HOSPITAL TENGKU AMPUAN AFZAN

PHARMACY BULLETIN

BIL 2/2018 MAY - AUGUST

Medication Safety in Elderly

- Drugs use for Central Nervous System

Staff updates

Drug updates

- Secukinumab Injection
- Tablet Zonisamide

Disease Management Updates

- Measles and importance of vaccination

Events

- Kursus Training of Trainer Quality Use Medicine – Consumers (TOT QUMC)
- Sambutan Hari Raya
- Program Safety Crush
- Kejohanan Badminton PharmCare 2018

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by BHARATHI A/P MUTTUSAMY

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EN CHO CHUN YIK

PEGAWAI FARMASI (KONTRAK) UF41
FARMASI BEKALAN WAD
DATE REPORTED DUTY: 16 APRIL 2018
COMPLETED PRP TRAINING IN HOSPITAL TENGKU AMPUAN AFZAN

CIK MAIVIZHI SELVI RAJENDRAM

PEGAWAI FARMASI (KONTRAK) UF41
FARMASI KLINIK PAKAR
DATE REPORTED DUTY: 16 APRIL 2018
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DATE REPORTED DUTY: 13 AUGUST 2018
COMPLETED PRP TRAINING IN HOSPITAL TENGKU AMPUAN AFZAN

TRANSFERRED IN

EN AHMAD FAHMI BIN ISMAIL

PEGAWAI FARMASI UF 54
FARMASI LOGISTIK
DATE REPORTED DUTY: 2 APRIL 2018
TRASFERRED FROM HOSPITAL PEKAN

PN ZAWIAH BT AHMAD

PEGAWAI FARMASI UF 48
FARMASI BEKALAN WAD
DATE REPORTED DUTY: 15 MEI 2018
TRASFERRED FROM HOSPITAL SULTAN HAJI AHMAD SHAH, TEMERLOH

PN NOOR WAHIDA BT MD SAID

PEGAWAI FARMASI UF 52
FARMASI WAD
DATE REPORTED DUTY: 16 JULY 2018
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PN NURSYAZWANI BT JAMALUDIN

PEGAWAI FARMASI UF 44
FARMASI BEKALAN WAD
DATE REPORTED DUTY: 16 JULY 2018
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EN FAHMI ADLI BIN ABD RAZAK

PEGAWAI FARMASI UF 44
FARMASI KLINIK PAKAR
DATE REPORTED DUTY: 16 JULY 2018
TRASFERRED FROM KK AMBS, PKD DUNGUN, TERENGGANU

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EN SIKH GHAZALI BIN SHEIKH AWAB

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EN CHOO KOK BENG

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DATE OF RETIREMENT: 27 JULY 2018

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EN VINCENT WONG YAN WEI

PEGAWAI FARMASI UF 44

DATE OF RESIGNATION: 1 AUGUST 2018

PRESCRIBING MEDICATION SAFETY IN ELDERLY: CENTRAL NERVOUS SYSTEM

BY YAP HUI MAN

The brain and central nervous system (CNS) controls the body's movement, senses, thoughts and memories. With advanced age, there is a decline in sensory motor control and functioning due to the dysfunction of CNS, peripheral system, as well as neuromuscular system. Older people may take a longer time to complete certain tasks and may experience functional brain changes such as short term memory, slowing down of reaction time, depression and emotional changes. The decline in fine motor control, gait and balance affects the ability of elderly to perform daily activities and maintain their independence. Motor performance deficits include coordination difficulty, slowing of movement, increased movement variability, and difficulties with balance and gait in comparison to young adults. Gait and balance problems are of particular interest as falls are a major source of injury and morbidity in elderly. Thus, it is crucial to regularly review the medications in elderly as certain medications which cause dizziness and drowsiness may lead to an increasing risk of falling in elderly due to their key roles in CNS. As a consequence, elderly people who fall may suffer from moderate to severe injuries that limit their mobility and reduce their quality of life.

Two screening tools called STOPP (Screening Tool of Older Persons' Prescriptions) and START (Screening Tool to Alert doctors to Right Treatment) criteria were designed and validated as explicit criteria to help clinicians detect common instances of potentially inappropriate medicines (PIMs) and potential prescribing omissions (PPOs). This article will summarise the criteria for the central nervous system as a continuation from the previous article on the cardiovascular system.

