

acceptance sicem

Presentation Guidelines for Accepted Abstracts (Poster Exhibition Only)

Dear Wan Fatein Nabeila Wan Omar

On behalf of the Scientific Organizing Committee, we are grateful for your interest and enthusiasm toward the SICEM 2023. We would like to inform you that your abstract has been selected for a poster exhibition only. SICEM 2023 will take place at Lotte Hotel World, Seoul, Korea, from October 26 (Thu) to 28 (Sat), 2023. As the congress date is approaching, please refer to the following presentation guidelines for your preparation.

Abstract Information

Submission number	SICEM2023_OF0108
Category	Diabetes/Obesity/Lipid(Basic)
Abstract Title	Obesity in female young adults is linked to reduced methylation of IL-6.

Presenting author's information	Name	Wan Fatein Nabeila Wan Omar
	Institution	International Islamic University Malaysia

Please note that it is available until Monday, September 4, 2023, to make corrections to the abstract via 'my page' on the website. Kindly ensure a final review of any potential typos.

Presentation Guidelines

Your poster will be displayed on a 50-inch monitor with a 3:4 aspect ratio in the poster zone. The poster template is attached to this mail. Please find it.

- **Presentation type:** Poster exhibition only
- **Language:** English

Guidelines to create and submit your poster

1. Please create your poster using the attached template provided in this email.
2. We recommend preparing your poster in English and creating the file (a single slide) in MS PowerPoint format (.pptx).
3. Please save the file in MS PowerPoint format (.pptx) and use the naming format: [Category_Submission number].
4. Currently, abstracts have not been assigned poster numbers. You will receive information about your assigned poster number before the congress.
5. Link for submission : <https://www.dropbox.com/request/XgdjUUI8z0PR9cOIME>
 - **Submission deadline: Monday, October 2, 2023**
 - Please submit your poster through the link above.
 - For those who cannot access the link above, please submit your poster by replying to this email.

Revisions and Withdrawals

1. **Revisions**
If you need to make revisions to your presentation slides after submission, please re-upload a new file through the submission link. Additionally, kindly email us at info@sicem-secretariat.kr.
2. **Withdrawals**
If you wish to withdraw your abstract including the poster, please request the withdrawal by sending an email to the secretariat as soon as possible.

Travel grants and Award

Travel grants

Recipients for travel grants will be individually notified on Wednesday, September 5, 2023 through email.

Award

Outstanding oral / poster oral presentation will receive awards during the closing ceremony. Awardees will be individually notified of the results, and **their participation in the ceremony is mandatory.**

Closing ceremony

- **Date:** 16:10-16:30, October 28, 2023
- **Venue:** Lotte Hotel World, Crystal ballroom (3F)


Registration Guidelines

All presenters are required to register before the registration deadline. If the deadline for registration is not met, the submitted abstract will be automatically withdrawn. We recommend completing your registration by **October 2, 2023, along with your poster submission.**

- **Registration guidelines webpage:** <https://www.sicem.kr/registration>
- **Registration deadline:** Monday, October 9, 2023

If you have any questions or need assistance, please contact the congress secretariat at info@sicem-secretariat.kr

Best regards,



Korean Endocrine Society
101-2503, Lotte Castle President, 109, Mapo-daero,
Mapo-gu, Seoul 04146, Republic of Korea
T. +82-2-714-2428 E. endo@endocrinology.or.kr W. www.endocrinology.or.kr

SICEM 2023 Secretariat
4F, A-Block, Richensia, 341, Baekbeom-ro,
Yongsan-gu, Seoul 04315, Republic of Korea
T. +82-2-2039-7804 E. info@sicem-secretariat.kr W. www.sicem.kr

[SICEM 2023] Final Announcement for Poster exhibition External Inbox x

SICEM 2023 <info@sicem-secretariat.kr> to me Sat, Oct 21, 6:10 PM



Dear Wan Fatein Nabeila Wan Omar,

This is the secretariat of SICEM 2023.

