NEWSLETTER

MaHTAS

Malaysian HTA Section

Volume 13 June 2013

NEWS

Updated Clinical Practice Guidelines (CPG) on Tuberculosis

The number of tuberculosis (TB) cases in Malaysia continues to rise unabated leading to high rates of morbidity and mortality. Delayed presentation, inaccurate diagnosis, inappropriate empirical treatment, high treatment default rates such as in immigrants and TB in children are just some of the issues in the management of TB in the local context. It is very important for the non-specialist doctors to know when to refer and who to refer to when in doubt. Empirical treatment must be avoided where possible and referral to doctors with experience in TB is encouraged. These are some of the issues highlighted in the CPG on Management of Tuberculosis (3rd Edition). The updated CPG was developed based on systematic review (SR) approach by a multidisciplinary team of experts. This is to ensure it reflects latest evidence in recommending management of TB. Certain chapters have been expanded such as TB in Children and Human Immunodeficiency Virus (HIV) Infection. New chapters are introduced such as Latent TB Infection and Referral Criteria.

Publications until 2012

All Health Technology Assessment (HTA) reports, CPGs and Technology Reviews (TR) reports, endorsed in HTA and CPG Council meeting 1/2012 and 2/2012 are listed in **Table 1**, **Table 2** and **Table 3**, respectively. The summary of all the HTA reports are presented in page 2 and 3. The key messages of CPG on Management of Otitis Media with Effusion in Children and Management of Tuberculosis (3rd Edition) are shown in page 4.

Since MaHTAS establishment in 1995, 56 HTA, 75 CPGs and 232 TR were approved **(Figure 1)**. Majority of the HTA reports were on programmes (37%), followed by procedures (31%) and medical devices (16%), whereas for TR, 33% of the reports were on medical devices and 29% on procedures as shown in **Figure 2**.

MaHTAS has taken the initiatives to improve communication with the public and stakeholders by using Facebook, Twitter and MySMS 15888. On top of that, MaHTAS is developing mobile application for CPG, HTA, TR and the upcoming Horizon Scanning reports. The hardcopies of the documents are distributed to all the healthcare facilities and the softcopies are uploaded on Ministry of Health, Academy of Medicine and other relevant professional organisation websites.

Figure 1 : Number of TR, CPG and HTA produced by MaHTAS annually (1997-2012)

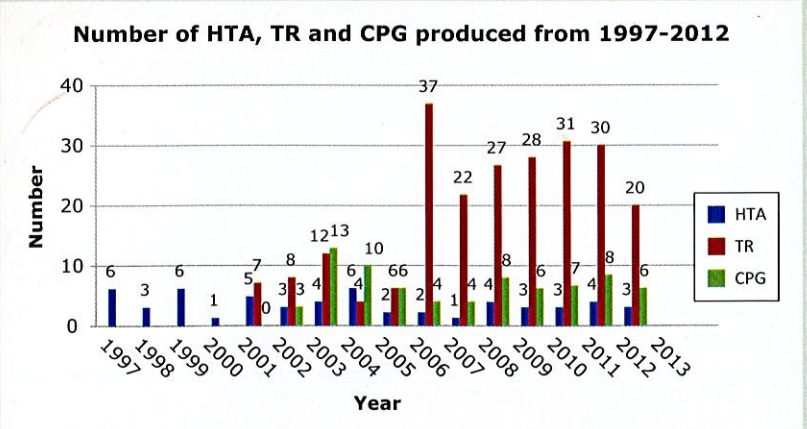
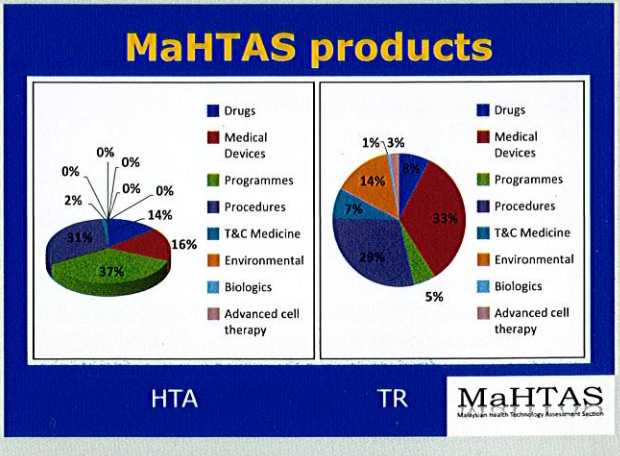


