MALAYSIAN JOURNAL OF NUTRITION
Peer-reviewed Journal of the Nutrition Society of Malaysia
(Persatuan Pemakanan Malaysia)
(http://www.nutriweb.org.my)

EDITOR
Khor Geok Lin, PhD
(Professor, Universiti Putra Malaysia)

EDITORIAL BOARD
Assoc Prof Dr Mimalini Kandiah PhD
(Faculty of Medicine and Health Sciences, Universiti Putra Malaysia)
Prof Assoc Tony Ng Kock Wai PhD
(School of Pharmacy and Health Sciences, International Medical University)
Assoc Prof Poh Bee Koon PhD
(Faculty of Allied Health Sciences, Universiti Kebangsaan Malaysia)
Prof Rabindarjeet Singh PhD
(Advanced Medical and Dental Institute, Universiti Sains Malaysia)
Safiah Mod Yusof PhD
Family Health Development Division, Ministry of Health Malaysia)
Assoc Prof Sokhini Abdul Mutalib PhD
Faculty of Medicine and Health Sciences, Universiti Putra Malaysia)
Prof Wan Manan Wan Muda DrEd
(School of Health Sciences, Universiti Sains Malaysia)
Dr Yasmin BH Ooi
(School of Food Science and Nutrition Universiti Sabah Malaysia)
Dr Moy Foong Ming
(Faculty of Medicine, Universiti Malaya)

ADVISORY PANEL
Prof Cecilia Florencio
(Professor of Nutrition, University of the Philippines, Philippines)
Prof Mark L Wahlqvist
(Professor of Medicine, Monash University, Australia)
Prof Klaus WJ Wahle
(Faculty Research Professor in Human Nutrition and Health, The Robert Gordon University, United Kingdom)
Dr V Prakash
(Director, Central Food Technological Research Institute, India)
Dr Azza Gohar
(Director, National Nutrition Institute, Egypt)
Dr Nguyen Cong Khan
(National Institute of Nutrition, Vietnam)
Dr Widjaja Lukito
(SEAMEO-TROPMED Regional Centre for Community Nutrition, Indonesia)
Dr Mabel Yap
(Director, Research and Information Management, Health Promotion Board, Singapore)
Assoc Prof Dr Pattanee Winichagoon
(Institute of Nutrition, Mahidol University, Thailand)
Dr Tee E Siong
(President, Nutrition Society of Malaysia)

The Journal
• Serves as a forum for the sharing of research findings and information across broad areas in nutrition
• Publishes original research reports, topical article reviews, book reviews, case reports, short communications, invited editorials and letters to the editor.
• Welcomes articles in nutrition and related fields such as dietetics, food science, biotechnology, public health and anthropology
Malaysian Journal of Nutrition
Vol. 16 No 1, 2010

Contents

Editorial
Commemorating the 25th and 15th Anniversaries of Nutrition Society of Malaysia and Malaysian Journal of Nutrition
Dr Chong Yoon Hin

Review
Breast Milk Immunoprotection and the Common Mucosal Immune System: a Review
Prameela KK & Mohamed AEK

Original Articles
Physical Activity Pattern and Energy Expenditure of Malaysian Adults: Findings from the Malaysian Adult Nutrition Survey (MANS)
Poh BK, Safiah MY, Tahir A, Siti Hastinda MD, Siti Norazlin N, Norimah AK, Wan Manan WM, Mirnalini K, Zalilah MS, Azmi MY & Fatimah S

A Qualitative Study on Coping Strategies among Women from Food Insecurity Households in Selangor and Negeri Sembilan
Norhasmah S, Zalilah MS, Mohd Nasir MT, Kandiah M & Asnarulkhadi AS

Nutritional Status of Orang Asli (Che Wong Tribe) Adults in Krau Wildlife Reserve, Pahang
Haemamalar K, Zalilah MS & Neng Azhanie A

Comparison of Food Choice Motives between Malay Husbands and Wives in an Urban Community
Asma A, Nawalyah AG, Rokiah MY & Mohd Nasir MT

Relationship between Frequency of Sugary Food and Drink Consumption with Occurrence of Dental Caries among Preschool Children in Titiwangsa, Kuala Lumpur
Zahara AM, Fashihah MH & Nurul AY

