

# THE SOUTHEAST ASIAN JOURNAL OF TROPICAL MEDICINE AND PUBLIC HEALTH

## **Editorial Panel**

- Editor-in-chief: Tranakchit Harinasuta (Thailand)
- Editors: Amante Cruz (Philippines), Mak Joon Wah (Malaysia), Sri Oemijati (Indonesia), Savanat Tharavanij (Thailand).
- Executive Editor: Chev Kidson (Thailand)
- Editorial Office: Vimolpatana Indradat (Administrator)  
Suvanee Supavej (Assistant Editor)  
Southeast Asian Journal of Tropical Medicine and Public Health  
SEAMEO TROPMED Network  
420/6 Rajvithi Road  
Bangkok 10400, Thailand  
Tel: (662) 2457193 Fax : (662) 2477721

## **Editorial Board**

Asrul Aswal (Indonesia), Wanpen Chaicumpa (Thailand), Dang Duc Trach (Vietnam), David Evans (Switzerland), Michael Good (Australia), Rainer Gross (Germany), Alejandro Herrin (Philippines), May Ho (Canada), Akira Igarashi (Japan), Lam Sai Kit (Malaysia), Liu Er-xiang (China), Lye Munn Sunn (Malaysia), Kamini Mendis (Sri Lanka), Phoon Wai On (Australia), Sakol Panyim (Thailand), Klamliene Pholsena (Laos), Mediadora Saniel (Philippines), Mulkit Singh (Singapore), YH Tan (Singapore), Kazayuki Tanabe (Japan), Myint Lwin (Myanmar), Suchart Upatham (Thailand), Wang Ke-an (China).

## **Advisory Board**

Keith Arnold (Hong Kong), Jane Balthazar (Philippines), John H Cross (USA), Ernesto Domingo (Philippines), HM Gilles (UK), Chamlong Harinasuta (Thailand), M Jegathesan (Malaysia), Somei Kojima (Japan), Adetekunbo Lucas (USA), Lee Hing Peng (Singapore), Louis H Miller (USA), Asri Rasad (Indonesia), David Warrell (UK), Walther H Wernsdorfer (Austria), Yu Sen-hai (China), Zheng Yi (China).

# SEAMEO REGIONAL TROPICAL MEDICINE AND PUBLIC HEALTH NETWORK

## TROPMED GOVERNING BOARD MEMBERS

INDONESIA  
MALAYSIA  
PHILIPPINES  
THAILAND

Dr ASRI RASAD  
Dr ABU BAKAR BIN SULEIMAN  
Dr JANE C BALTAZAR  
Dr TAN CHONGSUPHAJAISIDDHI

## CONSULTANTS

Dr TOZO KANDA (Japan)  
Dr JOHN H CROSS (USA)  
Dr F PETER SCHELP (Germany)

## TROPMED CENTRAL OFFICE

Dr CHAMLONG HARINASUTA  
Dr NELIA P SALAZAR  
Miss VIMOLSRI PANICHYANON  
Miss SUNGWAN THAVEESRI  
Mrs VIMOLPATANA INDRADAT  
Mrs TUBTIM POTH

*Secretary General/Coordinator*  
*Deputy Coordinator*  
*Programs Administrator*  
*Documentation/Secretary*  
*Publications*  
*Accounts*

*The Southeast Asian Journal of Tropical Medicine and Public Health* is published by the SEAMEO Regional Tropical Medicine and Public Health Network (SEAMEO TROPMED Network).

One annual volume comprises of four quarterly issues (March, June, September and December).

Annual Subscription for 4 issues is US\$50.00 (including postage). Single copies US\$13.00 (post free).

Subscriptions may be paid direct to the SEAMEO TROPMED Network, 420/6 Rajvithi Road, Bangkok 10400. Thailand.

No part of this Journal may be reproduced in any form by photostat, microfilm or any other means.