Figure 2 : HTA and TR Reports by types of technologies (1997-2012)



All the HTA and TR reports, and CPGs are accessible online at
http://www.moh.gov.my

From Page 1

Table 1 : Health Technology Assessment Reports approved in 2012

No	Title
1	Insulin Analogues
2	Serum alpha-fetoprotein (AFP) and/or Ultrasound for Hepatocellular Carcinoma (HCC) Screening
3	Management of Haemophilia

Table 2 : Clinical Practice Guidelines approved in 2012

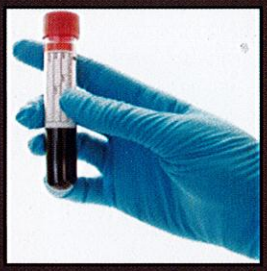
No	Title
1	Management of Ottis Media with Effusion in Children
2	Management of Tuberculosis (3rd Edition)
3	Management of Chronic Periodontitis (2nd Edition)
4	Management of Atrial Fibrillation (3rd Edition)
5	Management of Osteoporosis (2nd Edition)
6	Orthodontic Management of Developmentally Missing Incisors

Table 3 : Technology Review Reports endorsed in 2012

No	Title
A	**Cardiovascular Diseases**
1	Drug Eluting Balloon for Coronary Artery Disease - An Update
B	**Congenital, Hereditary, Neonatal Diseases and Abnormalities**
2	Alternative and Augmentation Communication (AAC)
C	**Diagnostic Procedures & Screening**
3	Chlamydia Test Kit
4	Infrared Thermometer
D	**Endocrine Diseases**
5	HbAlc-Point of Care Analyzer
E	**Female Genital Diseases & Pregnancy Complications**
6	Bakri Balloon Tamponade in Post-Partum Haemorrhage - An Update
F	**Miscellaneous**
7	Card Acceptance Device (CAD)
8	Sippy Cup As a Method of Transitioning Infant From The Use of Baby Bottle To Sole Use of Drinking Cup
G	**Musculoskeletal Diseases**
9	Radiofrequency Neurotomy of Genicular Nerve of Both Knee for Osteoarthritis
10	VNUS® Radiofrequency (RF) Ablation Therapy for Vericose Vein
H	**Nervous System Diseases**
11	Rituximab in Treatment of Autoimmune Neurological Disorders
I	**Nutritional and Metabolic Diseases**
12	Probiotic Supplementation in Term, Small for Gestational Age Orang Asli Infants
J	**Skin and Connective Tissue Diseases**
13	Vitamin C Injection for Cosmetic Purpose
14	Titanium Dioxide Photocatalyst Coating
K	**Transplantation**
15	Custodial® HTK Solution (Multi-Organ Preservation and Protection Solution for Kidney Transplantation Compared with Eurocollins)
16	Custodial® HTK Solution (Multi-Organ Preservation and Protection Solution for Organ Transplantation)
L	**Wellness/Traditional Complementary Medicine**
17	Ezscan Diabetes Screening Equipment
18	BIA Body Composition Equipment
19	Filterless 5-in-1 Air Purification/Air Cleaning System
20	Cupping Therapy

