

IUM RESEARCH DAY 2021

An International Online Event for Life Sciences



“TOWARDS
SUSTAINABLE
RESEARCH

EXCELLENCE

ADJUSTING TO
THE NEW
NORM”

ORGANISED BY:

**RESEARCH MANAGEMENT CENTRE (RMC)
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA, KUANTAN**

**24th November 2021
Zoom platform**



United Nations
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UNESCO Chair on Future Studies:
- Anticipation for Sustainability and
Well-Being



الجامعة الإسلامية العالمية ماليزيا
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA
بنيانها على العلم والقيم
Garden of Knowledge and Virtue



AN INTERNATIONAL AWARD-WINNING INSTITUTION FOR SUSTAINABILITY



IRD 2021 PROGRAM AND ABSTRACT BOOKS

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Towards Sustainable Research
Excellence Adjusting to the New Norm

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السَّلَامُ عَلَيْكُمْ وَرَحْمَةُ اللَّهِ وَبَرَكَاتُهُ

On behalf of the organising committee, it gives me great pleasure to welcome you to IIUM Research Day 2021: A national online event for video in life sciences. This annual programme aims to inculcate a culture of research, showcase new research findings and encourage collaboration among researchers.

This year, we have opened our event's doors internationally and minimized our costs to make our event more available and affordable to all.

I hope this event will serve as a good platform for you to receive constructive feedback from each other, share ideas and build new connections with other researchers. Although we are not able to meet face to face due to the pandemic, let us not let this limit us from having meaningful interactions through this virtual event.

We welcome you to explore our conference website. Abstracts presented here will be published in reputable IIUM journals, and of course exciting prizes and surprises also await you.

I hope everyone benefits greatly from this event; I am looking forward to knowing you, sharing our experiences and building a lasting relationship together.

Thank you.



Prof. Dr. Nazri Bin Mohd. Yusof
Chairman,
IIUM Research Day 2021

**IIUM RESEARCH DAY 2021: AN INTERNATIONAL ONLINE EVENT FOR LIFE SCIENCES
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Haripur University, Pakistan



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Universiti Putra Malaysia



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Kulliyah of Dentistry, IIUM



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ASSOC. PROF. DR. MOHD RADZI HILMI
Kulliyah of Allied Health Sciences, IIUM



PROGRAM TIMELINE



CLOSING CEREMONY AND THE ANNOUNCEMENT OF RESULTS FOR IIUM RESEARCH DAY 2021

2.30pm:

Virtual arrival of IIUM Research Day participants

2.35pm:

Recitation of Doa and IIUM Song "Leading The Way"

2.40pm:

Welcoming Remarks by the Chairman
(Prof. Dr. Nazri Mohd Yusof)

2.45pm:

Talk on Direction of Research in IIUM
(Prof. Dr. Ahmad Hafiz Zulkifly)

-Deputy Rector (Responsible Research & Innovation,
International Islamic University Malaysia-

3.00pm:

Video Presentation

Announcement of Results of IIUM Research Day 2021

-Gold Award

-Best Award for Each Category

3.10pm:

