

Modern lifestyles and micronutrient deficiency

In industrialised countries, despite high consumption of food commodities, the lifestyle may contribute to micronutrient deficiencies, which could contribute to several chronic non-communicable degenerative diseases, such as coronary heart disease (CHD), diabetes and certain cancers. Rapid economic development, accompanied by modernisation of lifestyles, in South East Asia, leads to micronutrient problems similar to those of developed countries. Therefore, in the coming decades, modern lifestyles may in this way affect various health problems.

In Indonesia, available data indicate that fat consumption (as percent energy) increased from 10.4% in 1974 to 20.5% in 1992.^{1,2} Fat consumption (as percent energy) is substantially related to socioeconomic status, and this is perhaps related to the consumption of trendy foods by privileged people living in urban areas. The MONICA study in Jakarta demonstrated that the prevalence of dyslipidaemia increased 3% within 5 years (1988-1993).³ These findings suggest that cardiovascular diseases (CVDs), which have become the leading cause of death in Indonesia since 1992, are partly nutritionally related.

The causes and effects of modern lifestyles include stress factors and environmental pollution which require recognition by professionals dealing with nutritional problems in the community. On the other hand, the advancement of communication and information technology is expected to facilitate the development of nutrition informatics, which in turn will enhance community nutrition programme developments.

The progress of nutritional sciences have brought new insights into the pathogenesis of nutritionally-related health problems. If we take coronary heart disease (CHD) as an example, half of the cases cannot be explained by the presence of the established risk factors such as hypertension, hyperlipidaemia and smoking. Other proposed nutritional pathways to CHD are elevated homocysteine levels through folate and/or vitamin B₁₂ deficiencies⁴, and an unfavourable ratio of $\omega 6/\omega 3$ polyunsaturated fatty acids (PUFAs).⁵ Thus, there is a complicated co-existence of both undernutrition (chronic energy or selective micronutrient deficiencies) and overnutrition (overweight and abdominal obesity) related

health problems. At the same time, there may be neural tube defects on account of folate deficiency, megaloblastic anaemia with folate and vitamin B₁₂ deficiencies, CHD in the abdominally obese in urban communities of transitional countries with various degrees of change towards modern lifestyles.

An International Workshop on 'Modern Lifestyles and Micronutrient Deficiency' was held in Nusa Dua, Bali on October 19-21, 1995. The general objective of the workshop was to identify research opportunities and to develop new prophylactic and preventive strategies to reduce micronutrient deficiencies in middle and high income groups in South East Asia. In particular, the workshop aimed to acquaint the participants with the biological background of micronutrient deficiencies in communities exposed to modern lifestyles, provide contemporary knowledge about micronutrient deficiencies in middle and high income groups in Indonesia in particular, and in South East Asia region in general, and develop recommendations for relevant future research and intervention strategies.

The workshop was organised by the Ministry of Health of the Republic of Indonesia, the SEAMEO-TROPED Regional Center for Community Nutrition and Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH.

Widjaja Lukito MD,PhD, Rainer Gross PhD, Darwin Karyadi MD,PhD, Muhilal PhD

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