HTA REPORTS IN BRIEF

SERUM ALPHA-FETOPROTEIN (AFP) AND/OR ULTRASOUND (US) FOR HEPATOCELLULAR CARCINOMA (HCC) SCREENING



Most primary liver cancers are classified as hepatocellular carcinoma (HCC). According to the World Health Organization (WHO) and GLOBOCAN 2008, liver cancer is the seventh most common form of cancer worldwide and the third leading cause of cancer-related death globally. According to National Cancer Registry (NCR) in 2006, liver cancer was ranked the sixth most frequent cancer, fifth among males and ninth among females in Malaysia. Chronic hepatitis B virus (HBV) affects around a million patients in Malaysia (2004) which accounts for majority of the diagnosed HCC (> 80.0%). However, there is currently no formal/structured national liver cancer screening programme being implemented. With the significant burden of liver cancer globally and locally, one of the strategies for early detection of cancer in the Malaysian National Cancer Management Blueprint 2008-2015 is to provide service on liver cancer screening. Two commonly used methods for liver cancer screening are serum alpha-fetoprotein (AFP) and US examination of the liver. Most studies showed that using serum AFP and/or US were more effective than no screening. The sensitivity and specificity improved when a combination of AFP and US were used sequentially, at 92.2% and 95.0% respectively, particularly for HCC related with chronic liver infection (HBV). However for HCC related to cirrhosis, the combination of AFP and US gave a sensitivity of 69.0%. The fees charged by MOH hospital for serum AFP is approximately RM35.00 per test, while the fees for US varied from RM17 to RM100 per imaging. US machines cost about RM30,000 and range up to RM600,000 depends on its specifications.

Based on this review, good level of evidence on effectiveness (with respect to mortality and survival rate) showed that there was benefits in screening for HCC using serum AFP and/or US in the high-risk group and hence, can be established as part of the Malaysian National Cancer Control Programme. There was also good level of evidence to show that the combination of serum AFP and US is the most suitable method to be used for HCC detection, particularly for HCC related with chronic liver infection due to HBV. In addition, the recommended cut-off level of serum AFP was ≥20.0 ng/mL, as evidence showed that there was optimal balance between sensitivity and specificity in detecting HCC at this cut-off level. From the cost-effectiveness perspective, most of the studies in the review indicated that 12-months screening interval using serum AFP plus US was as cost-effective as the 6-months interval using serum AFP alone. Hence, the screening interval of 6 to 12 months was a reasonable cost-effective strategy for surveillance of HCC. However, before commencing the screening programme for HCC detection, it should be noted that currently in Malaysia, serum AFP test are conducted at laboratory with immunoassay facilities which are available at 36 MOH state hospitals and hospitals with specialist. Meanwhile, US examination of the liver is only conducted in 39 MOH hospitals with radiologist.

HTA REPORTS IN BRIEF

MANAGEMENT OF HAEMOPHILIA

Haemophilia is an inherited bleeding disorder that results from a low level of proteins needed for normal blood clotting. There are two main types of haemophilia, haemophilia A, which is caused by a lack or decrease of clotting factor VIII (FVIII); and haemophilia B, which is caused by a lack or decrease of clotting factor IX (FIX). Haemophilia arthropathy due to repeated joint bleeds is the major cause of morbidity. The optimal approach is by giving factor replacement so that bleeding and chronic joint damage are prevented, short and long-term complications avoided and there is full integration of the patient into society. Replacement therapy for haemophilia is usually given either prophylactically or on-demand approach. Unfortunately, some patients developed neutralising antibodies (inhibitors) to replacement factors (FVIII or FIX) rendering such treatment ineffective. The development of inhibitors is one of the challenging complications of treatment in haemophilia patients resulting in increased morbidity and significant economic burden. Inhibitor eradication by immune tolerance induction (ITI) is generally accepted as the most preferred treatment option. However, in about 30% of haemophilia A patients and a larger proportion of patients with haemophilia B who undergo ITI, failure to eradicate the inhibitor is observed. In these patients, those waiting for ITI to be started, as well as in those undergoing ITI, acute bleeding episodes are generally managed by preparations containing activated coagulation factors. These products known as bypassing agents are able to bypass FVIII and FIX dependent steps in the coagulation cascade and promote haemostasis by enhancing thrombin generation. Currently there are two bypassing agents available namely activated recombinant factor VII (rFVIIa) and activated prothrombin complex concentrate (aPCC).