End of Program



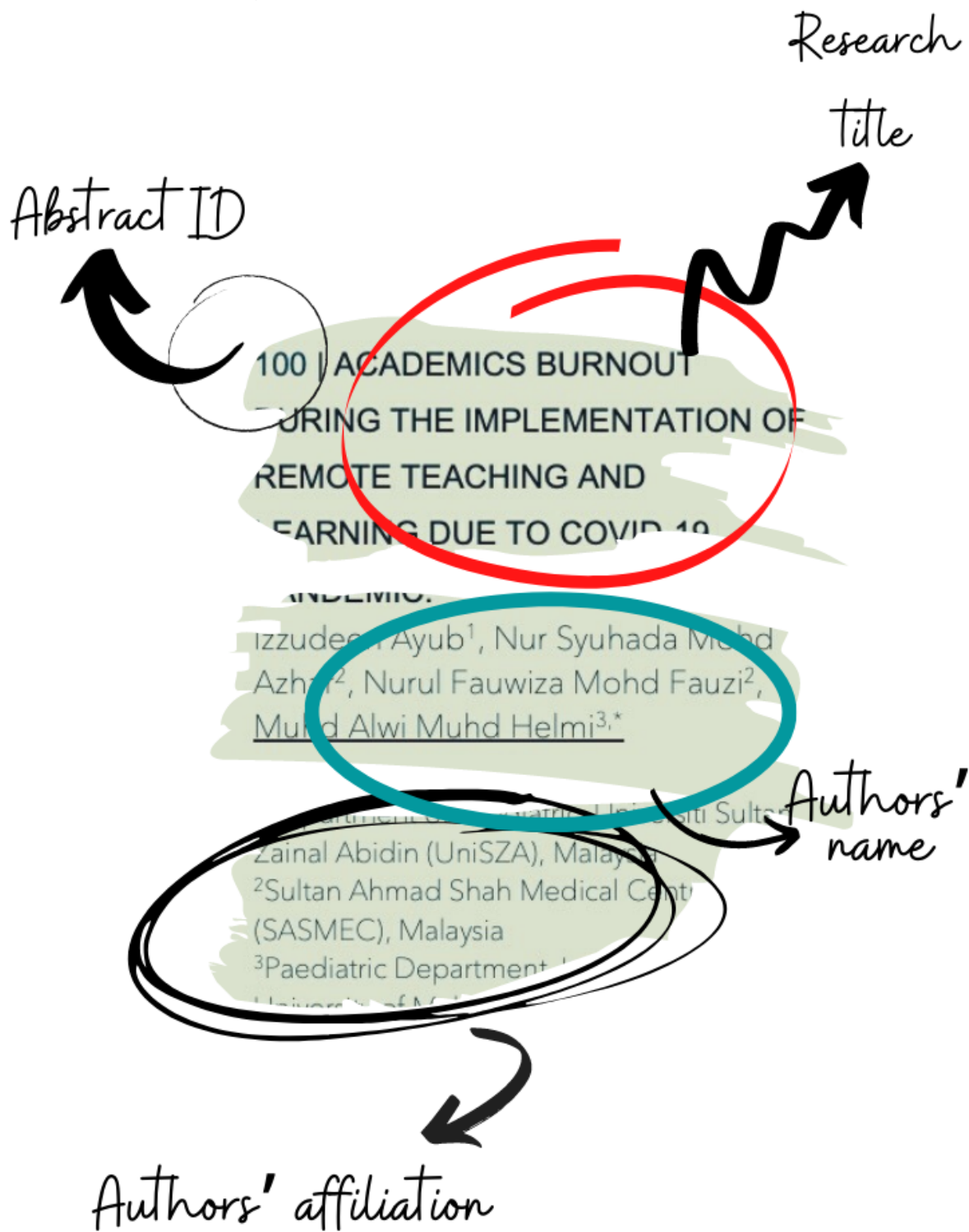
Meeting ID: 936 8311 4870

Passcode: 251183

<http://tiny.cc/irdk2021>



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¹Department of Paediatric, Universiti Sultan Zainal Abidin (UniSZA), Malaysia

²Sultan Ahmad Shah Medical Centre (SASMEC), Malaysia

³Paediatric Department, International Islamic University of Malaysia (IIUM), Malaysia

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^{1,2,3}Department of Computational and Theoretical Sciences, Kulliyah of Science, International Islamic University Malaysia, 25200 Kuantan, Pahang, Malaysia

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¹Department of Biotechnology, Kulliyah of Sciences, International Islamic University Malaysia (IIUM), Jalan Sultan Ahmad Shah, Bandar Indera Mahkota, 25200, Kuantan, Pahang, Malaysia

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³Department of Restorative Dentistry, KOD, IIUM, Jalan Sultan Ahmad Shah, Bandar Indera Mahkota, 25200, Kuantan, Pahang, Malaysia

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Wan Fatimah Suriyani Wan Mahmud¹, Mohammad Che' Man¹, Rasimah Ismail²

¹Department of Family Medicine, Kulliyah of Medicine, International Islamic University Malaysia, Indera Mahkota Campus, Pahang, Malaysia.

²Department of Internal Medicine (Dermatology), Kulliyah of Medicine, International Islamic University Malaysia, Indera Mahkota Campus, Pahang, Malaysia.



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Nurul Farahain Mohammad¹, Azaima Razali², Hafizah Bahaludin³

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²Department of Chemistry, Kulliyah of Science, International Islamic University Malaysia, 25200 Kuantan, Pahang

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¹Department of Orthopaedics, Penang General Hospital, Malaysia

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³Faculty of Medicine, Universiti Sultan Zainal Abidin, Malaysia

⁴Department of Radiology, School of Medical Sciences, Universiti Sains Malaysia, Malaysia

⁵Department of Pathology, School of Medical Sciences, Universiti Sains Malaysia, Malaysia

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Mohd Ariff Sharifudin^{1,2*}, Nor Azman Mat Zin²

¹Faculty of Medicine, Universiti Sultan Zainal Abidin, Malaysia

²Department of Orthopaedics, School of Medical Sciences, Universiti Sains Malaysia, Malaysia

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Mohd Ariff Sharifudin^{1,2*}, Wan Faisham Wan Ismail², Khaw Yam Chuan², Khairil Amir Sayuti³

¹Faculty of Medicine, Universiti Sultan Zainal Abidin, Malaysia

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³Department of Radiology, School of Medical Sciences, Universiti Sains Malaysia, Malaysia

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¹Faculty of Medicine, Universiti Sultan Zainal Abidin, Malaysia

²Department of Orthopaedics, School of Medical Sciences, Universiti Sains Malaysia, Malaysia

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Zain Ab Rahman¹, Mai Nurul Ashikin Taib², Mawardi Mustapha¹, Mohd Ariff Sharifudin²

¹Department of Orthopaedics, School of Medical Sciences, Universiti Sains Malaysia, Malaysia ²Faculty of Medicine, Universiti Sultan Zainal Abidin, Malaysia

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¹Faculty of Medicine, Universiti Sultan Zainal Abidin, Malaysia

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^{1,2,3}Department of Computational and Theoretical Sciences, Kulliyah of Science, International Islamic University Malaysia, 25200 Kuantan, Pahang

⁴Department of Chemistry, Kulliyah of Science, International Islamic University Malaysia, 25200 Kuantan, Pahang

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Mohd Ariff Sharifudin^{1,2}, Wan Faisham Wan Ismail², Zulmi Wan², Nor Azman Mat Zin²

¹Faculty of Medicine, Universiti Sultan Zainal Abidin, Malaysia

²Department of Orthopaedics, School of Medical Sciences, Universiti Sains Malaysia, Malaysia



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¹Department of Community Medicine, Kulliyah of Medicine, International Islamic University Malaysia, 25200 Kuantan, Pahang, Malaysia

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Musliana Mustaffa¹, Imran Zainal Abidin¹, Mohamad Shafiq Mohd Ibrahim²

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²Department of Dental Public Health, KOD, IIUM, Jalan Sultan Ahmad Shah, 25200 Kuantan, Pahang, Malaysia.