START – Screening Tool to Alert Doctors to Right Treatments

START medications (age ≥ 65 years)	Circumstances
Antidepressants	In presence of moderate to severe depressive symptoms lasting at least three months
L-DOPA	In idiopathic Parkinson's disease with definite functional impairment and resultant disability

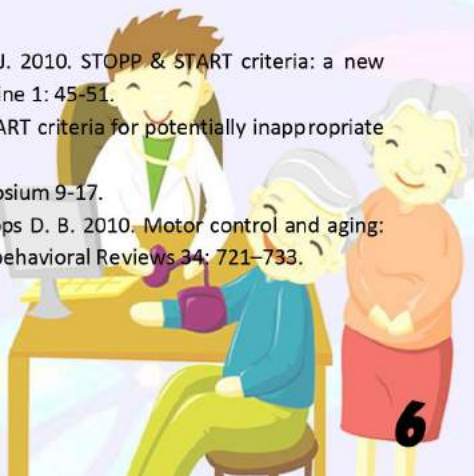
STOPP – Screening Tool of Older Persons' Prescriptions

STOPP medications (age ≥ 65 years)	Circumstances to review	Reason to review
Anticholinergics	To treat extra-pyramidal side-effects of antipsychotic medications	Risk of anticholinergic toxicity, including confusion and urinary retention

Antipsychotics NB. Reduce slowly monitoring effect	More than 1 month use as long-term hypnotic	Confusion, low BP, extrapyramidal side effects, falls
	More than 1 month use in parkinsonism	Risk of worsening extrapyramidal symptoms
	If fallen in last 3 months	May cause gait dyspraxia, parkinsonism
	For treatment of behavioural and psychological symptoms of dementia patients (review ongoing need)	Risk of gait disturbances, dehydration, prolonged sedation, cognitive decline, falls, stroke and death
Benzodiazepines – reduce slowly & monitor effect	More than 1 month use of long-acting benzodiazepine, e.g. Chlordiazepoxide, oxazepam, diazepam, flurazepam, nitrazepam If fallen in last 3 months	Risk of prolonged sedation, confusion, impaired balance, falls
SSRIs	If sodium less than 130 in past 2 months	SSRIs can cause/worsen hyponatremia
	Citalopram & escitalopram – risk of QT prolongation	Do not use in patients with congenital long QT syndrome or known pre-existing QT interval prolongation. In combination with other drugs known to prolong the QT intervals.
Tricyclic antidepressants NB. Withdraw gradually over at least 4 weeks – monitor effect	Dementia	Risk of worsening cognitive impairment
	Glaucoma	May exacerbate glaucoma if untreated
	Cardiac conductive abnormalities	Pro-arrhythmic effects
	Constipation	May worsen constipation
	Combination with opiate or calcium channel blocker	Risk of severe constipation
	Prostatism or history of urinary retention	Risk of urinary retention
	Patients taking dosulepin	Increased cardiac risk & toxicity in overdose

REFERENCES

- Cowan A. & Riley S. 2015. STOPP START Tool to Support Medication Review version 1. NHS
- O'Connor D., Gallaher P., Ryan C., Byrne S., Hamilton H., Barry P., O'Connor M. & Kennedy J. 2010. STOPP & START criteria: a new approach to detecting potential inappropriate prescribing in old age. European Geriatric Medicine 1: 45-51.
- O'Connor M., O'Sullivan D., Byrne S., O'Connor M. N., Ryan C. & Gallagher P. 2014. STOPP/START criteria for potentially inappropriate prescribing in older people: version 2. Age and Ageing 44(2): 213-218.
- Ryan C. 2011. The basics of the STOPP/START criteria. PCNE Medication Review Working Symposium 9-17.
- Seidler R. D., Bernard J. A., Burutolu T. B., Fling B. W., Gordon M. T., Gwin J. T., Kwak Y. & Lipps D. B. 2010. Motor control and aging: links to age-related brain structural, functional, and biochemical effects. Neuroscience and Biobehavioral Reviews 34: 721–733.



Secukinumab

Drug update

By Esther How Huey Jiun

Secukinumab is fully-human monoclonal antibody that recognizes and binds specifically to certain proteins in the body. It belongs to interleukin (IL) inhibitors and it is used for the treatment of inflammatory diseases such as plaque psoriasis, psoriatic arthritis and ankylosing spondylitis.