ISSN : 0038-3619

# THE SOUTHEAST ASIAN JOURNAL OF TROPICAL MEDICINE AND PUBLIC HEALTH

Volume 25

June 1994

Number 2

## CONTENTS

	Page
Editorial : Population growth and public health .....	229
Review : Strain complex of <i>Schistosoma japonicum</i> in the mainland of China .....	
..... YX He, YQ Hu, QF Yu, CH Ni, HC Xue, LS Qiu, M Xie	232
Comparative nucleotide and deduced amino acid sequence of the envelope glycoprotein gene among three dengue virus type 2 strains isolated from patients with different disease severities in Maha Sarakham, Northeast Thailand.....	
..... S Duangchanda, M Tanaka, K Morita, S Rojanasuphot, A Igarishi	243
Effects of human $\alpha$ , $\beta$ and $\gamma$ interferons on varicella zoster virus <i>in vitro</i> .....	
..... K Balachandra, D Thawaranantha, P Isarangkul Na Ayuthaya, J Bhumisawasdi, K Shiraki, K Yamanishi	252
Detection and serotyping of dengue viruses by PCR : a simple, rapid method for the isolation of viral RNA from infected mosquito larvae .....	
..... SY Chan, I Kautner, SK Lam	258
Comparative sensitivity of laboratory methods to diagnose dengue virus infections at Husada Hospital, Jakarta.....	
..... R Tan, H Kurniawan, S Hartati, S Widjaja, GB Jennings	262
A simplified and highly sensitive detection of <i>Trypanosoma evansi</i> by DNA amplification.....	
..... N Wuyts, N Chokesajjawatee, S Panyim	266
Depressed specific and nonspecific immune responses in the secondary <i>Brugia pahangi</i> infection of jirds .....	
..... M Owahsi, Y Horii, Y Nawa	272
<i>In vitro</i> cultivation of third stage larvae of <i>Wuchereria bancrofti</i> to fourth stage : influence of some physico-chemical factors .....	
..... SL Hoti, A Martial-Gros, KP Paily, AM Manonmani, K Athisaya Mary, K Balaraman	278
The natural first intermediate host of <i>Paragonimus siamensis</i> (Miyazaki and Wykoff, 1965) in Thailand .....	
..... S Yaemput, P Dekumyoy, K Visiassuk	284
Epidemiologic characteristics of <i>clonorchiasis sinensis</i> in Guandong Province, China.....	
..... YY Fang	291
The prevalence and intensity of soil-transmitted helminths in some rural villages in Northern Peninsular Malaysia.....	
..... WA Rahman	296
Statistical analysis of clinical, immunological and nutritional factors in pediatric cryptosporidiosis in the Philippines.....	
..... DM Menorca, MA Laxer, AK Alcantara, M Javato-Laxer, MT Fernando, V Gonzales	300
A clinical study on trichinosis in Changwat Phayao, Thailand .....	
..... S Limsuwan, V Siriprasert	305
Spontaneous granulomatous amebic encephalitis : report of four cases from Thailand.....	
..... T Sangruchi, AJ Martinez, GS Visvesvara	309
Research report: An outbreak of gastroenteritis due to <i>Vibrio cholerae</i> 0139 in Pondicherry, South India .....	
..... N Vijayalakshmi, RS Rao, S Sujatha, A Hamid, TK Dutta, AK Das	314
Reliability of two commercial serological kits for serodiagnosing <i>Helicobacter pylori</i> infection .....	
..... AM Uyub, A Khairul Anuar, S Aiyar	316