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¹International Islamic University Malaysia, Malaysia

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³Faculty of Engineering, Universiti Putra Malaysia, 43400 Serdang, Malaysia.

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Shirwan Abdullah Sani¹, Nusaibah Abdul Rahim²

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²Faculty of Pharmacy, University of Malaya, 50603 Kuala Lumpur, Malaysia

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Siti Nurlaili Karim¹, Nur Zatul Akmar Hamzah¹, Nasir Ganikhodjaev²

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² Institute of Mathematics, Academy of Sciences of Uzbekistan, Tashkent, Uzbekistan

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¹ Sultan Ahmad Shah Medical Centre @ International Islamic University of Malaysia, Kuantan, Pahang, Malaysia

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Maryam Riyadh YASEEN¹, Ghasak G.FAISAL², Azliana ABD FUAAT¹, Khairunisa Ahmad AFFANDI¹

1. Kulliyah of Medicine, International Islamic University Malaysia, 25200 Pahang, Malaysia

2. Kulliyah of Dentistry, International Islamic University Malaysia, 25200 Pahang, Malaysia

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Ibrahim Bin Abu Bakar^{1,2}, Norfatin Nabila Mohd Azmi¹, Nor Syamimi Mohd Shahizi¹, Hermy Bin Mohd Yeet²

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²International Institute of Halal Research, International Islamic University Malaysia, Jalan Gombak, Selangor, Malaysia.

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² Plastic & Reconstructive Surgery Unit, Kulliyah (Faculty) of Medicine, International Islamic University, Jalan Sultan Ahmad Shah, 25200 Kuantan, Pahang, Malaysia

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Wan Fatimah SWM¹, Mohammad CM¹, Muhammad Zubir Y², Shahidah CA³, Islah Munjih AR³, Iskandar Firzada O⁴

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³Department Of Surgery, Kulliyah of Medicine, International Islamic University Malaysia, Bandar Indera Mahkota Campus, Pahang, Malaysia.

⁴Klinik Kesihatan Jaya Gading Kuantan, Pahang, Malaysia

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Inayatullah Shah Sayed¹, Hajar Fatimah Mohd Yasin¹

¹Department of Diagnostic Imaging and Radiotherapy, Kulliyah of Allied Health Sciences, International Islamic University Malaysia, Kuantan, Pahang, Malaysia

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Inayatullah Shah Sayed¹, Nur Suhaili Syahirah Mohd Salleh¹, Syed Waliullah Shah²

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²Stanford International College, 1011 Eglinton Avenue East, Mississauga, ON L4W 1K4, Canada

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Wael M. Y. Mohamed^{1,6}

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³Department of Basic Medical Sciences,
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⁵Department of Physiology, Faculty of
Medicine, UKM Medical Centre (UKMMC),
Kuala Lumpur, Malaysia

⁶Clinical Pharmacology Department,
Menoufia Medical School, Menoufia
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Nor Amirah Busul Aklan¹, Nor Nadira
Amani Ramli², Bakhram Umarov³

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Theoretical Sciences, Kulliyah of Science,
International Islamic University Malaysia,
25200 Kuantan, Pahang, Malaysia.

³Department of Physics, Kulliyah of Science,
International Islamic University Malaysia,
25200 Kuantan, Pahang, Malaysia.

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M.A Azman¹, M Z Ramli², H-B Goh³, Z
Zainol⁴

¹Department of Marine Science,
International Islamic University Malaysia,
Malaysia

²Institute of Oceanography and Maritime
Studies (INOCEM), International Islamic
University Malaysia, Malaysia

³Global Water Consultants Sdn Bhd,
Malaysia

⁴Institute of Oceanography and Environment
(INOS), Universiti Malaysia Terengganu,
Malaysia

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Nurul Syamilah Abdul Razak,
Muhamad Ashraf Rostam

Department of Nutrition Sciences, Kulliyah
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Islamic University Malaysia, Jalan Sultan



Ahmad Shah, Bandar Indera Mahkota,
25200 Kuantan, Pahang, Malaysia

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Che Amri*, Rozilawati Shahari

Department of Plant Science, Kulliyah of
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Nurul Syafiqah Othman¹, Che Suraya
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Ahmad Kashfi Ab Rahman², Wirdatul
Ainna Jamaluddin³

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Nur Zahirah, Kuala Terengganu,
Terengganu, Malaysia

³Department of Multidisciplinary, Hospital
Hulu Terengganu, Terengganu, Malaysia

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Khairul Nizam¹, M Firdaus¹, Akmal
Azim²

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Rehabilitation, Sultan Ahmad Shah
Medical Centre, Kuantan, Pahang,
Malaysia

² Plastic and Reconstructive Unit, Dept.
of Surgery, Sultan Ahmad Shah
Medical Centre, Kuantan, Pahang,
Malaysia

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Mohamad^{1,2}, Ahmad Fahmi Harun^{1,2},
Mohd Hafiz Arzmi^{2,3}

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A. Abd Manaf¹, M.K. Al-Kubaisi², K.H. Abd Aziz³

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Muhamad Sharifuddin b Mat Daud, Muhd Firdaus b Che Musa, Muhammad Bazli bin Ismail, Muhammad Afiq Aiman bin Mohd Arifin

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Nawal Ahmed Mohamed¹, Zunariah Buyong¹, Nor Zamzila Abdullah¹, Asmah Hanim Hamdan¹, Jamalludin Ab. Rahman¹, Sirajudeen Kuttulebbai, Naina Mohamed Salam¹, Noraihan Mat Harun¹, Aung Win Tun².

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172 | PREVALENCE OF INTERNET ADDICTION AMONG MEDICAL AND NON-MEDICAL STUDENTS OF INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA (IIUM), Kuantan.