Mechanism of action

Secukinumab will bind and neutralize the IL-17A which is present at high level in psoriasis, psoriatic arthritis and ankylosing spondylitis. High level of IL-17A will signal skin cells (keratocytes) to multiply rapidly which may results in plaques and skin thickening. Besides, IL-17A will signal infection fighting cells to the infections site resulting infection, causing itching and skin redness. By tying to IL-17A, It will prevent binding of IL-17A to its receptors, hence reducing the inflammatory reaction and redness by inhibiting the release of chemokines and proinflammatory cytokines. It acts as immunosuppresants that suppresses the inflammatory reaction that bring by IL-17A.

Pharmacokinetics

Absorption
Bioavailability is 55% to 77%

Distribution
Mean volume of distribution: 7.1 -8.6L

Metabolism
Degraded into small peptideds and amino acids

Excretion
Half life: 22 to 31 days

References:
1. Secukinumab (Cosentyx) package insert
2. Frieder J, et.al. Secukinumab: A Review of the Anti-IL-17A Biologic for the Treatment of Psoriasis.

Dosing regimen

Plaque psoriasis : SC injection 300mg

Psoriatic arthritis : SC injection 150mg

Ankylosing spondylitis : SC injection 150mg

Secukinumab is for long term treatment, it is given as weekly for the first month, then followed by monthly.

Dosage adjustment:

There is no dose adjustment for renal and hepatic impairment.

Pregnancy, breastfeeding:

Avoid the use of Secukinumab during pregnancy as its effects on pregnant women are unknown. Advise the use of contraception during the use of Secukinumab. After using Secukinumab, the patients are refrained from breast-feeding for at least 20 weeks after the last dose.

Category of Prescriber :

A*

Used by **RHEUMATOLOGY** & **DERMATOLOGY** in HTAA

Side effects:

Symptoms of cold
Diarrhea
Nose or throat itching
Severe hypersensitivity reaction
Upper respiratory tract infections

zonisamide

Lee Wen Yee

ZONEGRAN®

Zonisamide is an antiseizure drug chemically classified as a sulfonamide and unrelated to other antiseizure agents. The active ingredient is zonisamide, 1,2-benzisoxazole-3-methanesulfonamide. the exact anticonvulsant effect is unknown where some in vitro studies suggest a blockade of sodium channels, with consequent stabilization of neuronal membranes and suppression of neuronal hypersynchronization. it also shown to suppress synaptically- driven electrical activity without affecting glutamate responses.

Indication : as adjunctive therapy in the treatment of partial seizures in adult with epilepsy (when 1st line and 2nd line therapy failed).

Dosage

100-200mg one to three times daily ; dose increased gradually at every one to two weeks up to 200-400mg daily in divided doses. Maximum daily dose: 600mg.

Pharmacokinetics

Absorption

peak plasma time 2-6 hr

Distribution

protein bound : 40%;
vd :
1.45 L/kg

Metabolism

hepatic; through CYP3A4

Elimination

t1/2 : 63 hr

Excretion: urine (62%), feces (3%)

Safety Profile

Pregnancy Category

- C -

use with cautions if benefits outweigh risks

ADVERSE EFFECTS

nausea

anorexia

headache

somnolence

dizziness

Prescriber category : A*

Neuromedical HTAA

Reference : Lexicomp 27th edition
Micromedex 2018 edition

Measles

by Mira Hairani bt Mohd Zaki

History

Measles is a highly contagious viral illness caused by rubeola and rubella virus, that can spread rapidly. Also known as morbilli, measles is an endemic disease, where it is continually present in the community which a lot of people developed resistance. After a bout of measles, a person gains immunity for the rest of their life. It is very unlikely for them to contact measles for a second time.

Measles disease has been first published in the 9th century by a Persian doctor. Later in 1757, Francis Home, a Scottish physician, demonstrated that measles is caused by an infectious agents in the patient's blood. In the decade before 1963 when a vaccine became available, nearly all children got measles by the time they were 15 years of age.

Transmission

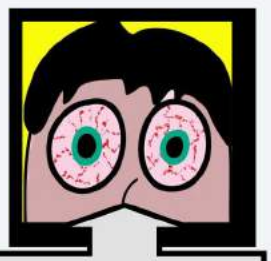
Measles is caused by rubeola virus that lives in the mouth or throat of an infected individuals. The disease is contagious for 4 days before the rashes start to appear, and it continues to be infective for 4 to 5 days later. A person can be infected through physical contact with infected individual by sneezing or coughing. Beside that, it also spreads through touching a surface that contain infected mucus from infected person, as the virus remain active on the object for 2 hours.

