

RESEARCH ACTIVITIES REPORT CRU ASSOCIATE MEMBERS (CRAMS) AND CLINICIAN SCIENTIST COTERIE (CSC) FOR SERIE 2/2022

SHARING FROM CRAMS AND CSC'S MEMBER!



By Salwana Ahmad

CRAMs Online Meeting was held on 2nd April 2022, 3.30 pm – 5.00 pm CRU Associate Members (CRAMS) with 27 attendees among CRAMs Members, Clinician Scientist Coterie (CSC) Members and staff among Hospital Pengajar, UPM and Faculty of Medicines and Health Sciences, UPM. This session was intended for the CRAMs members to share their research activities in the department and how they are coping with all the coming challenges and strive to keep moving forward. During the session, 3 first CRAMs members have presented their research activities report comprising from the Department of Nuclear Imaging, Department Obstetrics and Gynecology, and Department of Otorhinolaryngology, Head and Neck Surgery. In light of cultivating the spirit of research and knowledge sharing, here are the 2 summaries (one will be shared later in the next issue) of the presentation shared for all of us to get to learn how is everyone is doing in proceeding with the quality research in UPM.

NUCLEAR IMAGING UNIT – EMBRACING RESEARCH, TEACHING & LEARNING, AND CLINICAL SERVICES.

Background:

The Nuclear Imaging Unit (UPN) provides inpatient and outpatient diagnostic imaging services using nuclear radiation apparatus and radioisotopes (such as gamma camera equipped with hybrid SPECT/CT) for radionuclide treatment for cases of hyperthyroidism, thyroid cancer, prostate cancer, and neuroendocrine cancer. The department is also equipped with radiopharmaceuticals for lab support services and brain perfusion imaging under clinical services for referral patients from Neurosurgery Department, Hospital Kuala Lumpur, and Cancer National Institute, Putrajaya

CRAMs Member: Assoc. Prof. Dr. Subapriya Suppiah



REMARKABLE RESEARCH ACTIVITIES AND OUTPUTS

Intraregional and extra-regional collaboration could enhance journal quality and visibility in publishing. As such, the departments had established good relationships with a few high reputation agencies in Malaysia such as the Nuclear Medicine Department, Hospital Kuala Lumpur and National Cancer Institute, Ministry of Health in 2021 in improving diagnostic and clinical services. 4 journals were published, 2 won awards, and 2 webinars have been produced during the year as such:

Publications:

Bil.	Journal Title	Author	Title	Result & Conclusion
1.	The Medical journal of Malaysia,	Suppiah S. (2021)	Nuclear medicine in Malaysia – Strengths and challenges for physicians after more than half a century of experience	Challenges for NM ahead are namely regulatory and financial constraints for utilizing newer radiopharmaceuticals available in the international market, expansion of accredited training programmed to produce skilled healthcare workforce, optimization of resources at hand and multidisciplinary collaborations to reduce premature mortality of patients caused by noncommunicable diseases, particularly cancer.
2.	Egypt J Radiol Nucl Med	Arumugam, K., Onny, M.A.A., Amran, I.M. et al. (2021)	Rhabdomyolysis following coronary angiography: an unexpected detection on ^{99m} Tc-methyl diphosphonate bone scintigraphy	A comprehensive approach in interpreting extraosseous uptake in ^{99m} Tc-MDP bone scintigraphy and an inclusive clinical approach with a high clinical index of suspicion can ensure that this life-threatening condition is not missed. Prompt diagnosis and intervention can improve the outcome in an otherwise high mortality related condition.
3.	Pathogenesis to Treatment. Book Chapter	Suppiah, S. (2018).	The Past, Present, and Future of Diagnostic Imaging in Ovarian Cancer	Diagnostic imaging with particular focus in molecular imaging has the potential for altering management plans, which can ultimately help improve the prognosis of ovarian cancer.
4.	The Medical journal of Malaysia	Khor, P. P., Suppiah, S., Wong, T. H., & Siti Zarina, A. H. (2021).	Clinicopathological features and treatment outcome of pediatric differentiated thyroid cancer treated with Radioactive Iodine-131 therapy in Hospital Kuala Lumpur, Malaysia.	Pre-pubertal age, those presenting with cervical nodal involvement, extra-thyroidal extension and lymph vascular invasion were significantly associated with distant metastases at presentation. There was no mortality reported during the follow-up period. Sixty per cent of patients achieved remission, while 40% had persistent disease. The persistent disease was significantly correlated with distant metastasis at presentation (p=0.025). Pediatric DTC manifests with a more extensive disease burden at presentation and requires multiple RAI doses. Despite this, it carries an excellent overall prognosis. It carries an excellent overall prognosis.