Azwanis Binti Abdul Hadi¹, Nurul Husna Azmi¹, Fatin Nadrah binti Azmi¹, Norshahida binti Jasmani¹, Fatin Salina binti Mohd Salim¹, Karimah Hanim binti Abd. Aziz²

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Khairun'naim Bin Khairuddin^{1,2}, Dr
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186 | PREVALENCE OF BACTERIA ISOLATED FROM THE LIFT BUTTONS OF TWO HOSPITALS IN KUANTAN, PAHANG.

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187 | DISTRIBUTION OF CASES ENCOUNTERED IN ORAL MEDICINE UNDERGRADUATE CLINIC: A RETROSPECTIVE ANALYSIS.

Ibrahim, N. R.¹, Mohd, F. N.¹ and Mohd Ali, M.N.H², Khalil. N.³, Sahar, N. H.³

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194 | KNOWLEDGE AND ATTITUDE OF OPERATING THEATER NURSES TOWARDS PAIN MANAGEMENT.

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**198 | THE EFFECTS OF INDUCED
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199 | KNOWLEDGE, PERCEPTION AND PRACTICE OF ADJUNCTIVE MANAGEMENT IN PERIODONTAL DISEASE.

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200 | KNOWLEDGE, ATTITUDE AND PRACTICE OF PELVIC FLOOR MUSCLE EXERCISE AMONG HEALTH CARE PROVIDERS IN COMMUNITY HEALTH CLINICS, KUANTAN.

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201 | EVALUATION OF AN INTENSIVE EDUCATION PROGRAMME ON THE TREATMENT OF TOBACCO USE DISORDER FOR COMMUNITY PHARMACISTS.

Syed Azizullah Ghor¹, Assoc. Prof. Dr Mohamad Haniki Nik Mohamed,²

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202 | PERSONALIZED MEDICAL DEVICE FOR OPTIMAL CHEMOTHERAPY TREATMENT

Ahmad Fairuzabadi Mohd Mansor¹, Anis Nurashikin Nordin¹, Salmah Sedek², Mardhiah Mohammad², Muhammad Naimuddin Abdul Azih³, Megat Razeem Abdul Razak⁴, Aishah Ibrahim⁴, How Soon Hin³, Muhammad Irsyad Bin Suhaimi⁵, Zambri Samsudin⁵

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**203 | CLINICAL PROFILE AND
OUTCOMES OF PATIENTS WITH
SKIN AND SOFT TISSUE
INFECTIONS ADMITTED IN
DEPARTMENT OF GENERAL
SURGERY IN A TERTIARY CARE
HOSPITAL - A RETROSPECTIVE
ANALYSIS.**

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Pattern of Medication Use Among the Elderly at One Nursing Centre for Terminally- ill Patients in the East Coast Malaysia: A Cross-sectional Study

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POLYPHARMACY

- Elderly populations with multiple medical problems requires comprehensive care, including **increased use of medications**.
- Polypharmacy - concurrent use of several medications (5 to 8 drugs).
- Increases adverse reactions, morbidity and mortality.

(Hassan et al, 2017)

POTENTIALLY INAPPROPRIATE MEDICATION (PIM)

- The **Beers criteria** - most widely used method for identification of PIM to be avoided in the elderly. (Hassan et al, 2017)

CLINICAL INVESTIGATION

American Geriatrics Society 2019 Updated AGS Beers Criteria[®] for Potentially Inappropriate Medication Use in Older Adults

*By the 2019 American Geriatrics Society Beers Criteria[®] Update Expert Panel**

The American Geriatrics Society (AGS) Beers Criteria[®] (AGS Beers Criteria[®]) for Potentially Inappropriate Medication (PIM) Use in Older Adults are widely used by clinicians, educators, researchers, healthcare administrators, and regulators. Since 2011, the AGS has been the steward of the criteria and has produced updates on a 3-year cycle. The AGS Beers Criteria[®] is an explicit list of PIMs that are typically best avoided by older adults in most circumstances or

For the 2019 update, an interdisciplinary expert panel reviewed the evidence published since the last update (2015) to determine if new criteria should be added or if existing criteria should be removed or undergo changes to their recommendation, rationale, level of evidence, or strength of recommendation. Each of the five types of criteria in the 2015 update were retained in this 2019 update: medications that are potentially inappropriate in most older adults, those that should typically be avoided in older



AIMS

PATTERN

To assess the **pattern of medication use.**

POLYPHARMACY STATUS

To determine the **prevalence of polypharmacy.**

PIM

To screen any use of **potentially inappropriate medications (PIMs) according to Beers Criteria.**

METHODOLOGY

STUDY DESIGN

Cross-sectional study using secondary data.

STUDY POPULATION

All residents at Rumah Ehsan Dungun, a nursing centre for terminally-ill patients.

INCLUSION CRITERIA

Residents (1) aged \geq 60 years; (2) taking one or more medications during period of data collection.

EXCLUSION CRITERIA

Exclusion criteria include resident's folder with incomplete information.

IREC ETHICAL APPROVAL

Approval for this research was obtained from IIUM Research Ethical Committee (IREC 2019-166) on 19th July 2019.

JKM APPROVAL

Approval for this research was obtained from the Department of Social Welfare, Malaysia on 13th August 2019.

METHODOLOGY

DATA COLLECTION

- The data collection was conducted in September 2019.
- Resident's age, gender, ethnicity, marital status, dependency to caretakers, bedbound status and the pattern of medication use (types, polypharmacy status, and the use of PIM) were collected from residents' personal folders.

