

# My ONE HEALTH Newsletter

Bi-annual newsletter by MyOHUN emphasizing the connection between human, animals, and ecosystem health

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Raya Edition



**LAUNCHING OF  
MALAYSIAN ACTION PLAN  
ON AMR (MYAP-AMR)**

**Selamat  
Hari Raya!**



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This newsletter is also available at [www.myohun.com](http://www.myohun.com)

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# One Health

## Antimicrobial Resistance (AMR) Seminar & Launching of Malaysian Action Plan on AMR (MyAP-AMR)

MyOHUN along with Ministry of Health and Ministry of Agriculture and Agro-Based Industry collaboratively organized the One Health Antimicrobial Resistance (AMR) Seminar & Launching of Malaysian Action Plan on AMR (MyAP-AMR) on 27th February 2018 in Auditorium JAKIM, Kompleks Islam Putrajaya. With the objective of the activity to improve understanding on the role and prudent use of antibiotics among all related personnel on the

significance and importance of AMR. Five hundred ministerial officers and academicians attended the activity that started with the seminar on AMR before the launching ceremony of Malaysian Action Plan on AMR. The ceremony was officiated by YB Dato' Sri Ahmad Shabery Cheek, Minister of Agriculture & Agro-Based Industry and YB Datuk Seri Dr. S. Subramaniam, Minister of Health.







The Pilot Problem Based Learning with Medical, Health Sciences and Veterinary Undergraduate Students was held in Faculty of Veterinary Medicine on 6th March and on 23rd March in the Office of the Deputy Vice Chancellor (Research & Innovation), Universiti Putra Malaysia. One hundred and eighty students from various disciplines gathered as participants on One Health PBL cases for both sessions which consequently help them to understand the importance of transdisciplinary network on One Health issues. Forty-five facilitators were involved in both sessions to inculcate the One Health concept among undergraduate students and to assess the comprehensibility of the developed book on the students while creating the opportunity for medical, health sciences and veterinary undergraduate students to work together on One Health cases. Five groups were named best group during poster presentation presented on the diseases; Toxoplasmosis, Tuberculosis, Cryptosporidiosis, Salmonellosis, and Rabies. Another session of this activity will be done in future to assess the comprehensibility of the developed book on different set of students.

## **Pilot Problem Based Learning** with Medical, Health Sciences and Veterinary Undergraduate Students





# 6 things to know about... TUBERCULOSIS

## AGENT 1

*Mycobacterium tuberculosis*

## PATHOGENESIS 2

Inhaled viable containing tubercle bacilli are inhaled, enter the lungs, and travel to the alveoli.

Tubercle bacilli multiply in the alveoli.

A small number of tubercle bacilli enter the bloodstream and spread throughout the body. The tubercle bacilli may reach any part of the body, including the brain where TB often leads to meningitis (such as the brain, spine, lymph nodes, lung, spine, bone).

## CLINICAL SIGNS 3

**Generalized**

- Progressive emaciation
- Coughing
- Weight loss
- Anorexia
- Low grade, fluctuating fever
- Diarrhoea

**Stigmata form**

- Chronic, intermittent, moist cough
- Cyanosis

## DIAGNOSIS 4

**Human**

- Tuberculin skin test
- Chest radiography
- Culture and nucleic acid amplification testing of sputum
- Microscopic detection of acid fast bacilli

**Animal**

- Gold standard: Isolation (Lowenstein Jensen Agar)
- Flow cytometry: Formation of granulomas where tubercles are located. These granulomas are usually yellowish and often caseous, caseo-calcareous or calcified, and often encapsulated.
- Histopathology: Caseous necrosis, mineralisation, epithelioid cells, multinucleated giant cells and macrophages.
- Microscopic demonstration of acid fast bacilli
- Intradermal tuberculin test (Mantoux test)

## TREATMENT 5

**Human**

- Multi-drug therapy: 2 to 4 first-line anti-tubercles daily for 6 months. Discontinued on signs, overall health, resistance, and location of infection.
- Intensive phase (isoniazid & rifampicin for 2 months)
- Second-line (ethambutol & pyrazinamide)
- Continued for infection tracking (both isoniazid/rifampicin or pyrazinamide)
- Monitor INR to reduce side effect of other medication.

