

Milestone

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Treating Anxiety Disorders (*Al-Halu'*): An Application of Al-Makki Psychotherapy Model (MPM)



Assoc. Prof. Dr. Che Zarrina
Sa'ari

The research project entitled "Treating Anxiety Disorder (*Al-Halu'*) An Application of Al-Makki Psychotherapy Model (MPM)" is led by Associate Professor Dr. Che Zarrina Sa'ari in collaboration with University of Technology Malaysia, University of Science Malaysia, Open University Malaysia, Northern University of Malaysia and Islamic Science University of Malaysia.

Anxiety disorders (*al-halu'*), especially in the Western perspective have been extensively studied. However, very little study was carried out on treating this disorder from Islamic point of view. The aim of this study is to highlight the concepts and methods of Islamic psychotherapy intervention in treating anxiety disorder. From the Islamic perspectives, man was created as servant of God and the Caliph on the earth, who has specific tasks to be carried out throughout his life

through his relationship (*habl*) with God, fellow beings and other creatures. If the relationship is not formed towards the fulfilment of God's commandments as conveyed by His Messenger, Muhammad (PBUH), then the human soul will experience disorder (soul disease). The symptoms of mental or emotional instability will become greater when man are exposed to pressures and challenges of life, especially those who are lacked religious education and practices. In dealing with this unsound soul, the team explores the thought of spiritual therapy, *maqamat* established by a well-known Sufi Muslim psychologist, Abu Talib al-Makki (d. 996). The Al-Makki Psychotherapy Model (MPM) contains three phases of rehabilitation, (i) acceptance and submission to Allah; (ii) training and mental discipline; (iii) strengthening of the soul, the retention and enhancement of recovery.

The reliability of the MPM can be obtained through validation and confirmation by the experts in the field of Sufism, Islamic counselling and Islamic psychology as well as from the results of the empirical study involving the process of intervention and rehabilitation on subjects who are suffering from mild and moderate anxiety disorders (*al-halu'*) whom show significant decrease in the levels of

anxiety disorders (*al-halu'*) (between pre- and post-intervention and rehabilitation).

Although many therapies are available to treat anxiety such as Cognitive Behavioural Therapy (CBT) and anxiety medications, but there are still plenty of space for other alternative treatment. The MPM which is established based on the discipline of Sufism, emphasizes on the element of soul purification as alternative therapy for the treatment of anxiety disorders (*al-halu'*).

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Pyrolysis of Palm Shell : Transforming Wastes into Wealth



**Prof. Dr. Wan Mohd Ashri
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Our research focused on the use of oil palm solid waste to produce oil, char and gas via pyrolysis process. Palm shell was selected as lignocellulosic biomass model feedstock for oil upgrading processes such as catalytic hydrogenation, catalytic upgrading, and co-pyrolysis. Among the oil palm solid wastes, the pyrolysis of palm shell (as shown in Figure 1) generates the highest yield of oil (approximately 47.43 wt.%) with significant amount of phenolic compounds as side products and these applications are shown in Figure 2. High level of phenolic compounds increases the acidity and causes instability of the oil as well as low heating value.

The results from catalytic hydrogenation of palm shell showed that decalin and tetralin can efficiently convert phenol and guaiacol to high-value components (green chemicals). The results of the catalytic upgrading processes showed that the use of methanol during pyrolysis of palm shell can significantly reduce phenol formation and prolong the life span of the catalysts. In the co-pyrolysis study, the incorporation of



Figure 1. Pyrolysis of palm shell (left) at 500 °C produces oil (middle), char (right) and gas

polystyrene and scrap tyre successfully improved the quantity and quality of the oil. These oxygenated compounds were effective as reducing agent and improved the heating value (HHV).

Palm shell based char can also be used to produce activated carbons and carbon molecular sieves. The activated carbon has successfully used for adsorption of carbon dioxide and methane. The capturing of carbon dioxide through the use of functionalized activated carbons can contribute towards the reduction of the greenhouse gases and lowering the cost associated with the capturing process. The results also showed that activation of palm shell char with ZnCl_2 followed by extra physical activation under stream of CO_2 gas proved to be an efficient method to prepare the activated carbons for methane adsorption. The carbons was also used as catalyst for production of H_2 from CH_4 . The production of carbon molecular sieves from palm shell was achieved via chemical vapor deposition technique using benzene and methane as sources of deposited carbon at temperature above 800 °C.