We would like to thank you once again for submitting the poster at this congress. Below is the necessary information for the poster exhibition, so please review them in advance.

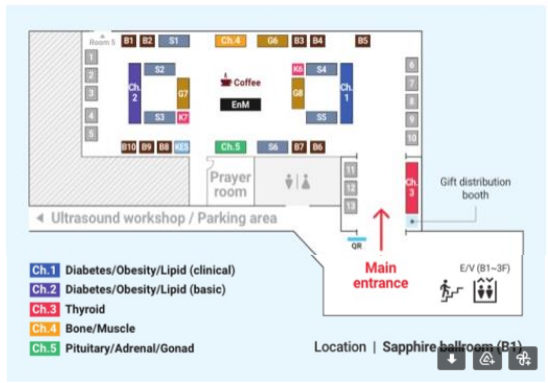
We would like to remind you of the information regarding your session.

[Poster exhibition information]

Poster No.	PE2-19
Category	Diabetes/Obesity/Lipid (basic)
Abstract Title	Obesity in female young adults is linked to reduced methylation of IL-6.
Date	October 26th (Thu)-28th (Sat) (During the congress period)
Location	Lotte Hotel World (Jamsil), Exhibition & Poster zone (B1)

- Posters will be displayed on a 50-inch monitor with a 3:4 aspect ratio in the poster zone
- There will be a poster exhibition through poster display, so there is no need to print and bring the poster.
- Distinctively from oral and poster presenters, poster exhibitors are not subjected to presentation awards.
- *Please note that you are not able to change the poster file on the day of congress.

[Poster location]



Should you have any questions, please feel free to contact us.

Sincerely,
SICEM 2023 Secretariat

SICEM 2023 Secretariat
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| ERM Website: www.e-erm.org

Poster exhibition

Diabetes/Obesity/Lipid (basic)

