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**Introduction:** Health care professionals (HCPs) are likely to have occupational injuries and expose themselves to blood-borne pathogens. It is imperative to ascertain the management of occupational exposures and recommendations for post-exposure prophylaxis (PEP). **Objectives:** The present study was conducted to evaluate the knowledge and practice of HCPs for the management of occupational exposures and their recommendation for post-exposure prophylaxis (PEP). **Materials and Methods:** A cross sectional study was conducted from October 2018 to February 2019 in different tertiary health care settings of Karachi, Pakistan. HCPs were interviewed using a pre-validated, structured questionnaire. Data entered SPSS version 18 and descriptive statistics applied. A *p* value of less than 0.05 considered significant. **Results:** A response rate of 73.4% observed. Respondents included physicians (43.1%), medical students (32.3%), lab technicians (23.8%) and nurses (0.8%). Most common types of occupational exposures were needle stick injuries (21.5%), sample spillage (22.3%) and injury with sharp device (26.2%). Majority (90%) were aware of contributory factors for HCV, HBV & HIV exposures. Around 60% reported awareness of laboratory (lab) tests that are needed to determine the susceptibility to blood borne pathogen infection. Majority (60%) claimed that their institute has policy for management of exposures and provide appropriate training. A large majority (90%) expressed that healthcare facilities should develop a system to monitor reporting and management of such exposures. **Conclusion:** The present study revealed the high level of knowledge of physicians and medical students; however, the lab technicians and nurses possess low level. The periodic training could further strengthen the respondent understanding, expected to reduce disease transmission.

**KEYWORDS:** Healthcare professional, occupational exposure, pakistan, post-exposure prophylaxis

### ID 81. Investigation of $\alpha$ -Glucosidase Inhibitory Activity of *Tetracera scandens* Leaf using Fourier Transform Infrared Spectroscopy-based Metabolomics

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**Introduction:** *Tetracera scandens* is a shrub that belongs to Dilleniaceae family. The leaves of this plant have medicinal values and traditionally been used in the treatment of diabetes mellitus in Malaysia. The conventional quality control analysis of medicinal plants that relies on the quantification of few major metabolites is considered time-consuming since it requires extensive sample preparation and neglects the possible impacts that the other metabolites could have on the activity. **Objectives:** This study was aimed to investigate the  $\alpha$ -glucosidase inhibitory (AGI) potential of different ratios of water-methanol extracts of *T. scandens* leaves and to establish a predictive multivariate model that could be used for the quality evaluation of *T. scandens* leaf based on the Fourier transform infrared (FT-IR) spectra of its extracts. **Materials and Methods:** Different ratios of solvent (0%, 20%, 40%, 60%, 80% and 100% methanol in water) were used to prepare a total of 36 extracts. The AGI potential and the FT-IR fingerprint spectrum were acquired for each extract. **Results:** A four components OPLS model (1+3+0) with R<sup>2</sup>Y of 0.951 and Q<sup>2</sup>Y of 0.916 was established to describe the correlation between the fingerprint FT-IR spectra of different *T. scandens* extracts and their corresponding AGI activities. The carbon-oxygen, carbon-halide single bonds, as well hydroxyl and carbonyl groups were identified to be positively correlated with the AGI activity. **Conclusion:** An OPLS model was successfully developed as a rapid quality evaluation method to predict the AGI activity of *T. scandens* leaves.

**KEYWORDS:**  $\alpha$ -Glucosidase, fourier transform infrared, fingerprinting, multivariate analysis, metabolomics, *tetracera scandens*

### ID 82. In vitro Adipogenic Potential and Glucose Uptake Stimulatory Effect of the Terpenoids Isolated from *Tetracera indica* Merr.

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**Introduction:** Mempelaspaya (*Tetracera indica* Merr.) is used in folk medicines for the treatment of different diseases including diabetes and its related infirmities in Malaysia. This plant has been reported to contain terpenoids and flavonoids as major bioactive constituents. Flavonoids from this plant have earlier been reported for their antidiabetic potential. **Objectives:** The aim of this study was to evaluate the *in vitro* antidiabetic potential