Calcium Intake among Myanmar Residing in Bago, Kayin, and Yangon Areas
Phyu Phyu Aung, Mya Ohnmar, Moh Moh Hlaing, Moe Thida Kyaw, Aye Aye Than, Theingi Thwin & Tin Khine Myint

Assessment of Physical Activity Level among Individuals with Type 2 Diabetes Mellitus at Cheras Health Clinic, Kuala Lumpur
Nor Shazwani MN, Suzana S, Hanis Mastura Y, Lim CJ, Teh SC, Mohd Fauzee MZ, Lim HC, Dahlia S & Norliza M

Messages of the Newly Proposed Malaysian Dietary Guidelines (MDG): Do Adults in Kuala Lumpur Understand Them?
Norimah AK, Hwong CS, Liew WC, Ruzita AT, Siti Sa’adiah HN & Ismail MN

Malaysian Journal of Nutrition is abstracted/indexed in the Western Pacific Region Index Medicus (WPRIM) and Elsevier databases of the Scopus, EBiology and ECare
DietPLUS- a User-friendly ‘2 in 1’ Food Composition Database and Calculator of Nutrient Intakes
Tony Ng KW

Proposed New Anthropometric Indices of Childhood Undernutrition
Kaushik Bose & Gopal Chandra Mandal

Dietary Intake of Spices and Herbs in Habitual Northeast Thai Diets
Siriporn T, Atittada B, Sonsri C, Emorn W & Pattanee W

Antioxidant Levels and Activities of Selected Seeds of Malaysian Tropical Fruits
Norshazila S, Syed Zahir I, Mustapha Suleiman K, Aisyah MR & Kamarul Rahim K

In vivo Hepato-protective Properties of Purslane Extracts on Paracetamol-Induced Liver Damage
Mohammed Abdalla H & Soad Mohamed AG

Beneficial Lipid-Lowering Effects of Pink Guava Puree in High Fat Diet Induced-Obese Rats
Norazmir MN & Ayub MY

Effect of Selenium Supplementation on Spermatogenic Cells of Goats
Ganabadi S, Halimatun Y, Amelia Choong KL, Nor Jawahir A & Mohammed Hilmi A

Acknowledgements

Upcoming Conferences

Manuscript Submission Guidelines
Subscriptions

Malaysian Journal of Nutrition is published twice a year, in March and September. Please enter my subscription to Malaysian Journal of Nutrition, volume __________________________

Subscription rates per year

<table>
<thead>
<tr>
<th></th>
<th>Malaysia</th>
<th>Other countries*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual</td>
<td>RM 30.00</td>
<td>USD 30.00</td>
</tr>
<tr>
<td>Institution</td>
<td>RM 60.00</td>
<td>USD 60.00</td>
</tr>
</tbody>
</table>

* Please add USD5.00 per issue for airmail surcharge

Method of payment

Cheques (Malaysia only) or bank drafts should be made payable to Nutrition Society of Malaysia and addressed to:

Hon. Treasurer
Nutrition Society of Malaysia
Department of Nutrition and Dietetics
Faculty of Medicine and Health Sciences
Universiti Putra Malaysia
43400 UPM, Serdang, Selangor Malaysia

© Nutrition Society of Malaysia 2008

Printed by
Aslita Sdn Bhd
20, Jalan 4/10B,
Spring Crest Industrial Park,
68100 Kuala Lumpur

Note:
The selection and presentation of materials and the opinions expressed are the sole responsibility of the author(s) concerned. Statements and claims made by the advertisers in MJN do not imply endorsement by the Editor, the Editorial Board or the Nutrition Society of Malaysia.
GUEST EDITORIAL

Commemorating the 25th and 15th Anniversaries of Nutrition Society of Malaysia and Malaysian Journal of Nutrition

May I offer my sincere congratulations to the Editor and Board of Editors of this journal on the occasion of the 15th year of its publication. It is certainly a challenging task to start a professional journal. That it has now grown from strength to strength and gained the recognition of databases such as the authoritative Index Medicus, is testimony to the foresight and vision of the key people involved. This contrasts with my experience in submitting some of my early papers to newly founded journals that soon ceased publication due to the lack of support.