Day 1 (Thursday, October 26)	Day 2 (Friday, October 27)	Day 3 (Saturday, October 28)	Poster oral session	Poster exhibition
<p>PE2-01 YOGURT UNLEASHED: UNRAVELLING THE POWER OF ELATERIOSPERMIUM TAPOS IN COUNTERING MATERNAL OBESITY CAUSED BY HIGH-FAT DIETS Ruth Naomi Manuel (Universiti Putra Malaysia, Malaysia)</p> <p>PE2-02 IN VIVO MAPPING OF SUBCELLULAR PROTEOMES IN MICE Kwang-Eun Kim (Seoul National University, KAIST, Korea)</p> <p>PE2-03 ENDOGENOUS HYDROGEN PEROXIDE ASSISTED PROXIMITY LABELING Kwang-Eun Kim (Seoul National University, Korea)</p> <p>PE2-04 THE SMALL, DENSE LOW-DENSITY LIPOPROTEIN CONCENTRATION AND LOW-DENSITY LIPOPROTEIN OXIDATION IN ELDERLY WITH DIABETES AND NON-DIABETES Raveenan Mingpakanee (Chulalongkorn University, Thailand)</p> <p>PE2-05 SYSTEMS GENETICS ANALYSIS TO IDENTIFY CANDIDATE GENES FOR FAT DISTRIBUTION IN BXD MICE Na-Yeong Kim (Gwangju Institute of Science and Technology, Korea)</p> <p>PE2-06 PREVALENCE AND FACTORS ASSOCIATED WITH INTRA-INDIVIDUAL DOUBLE BURDEN OF MALNUTRITION AMONG FILIPINO WOMEN OF REPRODUCTIVE AGE Maria Stephanie Parani (Food and Nutrition Research Institute, Philippines)</p> <p>PE2-07 DYSLIPIDEMIA, LDL-C GOAL ACHIEVEMENT, AND GLYCEMIC CONTROL AMONG THAI TYPE 2 DIABETES PATIENTS WITH, AND WITHOUT CHRONIC KIDNEY DISEASE Nuttaree Jeenduang (Walailak University, Thailand)</p> <p>PE2-08 CHOLESTEROL-LOWERING EFFECT OF PROTEIN HYDROLYSATES FROM LEMONGRASS (CYMBOPOGON CITRATUS STAPE) Mizpah Villalobos (Central Philippine University, University of Santo Tomas, Philippines)</p> <p>PE2-09 ANTI-DIABETIC EFFECT OF NEW ALL-NATURAL SUBSTANCE ON PANCREATIC BETA CELLS Daesik Harrn (BaeRyeo Innovation Co., Ltd, Korea)</p> <p>PE2-10 PREVALENCE OF IMPAIRED FASTING GLUCOSE AND DIABETES AMONG MINING WORKERS BY AGE GROUP AND GENDER Dolzodmaa Batbayar (Erdenek Medical Hospital, Mongolia)</p>	<p>PE2-11 THE EFFECTS OF TOCOTRIENOL-RICH FRACTION (TRF) AND VITAMIN C SUPPLEMENTATION ON PLASMA 8-ISOPROSTANE IN DOWN SYNDROME Maziana Mahmood (Universiti Teknologi MARA, Malaysia)</p> <p>PE2-12 EFFECT OF TRF INTERVENTION ON MODERN LIFESTYLE AND THEIR ASSOCIATION WITH METABOLIC DISORDERS Nazmin Fatma (King George's Medical University, India)</p> <p>PE2-13 ALOE VERA ETHANOLIC EXTRACT IMPROVES TRIGLYCERIDE, SGPT, AND LIVER HISTOPATHOLOGY PROFILE STATUS IN WISTAR RATS WITH METABOLIC SYNDROME Nanmira Putri Imani (Universitas Sebelas Maret, Indonesia)</p> <p>PE2-14 ANTI-HYPERLIPIDEMIC EFFECT OF SCHIZOPHYLLUM COMMUNE EXTRACT IN RATS FED A HIGH-FAT DIET Pongsak Cherrngkhuntud (Suranaree University of Technology, Thailand)</p> <p>PE2-15 EFFECTS OF SABA BANANA [MUSA 'SABA' (MUSA ACUMINATA X MUSA BALBISIANA)] PEEL PECTIN SUPPLEMENTATION ON FEEDING AND ADIPOSITIVITY PARAMETERS OF HIGH-FAT DIET-INDUCED OBESE MALE ICR MICE Ethel Onas (Centro Escolar University, Philippines)</p> <p>PE2-16 IN VIVO EFFECTS OF PHILIPPINE BIGNAY BERRIES [ANTIDESMA BUNIUS (L.) SPRENG.] ON BIOMARKERS OF OBESITY AND ASSOCIATED METABOLIC DISORDERS Lizzit Alienza (University of the Philippines Los Banos, Philippines)</p> <p>PE2-17 RELATIONSHIP OF BODY MASS INDEX, PHYSICAL ACTIVITY AND STRESS SCORES OF UNIVERSITY OF THE PHILIPPINES LOS BANOS COLLEGE STUDENTS Lizzit Alienza (University of the Philippines Los Banos, Philippines)</p> <p>PE2-18 DIFFERENCES OF GIP RECEPTOR EXPRESSION ACCORDING TO THE FEEDING STATUS IN THE MOUSE BRAIN Do Kyeong Song (Ewha Womans University, Korea)</p> <p>PE2-19 OBESITY IN FEMALE YOUNG ADULTS IS LINKED TO REDUCED METHYLATION OF IL-6 Wan Falein Nabella Wan Omar (International Islamic University Malaysia, Malaysia)</p> <p>PE2-20 DECIPHERING THE ROLE OF MICRORNA IN DIABETIC WOUND HEALING Arveshika Manoj (King Georges Medical University, India)</p>	<p>PE2-11 THE EFFECTS OF TOCOTRIENOL-RICH FRACTION (TRF) AND VITAMIN C SUPPLEMENTATION ON PLASMA 8-ISOPROSTANE IN DOWN SYNDROME Maziana Mahmood (Universiti Teknologi MARA, Malaysia)</p> <p>PE2-12 EFFECT OF TRF INTERVENTION ON MODERN LIFESTYLE AND THEIR ASSOCIATION WITH METABOLIC DISORDERS Nazmin Fatma (King George's Medical University, India)</p> <p>PE2-13 ALOE VERA ETHANOLIC EXTRACT IMPROVES TRIGLYCERIDE, SGPT, AND LIVER HISTOPATHOLOGY PROFILE STATUS IN WISTAR RATS WITH METABOLIC SYNDROME Nanmira Putri Imani (Universitas Sebelas Maret, Indonesia)</p> <p>PE2-14 ANTI-HYPERLIPIDEMIC EFFECT OF SCHIZOPHYLLUM COMMUNE EXTRACT IN RATS FED A HIGH-FAT DIET Pongsak Cherrngkhuntud (Suranaree University of Technology, Thailand)</p> <p>PE2-15 EFFECTS OF SABA BANANA [MUSA 'SABA' (MUSA ACUMINATA X MUSA BALBISIANA)] PEEL PECTIN SUPPLEMENTATION ON FEEDING AND ADIPOSITIVITY PARAMETERS OF HIGH-FAT DIET-INDUCED OBESE MALE ICR MICE Ethel Onas (Centro Escolar University, Philippines)</p> <p>PE2-16 IN VIVO EFFECTS OF PHILIPPINE BIGNAY BERRIES [ANTIDESMA BUNIUS (L.) 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SICEM 2023

