

Emerging Societies – Coexistence of Childhood Malnutrition and Obesity

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

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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
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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.

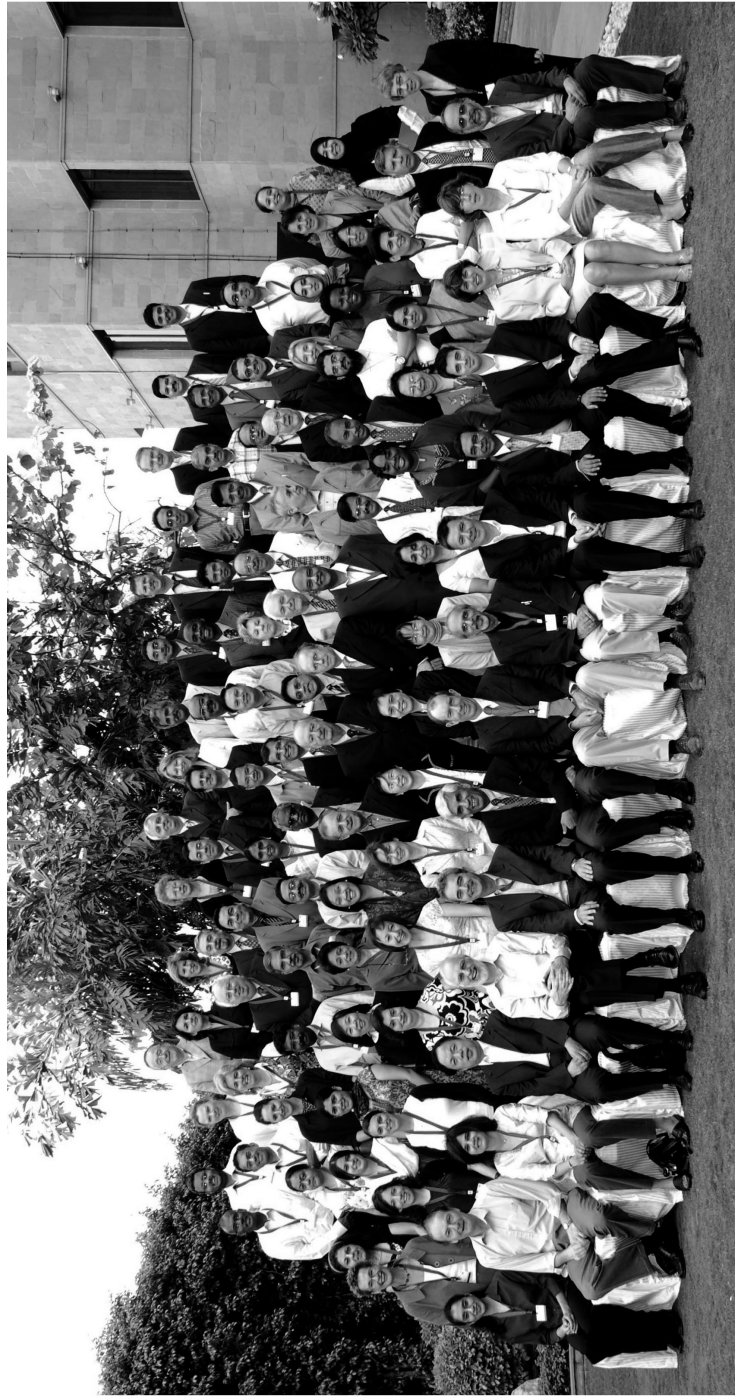
Foreword

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.

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63rd Nestlé Nutrition Institute Workshop
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