This journal’s 15th year of publication coincides with the 25th anniversary of the founding of the Nutrition Society of Malaysia (NSM). In spite of our small numbers, there were compelling reasons that led to our Society’s formation. During the 4th Asian Congress of Nutrition that I attended in Bangkok in 1983, the announcement was made that it was Malaysia’s turn to host the forthcoming 6th Congress in the year 1991, following the 5th Congress that was held in the Philippines in 1987. It was certainly unthinkable to host an International Nutrition Congress without a parent body. Being the most senior nutritionist in the country, I took on the responsibility to initiate its formation. With the support of nutrition stalwarts to mention a few, like Dr Tee E Siong, Prof Ismail Noor, Prof Khor Geok Lin and Dr Tony Ng, NSM was established in 1985.

Despite great odds, NSM went ahead to host the 6th Asian Congress of Nutrition at the PWTC. It attracted the participation of well over 700 nutrition scientists, not only from practically every nation on the Asian continent, but also from the USA, UK, Europe & Scandinavia, Canada, Central America, Africa, Australia and New Zealand. The Congress turned out to be a huge success (see: Proc 5th Asian Congress of Nutrition, 16-19 September, 1991, published by NSM). We also enjoyed an unprecedented windfall that placed the Society’s finances in a most sound position!

In writing this guest editorial, I am deeply conscious of my advantage of having witnessed the changing nutrition scene from the early days of Merdeka in 1957 to the present day, spanning a period of 52 years! During my early years (1958-1962) at the Institute For Medical Research, I was very much involved in the laboratory diagnosis of malnutrition. From the results of blood and urine biochemistry, I witnessed numerous cases of childhood malnutrition that could be attributed to deficiencies in vitamin A, thiamine, iron and protein-calories malnutrition. All the children investigated came from the many squatter communities that surrounded Kuala Lumpur. There were no doubts that these nutritional problems were related to poverty and the lack of health services.

Despite the country’s socio-economic advancement, I note from your publication that undernutrition mainly in the guise of underweight and stunting in children, and thinness in adults, presumably resulting from chronic energy deficiency, still poses a problem. Also iodine deficiency and its threat of goitre can still be seen in rural areas that lack iodisation of their water supply. However, such problems seem to pale in comparison to the moderately high prevalence of overweight or obese children and adults that are now reported. In addition, hyperlipidemia is now known to be common, and diet-related diseases such as obesity, diabetes, coronary heart disease, stroke and some forms of cancer continue to rise. There is little doubt that our increasing affluence coupled with poor food choices due to a lack of nutrition knowledge and urban living are partly to be blamed. For example, a large proportion
of our working adult population is known to eat at least one meal a day outside of home. This practice that is now widespread calls for a wise choice of food that is only possible with some basic nutrition knowledge.

Clearly nutritionists have an important role to play in public health nutrition in order to safeguard the nutritional health of our communities. In this respect, I commend NSM for its many community programmes in the form of roadshows, exhibitions, talks and workshops aimed at educating the public at large.

Today there is also great deal of public interest on foods that provide health benefits. The word ‘nutraceuticals’ has been coined to refer to the chemical substances (mainly carotenoids, flavonoids, isoflavones and polyphenols) present in such foods. Nutraceuticals are not known to have any nutrient function but nevertheless possess potential benefits in health maintenance and disease prevention with special reference to diabetes, coronary heart disease, stroke and cancer. Examples of foods known to confer such benefits include marine fish, cruciferous vegetables, pigmented and non-pigmented fruits (to name a few examples like the papaya, mangosteen and the dragon fruit), cocoa, garlic, edible mushroom, bitter gourd and spices like turmeric and cinnamon and many more. However, skepticism and controversies remain over their potential health benefits until more research is carried out to clarify their lingering doubts.

In this connection, our crude palm oil and its extract, have an abundance of tocotrienols, a member of the vitamin E family. They are powerful anti-oxidants and recent research in Malaysia and overseas have indicated their potential benefits in the prevention of heart disease, stroke, breast cancer and skin damage due to UV irradiation or ageing. Unfortunately, many of our health professionals are still unfamiliar with their emerging health benefits and we stand much to lose if we continue to ignore this class of nutraceuticals so abundantly found in our own backyard!