Awards:

Bil.	Awards Title	Author	Title	Result & Conclusion
1.	First runner-up award during national Malaysian Nuclear Medicine Annual Conference (MyNM) 2021	Suppiah S. et. al (2021)	Correlation of 18F-FDG PET/CT Metabolic Parameters with CA125 and Ki67 Immunohistochemistry in benign and Malignant Epithelial Ovarian Tumors - A pilot Study	<ul style="list-style-type: none"> They were 10 EOC and 3 benign epithelial ovarian tumors. SUBmax is significantly correlated with CA 125 but not with the Ki67 index.

Speaker and Webinars:

Bil.	Webinar	Speaker	Title
1.	Research-based webinar	Assoc. Prof. Dr. Subapriya	Basic Introduction to Resting State fMRI Network Neuroscience, 2021
2.	Symposium (Industrial Linkage with GE Healthcare)	Assoc. Prof. Dr. Subapriya	GE Neuro PETCT symposium for ASEAN Education Platform, Friday, 13th August 2021
3.	Continuing Medical Education (CME)	Assoc. Prof. Dr. Subapriya	Brain Perfusion scintigraphy for brain ischemia conditions and related radiation safety methods on 22 nd October 20 as an online webinar.

Current Research Project:

Bil.	Title	Head	Collaborator	Funding
1.	Deep machine learning to recognize early changes of Alzheimer's disease using functional MRI and genetic information for risk prediction in Klang Valley, Malaysia	Assoc. Prof. Dr. Subapriya	Radiology Department/Nuclear Imaging Unit, Medical Department (Geriatric), HPUP, Hospital Kuala Lumpur, Klinik Kesihatan Pandamaran	FRGS/1/2019/SKK03/UPM/02/4



Picture courtesy of Assoc Prof. Dr. Subapriya: Supportive patients involved in the research activities.

PROMOTING POSITIVE PERCEPTIONS AND MOTIVATION FOR FACING CHALLENGES, IMPROVING CLINICAL RESEARCH, and CULTIVATING RESEARCH & NETWORKING.

Challenges in move forwarding for continuous research activities and how to improve clinical research:

- A limited number of Academic staff to support research activities where strength and high numbers of expertise could boost more research and collaborations.
- Limited funding to support research in nuclear medicine in Malaysia due to new fields and less explored. Looking for more international funding and expertise incorporated into Malaysia could introduce more opportunities to develop radiopharmaceuticals in Malaysia.
- .Inavailability of newer technologies for research purposes instead of for clinical work. Incorporating newer such as PET-CT could help in producing suitable methods for research purposes.



Strategies to improve research cultures:

Creating a research corner can be a precious part to support research activities. In doing so, the medical practitioners or clinicians will have the space to make known their remarkable work and research finding to the public although they are not an academicians. Appreciation the hard work is the best way for researchers to keep moving with high confidence.

In pictures are Dr. Ahmad Danial Bin Ahmad Shahrir and Dr. Khairul Aliff Bin Khairuman with their research poster presentation from the publication/conference in the research corner.

OBSTETRICS AND GYNAECOLOGY UNIT – IMPROVE KNOWLEDGE AND RESEARCH TO IMPROVE QUALITY HEALTHCARE SERVICES.

Background:

The Department of Obstetrics and Gynecology is one of the clinical departments in the UPM Teaching Hospital that functions and operates to provide excellent, quality, and latest services as well as appropriate technology to create a healthy community of women and families. This department started services in Reproductive and Infertility subspecialty operations and then expanded to Maternal-Fetal and Gynecology services with subspecialties from trained Specialists. The service coverage of this department covers several districts in the State of Selangor. The Department of Obstetrics and Gynecology also receives many referrals from UPM Health Centers, Government, and Private Health Clinics from outside the Klang Valley for inpatients and outpatients' services.

CRAMs Member: Dr. Amilia Afzan Binti Mohd Jamil



REMARKABLE RESEARCH ACTIVITIES AND OUTPUTS

Past Research Projects:

Bil.	Title	Outcome	Funding	Result
1.	A Pilot Study On Identification Of Protein Alterations Underlying Preterm Delivery Of Malay Patients Using Proteomic Approach	<ul style="list-style-type: none"> • 4 journal publications. • 2 proceedings 	FRGS 2013 sum grant RM 150,000.00	<ul style="list-style-type: none"> • Identify potential biomarkers as well as assess dysfunction in the framework of split-IM. The identified proteins involved in four distinct functional classes include inflammation, oxidative stress, anticoagulation, and extracellular matrix remodeling leading to preterm parturition. These results can help in the future selection of more meaningful potential biomarkers for the early detection of split-IM that might appear in easily accessible body fluid. • An ongoing follow-up study on Investigating the cause of Spontaneous Preterm Births Through Molecular Analyse.
2.	Fundamental study of Cervical cancer screening by molecular detection of specific ssDNA Using Electrical DNA Chip	<ul style="list-style-type: none"> • 6 journal publications. • 3 book chapters • 12 proceedings. • 18 innovation awards. • Established collaboration with UNMAP 	FRGS 2014	-
3.	Early detection of HPV Cervical Cancer Using Nanotechnology Based Biosensor	<ul style="list-style-type: none"> • 6 journal publications. • 3 book chapters • 13 conference papers. • 18 innovation awards. 	PRGS 2015	-