**Animal (Cattle)**

- Fluoroquinolone (Enrofloxacin)
- Streptomycin (Streptomycin)
- Polysyllabic antibiotic for 4 weeks

## PREVENTION & CONTROL 6

**Human**

- Wear mask
- Vaccination (BCG)
- Patient education about TB treatment and illness
- Stay away from sick people

**Animal**

- Isolate infected animal from the herd/enclosure
- Animal handlers should wear mask & gloves
- Only strong specific barrier to manage the infected
- Proper disposal of farm in contact with infected animal body fluids

# FATAL WEDDING FEAST

## CASE CHRONOLOGY

Invited wedding → Enjoy eating → After 12 hours → 4 died → 43 wounded → **Non-Typhoidal Salmonella**

**Non-Typhoidal Salmonella**

- S. typhimurium*, *S. enteritidis*
- Broad host specificity
- Contaminated animal derived food product
- Distribution: Worldwide
- Transmission: Person to person, Animal to human

**Typoidal Salmonella**

- S. typhi*, *S. dysenteriae*, *S. paratyphi*
- Highly adapted to human host
- Contaminated water and food
- Distribution: Developing country
- Transmission: Faecal-oral route

## Salmonella Infection

Ingestion of contaminated food

Incubation period: 1-7 days

Onset of symptoms: 1-7 days

Release endotoxin and proinflammatory cytokine

Body response (3-5 days)

## CLINICAL SIGNS

Diarrhoea, Abdominal pain, Fever, Headache, Nausea, Vomiting, Diarrhoea

## DIAGNOSTIC WORK UP

Widal agglutination test, Stool and fecal cultures

## MULTIDISCIPLINARY COLLABORATION

Public Health, Veterinary Services, Environmental Health, Food Safety and Inspection Service

# CAT AS TROPHY

## Toxoplasma gondii Group 6

Animal Welfare, Non-Typhoid, Salmonella, Toxoplasma, Toxoplasma

## Abstract

Toxoplasma gondii is a protozoan parasite. It has three forms: Cat as the definitive host, while some birds and other mammals, including humans, can be the intermediate host, which is commonly acquired via faecal-oral route. This protozoan is asymptomatic, or manifested as chronic, non-specific, subtle symptoms in immunocompetent individuals. However, immunocompromised individuals are at risk of developing Toxoplasma gondii-related symptoms or neurological, due to reactivation of the chronic infection. Besides, transplacental transmission is frequent scenario can result in congenital toxoplasmosis in newborns.

## Clinical manifestation in Human

**Outer Toxoplasmosis**

- CNS Toxoplasmosis
- Disseminated Infection
- Acute Toxoplasmosis
- Congenital Toxoplasmosis

## Epidemiology

What are the clinical signs of toxoplasmosis in cat and other animals?

## Transmission route

Contaminated water source and feed, Poor farm waste management

## Diagnosis of Toxoplasmosis

Diagnosis of Toxoplasmosis

Diagnosis of Toxoplasmosis

## Treatment

Pyrimethamine + Sulfadiazine + Folic acid, Pyrimethamine + Sulfadiazine + Trimethoprim, Pyrimethamine + Sulfadiazine + Clindamycin

# TEENY TINY FEROCIOUS RABIES

## CASE SUMMARY

- All 40 people died
- Had multiple bite
- Had multiple bite
- Had multiple bite

## WHAT HAPPENED WHEN YOU GOT BITTEN?

Virus introduced to human (skin/mucous membrane)

Virus replicates in the skin or muscle tissue

Virus travels to accessible peripheral nerves

Infects brain/spinal cord

Travels through afferent nerves to the salivary gland

Infects other organs

## SEEK IMMEDIATE HELP!

Category I: Touching or feeding animals, bite on intact skin

Category II: Touching or feeding animals, minor scratches or abrasions without bleeding

Category III: Single or multiple transverse bites or scratches, bite on broken skin, contamination of mucous membranes with saliva from bats, contacts with bats

## PREVENTION & CONTROL

Pre-exposure Human Vaccine

Passive Immunization

Rabies Immunoglobulin (RIG) administration

Vaccination on day 0, 3, 7, 14, and 28

## PLAN OF ACTION FOR DOG/WILD ANIMALS BITE CASES

Investigation by DHD and ICI in the Animal Bite Case Notification Form within 24 hours

Notification of bite incident by DHD (within 48 hours) to JKH and Veterinary Service Office (VPSO) within 48 hours followed by form of the Animal Bite Case Notification Form to DHD

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# Forest Fire (Haze) in Pekanbaru, Sumatera affecting Fire & Rescue team help to put off the fire (210 workers)

## 55 cases from Malaysia and Singapore workers

## Wak Suparman's farm crisis (10 days before)

## DDX:

- Cryptosporidiosis
- Giardiasis
- Salmonellosis

## Ziehl-Neelsen stain: positive round acid-fast oocyst of Cryptosporidium spp.

## Malaysia + Singapore help to assist Sumatera counterparts to determine the source of infection

# Cryptosporidiosis Group 21

## 2. Epidemiology

- Protozoan parasite
- Infective stage: Oocyst
- Range of oocyst: 10 - 40 µm
- Host Faecal-Oral life cycle
- Contaminated water source and feed
- Poor farm waste management

## 3. Diagnosis

Ziehl-Neelsen stain

ELISA

PCR

## 4. Multidisciplinary Collaboration

Sectors Involve:

- Agriculture
- Health
- Environment





# Community Education and Field Training

## Among the Jahai School Children in Sungai Tiang on Zoonotic Disease Transmission

The focus of this activity is to create awareness on the risks of zoonotic infections involving the children of the indigenous Jahai people from Sungai Tiang in Belum forest located in the state of Perak, Malaysia.