Based on good level of evidence retrieved, prophylaxis therapy is recommended in haemophilia patients to improve their quality of life and prevent complications. Since the cost of factor concentrates is high, a low or intermediate dose prophylaxis may be considered. No specific recommendation can be made with regards to recombinant and plasma-derived factors due to insufficient evidence to address this decision problem. More primary research in the form of well designed and adequately powered RCTs is required. The use of bypassing agents either rFVIIa or aPCC is recommended for treatment of any kind of bleeds in haemophilia patients with inhibitors since the limited good level of evidence showed that both bypassing agents had similar efficacy. Further well designed, high quality research is needed to study the relative effectiveness of rFVIIa compared to plasma-derived aPPC. A study among our population is strongly encouraged to provide better insight on the response to these bypassing agents. Based on the available evidence and current practice of haemophilia management worldwide, comprehensive care for haemophilia patients is recommended and seemed to be the way forward in improving the quality of care and prevent complications. A national haemophilia programme should be introduced in Malaysia to address several issues pertaining to management of haemophilia patients such as delivery of medical care, medical expertise and treatment products. World Federation of Haemophilia steps to set up a national haemophilia programme may be used as a guide. A registry which is an important component of comprehensive care should be incorporated in the programme. The registry enables centres to monitor their performance and use of resources both at local and national level. A local economic evaluation should be conducted to assess the best model of treatment for haemophilia patients in Malaysia that will not only improve the outcome of the patients but also being cost-effective.

INSULIN ANALOGUES

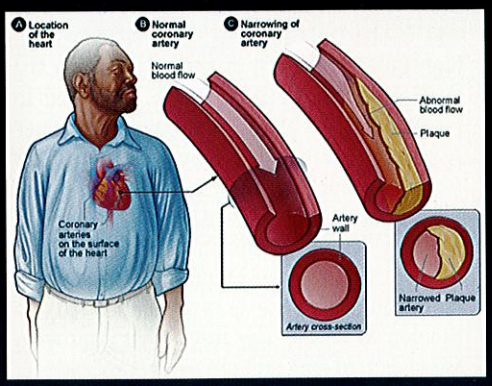
Diabetes mellitus still remains one of the most significant causes of morbidity and mortality in the world, and its global impact is likely to accelerate over the coming decades. According to the Malaysian National Health and Morbidity Survey, in 2006, the overall prevalence of come diabetes mellitus among adults aged 18 years and above was 11.6%. The prevalence increased to 15.2% in 2011. The goal of diabetic treatment is to achieve tight glucose control, avoid chronic complications and limit hypoglycaemic episodes in everyday life with minimal weight gain. It is claimed that the new insulin analogues have been designed to mimic physiologic insulin profiles more closely through improved pharmacokinetic characteristics, which result in either more rapid or prolonged pharmacodynamic effects. However, the cost of insulin analogues is more expensive than conventional human insulin, hence limiting the use in the public hospitals. Because health care resources are limited, there is a need to determine if insulin analogues are justified for all or some diabetic groups.

Studies were identified by searching electronic databases through the Ovid interface, PubMed and FDA. The last search was run on 7 March 2012. Forty-five full text articles comprising of five health technology assessments reports, 10 systematic reviews, 16 randomised controlled trials, 13 cost-effectiveness analyses and one costing analysis were included in the review based on the inclusion and exclusion criteria.

Compared with conventional human insulin, treatment with insulin analogues appeared to offer minor benefit in terms of glycaemic control as reflected in HbA1c level, postprandial blood glucose and fasting blood glucose but have advantages in terms of reduced occurrence of hypoglycaemia, particularly nocturnal hypoglycaemia and severe hypoglycaemia as reported in some studies. While the adverse events (excluding hypoglycaemia episodes) were found to be similar in both treatment groups, patients treated with insulin analogues showed greater treatment satisfaction and less weight gain. It is recommended that insulin analogues should be made available for the treatment of all type 1 diabetes mellitus and also type 2 diabetes mellitus who have recurrent hypoglycaemia. However, it is not recommended for gestational diabetes mellitus. Although insulin analogues are considered cost-effective in some countries, generalisability and international comparisons of economic evaluations are limited. Local cost analyses with the decision maker and societal perspective are encouraged. The price of insulin analogues in Malaysia is much higher compared with conventional human insulin. From literature review, there were price variations in insulin analogues across countries and regions of the world. Hence, there is a need to negotiate for better pricing package.