Dr Chong Yoon Hin,
President
Nutrition Society of Malaysia, 1985-1993
1 March 2010
ACKNOWLEDGEMENTS

Appreciation is recorded to the following referees for their contribution towards the publication of Volume 16 Number 1, 2010 of the *Malaysian Journal of Nutrition*.

Assoc Prof Dr Amin Ismail, Department of Nutrition & Dietetics, Universiti Putra Malaysia
Prof Dr AS Babji, Faculty of Science and Technology, Universiti Kebangsaan Malaysia
Chin Yit Siew, Department of Nutrition & Dietetics, Universiti Putra Malaysia
Dr Hj Dasril Syahrial, Students’ Health Centre, Universiti Putra Malaysia
Mr Gobinathan Nair, Sports Science Academy, Singapore Sports School
Dr Foo Leng Huat, Department of Nutrition and Dietetics, Universiti Sains Malaysia
Dr Hazizi Abu Saad, Department of Nutrition & Dietetics, Universiti Putra Malaysia
Dr Huzwah Khazai‘ai, Department of Biomedical Sciences, Universiti Putra Malaysia
Assist Prof Dr Jirapa Pongjanta, Lanna Rajamangala University of Technology, Thailand
Assoc Prof Dr Karunee Kwanbunjan, Department of Tropical Nutrition and Food Science, Mahidol University, Thailand
Mr Kee Chee Cheong, Epidemiology and Biostatistics Unit, Institute for Medical Research
Prof Dr Lee Way Seah, Department of Paediatrics, University Malaya Medical Centre
Assoc Prof Dr Loh Teck Chwen, Department of Animal Sciences, Universiti Putra Malaysia
Assoc Prof Dr Mirnalini Kandiah, Department of Nutrition & Dietetics, Universiti Putra Malaysia
Dr Misra Snigdha, Faculty of Health and Life Sciences, Management and Science University
Dr Moy Foong Ming, Department of Social and Preventive Medicine, University of Malaya
Ms Nawalyah Ab Ghani, Department of Nutrition & Dietetics, Universiti Putra Malaysia
Assoc Prof Dr Noor Aini Mohd Yusof, Department of Nutrition and Dietetics, Universiti Kebangsaan Malaysia
Assoc Prof Dr Norimah Abdul Karim, Department of Nutrition & Dietetics, Universiti Kebangsaan Malaysia
Ms Normah Hashim, Department of Nutrition & Dietetics, International Medical University
Assoc Prof Dr Rosnina Yusoff, Department of Clinical Studies, Universiti Putra Malaysia
Ms Roseline Yap, Faculty of Applied Sciences, UCSI University
Dr Rajesh Ramasamy, Department of Pathology, Universiti Putra Malaysia
Assoc Prof Dr Rokiah Mohd Yusof, Department of Nutrition & Dietetics, Universiti Putra Malaysia
Ms Rugayah Issa, School of Food Science and Nutrition, Universiti Malaysia Sabah
Assoc Prof Dr Sabrina Sukardi, Department of Biomedical Sciences, Universiti Putra Malaysia
Dr Sharmili Vidyadaran, Department of Pathology, Universiti Putra Malaysia
Dr Tan Kok Leong, Department of Community Medicine, International Medical University
Assoc Prof Dr Tony Ng, Department of Nutrition & Dietetics, International Medical University
Upcoming Conferences

2010

**International Conference on Developmental Origins of Health and Disease**
May 6-8, Munich, Germany
[www.metabolic-programming.org](http://www.metabolic-programming.org)

**The First International Vitamin Conference**
May 19-21, Copenhagen, Denmark
[http://www.vitamin2010.dk](http://www.vitamin2010.dk)

**International Conference on Nutrition and Food Sciences**
May 26-28, Tokyo, Japan

**International Probiotic Conference 2010**
June 15-17, Kosice, Slovakia
info@probiotic-conference.com; [http://www.probiotic-conference.net/](http://www.probiotic-conference.net/)

**11th International Congress on Obesity**
July 11-15, Stockholm, Sweden
ico2010@iaso.org

**The 25th International Carbohydrate Symposium**
August 1-6, Tokyo, Japan
[http://c10x60pm.securesites.net/ics2010/](http://c10x60pm.securesites.net/ics2010/)

