention, Research Unit
London School of Hygiene & Tropical
Medicine
Keppel Street
London WC1E 7HT
UK
E-Mail marco@thepep.net

Prof. Eric Ravussin

Pennington Biomedical Research
Center
6400 Perkins Road
Baton Rouge, LA 70808
USA
E-Mail RavussE@pbrc.edu

Prof. K. Srinath Reddy

Public Health Foundation of India
PHD House, Second Floor
4/2, Sirifort Institutional Area
August Kranti Marg, New Delhi
India
E-Mail ksrinath.reddy@phfi.org

Prof. Ana Lydia Sawaya

Department of Physiology
Universidade Federal de São Paulo
Rua Botucatu 862, 2o andar
São Paulo, SP, 04023-060
Brazil
E-Mail alsawaya@unifesp.br

Prof. Prakash Shetty

Institute of Human Nutrition
University of Southampton
Medical School Southampton
Tremona Road
Southampton SO16 6YD
UK
E-Mail prakash.s.shetty@gmail.com

Dr. Vidya Subramanian

Naomi Berrie Diabetes Center
Department of Medicine
Columbia University
1150 St. Nicholas Avenue
New York, NY 10032
USA
E-Mail vs2223@columbia.edu

Prof. Emma Whitelaw

Division of Population Studies and
Human Genetics
Queensland Institute of Medical
Research
300 Herston Road
Herston, Brisbane 4006
Australia
E-Mail Emma.Whitelaw@qimr.edu.au

Prof. Chittaranjan S. Yajnik

King Edward Memorial Hospital
Diabetes Unit
Sardar Moodliar Road
Pune 411011
India
E-Mail diabetes@vsnl.com

Prof. Shi-an Yin

National Institute for Nutrition and
Food Safety
Chinese Center for Disease Control
and Prevention
29 Nan Wei Road, Xuanwu District
Beijing 100050
China
E-Mail shianyin@gmail.com

Moderators***Prof. Kailash Nath
Agarwal***

D-115, Sector-36
Noida (U.P.) 201301
India
E-Mail adolcare@hotmail.com

Dr. N.K. Arora

The INCLN Trust
18 Ramanath Building
Yusuf Sarai
New Delhi 110049
India
E-Mail nkarora@inclntrust.org

Prof. Bhaskar Raju

No. 3, 6th Street
Thirunurthy Nagar
Nungambakkam
Chennai 600034
India
E-Mail drdhaskarraju@yahoo.com

Dr. Boindala Sesikaran

National Institute of Nutrition
Jamai Osmania Post
Hydrabad 500007
India
E-Mail dimin_hyd@yahoo.co.in

Invited Attendees

Melissa Wake/Australia
Mahmood Ahmed
Chowdhury/Bangladesh
Shafiul Hoque/Bangladesh
Mutaher Ahmed Jaigirdar/Bangladesh
Mohammad Sirajul Islam/Bangladesh
Nelson Ramirez Rodriguez/Bolivia
Carlos Nogueira De Almeida/Brazil
Roseli Sarni/Brazil
Mehmedali Azemi/Kosovo
Ramush Bejiqi/Kosovo
Hansjosef Bohles/Germany
Zulfikar Ahmed/India
Bikash Bhattacharya/India
Mridula Chatterjee/India
Sukanta Chatterjee/India
Debnath Chaudhuri/India
Dinesh Kumar Chirla/India
Ravindra Chittal/India
Sridhar Ganapathy/India
Anita Jatana/India
Veena Kalra/India
Ishi Khosla/India

Neelam Kler/India
Nitin Chandra Mathur/India
Prashant Mathur/India
John Matthai/India
Anand Pandit/India
Helina Rahman/India
Jaydeb Ray/India
Bela Shah/India
Arvind Shenoi/India
Anupam Sibal/India
Umesh Vaidya/India
Helena Ariaantje Tangkilisan/Indonesia
Mario De Curtris/Italy
Marcello Giovannini/Italy
Valerio Nobili/Italy
Sourideth Seng Chanh/Laos
Myint Myint Zin/Myanmar
Munsur Ahmud Takun/Mauritius
Endrique Romero-Velarde/Mexico
Edgar M. Vasquez/Mexico
Harrie N. Lafeber/Netherlands
Philip Olayeye Abiodun/Nigeria
Abimbola Ajayi/Nigeria

Contributors

Mariam Al Waili/Oman
S. Fancisco Lagrutta/Panama
Demetria Bongga/Philippines
Maria Lourdes Genuino/Philippines
Carla Rego/Portugal
Larisa Shcheplyagina/Russia
Ali Al-Zahrani/Saudi Arabia
Danish Khalid/Saudi Arabia
Martha Herselman/South Africa
H.T. Wickramasinghe/Sri Lanka
Voranych Chongsrisawat/Thailand

Chongviriyaphan Nalinee/Thailand
Nuthapong Ukarapol/Thailand
Gulden Gokcay/Turkey
Alve Hasanoglu/Turkey
Leyla Tumer/Turkey
Ghazala Balhaj/UAE
Joyce Kakuramatsi Kikafunda/Uganda
Sophie Hawkesworth/UK
Mathilde Savy/UK
Atul Singhal/UK
Brian Wharton/UK

Nestlé Participants

Mr. Abdul Hanan/India
Mr. Jeji James/India
Mr. Christian Van Houtteghem/India
Mr. Leon Wagemans/India
Dr. Natalia Wagemans/India
Mrs. Marjanna Skotnicki-
Hoogland/Netherlands
Mrs. Jhody Digal/Philippines

Mrs. Alice Gravereaux/Switzerland
Prof. Ferdinand Haschke/Switzerland
Dr. Petra Klassen/Switzerland
Dr. Sophie Pecquet/Switzerland
Dr. Yassaman Shahkhalili/Switzerland
Dr. Evelyn Spivey-Krobath/Switzerland
Mrs. Zelda Wilson/UK