Current Research Projects:

Bil.	Title	Funding
1.	Identification of Genetic Polymorphisms of LHCGR, THADA, and CYP11a Genes among Malay Women with Infertility/ Anovulatory and Polycystic Ovarian Syndrome (PCOS)	Grant Putra Berimpak Tinggi
2.	Randomised Controlled Trial Comparing Vaginal Pessary and Progestogen as an Intervention in Twin Pregnancy with Short Cervix to prevent Spontaneous Preterm Birth (I-TwiSC)	Dana Impak Perdana (Collaboration with UKM)
3.	Towards Development of an individualized Screening Tool by Utilising Cervical Length Measurement in Relation to Body Mass Index (BMI) for Early Detection and intervention for Preterm Birth	Geran Intensive Pensyarah Muda

Proposal Submitted to Funder:

Bil.	Title
1.	Investigating the Novelty of pathway causing Male infertility: Seminal fluid Gene and Protein Expression of Malay Infertile Men in Malaysia.
2.	Development Of Postpartum Depression Risk Scoring (Pdrs) Scale As Early Screening Tool For Prediction Of Postpartum Depression Among Malaysian Women
3.	Association of Vitamin D deficiency With Selected Vitamin D Receptor (VDR) Gene Polymorphisms In Gestational Hypertension Among Malays: A Prospective Genetic Biomarker For Early Intervention Strategy
4.	Developing Novel biomarkers for Endometrial Cancer in PCOS: Endometrial Tissues Gene Expression and Targeted Proteomic profiling of Endometrial Cancer Patient with PCOS Among Malay Women in Malaysia.

PROMOTING POSITIVE PERCEPTIONS AND MOTIVATION FOR FACING CHALLENGES, IMPROVING CLINICAL RESEARCH, and CULTIVATING RESEARCH & NETWORKING.

In doing the research, the department faced challenges in many ways like all researchers in the field. The top 3 mentioned challenges were (i) lack of mentorship from experienced colleagues due to lacking expertise; (ii) undesirably burdensome getting grants due to lack of experience and (iii) difficulty to find collaborators or partnerships due to high demanding and competitive strains in seeking sponsorship from industrial, private, and international partners in the O&G field. The other 3 challenges are the low amounts of money matter due to the high rate of the publication fee, low rate of registered postgraduates & low numbers of staff in the department, and lacking statistical analysis skills among clinicians.

To overcome the challenges issues, they had shared a few steps and actions undertaken to improve such as:

1. Encouraging lecturers to attend research and publication courses.
2. Held research meetings every 2-3 months with guidance from seniors.
3. Ensure each lecturer has at least 1 afternoon dedicated to research every week.
4. Ensure each lecturer submits a manuscript by Jun each year.
5. Ensure all lecturers have a proposal in their hand for the grant application.
6. Encourage all lecturers to supervise year 2 students for their research course.
7. Ensure all lecturers know where they can get help if they have any problems in research and publication.
8. Increase the amount in Tabung Amanah for future use such as paying for publication fee.
9. Working on the possible international collaborations through having young lecturers pursuing subspecialty & Ph.D. study in international reputed university and link with the industry throughout the way, while collaborating with local researchers in public and private universities.

In promoting positive perceptions and motivations for improving clinical research and cultivating research, Dr. Amilia mentioned in her sharing that:

1. University's KPIs are the top motivation to move forward. UPM's performance reflects the overall achievement based on the University KPIs by major activities such as Academic and Research and Community and Industry Network.
2. Reward scheme in services such as higher salary pay and increment, incentive, and awards.
3. Fulfill purpose for a better change in research quality for improving patients' care and knowledge continuity.

Strategies to improve research cultures:

1 February - June :
Focusing on paper writing and ready to submit to the journal. By June, the researchers will start to submit papers.

2 July - October:
Have a brainstorming session amongst staff for next year's research plan and publications

3 November - January:
Plan for proposal writing and grant application.

We would like to thank Assoc. Prof. Dr. Subapriya Suppiah and Dr. Amilia Afzan Binti Mohd Jamil for the sharing. We hope that the sharing can transform tacit knowledge into explicit, written, and easily communicated knowledge for the right people to receive the right information at the right time. See you the next time!.



Check out more information about our CRU Associate Members (CRAMs) for the Year 2022/2023 Member on HPUPM website at [CRAMs Members](#).



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