There were three phases to the activity in which the first phase focused on the recognition of pathogens and understanding the impact to human

health. The first phase was held from 30th March to 1st April 2018 with more than 70 Jahai children from the age of 6 to 12 years old involved. Few activities were prepared by the facilitators to introduce bacteria and viruses that can cause diseases and how those diseases can have bad impact to human health. Before the break, the correct way to wash hands was demonstrated by facilitators for the children to implement in their daily lives.





The second phase was held from 13th to 15th April 2018. During this phase, the same children with some new addition participated in the activities prepared by the facilitators. This second phase focused on the personal hygiene practice, and food preparation especially bush meat, and the third phase was held from 27th to 29th April 2018 and focused on environment friendly practices and hygiene.

A total of hundred university students from Universiti Putra Malaysia, Universiti Kebangsaan Malaysia, Universiti Sains Malaysia, University Tunku Abdul Rahman, Cyberjaya University College of Medical Sciences and Universiti Sains Islam Malaysia that came from various disciplines play the role as facilitators with guidance from few lecturers in each phase. The young and energetic facilitators were very enthusiastic to educate the children and create awareness on the danger of zoonotic infections to their health.





# One Health Disaster Front Liners Module Development Workshop



From 16th to 19th January 2018, One Health Disaster Front Liners Module Development Workshop was held in Ramada Plaza Melaka. A total of 25 balance mixture of academicians and field experience officers from Ministry of Health, National Disaster Management Association (NADIM), National Disaster Management Agency (NADMA), Universiti Putra Malaysia (UPM), Universiti Kebangsaan Malaysia (UKM), Hospital Serdang and Hospital Sultan Ismail Johor Bahru attended the activity. This 4-day training aimed to develop the basic One Health Disaster Front Liner Module covering the four phase of emergency management. A trial-run session to test the module developed during the workshop was held on 1st March 2018 at the State Health Department Negeri Sembilan with with 27 medical practitioners as participants..

The activity continued with the refinement of the module on 20th to 21st March 2018 in Le Meridien, Putrajaya. Twenty-one academicians and field experienced officers from the various agencies who attended the activity to refine the module based on the result of the trial-run session. Another session of the activity will be done in August to finalize the module before it can be published.



# One Health

## Field Epidemiology Training



One Health Field Epidemiology Training combining officers and academicians from various disciplines was held from 9th to 13th April 2018 in Miri, Sarawak. Forty-three participants attended the training. This 5-day training aimed at training One health workforce to respond competently to the infectious disease outbreaks. The activity aimed to produce a training module on field epidemiology using One Health approach. Hence another session of the activity was held from 28th April to 1st May 2018. Six academicians from UNIMAS, UKM, USM, and UiTM gathered together in Melaka to develop One Health Field Epidemiology Module.





# MyOHUN

## National One Health Workforce Strategic Planning Meeting

MyOHUN National One Health Workforce (OHW) strategic Planning Meeting was held in Shangri-la Golden Sands Resort, Penang from 31st March to 1st April 2018. The meeting began with welcoming remarks by Prof. Dr. Mohd Hair Bejo, MyOHUN Chairman before MyOHUN Coordinator, Prof. Dr. Latiffah Hassan presented on Workplan for One Health Workforce Year 5 Project. Forty-seven participants attended the meeting came from various institutions and fields of expertise.

Participants worked on the details of the project proposed for Year 5 and submitted their plan by the end of the meeting.

### Activities Intended for Year-5 One Health Workforce

One Health Disaster Frontliners Training

Table top and field simulation Outbreak Exercise

One Health AMR Surveillance Workshop/Manual ToT/Harmonization of methods

Field Simulation on Handling Disease Outbreak (DVS and MOH)

OH PBL Book 2 Sessions with Students

Training on Prevention of Wildlife Zoonoses and Tropical Ecosystem Health

In-Situ One Health PBL Animal on Ecosystem Health

One Health Young Leaders and Communicators

One Health Field Epidemiology Training

Community Education and Field Training on Disease Transmission (Orang Asli)

One Health Core Competencies for Academicians Workshop

MyOHUN Beyond 2019





# MyOHUN Upcoming Activities

## June 2018

Workshop on Training of Trainers Problem Based Learning One Health

## July 2018

Table Top Outbreak Simulation

Training on the Prevention of Wildlife Zoonoses and Tropical Ecosystem Health

One Health Young Leaders and Communicators

Field Outbreak Teaching Simulation

## August 2018

Training of Trainers on Integrated Surveillance System

Field Simulation Exercise (Avian Influenza)

## September 2018

Development of Table Top and Field Simulation Teaching Module

IN SITU One Health PBL Animal on Ecosystem Health

**\*visit our website & social media for more activities updates**



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# Salam Aidilfitri

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