Obesity in female young adults is linked to reduced methylation of *IL-6*

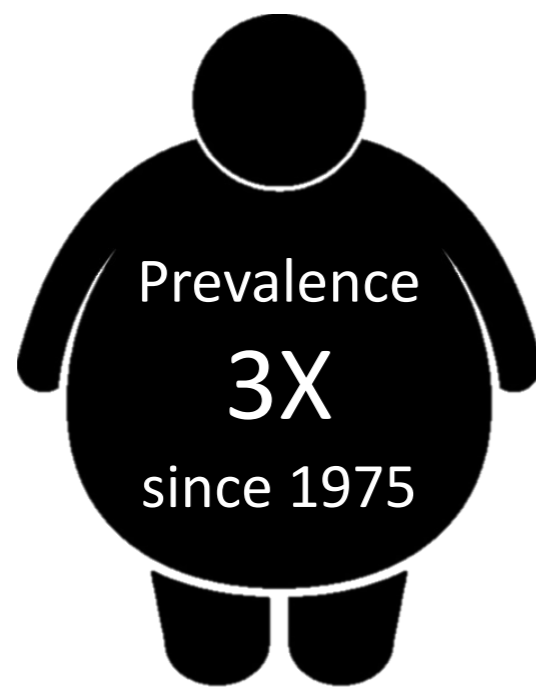
October 26th - 28th, 2023 | Lotte Hotel World (Jamsil), Seoul, Republic of Korea **On-site**

INTERNATIONAL MULTI-AWARD WINNING INSTITUTION FOR SUSTAINABILITY

Wan Fatein Nabeila Wan Omar¹, Aszrin Abdullah¹, Norlelawati A. Talib²
¹Dept. of Basic Medical Sciences, ²Dept of Pathology and Laboratory Medicine,
 Kulliyah of Medicine, International Islamic University Malaysia, Kuantan, Pahang, Malaysia

Introduction

OBESITY
 Body mass index
(BMI) ≥ 30 kg/m²
 (WHO, 2021).



1.9 bil
adult is
overweight

650 mil
adult is
obese

39% men
40% women
is
overweight

11% men
15% women
is
obese

...and is a **major risk factor** for

 Cardiovascular, Musculoskeletal disorder, Cancer, Diabetes

Epigenetic modification
 e.g. **DNA methylation**
 contribute to disordered
 energy metabolism
 and **inflammation**.