Reactivity of the CD D-1 latex test with <i>Clostridium difficile</i> and other bacteria.....	321
..... S Wongwanich, M Kusum, R Phan-Urai	
Detection of salmonellae in hen eggs in Thailand.....	324
..... K Saitanu, C Koowatananukul, J Jerngklinchan, J Sasipreeyajan	
Incidence of salmonellae in duck eggs in Thailand .....	328
..... K Saitanu, J Jerngklinchan, C Koowatananukul	
Nosocomial pneumonias in Thailand .....	332
..... S Saenghirunvattana, P Charoenpan, S Kiatboonsri, B Aeursudkij	
Nocturnal physiological and biochemical changes in Sudden unexplained death Syndrome : A preliminary report of a case control study . P Charoenpan, K Muntarbhorn, P Boongird, G Puavilai, R Ratanaprakarn, S Indraprasit, V Tanphaichitr, K Likittanasombat, W Varavithya, P Tatsanavivat	335
Spirometric volumes in Malaysian males .....	341
..... R Singh, HJ Singh, RG Sirisinghe	
The efficacy of compression immobilization technique in retarding spread of radio-labeled Russell's viper venom in rhesus monkeys and mock venom NaI <sup>131</sup> in human volunteers .....	349
..... Tune-Pe, Muang-Muang-Thwin, Myint-Myint-Than, Aye-Aye-Myint, Kyaw-Myint, Thein-than	
Physical fitness in obese school children in Hat Yai, Southern Thailand .....	354
..... S Pongprapai, L Mo-suwan, W Leelasamran	
Factors affecting utilization of health centers in a rural area of Chon Buri Province, Thailand .....	361
..... DR Shrestha, A Ittiravivongs	
Trial of transdermal nicotine patch in smoking cessation .....	368
..... S Saenghirunvattana	
Monitoring resistance gene frequencies in Malaysian <i>Culex quinquefasciatus</i> say adults using rapid non-specific esterase enzyme microassays .....	371
..... HL Lee, T Tadano	
Use of hexaflumuron, an insect growth regulator in the control of <i>Aedes albopictus</i> (Skuse) .....	374
..... D Montada, AR Rajavel, V Vasuki	
Studies on the mosquito vectors of Japanese encephalitis virus in Mandya district, Karnataka, India .....	378
..... G Geevarghese, AC Mishra, PG Jacob, HR Bhat	
Studies on adult mosquito vectors of Japanese encephalitis in a pig farm in Selangor, Malaysia .....	383
..... I Vythilingam, S Mahadevan, MZ Zaridah, KK Ong, G Abdullah, YF Ong	
Sex ratio and susceptibility of the golden apple snail, <i>Pomacea canaliculata</i> .....	387
..... S Banpavichit, RS Keawjam, ES Upatham	
Research note : Hepatitis A virus antibody in mentally retarded children .....	392
..... Y Poovorawan, S Yodvised, A Theamboonlers, V Prapanpot, S Chumdermpadetsuk	
Research note : Absence of plasmid in mosquitocidal <i>Clostridium bifermentans</i> serovar <i>Malaysia</i> .....	394
..... P Seleena, HL Lee	
Case report : Quinine toxicity when given with doxycycline and mefloquine .....	397
..... J Karbwang, K Na-Bangchang, A Thanavibul, Y Wattanakoon, T Harinasuta	
Case report : Gastric ascariasis associated with upper gastrointestinal hemorrhage.....	401
..... P Wilairatana, S Wilairatana, P Charoenlarp	
Case report : Fatal diphtheria in a Thai adult .. V Viriyautsahakul, T Tantawichien, U Thisyakorn	402
Case report : Diabetes mellitus, salmonellosis, fatty liver and lipid embolism.....	405
..... S Shuangshoti	
Concentration time course of praziquantel in Filipines with mild <i>Schistosoma japonicum</i> infection.....	409
..... CI Valencia, BA Catto, LT Webster Jr, E Barcelon, R Ofendo-Reyes	

## EDITORIAL

### POPULATION GROWTH AND PUBLIC HEALTH

In Cairo this September the world will sit down to ponder yet again the trends in global population and their omens for the future of mankind. There will be a sense of *deja vu* from Bucharest 20 years ago, but also a sense of urgency greater than before. Or will there be? Over the years parts of the world have become immune to the population threat, other parts have become drowned in the consequences. Those who are blasé have power, those who suffer have none. And why should those whose onus is the health of nations be concerned with the mathematics of burgeoning billions?

Health is deeply wrapped in the clothes of clinical management, focused on the individual ill patient, often with cursory glances towards the wider needs of the masses, especially those among them who cannot enrich the pockets of the private health sector. Health budgets in the public sector often steer much of their limited funds towards hospitals, especially hi-tech centers, even though knowing that the benefit/cost ratio fares best in the preventive arena. Medicine is not always consciously aware of the swelling crowds of the barrios, of the shanty towns, of the villages of the world. Even those dedicated to delivering basic public health are frequently ignorant of the mathematical games of population expansion, seeing it as beyond their sphere of immediate action, as something too big to handle.

In Rome in the summer of 1994 the Pope met with the American President to complain of the changing US regulations that have reimplemented the long-absent American contribution to global population control; the Pope whose word modulates the reproductive behavior of millions and welcomes more mouths at the table; the President whose actions have overturned the retrograde unrealism of his predecessors. There were public smiles but private scowls, as neither convinced the other; the divergence of views epitomises the gulf between illusion and reality. Such is the parody of population pressure in a world unable to grasp the most fundamental nettle in the crown of *homo sapiens*, the unwise species misnamed.

More mouths among the most poor, more dis-

ease amongst the most poor, less food to distribute amongst the most poor, greater liability to epidemics amongst the most poor. Physicians crowding more and more into the comfort of overserviced middle class suburbia leaving the huddled masses beyond their touch, the free market providing health care which is not free, for those who can afford to pay. Population pressure pushes the burdens of inequity to the brink. Health care is at the center of the storm.

Economic development in many countries has pushed upwards the per capita gross national product, but this measure ignores the divergence of opportunity, the ecocide that has accompanied industrialization and the mounting disease burden related thereto. The false confidence engendered by the earlier days of the Green Revolution can be viewed now in clearer perspective: starvation will surely expand its tentacles as the decades ahead come to pass. The euphoria of wealth generated by the transition from agriculture to manufacturing industry in food exporting nations like Thailand leads to periodic visions of pouring more concrete to build more factories where the rice fields once flourished and importing food from elsewhere. But there is nowhere else to buy it. The vision of increased industrial production alongside food deprivation is not myth. Nor is the spectre of diminishing returns from mechanized monocultures, in lieu of the ecofriendly mixed agriculture of history.