**XV International Congress of Clinical Nutrition**
September 19-22, Sokhna Resort, Egypt
Contact: egcairouw@yahoo.com

**Cancer and Obesity**
October 28-30, Valencia, Spain
[www.cancerandobesity.org](http://www.cancerandobesity.org)

**8th Annual World Congress on Insulin Resistance, Diabetes, and Cardiovascular Disease**
November 4-6, Los Angeles, USA.
metabolicinst@pacbell.net

**1st World Congress on Controversies in Metabolism and Nutrition in the Acute and the Chronic Disease (CoMET)**
November 18-21, Athens, Greece
comet@comtecmed.com

**14th Asia Oceania Congress of Endocrinology**
December 2-5, Kuala Lumpur, Malaysia
Malaysian Journal of Nutrition

Guidelines for submitting manuscripts

The Malaysian Journal of Nutrition welcomes manuscripts on all aspects of nutrition in the form of original articles, review articles, case-reports, short communications, book reviews and letters to the Editor. To avoid delays in publication, authors are advised to adhere closely to the instructions below.

All materials submitted for publication is assumed to be submitted exclusively to the Malaysian Journal of Nutrition (MJN) unless the contrary is stated.

Manuscripts must be submitted in English (British English).

All manuscripts submitted must be original and may be submitted electronically to the Editor (khorgl@medic.upm.edu.my).

Hard copies (original plus 2 copies) of the manuscript should be posted to the mailing address of the Editor provided at the end of these Guidelines. A soft copy of the manuscript will be requested when the manuscript is accepted.

Manuscript

Manuscripts should be typed on ISO A4 paper (210 x 297mm), 12-point font Times New Roman, double-spaced and on one side of the paper. There should be a margin of 2.5 cm on all sides.

The title page should state the title of the manuscript, full first name and surname of each author, authors’ departments and institutions, city and country. Also enclose the complete postal address, telephone number, fax number and e-mail address of the author who will be responsible for all correspondences regarding the manuscript.

An abstract not exceeding 250 words in length should be provided, on a page of its own. Make sure the title of the manuscript is included in the Abstract page. Do not include names and other details of author(s) on the Abstract page.

Introduction, Materials and Methods, Results, Discussion, Acknowledgements and References should follow with each section beginning on a fresh page.

Authors should state the authority which gave ethics approval for the study.

Citations and References

Citations and references should follow the Harvard referencing system.

In the text, references are cited by the surname(s) of the author(s) and year of publication parenthetically at the appropriate place. Three authors appear in full on first citation, e.g. Bray, Whipp & Koyal (1994), but subsequently as Bray et al. (1994). For four or more authors, indicate the first author followed by et al.

In the Reference section, list the references in alphabetical order. For each reference, all authors’ names should be included. Examples of correct forms of references are given below:

1. Journal
Name of the journal abbreviated according to the “World list of scientific periodicals”. Do not place full stops between initials.

Chong YH, Tee ES, Ng TKW, Yap SB & Mok SK (1982). A study of the food intake and nutritional

2. Books and Monographs


**Tables and Illustrations**

Each table should be typed double-spaced on a separate sheet of paper. Tables should be numbered consecutively and should be completely labeled so as to be comprehensible without reference to the text. Omit internal vertical lines.

All illustrations and diagrams should be referred to as figures and numbered consecutively. Each illustration should be on a separate sheet of paper. Submit good quality original or glossy prints for direct reproduction. Photocopies of illustrations are not acceptable.

Roman numerals should be used when numbering tables and illustrations. Tables and illustrations should be kept to a minimum.

**Units and Abbreviations**

All measurements should be reported using the metric system. Explain any abbreviations unless immediately obvious.

**Proofs**

The leading author will receive 20 copies of the reprints free of charge. Requests for additional reprints should be made to the Editor MJN. A nominal charge will be levied for each additional reprint.

For viewing current and past issues of the *Malaysian Journal of Nutrition*, refer to: http://www.nutriweb.org

Editorial correspondence and submission of manuscript should be addressed to:

Professor Dr Khor Geok Lin
The Editor
Malaysian Journal of Nutrition
Department of Nutrition and Dietetics
Faculty of Medicine and Health Sciences
Universiti Putra Malaysia
43400 Serdang, Selangor
Malaysia

Tel/Fax: 603- 89472460
Email: khorgl@medic.upm.edu.my