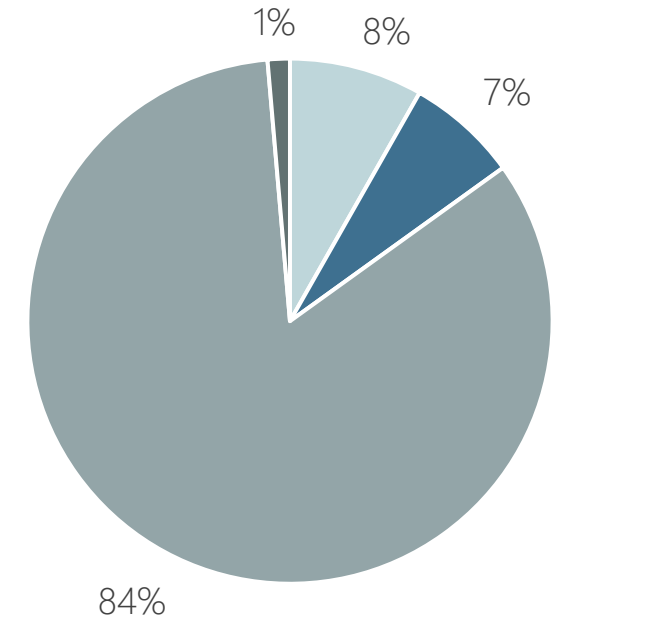
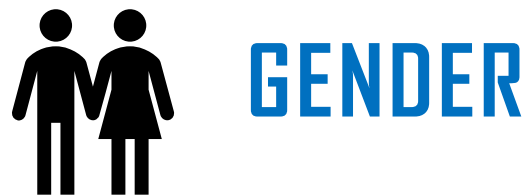
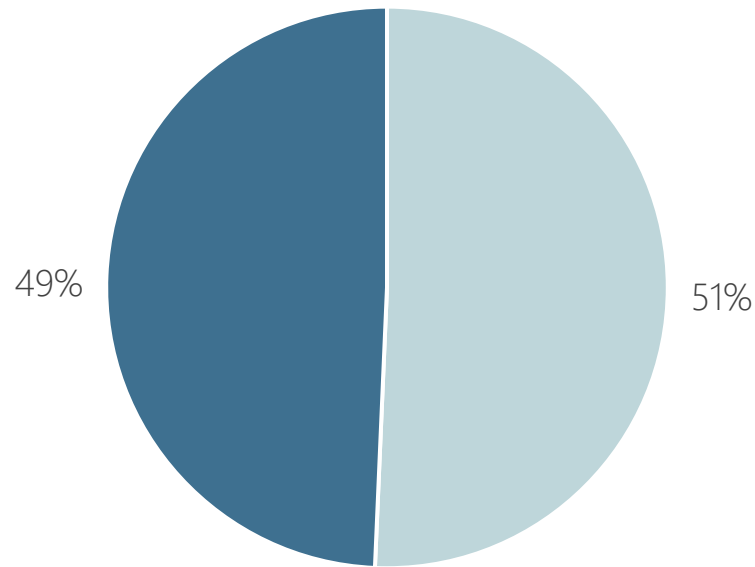
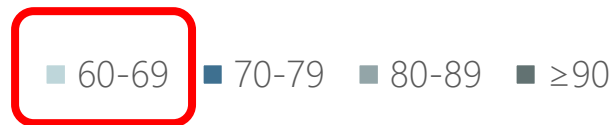
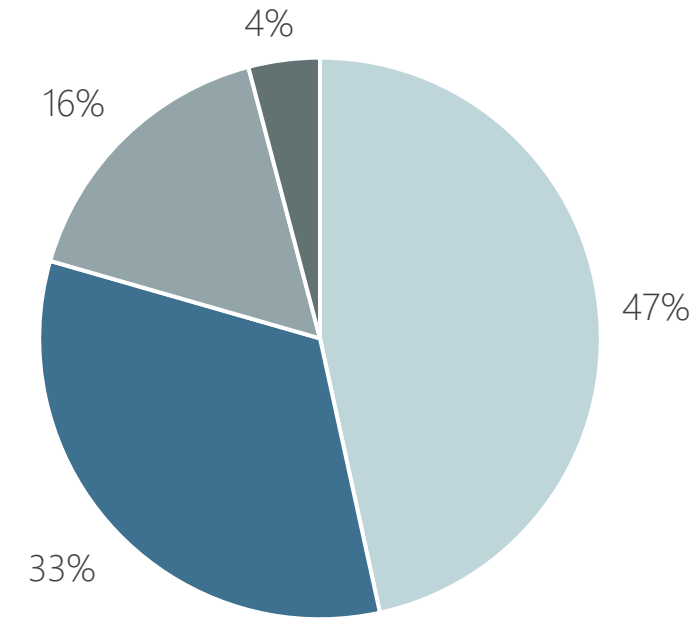


STATISTICAL ANALYSIS

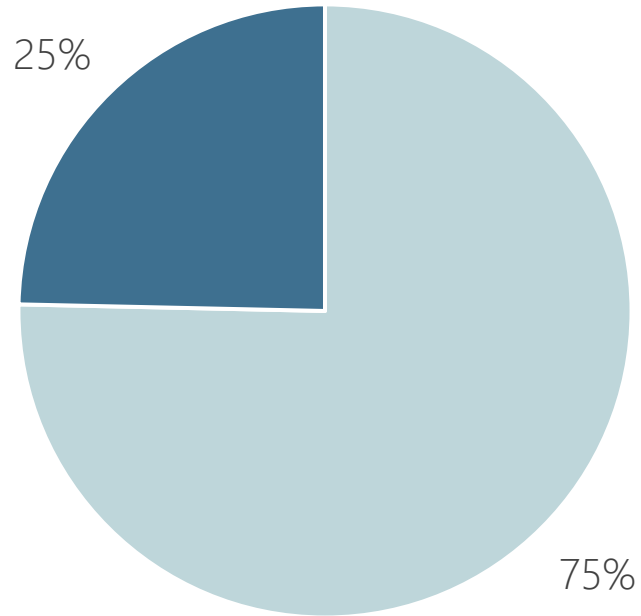
- Descriptive statistical analysis was run using Statistical Package for Social Sciences version 21[®] (SPSS v21, SPSS Inc., Chicago, IL, USA).



