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Special Topic

HAND, FOOT & MOUTH DISEASE (HFMD)

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HTAA PHARMACY STAFF UPDATES 2022

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To: Farmasi Satelit
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Penolong Pegawai Farmasi U29
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Date Reported Duty: 15/8/2022

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HAND, FOOT, MOUTH DISEASE (HFMD)

By Nor Syahirah Bt Mohd Amri & Wan Nurliyana Bt Wan Ramli

BACKGROUND [1,2,4]

Hand foot and mouth disease (HFMD) is typically a benign and common illness among children and infants characterized by rapidly ulcerating vesicles in the mouth and lesions, usually vesicular, on the hands and feet. HFMD is an endemic disease in Malaysia. HFMD has become an important public health disease due to its tendency to cause large outbreaks and deaths among children and infants. Infants and children younger than 5 years are most commonly affected with HFMD. However, older children and adults may also get it.

Malaysia has seen a spike of 47, 209 cases of HFMD since the beginning of 2022, a 20 times increment in the number of cases seen during the same period last year.

ETIOLOGY [1]

HFMD is caused by viruses that belong to the Enterovirus family. The most common cause of HFMD are coxsackievirus A16 (CA16) and enterovirus A71 which has been associated with outbreaks involving thousands in the Asia-Pacific region. Since the beginning of 2022, three main types of viruses that cause HFMD in the community in Malaysia have been identified. They are Coxsackie A16 (CA16), Coxsackie A6 (CA6), and Enterovirus 71 (EV71).

TRANSMISSION [4]

People with HFMD are usually most contagious during the first week that they are sick. The most common modes of transmission are :

1. Contact with respiratory droplets containing virus particles after a sick person coughs or sneezes
2. Touching an infected person or making other close contacts, like kissing, hugging, or sharing cups or eating utensils
3. Touching an infected person's feces, such as changing diapers, then touching your eyes, nose, or mouth
4. Touching objects and surfaces that have the virus on them, like doorknobs or toys, then touching your eyes, nose, or mouth

INCUBATION PERIOD [1]

The typical incubation period for HFMD is 3-5 days, but it has been reported to be as short as 2 days and as long as 7 days

PATHOGENESIS [1,2]

Human enterovirus infection may occur after oral ingestion of virus that is shred from gastrointestinal or upper respiratory tract infected individuals such as ingestion of fecal material, oral secretions, or respiratory secretions. It also may occur following contact with vesicle fluid or oral and respiratory secretions.

The virus may be detected in the stool for up to six weeks and sometimes for several months after infection. The duration of shedding from the oropharynx is generally less than four weeks. Prolonged shedding in the stool and the innate environmental stability of the enteroviruses favor their transmission.

SYMPTOMS [4]

Fever & flu-like symptoms

- Infected children often get fever & other flu-like symptoms 3-6 days after catch the virus.

Sore Mouth

- Appear one or two days after the fever starts.
- These sores usually start as small red spots, often in the back of their mouth.

Skin Rash

- Rashes on palms of the hands & soles of the feet.
- Also show up on knees, elbows, buttocks, or genital area.

MANAGEMENTOF HFMD [4,5,6,8]

Most, especially mild cases of HFMD do not require admission but can be managed as outpatients. Currently, there is no specific treatment available for the infection other than relief of symptoms. Treatment of fever and relief of symptoms, adequate hydration and rest are very important for the patient. In terms of hydration, parents are reminded to ensure that their child drinks adequately at regular intervals. Affected children often eat or drink less than usual because their mouth ulcers may be rather painful, which could be further aggravated by hot drinks or food. Thus, parents are encouraged to give their children cold drinks or semi-solids such as milk or other nutritious beverages, ice cream, yogurt and jelly because cooler, liquid food is often soothing and very well-tolerated by affected children. It is also very crucial for the parents to watch out for signs and symptoms of severe disease such as fits or abnormal jerky movement and fast breathing or turning blue because children with these symptoms need to be admitted to the hospital immediately.