Symptoms

Fever

Cough

Runny nose



Conjunctivitis

Rash

Recommendation

CDC recommends that children get two doses of MMR vaccine:

The first dose at 12 through 15 months of age, and the second dose at 4 through 6 years of age. Teens and adults should also be up to date on MMR vaccinations

References:

1. Centers for Disease Control and Prevention (2018). Measles: History of Measles. Retrieved from https://www.cdc.gov/measles/about/history.html on 2nd of July 2018.

2. Karen Gill, M. 2018. Measles: Causes, symptoms, and treatment. Retrieved from https://www.medicalnewstoday.com/articles/37135.php on 2nd of July 2018.

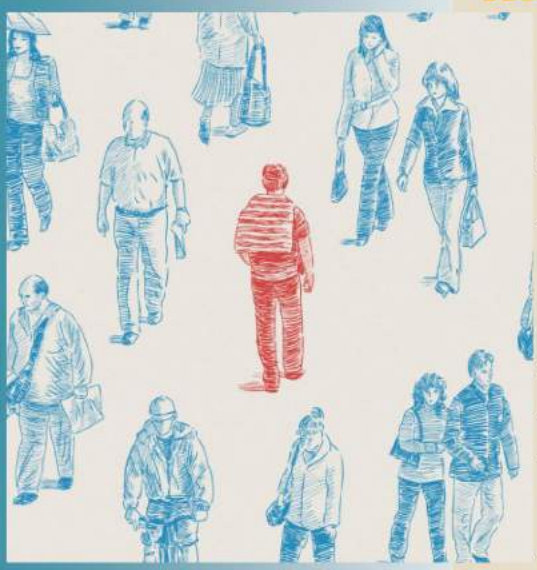
Vaccination

by Chew Kok Yip

Vaccination in Malaysia

The Ministry of Health Malaysia reported that the levels of vaccination coverage in Malaysia as reported in 2013 have been between 94% and 98%, which are generally above the levels needed (92% to 95%) to sustain herd immunity and to protect those who are unvaccinated and susceptible. Unfortunately, in the past few years, the number of parents who refused childhood vaccination had increased significantly, from 470 cases in 2013 to 1282 cases in 2015. As a result, this caused an increase in several diseases, such as measles, diphtheria, and pertussis. The outbreaks might have happened as a result of low herd immunity due to poor immunization coverage. Besides that, non-adherence to vaccination may also result in a suboptimal immunity response.

What is "herd immunity" and why is it important?



"Herd immunity" or herd effect is the indirect outcome of vaccination. It provides an indirect protection of unvaccinated person, whereby an increase in prevalence of vaccine-immunity prevents the circulation of infectious agents in unvaccinated susceptible populations

The importance of "herd immunity" has been recognized since smallpox incidence, whereby in order to achieve herd effect in the population, 80% of the population needs to be vaccinated. Although higher vaccine uptake rates was noted, the ultimate eradication of smallpox was achieved through a mass vaccination programme that focus in endemic countries which contributed to the achievement of herd effect of the population. Besides that, it acts as a key role in determining policy as it may enhance the cost-effectiveness program in the specific countries.