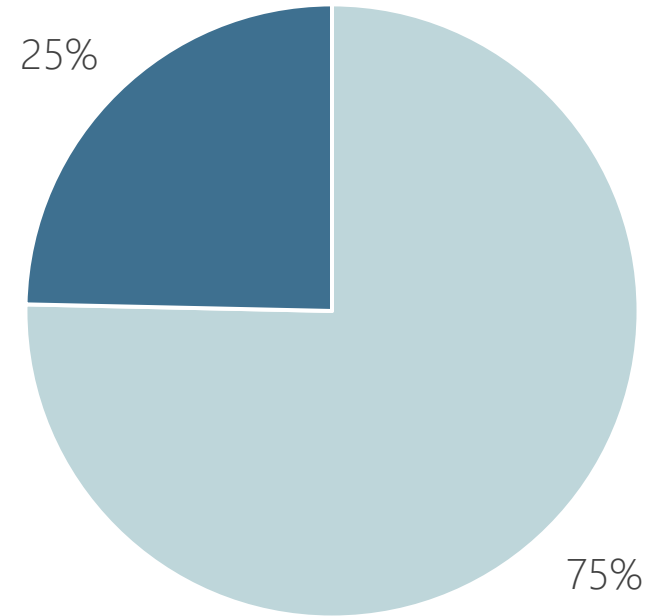
DEMOGRAPHIC PROFILES



DEMOGRAPHIC PROFILES



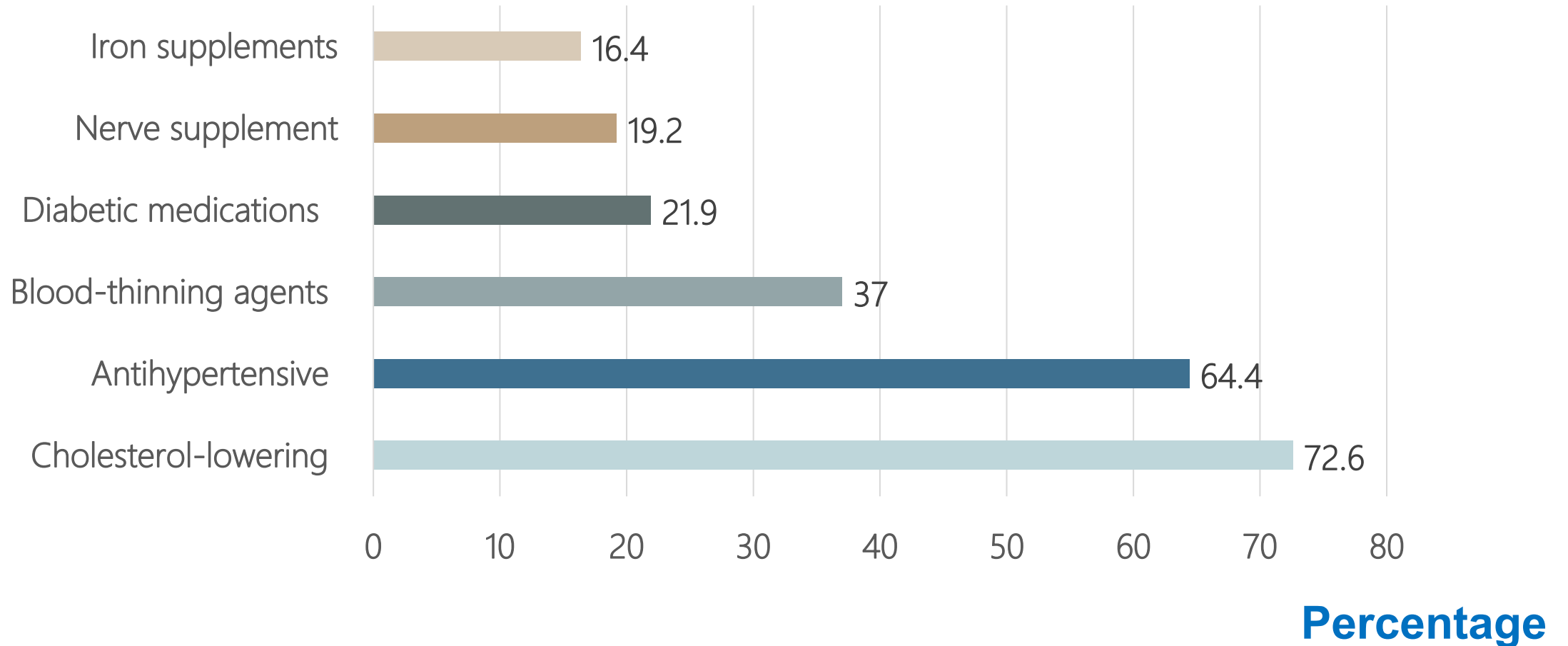
DEPENDENCY TO CARETAKERS




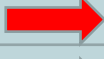