PHARMACOLOGICAL TREATMENT FOR SYMPTOMATIC RELIEVES OF HFMD

Drugs	Medication group	Indications	Mechanism of actions	Doses / Instructions
Paracetamol	Analgesic/Antipyretic	• Fever • Mild and moderate pain	Increases the pain threshold by inhibiting COX-1 and COX-2, which are involved in prostaglandin (PG) synthesis	• 15mg/kg/dose for children • Can be taken 4 to 6 hourly or when necessary • Maximum dose: 4g/day
Ibuprofen				• 10mg/kg/dose for children • Can be taken 4 to 8 hourly or when necessary • Maximum dose: 2.4g/day
Oral aid (contains choline salicylate 8.7%, cetalkonium chloride 0.01%)	Topical analgesic	• For relief of the pain and discomfort in mouth ulcers and sores	**Choline salicylate** relieves pain by inhibiting COX I and II, which are involved in prostaglandin (PG) synthesis. **Cetalkonium chloride** is an antiseptic. It creates positive charge that permits a bio-adhesive property to negative surfaces which allows disruption of cell membrane & protein denaturation.	Apply approximately 1 cm or enough gel to cover the fingertip, 2-3 times daily at the affected area
Calamine lotion	Topical cream	• Soothes and relieves rashes • Skin irritation	Mild astringent and antipruritic action	Apply to the skin as required and allow to dry, 1-3 times daily

Criteria for hospital referral [6]

In terms of hospital referral, most cases of HFMD can be treated at home. However, if patient presents with features as listed below, they need to be referred immediately to the nearest hospital:

A) One or more of the following early features of severe disease:
- Persistent hyperpyrexia (e.g >38 °C) for >48 hours
- Unable to tolerate oral feeds and there is a need for intravenous hydration
- Reduced urine output (in its frequency or amount) or urine appears concentrated
- Clinically very ill or toxic-looking

B) One or more of the neurological features
- New onset of startle (myoclonus) during sleep or startles when awake
- Seizures, limb weakness and altered conscious state (lethargy, drowsiness, irritability, restlessness)

C) Evidence of acute cardio-pulmonary decompensation:
- Inappropriate tachycardia (>160/min ≤12 months; >140/min in 1-3 years ; >120/min in ≥ 3 years);
- Tachypnoea / dyspnea (>60/min in <2 months; >50/min in 2-12 months; >40/min in 1-5 years);
- Poor perfusion (Capillary refill >2 secs; mottled skin; weak distal pulses; cold clammy limbs).

D) Special consideration: parental or caretaker's anxiety
- When parents are unable to cope with child's illness

Patients with neurologic complication [7]

Although HFMD is a common illness especially among children and not categorized as a fatal disease, in some cases, patients might experience neurological complications.

Examples of neurological complications include:
- Seizures
- Limb weakness
- Encephalitis
- Meningitis
- Altered conscious state (lethargy, drowsiness, irritability, restlessness)

According to *Huang et al* [7] whom reviewed HFMD cases in Taiwan in 1998, the neurological complications often manifested in patient that **aged between 3 months to 8.2 years old**, with higher incidence occurs in the younger age group.

The study also revealed that **severe neurologic complications are commonly associated with EV71 infection.** The common and supportive treatments for neurological complications include **the administration of intravenous immunoglobulin (IVIG) and glucocorticoid therapies**.

Unfortunately, the use of IVIG has limitations because its use has yet to be supported by evidence from randomized clinical trials and it is expensive. The use of glucocorticoids should be considered with prudence as reports suggest limiting their usage to cases in which antiviral therapy fail to control the clinical picture

PREVENTION OF HFMD [4,5]

Keep the hands clean by frequent handwashing

Avoid close contact with a person with HFMD

Avoid sharing of eating utensils or other personal belongings

Avoid touching the eyes, nose or mouth after contact with a person with HFMD

Clean and disinfect frequently touched surfaces and shared items, including toys and doorknobs

Practice a good coughing/sneezing etiquettes

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SCAN ME

COVID-19 Vaccine: Adverse Events of Special Interest (AESI)