of non-polar compounds to ascertain whether they also contribute antidiabetic effect to *mempelas paya*. **Materials and Methods:** As non-polar compounds, two terpenoids viz. betulinic acid and stigmasterol were isolated from stems ethanol extract through repeated silica gel column chromatography and their structures were characterised NMR spectroscopy. *In vitro* antidiabetic effect was investigated through 3T3-L1 adipocytes and fluorescence glucose (2-NBDG) uptake assays. MTT viability assay was performed on 3T3-L1 pre-adipocytes to confirm the safe concentrations of both compounds. Finally, both terpenoids were subjected to fluorescence glucose (2-NBDG) uptake test on differentiated adipocytes. The cells were treated in different safe concentrations as well as in different adipogenic cocktails, which were modified by the addition of compounds to be investigated and in the presence or absence of insulin. Rosiglitazone was used as standard. **Results:** Betulinic acid and stigmasterol induced significant ( $P < 0.05$ ) adipogenesis like insulin and enhanced adipogenesis like rosiglitazone. Furthermore, both terpenoids also exhibited significant ( $P < 0.05$ ) glucose uptake activity. **Conclusion:** This study is reporting the *in vitro* 2-NBDG uptake evaluation of stigmasterol and betulinic acid for the first time. The present study demonstrated that the non-polar compounds isolated from the *mempelas paya* do possess antidiabetic potential revealing insulin-like and insulin-sensitizing effects which were significant among the compounds.

**KEYWORDS:** 2-NBDG uptake activity, 3T3-L1 preadipocyte cells, adipogenesis, insulin like activity, insulin sensitizing activity, *tetracera indica merr.*, terpenoids

### ID 83. Public Awareness of and Action towards Heart Attack Symptoms: An Exploratory Study in Kuantan, Pahang, Malaysia

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**Introduction:** Awareness of symptoms and action towards heart attack (HA) are very important to reduce the deaths and disability. **Objectives:** The current research aimed to assess the awareness of symptoms and action towards heart attack among the general public. **Materials and Methods:** A cross-sectional study was conducted in Kuantan from May to July 2018 to recruit 393 respondents via convenience sampling. **Results:** The actual proportions associated with respondents who have been aware of HA symptoms ranged from 26.35% (pain/discomfort in the jaw, neck, back) to 71.65 %

(chest pain, discomfort). While 35.6% of respondents would call ambulance if they see someone suffering from HA symptoms; 82% realized  $\geq 1$  HA symptom, 11.5% recognized all five HA symptoms and 1.3% had excellent awareness (correct recognition of all five HA symptoms, without response "Yes" to decoy question). The odds ratios (OR) for those who have an excellent awareness of all five HA symptoms were significantly high in those who were single (OR 0.023; 95% CI 0.001–0.594), Malay (OR 0.376; 95% CI, 0.193–0.733), who have a history of HA among their relatives (OR 2.206; 95% CI, 0.983–4.949), who received information associated with HA (OR 7.540; 95% CI, 2.037–27.914) and those who aware that HA requires quick treatment (OR 0.176; 95% CI 0.044–0.710). **Conclusion:** Awareness of HA symptoms and proper action seem to be poor in Malaysia. Educational interventions to increase general awareness among the lay public, specifically in the elderly and who are at high risk for cardiovascular diseases are recommended.

### ID 84. Docking Studies and Molecular Dynamics Simulation of Ipomoea Batatas L. Leaves Compounds as Lipoxygenase (LOX) Inhibitor

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**Introduction:** Inflammatory mediators produced by the cyclooxygenase (COX) and lipoxygenase (LOX) pathways are responsible for many diseases in humans, such as cancer, arthritis, and neurological diseases. Flavonoid-containing plants, such as *Ipomoea batatas* L. leaves has shown potential anti-inflammatory activity. **Objectives:** The purposes of this study was predicting the activities of 10 compounds in *I. batatas* leaves, namely YGM-0a [cyanidin 3-O-sophoroside-5-O-glucoside], YGM-0f [cyanidin 3-O-(2-O-(6-O-(E)-p-coumaroyl- $\beta$ -D-glucopyranosyl)- $\beta$ -D-glucopyranoside)-5-O- $\beta$ -D-glucopyranoside], YGM-1a [cyanidin 3-(6,6'-caffeylp-hydroxybenzoylsophoroside)-5-glucoside], YGM-1b [cyanidin 3-(6,6'-dicaffeylsophor-oxide)-5-glucoside], YGM-2 [cyanidin 3-(6-caffeylsophoroside)-5-glucoside], YGM-3 [cyanidin 3-(6,6'-caffeyl-ferulylsophoroside)-5-glucoside], YGM-4b [peonidin 3-(6,6'-icaffeylsophoroside)-5-glucoside], YGM-5a [peonidin 3-(6,6'-caffeylhydroxybenzoylsophoroside)-5-glucoside], YGM-5b [cyanidin 3-(6-caffeylsophoroside)-5-glucoside] and YGM-6 [peonidin 3-(6,6'-caffeylferulylsophoroside)-5-glucoside] as LOX inhibitor as well as predicting the stability of its ligand-LOX complex. **Materials and Methods:** The study started with compounds screening through docking studies using PLANTS. The molecular dynamics simulation was conducted using GROMACS at 310 K. **Results:** The