TR REPORTS IN BRIEF

CORONARY HEART DISEASE (CHD)

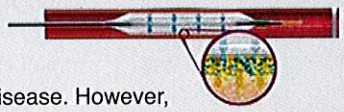


Cardiovascular disease (CVD) is the number one cause of death globally. An estimated 17.3 million people died from CVD in 2008, representing 30% of all global deaths. Of these deaths, an estimated 7.3 million were due to coronary heart disease (CHD) and 6.2 million due to stroke. Over 80% of the world's death from CHDs occur in the low-and middle-income countries and occur almost equal between men and women. It is estimated by 2030, that almost 23.6 million people will die from CVDs, mainly from heart disease and stroke.

CHD is the main cause of deaths in Malaysia. According to WHO data published in April 2011, CHD deaths in Malaysia reached 22,701 (22.18%). The age adjusted death rate is 138.75 per 100,000 of population and ranks Malaysia as number 57 in the world. CHD occurs when there is narrowing or blockage of the coronary arteries caused by atherosclerosis. It can be treated by optimal medical therapy, percutaneous coronary interventions (PCI) and coronary artery bypass graft surgery (CABG). Many new technologies were introduced to either treat or prevent CHD. MaHTAS has assessed the following technologies claimed to benefit patients with CHD.

RECOMMENDED

Drug Eluting Balloon for Coronary Artery Disease – An Update



Drug eluting stents (DES) are widely used for coronary artery disease. However, concerns have been raised that such drug-releasing stents may be associated with an increase incidence of late thrombotic complication especially in high risk patient population. Hence prolonged dual-antiplatelet therapy (DAPT) is required with the use of DES. In recent years, drug eluting balloons (DEB) have emerged as a potential alternative to combat restenosis. Paclitaxel was identified as the primary drug for DEB because of its rapid uptake and prolonged retention. DEB is a non-stent-based local drug delivery system which a maintains anti-proliferative properties of DES, but combines a coronary balloon with a polymer free drug carrier matrix. It is completely bio-absorbable and leaves no metal scaffolding or polymer behind after the procedure.

Limited good level of evidence of short term outcome showed that the treatment of coronary in-stent restenosis with paclitaxel-coated balloon reduce the rate of restenosis when compared to non-drug-eluting ballon. Limited good level of evidence also showed that paclitaxel-coated balloon was at least as efficacious and as well tolerated as paclitaxel-coated stent. There was limited fair level of evidence to suggest that paclitaxel-coated balloon is beneficial for small coronary vessels and bifurcation lesions. Several studies showed that the adverse events of DEB did not exceed the adverse events of non-coated balloon or paclitaxel-eluting stents.

NOT RECOMMENDED

Far Infrared Ray (FIR) Thermal System

Far Infrared Ray (FIR) Thermal System is a thermal cabin made of high quality hemlock wood from Canada. It is equipped with bio-ceramic heating rods made of 26 different minerals. When electric heat is induced, these rods emit infrared rays between 9.4 to 10 microns, a specific wavelength that meets the 6 to 10 micron level which was claimed to be beneficial to the human body. It was also claimed that there are numerous benefits from FIR Thermal System which included better circulation, increased energy, weight loss, detoxification, cardiovascular health, improved immune system, stress reduction and relaxation, and skin beautification. The manufacturer also claimed that this system is good for those with sickness and unable to exercise but need to sweat to get the toxin out of their body.

There was limited poor level of evidence on the safety and effectiveness of FIR Thermal system for patients with CVD. Besides, there was no information on US FDA approval or CE mark obtained. The cost of treatment ranged from RM38 for every 30 minutes session to RM1,280 for 3 months session. Based on the above review, FIR Thermal System for treatment of patient with CVD is not recommended until there is sufficient high quality scientific evidence to demonstrate its safety, effectiveness and cost-effectiveness.