By: Nur'Ain Syamimi Shahrul'Izuha

Introduction

Adverse Event Following Immunization (AEFI) is defined as any undesirable medical event that occurs after the injection of a vaccine but is not always causally related to the vaccine.[1] On the other hand, an AESI is defined as a preidentified and predefined medically-significant event that has the potential to be causally associated with a vaccine product that needs to be carefully monitored and confirmed by further specific studies.[2] The trend of the cases of AESI related to COVID-19 vaccines in Malaysia have been extremely rare which has been consistent with the trends that have been reported globally. AESI that have been monitored closely by the National Pharmaceutical Regulatory Agency (NPRA) are **Anaphylaxis, Myocarditis/Pericarditis, Vaccine Induced Immune Thrombocytopenia and Thrombosis (VITT) and Systemic Capillary Leakage syndrome (SCLS).**

Anaphylaxis is an acute onset of serious systemic hypersensitivity reaction that is life-threatening . It could compromise the airway, breathing, circulation and may also present without the classical skin features or circulatory shock.[3] Most anaphylaxis cases occur within 15-30 minutes post vaccination. However, it can sometimes take up to several hours for the first symptoms to develop. Up to 31st December 2021, National Pharmaceutical Regulatory Agency (NPRA) had received a total of 100 AEFI reports for anaphylaxis with COVID-19 vaccines equivalent to 1.8 reports per million doses administered.[1] Comirnaty (Pfizer) COVID-19 Vaccine has the highest number of cases at 65 reports or 2.0 per million doses administered.[1]

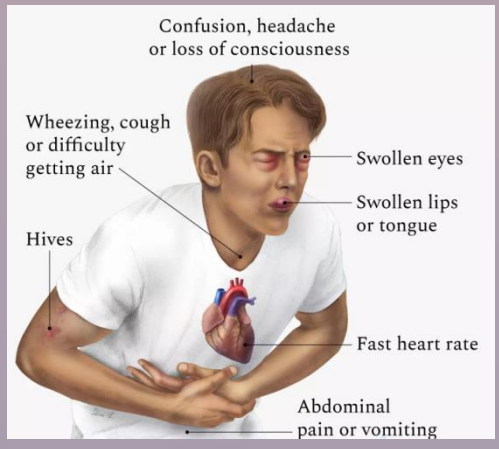

Figure 1: Signs of anaphylaxis reaction

Myocarditis is an inflammation of the heart muscle, while **Pericarditis** is an inflammation of the outer lining of the heart.[4] The signs and symptoms of both conditions include palpitation, chest pain, arrhythmia and dyspnoea. These are usually temporary, with most people getting better within a few days.[3] It occurs within a week (3-4 days) after second dose of Comirnaty and ChAdOx1-S®[recombinant] (Oxford-AstraZeneca) vaccines.[4] According to preliminary studies, post-vaccination myocarditis could be caused by circulatory spike proteins distribution into cardiac tissue or spike production by the vaccine that transfects cardiac cells locally.[5] Up to 31st December 2021, NPRA has received 44 reports that have been assessed as likely to be myocarditis/pericarditis which involves about 32.1 million doses of Comirnaty.[1] In addition, two reports are from about 4.2 million doses of ChAdOx1-S®[recombinant] administered.[1] Myocarditis/ Pericarditis usually involved male adolescent and young adult.[3]

Figure 2: Symptoms of vaccine-induced immune thrombotic thrombocytopenia (VITT) vary depending on where the shot is received. The symptoms includes persistent headaches, blurred vision, difficulty with speech, seizures, and bleeding or bruising.[1]

Vaccine Induced Immune Thrombocytopenia and Thrombosis (VITT), also called thrombosis with thrombocytopenia syndrome (TTS) and vaccine-induced prothrombotic immune thrombocytopenia (VIPIT), is a condition in which the body produces blood clots. These symptoms are present in 4 to 30 days post adenoviral vector vaccine vaccination such as ChAdOx1-S®[recombinant] vaccine.[3] Up to 31st December 2021, a total of three cases of VITT were reported following about 4.2 million doses of ChAdOx1-S®[recombinant].[1] It is more commonly seen in females and younger than 50 years old.[4]