Award

Malaysia's Rising Star Award
2015

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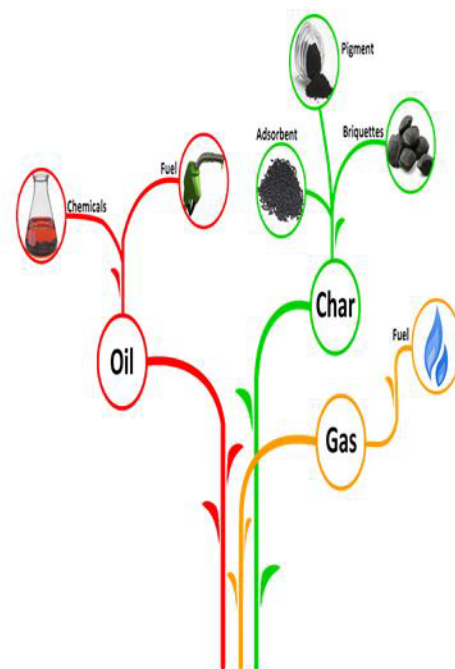


Figure 2. Application of pyrolysis products

Colorimetric Detection of Dengue by Single Tube Reverse-Transcription-Loop-Mediated Isothermal Amplification



Assoc. Prof. Dr. Lau Yee Ling

The dramatic global spread and increased frequency and magnitude of epidemic dengue/dengue hemorrhagic fever (DEN/DHF) over the past 40 years underscores the critical need for more effective surveillance, prevention, and control measures. Most countries where DEN/DHF is endemic do not conduct adequate surveillance as a means of assessing disease burden, nor do they possess adequate mosquito control or vaccine prevention programs. The lack of available, affordable, sensitive, and specific diagnostic tests represents the primary hurdle affecting DEN/DHF surveillance in resource limited countries.

Early diagnosis of dengue patients is also critical to patient management since it prevents the administration of expensive (and ineffective) antibiotics, expedites the triage of febrile patients to appropriate clinics, and reduces health care costs. Several commercial kits for the diagnosis of dengue are available, but concerns have arisen regarding to the affordability and performance characteristics of these kits. Hence, the loop-mediated isothermal amplification (LAMP) is

potentially ideal to be used especially in resource limited environments. Major credit goes to Prof Sazaly Abu Bakar who kindly provided the serum samples which were collected from healthy donors and patients diagnosed with dengue infection. RNA extracted from the serum samples were tested by reverse-transcription LAMP assay developed based on 30 -NCR gene sequences for DENV 1-4.

The test results were interpreted by a turbidity meter in real time or visually at the end of the assay. Sensitivity and specificity of RT-LAMP results were calculated and compared to qRT-PCR and ELISA. RT-LAMP is highly sensitive with the detection limit of 10 RNA copies for all serotypes. Dengue virus RNA was detected in all positive samples using RT-LAMP and none in the negative samples within 30-45 minutes. Based on the results obtained in this study, the RT-LAMP assays represents a potential alternative for the molecular diagnosis and routine screening of dengue virus infections, especially in dengue

endemic countries. It could also be useful in monitoring the efficacy of dengue control and eradication programs.

Publication

Lau, Y. L., Lai, M. Y., Teoh, B. T., Abd-Jamil, J., Johari, J., Sam, S. S., .AbuBakar, S. (2015). Colorimetric Detection of Dengue by Single Tube Reverse-Transcription-Loop-Mediated Isothermal Amplification. *PLoS One*, 10 (9), e0138694. doi: 10.1371/journal.pone.0138694

Award

PhAMA Awards, Minister of Health Innovation & Research Award-2015

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Researcher doing her research work

UM Team Emerge as Malaysian Champions at the CFA Institute Research Challenge



UM Team at the CFA Institute Research Challenge

The Chartered Financial Analyst (CFA) Institute Research Challenge is neither a typical academic research nor a typical competition for students. Instead, the Institute (which runs the CFA Program, widely seen as the "gold standard" in finance/investment qualifications) uses the Challenge as a platform to provide students hands-on experience in stockbroking research analysis. The Challenge involves intensive and practical research into a publicly traded stock, the output of which is a written report. The report covers the company's background, industry analysis, financial analysis, forecast, valuation, investment risks and recommended investment action.

The participated team was guided by an Industry Mentor who is an experienced practitioner and a Faculty Advisor. Hence, the process blends both academic and practical dimensions. The teams which produce the top four reports are then invited to present their findings to a panel of senior investment practitioners. This non-written component of the Challenge went beyond technical finance knowledge; it also tested the team's engagement in report-writing, language proficiency and soft skills.

After several months of hard work, the team from UM won the national title. The victory enabled the team to represent Malaysia at the Regional/Global Challenge in Chicago. The team benefited from many practice sessions with several local senior practitioners. Each practice session became more intense as more assertions, interpretations, workings and presentation techniques were challenged. The number of practice questions also increased in quantity and complexity. Being better prepared allowed the UM team to put up a good performance in Chicago. Although the team lost in the preliminary rounds to the Philippines team (the eventual Asia Pacific Regional champion), the UM team had successfully caught the attention of some Asian practitioners. Moreover, the top global teams' performances inspired the UM team to improve continuously. The Challenge also provided networking opportunities among fellow students.

In conclusion, the UM team members have consolidated their technical knowledge, broadened and deepened their array of competence in other important areas, all of these will help them in their future endeavours.



Judges at the CFA Institute Research Challenge

Award

National Award
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