NOT RECOMMENDED

EBOO Safe: Treatment of Coronary Artery Diseases

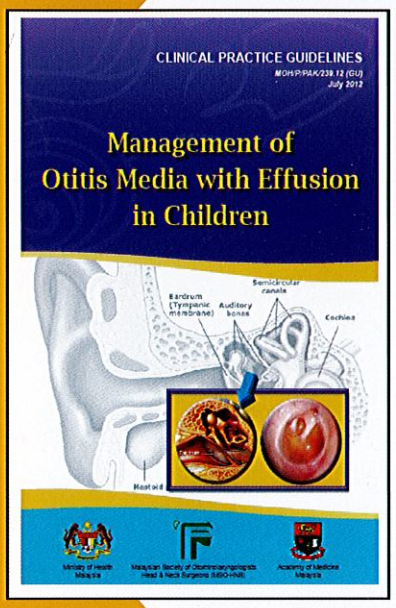
EBOO SAFE® is a therapeutic ozoniser that produces automatic different ozone concentrations in a continuous and reproducible way in all therapeutic range. EBOO is an Extracorporeal Blood Oxygenation Ozonation which is similar to the haemodylisis technology and SAFE stands for Simple Access Fluid Extraction.

It is claimed to be a new remedy for cardiac problems especially CHD, instead of drug treatment. Ozone is a gas which consists of three oxygen atoms to form unstable molecule structure; O3. The gas is colourless with acrid odour and explosive in both liquid and solid forms. It is toxic for animals and humans. The degree of damages depends on its concentration, temperature, humidity and exposure time. There was no retrievable evidence on the effectiveness, safety or cost-effectiveness to support the usage of EBOO SAFE® for CHD treatment.

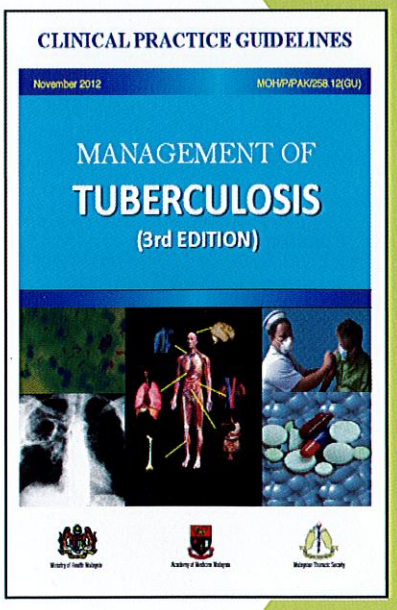
MANAGEMENT OF OTITIS MEDIA WITH EFFUSION IN CHILDREN

CPG KEY MESSAGES

1. OME is a collection of fluid within the middle ear without signs of acute inflammation
   - It is part of the middle ear disease spectrum which is different from acute & chronic suppurative otitis media.
2. OME is a fluctuating condition with symptoms that vary with time & age & may persist in some children. It is often underdiagnosed.
3. Untreated OME may lead to hearing impairment, speech & language developmental delay & poor school performance. Long term complications include adhesive otitis media, ossicular chain disruption, retraction pockets & cholesteatoma.
4. Appropriate diagnostic tools to diagnose OME include pneumatic otoscopy, tympanometry & pure tome audiometry. Pneumatic otoscopy is the preferred choice in the primary care setting.
5. Active observation for 3 months is needed for newly-diagnosed OME prior to surgical intervention.
6. Short term (< 6 weeks) intranasal steroid can be used for OME with concurrent allergic rhinitis & adenoid hypertrophy in children > 2 years old.
7. Surgical intervention should be considered after 3 months of persistent OME with conductive hearing loss > 25 dB &/or structural changes to the tympanic membrane or middle ear.
8. Special consideration has to be given to children with cleft palate & Down syndrome.



MANAGEMENT OF TUBERCULOSIS (3RD EDITION)