Systemic Capillary Leak Syndrome (SCLS) causes fluid and proteins to leak out of tiny blood vessels (capillaries) into surrounding tissues. This may lead to very low blood pressure (hypotension), hypoalbuminemia, and thickened blood due to a decrease in plasma volume (hemoconcentration).[6] Initial symptoms may include tiredness, nausea, abdominal pain, extreme thirst, and sudden increase in body weight.[6] It commonly occurs within 4 days post adenoviral vector vaccination.[3] Until 31st December 2021, there have been no reported case in Malaysia. However, 11 cases have been reported in the United Kingdom in the context of more than 48.5 million doses of ChAdOx1-S®[recombinant] vaccine.[7]

Conclusion

AESI cases are classified as critical cases that need close monitoring due to potential life threatening events. However, most of the cases occurs in Malaysia were mild in nature and the vaccine recipients responded well to the treatment and recovered/recovering at the time of reporting.

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DRUG UPDATES

Ferric derisomaltose 100 mg/ml solution for injection/infusion

A. DESCRIPTION

Ferric derisomaltose is a colloid with strongly bound iron in spheroidal iron carbohydrate particles. The formulation contains iron in a complex that enables a controlled and slow release of bioavailable iron to iron-binding proteins with little risk of free iron.

B. REGISTRATION NUMBER

MAL17025018ACRZ

C. PRICE

RM 1,471.75 / pack of 5 vials

D. DEPARTMENT

Haematology / Nephrology

E. PRESCRIBER CATEGORY

A* - Consultant / specialists for specific indications only

F. PREGNANCY CATEGORY

Foetal risk cannot be ruled out (Micromedex)

G. MECHANISM OF ACTION

Ferric derisomaltose is a complex of iron (III) hydroxide and derisomaltose, an iron carbohydrate oligosaccharide that releases iron. Iron binds to transferrin for transport to erythroid precursor cells to be incorporated into hemoglobin.

H. INDICATIONS IN FUKKM

Indicated for the treatment of iron deficiency in the following conditions:

- when oral iron preparations are ineffective or cannot be used;
- where there is a clinical need to deliver iron rapidly. The diagnosis must be based on laboratory tests.

I. DOSE AND ADMINISTRATION

- **Intravenous bolus injection**:
  - up to 500 mg up to three times a week at an administration rate of up to 250 mg iron/minute.
- **Intravenous drip infusion**:
  - up to 20 mg iron/kg body weight or as weekly infusions until the cumulative iron dose has been administered. If the cumulative iron dose exceeds 20 mg iron/kg body weight, the dose must be split in two administrations with an interval of at least one week.

J. ADVERSE REACTIONS

- Hypersensitivity reactions (e.g., anaphylactoid reactions, urticaria, rashes, itching, nausea and shivering).
- Delayed reactions (e.g., arthralgia, myalgia & fever).
- Exacerbation of joint pain in rheumatoid arthritis.
- Local reactions that may cause pain and inflammation at or near injection site and a local phlebitic reaction.

K. CONTRAINDICATIONS

- Hypersensitivity to the active substance ferric derisomaltose or any of its excipients.
- Known serious hypersensitivity to other parenteral iron products.
- Non-iron deficiency anemia (e.g., hemolytic anemia).
- Iron overload or disturbances in utilization of iron (e.g., hemochromatosis, hemosiderosis).
- Decompensated liver cirrhosis and hepatitis.

L. USE IN SPECIFIC POPULATIONS

- **Paediatrics**: Safety and effectiveness have not been established.
- **Pregnancy**: No adequate and well-controlled trials in pregnant women. A careful risk/benefit evaluation is therefore required before use during pregnancy and should not be used during pregnancy unless clearly necessary.
- **Breastfeeding**: A clinical study showed that transfer of iron from iron derisomaltose to human milk was very low. At therapeutic doses, there were no effects on the breastfed newborns/infants.
- **Fertility**: No data on the effect of iron derisomaltose on human fertility. Fertility was unaffected following iron derisomaltose administration in animal studies.