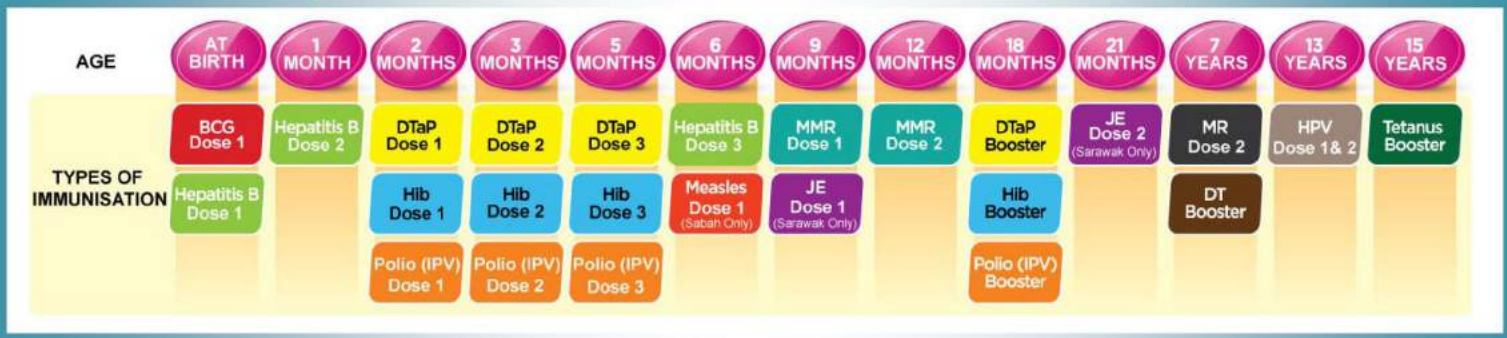
Immunization program in Malaysia

- Children
- Healthcare workers (HCW)
- Travellers

Immunization in children

World Health Organization (WHO) established the Expanded Programme on Immunization (EPI) to ensure that every child over the world can be benefited from vaccination. Among the first diseases targeted by the EPI were diphtheria, whooping cough, tetanus, measles, poliomyelitis and tuberculosis. It has been known that no immunization programme is perfect and thus EPI suggested every country should tailor the immunization programme accordingly. The primary guiding principle for the immunization programme is that the protection must be given to the infants before they are at risk of the infection. The first 6 diseases targeted by EPI is due to the characteristic of the disease which attack in early of life and thus, early protection on the infant is highly crucial. Vaccination timing on disease other than the 6 diseases is of less important when compared and the timing of vaccination can have varied.

Children immunization schedule in Malaysia



Immunization for healthcare worker (HCW)

A health care facility is a workplace as well as a place for receiving and giving care. HCW are personnel who are working in a health care facility. Healthcare worker often subjected to higher risk of exposure to various infection by any mean such as body substances, contaminated medical supplies, equipment, environmental surface or contaminated air. Vaccination in essential in this group of people to prevent infection of vaccine -preventable disease. Optimal use of vaccine can help to protect HCW from infection and at the same time reduce the risk of patient getting infection from HCW. Ultimately, this can help to limit and control disease transmission by preventing disease being transmitted from patient to HCW and from HCW to patient.

Recommended vaccination for HCW in Malaysia

Category of HCW	Vaccines recommended	Comments
Includes all workers and students directly involved in patient care or the handling of human tissue	Hepatitis B	Post vaccination serologic testing for antibodies recommended
	Measles, Mumps and Rubella	For HCWs who do not have documented vaccination, physician diagnosed infection or serologic evidence of immunity
	Influenza	Annual vaccination
	Pertussis (Tdap)	Tdap can be administered regardless of interval since the last tetanus or diphtheria containing vaccine
	Varicella	Pre vaccination serologic testing is cost effective in those who do not have a reliable history of varicella infection or serologic evidence of immunity

Immunization for travellers

As different geographical location houses different pathogen and thus different type disease, disease prevention is essential when travelling to other part of the world. Individualized disease prevention can be made by consulting healthcare specialist regarding the vaccination that is recommended based on the location of travel. The vaccine to be received is dependent on the location of travel which the vaccine-preventable disease is native to that specific location so vaccination can protect the traveller from being infected by the disease. Personal record of immunization should be provided to facilitate decision making for type of vaccination.

Vaccination for travellers

Category	**Vaccine**
Mandatory vaccination	Yellow fever for all travellers traveling to or from yellow-fever endemic countries
	Meningococcal vaccine (tetravalent) for all Haj and Umrah pilgrims
Routine vaccination	Diphteria/Tetanus/Pertussis
	Hepatitis B
	Measles-Rubella-Mumps
	Poliomyelitis
Selective use for travellers	Recommendation for the vaccines depend on the countries of destination, the current outbreak situation at the time of travel, the purpose of travel, the intended length of stay and the health status of the traveller. As recommendations will change from time to time, it is prudent to access the latest advisories from the following sites maintained by the CDC and WHO * www.cdc.gov.travel * www.who.int/ith

References:
1. Kim TH, Johnstone J & Loeb M. 2011. Vaccine Herd Effect. Scandinavian Journal of Infectious Diseases, 2011; 43: 683-689.
2. Malaysian Society of Infectious Diseases and Chemotherapy. 2014. Guidelines for Adult Immunization: 2nd Edition. *Malaysian Society of Infectious Diseases and Chemotherapy.*
3. Recommended Vaccines for Healthcare Workers | CDC. 2018. Retrieved from https://www.cdc.gov/vaccines/adults/rec-vac/hcw.html
4. WHO | The Expanded Programme on Immunization. 2018. Retrieved from http://www.who.int/immunization/programmes_systems/supply_chain/benefits_of_immunization/en/