Tuberculosis in the shanty towns of Sao Paulo, cholera in the densely crowded villages of Bangladesh, AIDS genocide in Zaire, industrial accidents in the cramped factories of India, disease follows the population density. Implementation of environmental law in China receives lip service, the traffic jams of Bangkok and Jakarta belch forth lead to poison slum children's minds and stunt their mental growth, Somalis once again starve to death. Public health takes on new dimensions, new patterns of disease to master, new despair.

Objectively there are few optimistic signs in the scenario of overpopulation. It is true that some nations have seen their fertility figures fall and overall growth rates drop, signalling that popula-

tion control is possible, even in short time periods. Affluence traditionally has been thought to bring with it a desire to limit the numbers of children per generation, but this is not always so: witness Kenya, where increased prosperity has led to an increase in fertility to more than 8 births per woman. This means that there is no universal formula relating wealth and fecundity, successful population control demands culture-specific implementation.

In many countries Ministries of Public Health have been given the responsibility of population control, so that in this sense a relationship is implied between health and population containment, between health advice and contraception. But it can be argued that multisectoral leadership at all levels needs to be involved in the education process, it is more likely to be effective than white coated advice alone. Here the free market may well be found wanting: is it too undisciplined to limit the numbers of children, or does its lack of constrained options lead in turn to voluntary constraints on the part of its participants?

It is here that the performances of the giants, India and China, will be watched with keen intent. Both have seen dramatic changes in economic systems in recent years, both have sizeable population subsets who admittedly dwell in poverty, both have massive rural sectors which see children as assets. The one (China) has an enviable past record in delivery of public health and in official efforts to limit population growth. The other (India) has for decades had greater disparities of wealth and poverty, some well-publicized, failed official efforts in population control, less impressive public health programs but a more overtly democratic society. The current population growth rate of India is almost twice that of China. Yet it is by no means certain what the next few years will show, as rapid change is the order of the day. What is certain is that in each case the outcome will be critical to the world view.

Delegates from 180 nations will gather in Cairo for the population fest. A key element will be the focus on women's issues, surely long overdue in the critical debate - but will the male of the species stand aside for the mothers to have center stage beyond the halls of the Cairo conference? The challenge is to progress from rhetoric to action, something which so far has been difficult to achieve when it comes to the right of the female of

the species, who carries the major burden of mouths to be fed. Women, too, bare the burdens of responsibility in relation to family illness, and often a major share of the tribulations of bread winning as well. Yet it is most often the male who demands more children. Especially *male* children.

As has so often been iterated, it is the fewer children per head in rich countries who use up most of the world's scarce resources, the greater number of children in poorer countries consume less and therefore represent a lesser burden. The truth of this statement places the onus on those in rich nations of have even fewer children, but it belies the suffering inherent in the large families of poorer nations. It is they who suffer most consequent disease, most epidemics, most despair. Thus both of these disparate groups of humankind need to share the goal of population reduction as one of great urgency: the the ~5.5 billion people will double in the next 60 years, or less. Despite the focus on chronic illnesses such as vascular disease and cancer as causes of morbidity and mortality in the aging populations of richer nations and richer segments of poorer nations, malnutrition, infectious disease and accidents will remain the main threats to the majority of the world's people. Environmental health will continue to deteriorate, especially among those who are not closetted in air-conditioned mansions or mercedes. Health care system financing, already under strain, will have no hope of coping with the rapidly expanding burdens of the near future.

In a sense it is the very success of medicine - and sanitation engineering - that has led to the population crisis. As infant and maternal mortality rates have plummeted, the population equation has shifted insidiously to greater positive balance. The consumer society has depleted resources on an even steeper curve. The careless process of industrial production has poisoned the lives of those on the margin. The rapacious aggression of free fall forest logging and the gay abandon of chemical agriculture have depleted the soil and contaminated the water tables. All threaten the present generation and those to come. The competitiveness inherent in free market economics leaves little room for care and caution.

No one nation, no one group of people have the solutions despite the waves of consultants who roam the earth, the endless, forest-depleting reports of international agencies, the opportunist

## POPULATION CRISIS

speeches of political leaders. Requisite wisdom lies in quieter efforts, in culture-specific consideration, in community self-education, in supportive relationships among neighbors and among nations.

The problem is the urgency. *There is no time.* Let us hope that rare wisdom emerges and triumphs in Cairo in September.

Chev Kidson