M. PRECAUTIONS

- **Endocrine and metabolic**: Excess parenteral iron therapy may lead to excess iron storage and iatrogenic hemosiderosis or hemochromatosis. Therefore, monitoring is recommended and do not use if evidence of iron overload.
- **Immunologic**: Hypersensitivity reactions, which may be serious, life-threatening, or fatal (i.e., anaphylaxis), have been reported and monitoring is recommended.

N. STORAGE

Do not store above 30℃

O. PHARMACIST ROLE

- To monitor for signs and symptoms of hypersensitivity reactions during and following each administration including rash, nausea and iron overload.
- To make sure that administration is only done when trained staff are available to evaluate and manage anaphylactic reactions in an environment where full resuscitation facilities can be assured.
- To observe for any adverse effects for at least 30 minutes after administration until the patient is clinically stable.

P. REFERENCES

Product information leaflet, FUKKM, QUEST3+, MIMSGateway, Micromedex.

By: Muhammad Afiq Zaquan bin Othman

DRUG UPDATES

Morphine Sulphate 30mg Controlled Release Tablet

A. DESCRIPTION

Morphine is an opioid analgesic that acts mainly on the central nervous system (CNS) and smooth muscles for the management of

B. REGISTRATION NUMBER

MAL19920157AZ

C. PRICE

RM 216.16 / pack of 30 tablets

D. DEPARTMENT

Palliative Unit

E. PRESCRIBER CATEGORY

A - Consultant / specialists

F. PREGNANCY CATEGORY

Category C (MIMS)
(Prolonged use may cause neonatal opioid withdrawal syndrome)

G. MECHANISM OF ACTION

Morphine has an affinity for delta, kappa, and mu-opioids receptors. This drug produces most its analgesic effects by binding to the mu-opioid receptors within the CNS and the peripheral nervous system (PNS). When morphine binds to its receptors, the G protein in the opioid signalling chain has several targets. It increases conduction through potassium channels, decreases conduction through calcium channels and inhibits adenylyl cyclase. Together, these changes blunt the effect of signalling systems that transmit pain.

H. INDICATIONS IN FUKKM

To be used in adults for:

i) prolonged relief of severe pain associated with neoplastic disease.
ii) as a second line treatment of chronic non-cancer pain when treatments with adjuvant analgesics and non-pharmacological approach failed.

Prescribing restriction for indication (ii):
Must be initiated by Pain or Palliative Specialists only.

I. DOSE AND ADMINISTRATION

For adults:

i) 10 - 60 mg at 12 hourly intervals, depending upon the severity of the pain.

J. CONTRAINDICATIONS

- Hypersensitivity to morphine.
- In patients with respiratory depression, obstructive airways disease, paralytic ileus, acute hepatic disease, acute alcoholism, head injuries, increased intracranial pressure, excessive bronchial secretions, acute or severe bronchial asthma, heart failure secondary to chronic lung disease, delayed gastric emptying, gastrointestinal tract obstruction, acute abdomen, and circulatory shock.
- Concomitant use during or within 14 days of monoamine oxidase inhibitors (MAOI) therapy.

K. ADVERSE REACTIONS

COMMON

- **Dermatologic:** Pruritis (up to 80%).
- **Gastrointestinal:** Constipation (9% or greater), nausea (7%), vomiting (greater than 10%).
- **Neurologic:** Dizziness (6%), headache less than 2% to greater than 10%), somnolence (3% or greater).
- **Renal:** Urinary retention (less than 5%).

SERIOUS

- **Cardiovascular:** Cardiac arrest, circulatory depression, shock, syncope (less than 5%), orthostatic hypotension.
- **Endocrine metabolic:** Adrenal insufficiency.
- **Neurologic:** Coma (less than 5%), raised intracranial pressure, seizure (less than 5%).
- **Respiratory:** Dyspnea (3% to 10%), respiratory depression.
- **Other:** Drug dependence, drug withdrawal syndrome in neonate of dependent mother.