1. TB is a notifiable infectious disease. Timely diagnosis, prompt treatment & adherence to medication are key factors in combating TB.
2. Screening of TB should be done in high risk groups including all close contacts (especially household contacts).
3. Patients with symptoms of TB should have sputum smear for acid fast bacilli, mycobacterium culture & sensitivity, & chest x-ray done. Nucleic Acid Amplification Tests plays a role in rapid detection of *Mycobacterium tuberculosis* & multidrug-resistant TB.
4. TB serology should not be used to diagnose pulmonary or extrapulmonary TB.
5. For latent TB infection, tuberculin skin test is the preferred method for diagnosis. Interferon Gamma Release Assay may be used as an alternative. Treatment should be considered for high risk patients.
6. A daily antiTB regimen is recommended for both intensive & maintenance phases. A proper defaulter tracing system should be in place to detect early interruption in treatment and follow-up. Poorly managed TB will lead to drug-resistant TB.
7. Fixed-Dose Combinations are preferred to separate-drugs combination for the treatment of TB.
8. Infants & children under 5 years of age with close contact are at high risk of developing active TB.
9. Active TB should be ruled out in all HIV-positive patients.
10. Preventive measures should be employed to reduce TB risk among healthcare workers.

ACTIVITIES

Launching of CPG on Tuberculosis and Otitis Media with Effusion in 2013

Participants of World TB Day & CPG TB launching

Breaking the ice for the CPG TB launching

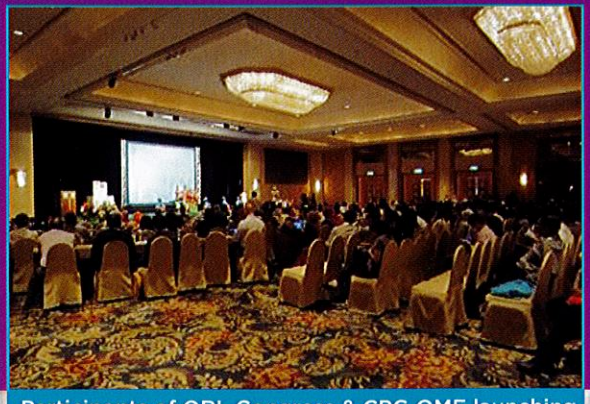
Ministry of Health (MoH) is very committed in managing TB and has made it as one of the main agenda in the control of communicable diseases. World TB Day 2012 with the theme "World without TB" gave an opportunity to increase public awareness and commitment towards TB control. In Malaysia, 22,710 TB cases were reported in 2012 which was a 10% increment compared to 2011. TB detection rate has surpassed Dengue's and this has made it the number one communicable disease in Malaysia.

As one of TB control measures, an evidence-based CPG on Management of Tuberculosis (Third Edition) has been developed by specialists from MoH, previous Ministry of Higher Education and private sector. It aims to provide clinical guidance to healthcare providers in the treatment of TB. The CPG was launched by the Director General of Health at the Institute of Respiratory Medicine, Kuala Lumpur on the 24 March 2013 in conjunction with the World TB Day. The ceremony was preceded by a pre-launching Continuous Medical Education on TB and attended by about 120 participants.

Hearing impairment is not uncommon in the peadiatric age group. In Malaysia, The National Hearing Survey of 2005 showed that 7.2% of children less than 10 years old suffered from hearing loss. MoH believes that early detection and rehabilitation of hearing loss is crucial. Hearing Screening Programme, introduced in 2001, aims at detecting hearing loss among infants by three month of age and introducing intervention by six month of age. In relation to that, the ministry has introduced National Cochlear Implant Programme since 2009 which provides options of treatment for suitable candidates.

Otitis Media with Effusion (OME) is a silent disease among children which can cause hearing loss, speech delay and education difficulties. In the recent 4th Asian Paediatric Otorhinolaryngology (ORL) Congress and 5th Malaysian International ORL-HNS Congress on 16 May 2013, the CPG on Management of Otitis Media with Effusion in Children was launched by the Director General of Health at the Shangri-La Hotel, Kuala Lumpur. The evidence-based CPG provide recommendations to all levels of healthcare provider including general practitioners regarding diagnosis, diagnostic tools, treatment options, prevention and referral for treating pediatric OME.