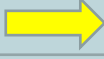
BEDBOUND STATUS

PATTERN-MAJOR GROUP OF DRUGS

Types of medication

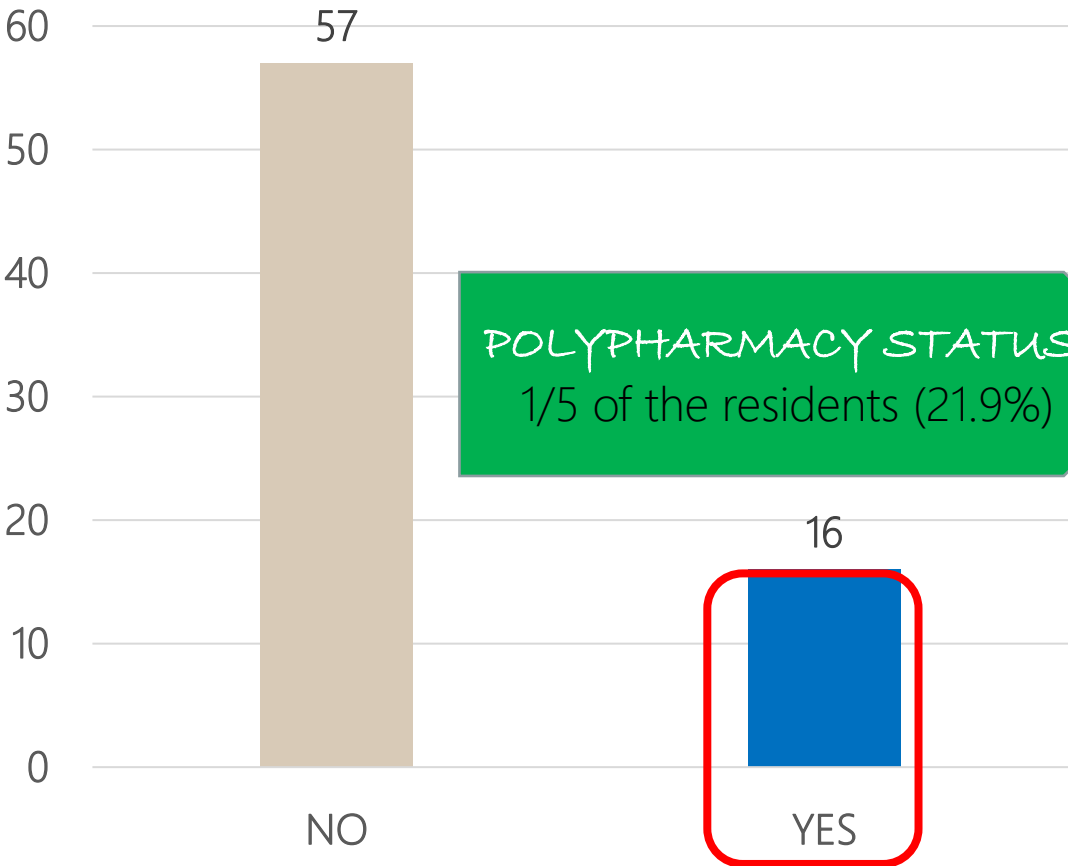
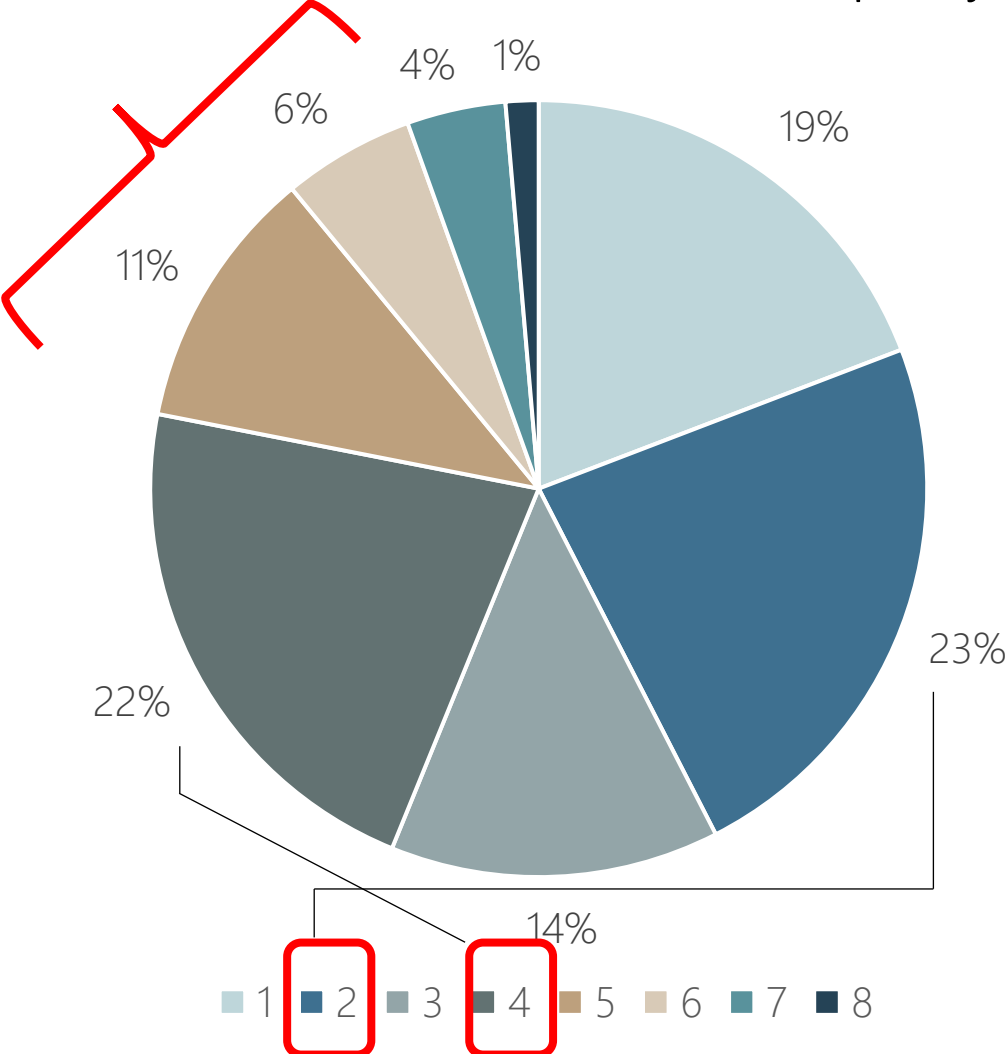