L. USE IN SPECIFIC POPULATIONS

- **Geriatric use:** Start at low end of dosing and increase in small doses.
- **Pregnancy:** Neonatal opioid withdrawal syndrome may occur during pregnancy. The use should be avoided.
- **Breastfeeding:** Infant risk cannot be ruled out. The use should be avoided.
- **Renal impairment:** Initiate with lower dosage and titrate slowly.
- **Hepatic impairment:** Use at lower dosage and titrate slowly in patient with cirrhosis.
- **Hepatic impairment in pediatric patient:** Avoid use or reduce dose.
- **Paediatric use:** Safety and effectiveness in paediatric patients not established.

M. PRECAUTIONS

- **Neurologic:** Use caution in patients susceptible to intracranial effects of carbon dioxide which may reduce respiratory drive and increase intracranial pressure. Seizure disorder also may be induced or aggravated, thus monitoring is needed.
- **Cardiovascular:** Severe hypotension, including orthostatic hypotension and syncope in ambulatory patients with reduced circulating blood volume, impaired myocardial function or on sympatholytic drugs.
- **Hepatic:** Spasm of the sphincter of Oddi may occur. Therefore, monitoring in patient with biliary tract disease including acute pancreatitis must be done.
- **Renal:** Need monitoring in renal failure patient as it may cause sedation and hypotension.
- **Prolonged use:** May associated with decreased sex hormone level such as reduced interest in sex, impotence, or infertility.

N. STORAGE

Do not store above 30^0C

O. PHARMACIST ROLE

- Advise patient to let the doctor know if taking any medication or planning to become pregnant.
- Advise patient to swallow as whole tablet without crushing, splitting, and/or chewing.
- To monitor episodes of breakthrough pain and adverse effects during the therapy.
- Advise patient that the medication may impair mental and physical ability performance such as driving and operating machinery.
- Remind patient to avoid intake of alcohol and CNS depressants during the treatment course.
- Advise patient to keep the tablets in a secure place, out of reach of children.

P. REFERENCES

Product information leaflet, FUKKM, QUEST3+, MIMSGateway, IBM Micromedex, UpToDate

By: Mohamad Qardawi Bin Bakri

Pharmacy R&D

EVALUATION OF UNUSED MEDICATIONS AMONG OUTPATIENTS AT HOSPITAL TENGKU AMPUAN AFZAN.

AUTHORS

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Department of Pharmacy, Hospital Tengku Ampuan Afzan.

INTRODUCTION

According to World Health Organization (WHO), more than half of all medication is inappropriately prescribed or sold, which lead to unused medications, unnecessary storage and creates environmental threat. Meanwhile in Malaysia, due to excessive wastage of these unwanted medications issue, Pharmaceutical Services Division of MOH has implemented the return medication program after analysing a few factors that contributing towards this wastage.

OBJECTIVE

This study aimed to describe reasons of keeping unused medications among patients in HTAA and to describe general practices of drug disposal among patients in HTAA.

METHODOLOGY

This study is conducted at HTAA, in which the targeted population are 450 patients from outpatient pharmacy department. The questionnaire is used as the tool to survey the patients regarding unused medication. The result is analysed statistically by using SPSS.

RESULTS

In this study, the reasons why they keep their unused medications because of they not keeping them (38.4%), incase need later (29.7%) and unsure how to dispose them (27.7%). From this study the most common method of disposal unused medications are (n: 440) household rubbish (44.9%) and followed by return to pharmacy (25.9%).

CONCLUSION

In conclusion, since the only best way to dispose their unused medications by returning them to pharmacy, majority of the respondents did not practice appropriate medication disposal methods. This finding indicated that there is a clear need to create public awareness about issues on safe medication disposal of unused and unwanted medication.

Pharmacy R&D

PHARMACIST-LED BEDSIDE MEDICATION DELIVERY: PRELIMINARY RESULT OF EVALUATION OF PATIENT SATISFACTION AND COMPLIANCE

AUTHORS

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INTRODUCTION

Pharmacy services have evolved throughout the years, and one of the services provided by Ministry of Health Malaysia is bedside medication delivery. The objectives of the service are to speed up patient's discharge, to enhance patient' satisfaction, to reduce number of patients at counter and to promote compliance.