Showcasing the CPG OME



Participants of ORL Congress & CPG OME launching

ACTIVITIES

Horizon Scanning Course – An Early Awareness and Alert System

Horizon Scanning Course was held at Corus Paradise Resort, Port Dickson, Negeri Sembilan from 21-25 April 2013. The aim of the course was to enable health related researchers and policy makers to develop a framework for an early awareness and alert (EAA) system for new and emerging health technologies in Malaysia. A total of 29 participants comprising of Hospital Director, Clinical Specialists, Public Health Physicians, Medical Officers, Dental Officers, Pharmacists and Information Specialists including participants from National Evidence Based Collaborating Agency (NECA), Korea attended the course. The course was conducted by Dr. Claire Packer, the Director of National Institute for Research on Horizon Scanning Centre, United Kingdom in collaboration with World Health Organization (WHO).

Photo session with Korean participants and speaker

Photo session with organizing committee

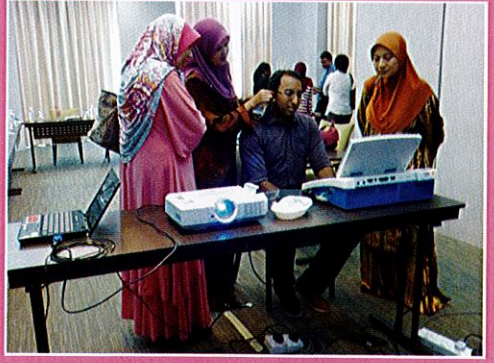
Participants gave full attention to the speaker

Training of Core Trainers (TOT) CPG 2013

Participants concentrating on the OME lecture

Two TOT on newly-developed CPG were conducted in 2013. The first one was on CPG Management of Otitis Media with Effusion in Children held on the 15-16 April 2013 at Pemiere Hotel, Klang. It was attended by 63 participants nationwide consisting of otorhinolaryngologists, paediatricians, family medicine specialists (FMS) and audiologists. Apart from lectures and case discussions, the special feature of this TOT was hands-on session on diagnostic tests using the tuning fork, pneumatic otoscope, tympanometer and pure tone audiometer. Post-test mark increased 21% compared to pre-test mark.

The second TOT was based on CPG Management of Tuberculosis (Third Edition). A total of 87 participants, mainly from MOH healthcare facilities, joined the training which was conducted on the 19-20 June at Bayview Hotel, Malacca. The participants were made up of respiratory physicians, infectious disease physicians, general physicians, paediatricians, clinical microbiologists, family medicine specialists and State TB/Kusta Officers from all over the country. The TOT covered a wide range of topics. Many issues were discussed thoroughly with the lecturers / facilitators for better understanding of TB management.



Practical session on the tympanometer

Case discussion on paediatric TB

Demonstration on proper use of mask

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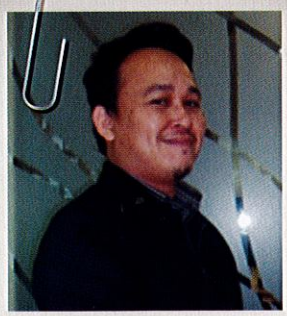
Courses and Workshops Conducted from January until June 2013

1.	Systematic Review Workshop on Evidence-based CPG Development and Implementation 1/ 2013	1-4 April 2013
2.	Training For Core Trainers on CPG Management of Otitis Media with Effusion in Children	15-16 April 2013
3.	Horizon Scanning Course 2013 (An Early Awareness and Alert (EAA) System)	21-25 April 2013
4.	Training For Core Trainers on CPG Management of Tuberculosis (3rd Edition)	19-20 June 2013

Training, Courses and Workshops Planned from July until December 2013

1.	Health Technology Assessment Training For Expert Committee and Central Zone	4-6 September 2013
2.	Training of Trainers on Grading Recommendation Assessment, Development and Evaluation (GRADE)	30 September - 4 October 2013
3.	Health Technology Assessment Training For Northern Zone	28-30 October 2013
4.	Systematic Review Workshop on Evidence-based CPG Development and Implementation - 2/2013	11-14 November 2013

Turnover of MaHTAS Staffs
THOSE WHO NEWLY JOINED



Faizfendi Ahmad Kasrin
Administrative Assistant N17
Start: 1 October 2012

Asmirah Md Redzuan
Pharmacist U44
Start: 16 January 2013

Norharlina Che Zakaria
Nurse U32
Start: 5 November 2012

Dr. Shahril Effendi Shuib
Medical Officer UD44
Start: 3 June 2013