

ICCN Poster Presentations

Food and the child

Malnutrition and soil-transmitted helminthiasis among Orang Asli children in Selangor, Malaysia

N Moktar^{1*}, HMS Al-Mekhlafi¹, M Azlin¹, U Nor Aini², M Azlin¹, A Shaik³,
A Sa'iah⁴, MS Fatmah¹, MG Ismail¹, MS Ahmad Firdaus¹, MY Aisah¹ and AR Rozlida¹

¹Department of Parasitology and ²Department of Pathology, Faculty of Medicine, Universiti Kebangsaan Malaysia,
Jalan Yaacob Latif, 56000, Bandar Tun Razak, Cheras, Kuala Lumpur, Malaysia

³Department of Biochemistry, Faculty of Medicine, Universiti Kebangsaan Malaysia, Jalan Raja Muda Abdul Aziz,
50300, Kuala Lumpur, Malaysia,

⁴Department of Orang Asli Affairs, Ministry of Rural Development, 24 Km, Jalan Pahang, 53100,
Kuala Lumpur, Malaysia.

Objective: The aim of this study is to determine the prevalence of malnutrition in children living in endemic areas of soil-transmitted helminthes.

Methods: An observational study was carried out on 281 Orang Asli children aged 2-15 years in eight villages in Selangor, Malaysia. Assessment was carried out using anthropometric measurements and examination of blood and faecal samples. The Z-score for *weight-for-height* was used to denote underweight as an overall indicator of malnutrition. *Height-for-age* Z-score was used as an indicator for stunting while *weight-for-height* Z-score for wasting. Faecal samples were collected and screened for soil-transmitted helminthiasis using Kato-Katz technique. Albumin estimation was carried out on blood samples using standard technique.

Results: The overall prevalence of mild and significant underweight was 32.1% and 56.5% respectively. The prevalence of mild stunting was 25.6% while another 61.3% had significant stunting. The overall prevalence of mild and significant wasting was 39.0% and 19.5% respectively. The mean albumin level was 44.81 ± 5.75 g/L and 28.0% of the children with albumin level below 35 g/L. The overall prevalence of ascariasis, trichuriasis and hookworm infection were 61.9%, 98.2% and 37.0% respectively and of these 19.0%, 26.0% and 3.0% of the children have severe infection of the respective worms.

Conclusion: Thus, the high prevalence of malnutrition in these children due to severe infection of ascariasis, trichuriasis and hookworm infection could not be ruled out.

Biochemical measurements and anthropometry as indicators of nutritional status measuring the prevalence of malnutrition in primary school children living in an informal settlement

C Napier* and W Oldewage-Theron
Vaal University of Technology

The main objective of this study was to determine the level of malnutrition in a primary school (aged six to 13 years old) in an informal settlement to gather information for planning and implementing a school feeding programme. Blood was drawn from 80 children. Quantitative Food Frequency questionnaires were completed in an interview situation with the parents (n=80). Anthropometric measurements included weight-for-age, BMI-for-age and height-for-age. Zinc and ferritin levels were lower than the normal range for children in this age group. The mean dietary intake indicated that the children took in less than 71% of their daily energy needs when compared to the EAR's. Food most commonly purchased and consumed were maize meal, tea, sugar and oil with animal protein 12th on the top 20 foods purchased list. With regard to anthropometric indices, 17.4 % were underweight (weight-for-age below -2SD from the reference NCHS median), 12.7 % were wasted (BMI-for-age -2SD) and 18 % stunted (height-for-age -2SD). Comparing the biochemical and dietary intake results, it can be seen that the energy intake is lower and protein higher than the EAR's per day. The high protein intake could be utilised as energy and not as much for growth purposes. The low zinc and ferritin confirms the low intake of green vegetables, fish and whole grain products as reflected by the top 20. This may have contributed to the prevalence of malnutrition in the sample. By making use of biochemical and anthropometric measurements a more complete picture of the malnutrition could be identified.