OBJECTIVE

This study aimed to describe reasons of keeping unused medications among patients in HTAA and to describe general practices of drug disposal among patients in HTAA.

METHODOLOGY

This is a prospective observational study, among discharge patients at a tertiary hospital. Enrolled patients were divided into two groups. A survey was conducted to assess patient's satisfaction and compliance. Follow-up was carried out on day 7 after discharge and readmission status was obtained after 30 days.

RESULTS

A total of 92 patients were included in this study (n=46 in bedside group and n=46 in control group). No significance difference was found in terms of pharmacists' quality of care (p=0.797) and interpersonal relationship between pharmacist and patient (p=0.994) in both bedside and control group. For compliance assessment, there is no statistically significant association between bedside dispensing versus control group and patients' compliance (p=0.402). Readmission rates were 6.5% (n=3) and 10.8% (n=5) in bedside and control group respectively (p=0.714). No statistically significant factors were found to affect patient readmission.

CONCLUSION

Overall patients were satisfied with both bedside dispensing and dispensing over the counter service, and further interventions need to be done to increase patient compliance.

PharmHike

28th May 2022

Bukit Galing, Kuantan

PHARMACY ACTIVITY

PharmCare
Hospital Tengku Ampuan Afzan

PHARMACY ACTIVITY

BADMINTON TOURNAMENT

PharmCare
Hospital Tengku Ampuan Afzan

18th June 2022

Playground 6, Semambu

PHARMACY ACTIVITY

MEN DOUBLE
WINNERS

1 En. Tan Yaw Shen
En. Muhammad Muhaiminin

2 En. Luqman Hakim
En. Muhammad Hazim

3 En. Helmi
En. Mohd Riduan

WOMEN DOUBLE

WINNERS

1 Pn. Tou Pui Yee
Cik Nurfatihah

2 Cik Amanda Ng Yuin Shan
Cik Carissa Lee Xin Jin

3 Pn. Nor Akma Idayu
Cik Soh Shen-ni

MIXED DOUBLE

WINNERS

1 En. Shaff Kamil
Pn. Nurul Izzati

2 Pn. Suhada Talib
En. Muhamad Shahiran

Kementerian Kesihatan Malaysia

Agenda Nasional Malaysia Sihat

MyHEALTH

myhealthkkm

sihatmilikku

SCAN ME

PharmCare
Hospital Tengku Ampuan Afzan

PHARMACY ACTIVITY

Pertandingan Permainan Tradisional

27TH JULY 2022 &
3RD AUGUST 2022

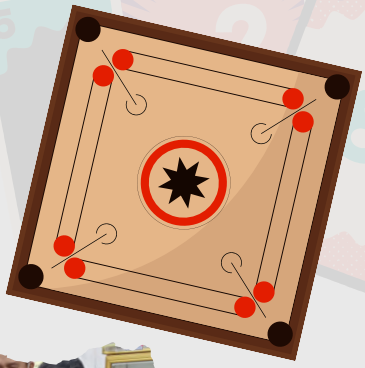
DAM HAJI

PHARMACY ACTIVITY

CONGKAK

PHARMACY ACTIVITY

CARROM



PHARMACY ACTIVITY

THE WINNERS

CONGKAK

1. Cik Sara Syakila Abdul Razak
2. Cik Nor Adiba Mohd Mustafar
3. Pn. Nurul 'Ain Mohd Saad

DAM HAJI

1. Pn. Hawa Samsudin
2. En. Ahmad Suhaimi Abdul Rahman
3. Pn. Amirah Mohamad

CARROM

1. Cik Ili Izyan Omar
   En. Kamarulzaman Khairuddin
2. Pn. Liyana Amira Mohd Zainal
   Pn. Shahida Kamaruzaman

PLAY

PHARMACY BULLETIN
BIL. 2/2022