PATTERN-SPECIFIC DRUGS

Groups of Drugs	Specific Drug	Frequency	%
Cholesterol-lowering 	Simvastatin	53	72.6%
Anti-hypertensive 	Amlodipine	40	54.80%
	Peridopril 	20	27.40%
	Hydrochlorothiazide	4	5.50%
	Metaprolol	3	4.10%
	Bisoprolol	2	2.70%
	Prazosin	1	1.40%
	Furosemide	1	1.40%
Blood thinning agents 	Aspirin	18	24.70%
	Cardiprin	11	15.10%
Anti-diabetic 	Metformin	14	19.20%
	Glicazide	5	6.80%
	Atraptic SC	2	2.70%
	Insulin mixtard SC	1	1.40%
Iron supplements 	Hematinic acid	8	11.00%
	Ferrous fumarate	4	5.50%
Nerve supplements 	Combination of Vitamin B1, B6, B12 supplement (Neurobion)	12	16.40%
	Vitamin B12 supplement (Mecobalamine)	2	2.70%

PATTERN-CONCURRENT MEDICATION USE

Concurrent Use of Medication (Frequency)



PIM

POTENTIAL INAPPROPRIATE MEDICATIONS


Several medications used by the minority of residents (12.3%) were listed in 2019 AGS Updated Beers Criteria;


1. Prazosin (1.4%)
2. Ranitidine (6.8%)
3. Colchicine (1.4%)
4. Lorazepam (1.4%)
5. Chlorpromazine (1.4 %)



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PIMs	Rationale	Diseases or syndrome	Recommendation	Quality of Evidence	Strength of Recommendation
Prazosin (1.4%) Peripheral alpha-1 blockers for treatment of hypertension 	<ul style="list-style-type: none"> High risk of orthostatic hypotension and associated harms especially in older adults. Not recommended as routine treatment for hypertension 	Syncope & Urinary incontinence (in women)	Avoid use as an antihypertensive	Moderate	Strong

PIMs (occurrence)	Rationale	Diseases or syndrome	Recommendation	Quality of Evidence	Strength of Recommendation
Ranitidine (1.4%) H2-receptor antagonists 	Avoid in older adults with or at high risk of delirium because of potential of inducing or worsening delirium	Delirium	Avoid	Low	Strong

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PIMs (occurrence)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation
Lorazepam (1.4%) Benzodiazepines	<ul style="list-style-type: none"> All benzodiazepines increase risk of cognitive impairment, delirium, falls and fractures. 	Avoid	Moderate	Strong

PIM

PIMs (occurrence)	Rationale	Syndrome	Recommendation	Quality of Evidence	Strength of Recommendation
Chlorpromazine (1.4 %) Antipsychotics	Antipsychotics increase the risk of orthostatic hypotension or bradycardia	Syncope	Avoid	High	Weak

PIM

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PIMs (occurrence)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation
Colchicine (1.4%) Hyperuricemia	Gastrointestinal, neuromuscular, bone marrow toxicity	Reduce dose; monitor for adverse effects	Moderate	Strong

PIM

DISCUSSION

- Findings: Most frequent medications being prescribed was simvastatin (72.9%).
 - ✓ Antihyperlipidemic agents (n=93, 46%) were most frequently prescribed to the participants, with most being statins (Hasan *et al.*, 2017).
- Findings: Polypharmacy occurred in one-fifth of the residents (21.9%).
 - ✓ Polypharmacy among the elderly (≥ 60 years old) admitted to medical ward in Hospital Kuala Lumpur = **39.2%** (Hor, 2008).
 - ✓ Polypharmacy among the elderly people at 17 private aged care homes in Klang Valley, Malaysia = **48.3 %** (Hasan *et al.*, 2017).
 - ✓ Polypharmacy among the elderly patients (aged ≥ 55 years old) attending University Malaya Medical Centre = **45.9%** (Lim, 2017).

DISCUSSION

- Prescribing multiple medications is almost **inevitable among older people due to the high prevalence of diseases**, but the adverse impact can be reduced by **performing periodical screening** to identify unnecessary use of PIM.
- Findings: Prevalence of PIM use (12.3%) according to AGS 2019 Beers Criteria.
- ✓ PIM of 32.7% among residents in non-government organization (NGO) nursing centres at Penang, Malaysia (Chen *et al.*, 2012).
- ✓ PIM of 36% among participants resided in 17 private aged care homes in Klang Valley, Malaysia (Hasan *et al.*, 2017).





SUMMARY

- Prevalence of polypharmacy in this study was moderate with some minor use of PIM.
- The use of PIM however should be re-considered to minimise adverse drug reactions and to improve health conditions of these residents.

ACKNOWLEDGEMENT

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THANK YOU

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