KURSUS *TRAINING OF TRAINER QUALITY USE MEDICINE – CONSUMERS* (TOT QUMC)

BY NURUL IZZATI BINTI KAMARRUDIN

Tempat : 30 April 2018 (Isnin)

Lokasi : Bilik Mesyuarat Nilam, ACC, HTAA

Taklimat dari En. Muhammad Hafrizan Bin Hassan, Ketua Penolong Pengarah (Kuatkuasa) Farmasi berkenaan ubat berdaftar.

Taklimat dari Cik Lian Ming Lee, PF UF 44 berkenaan Kenali Ubat Anda.

Aktiviti Berkumpulan

SAMBUTAN HARI RAYA

BY NURUL IZZATI BINTI KAMARRUDIN

Tarikh: 4 Julai 2018 (Rabu)

Lokasi : Unit Farmasi Logistik HTAA

Antara ketua-ketua unit yang memeriahkan lagi majlis sambutan hari raya tahun ini.

Majlis memotong kek bagi kakitangan yang menyambut hari lahir dari bulan April hingga Julai.

Majlis penyampaian hadiah untuk *Best Dressed Man and Woman*

Kakitangan yang hadir bagi memeriahkan majlis sambutan hari raya tahun ini.

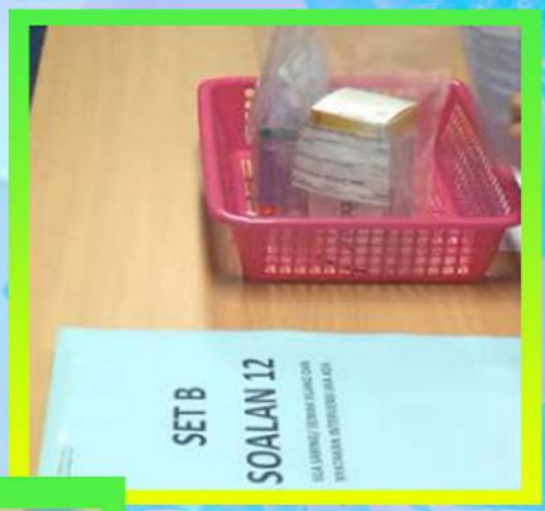
PROGRAM *SAFETY CRUSH*

BY NURUL IZZATI BINTI KAMARRUDIN

Tarikh : 5 Julai 2018 (Khamis)

Lokasi : Bilik Mesyuarat Topaz, UFL HTAA

Program ***Safety Crush*** ialah program yang diwujudkan untuk menguji tahap kompetensi kakitangan Jabatan Farmasi berkaitan keselamatan pengubatan. Kakitangan akan diberikan beberapa kes simulasi yang mengandungi kesilapan pengubatan untuk dikenalpasti.



KEJOHANAN BADMINTON
PharmCare 2018

BY NURUL IZZATI BINTI KAMARRUDIN

Tarikh : 11 Ogos 2018 (Sabtu)
Lokasi : Playground 6

PARA PEMENANG

BEREGU LELAKI

Johan: Kumpulan Che Cho (Cho Chun Yik & Che Wan Mohd Hafidz)

Naib Johan: Kumpulan Lee Park (Shaff Kamil & Mohd Riduan)

Ketiga: Kumpulan Jaguh Kampung (Mohd Ridzuan & Abd. Hasib)

BEREGU PEREMPUAN

Johan: Kumpulan Go Girl (Wan Zurainah & Shefa Norhafizah)

Naib Johan: Kumpulan Naruto (Norhafiza & Nurul Syifa)

Ketiga: Kumpulan Main-main Aje (Tan Say Lee & Nabilahuda)

BEREGU CAMPURAN

Johan: Kumpulan Yew (Yew Jie Min & Yew Chor Beng)

Naib Johan: Kumpulan Helmi (Helmi & Fitrina)

Ketiga: Kumpulan Leo (Toh Kit Yeng & Tan Loon Piow)

Aksi-aksi para peserta Kejohanan Badminton PharmCare 2018.

Ahli Jawatankuasa Kejohanan Badminton PharmCare 2018

Para peserta yang telah menjayakan Kejohanan Badminton PharmCare 2018