What we know

- Interleukin-6 (IL-6) is raised in obesity (Eder et al., 2009; Mikkawy et al., 2020)
- Raised IL-6 could be due to dysregulated DNA methylation of *IL-6* gene.

What we do not know

What is the association between
IL-6 methylation and inflammation
 in obese young adults?

Objective

To investigate the correlation between *IL-6* methylation, inflammation and obesity in male and female young adults.

Methodology

Ethical approval

- Malaysia Medical Research Ethical Committee (NMRR 16-2572-32869)
- IIUM Research Ethical Committee (IREC544)

Study design and study site

- Cross sectional study in Kuantan, Pahang

Subjects

- 240 young adults aged 18-45 years.
- Exclusion criteria: Acute illness, autoimmune disease, cancer

Data collection

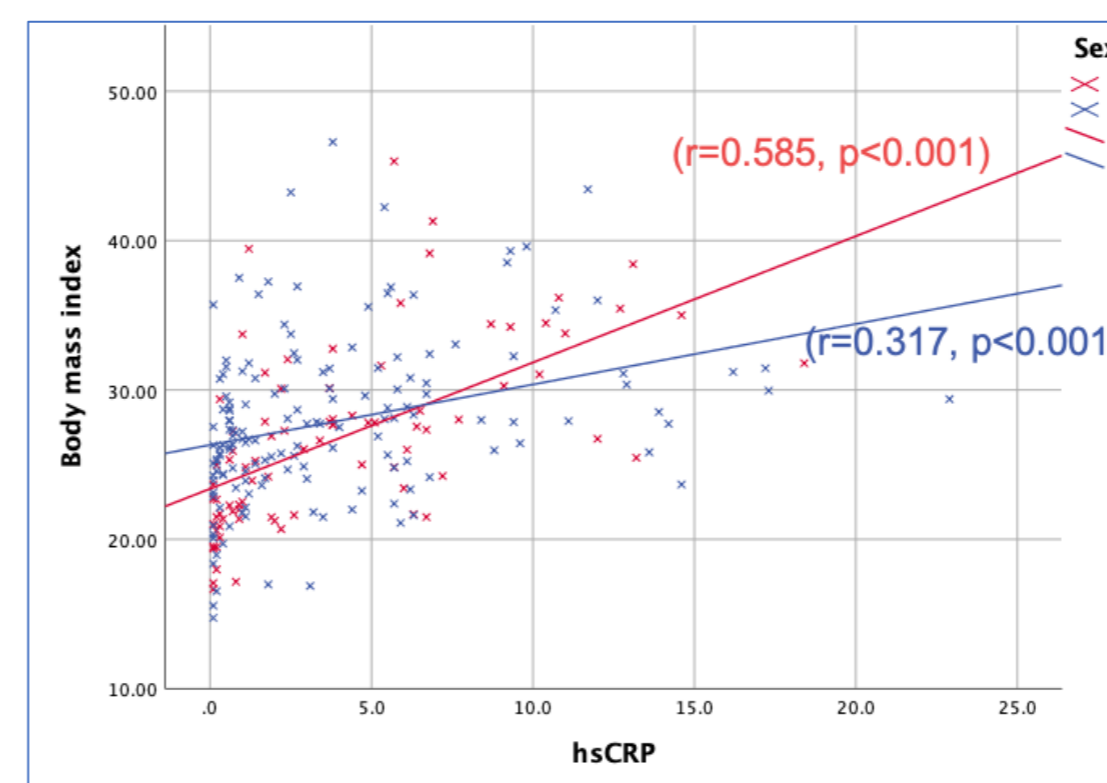
- Anthropometry: Weight, height and BMI
- Biochemistry: Plasma high sensitivity C-reactive protein (hsCRP)
- Molecular: *IL-6* gene promoter methylation level in peripheral blood leukocytes using MethylLight assay.

Data analysis

- Data normality - histogram, skewness, and kurtosis.
- Bivariate correlation - Pearson or Spearman's correlation.

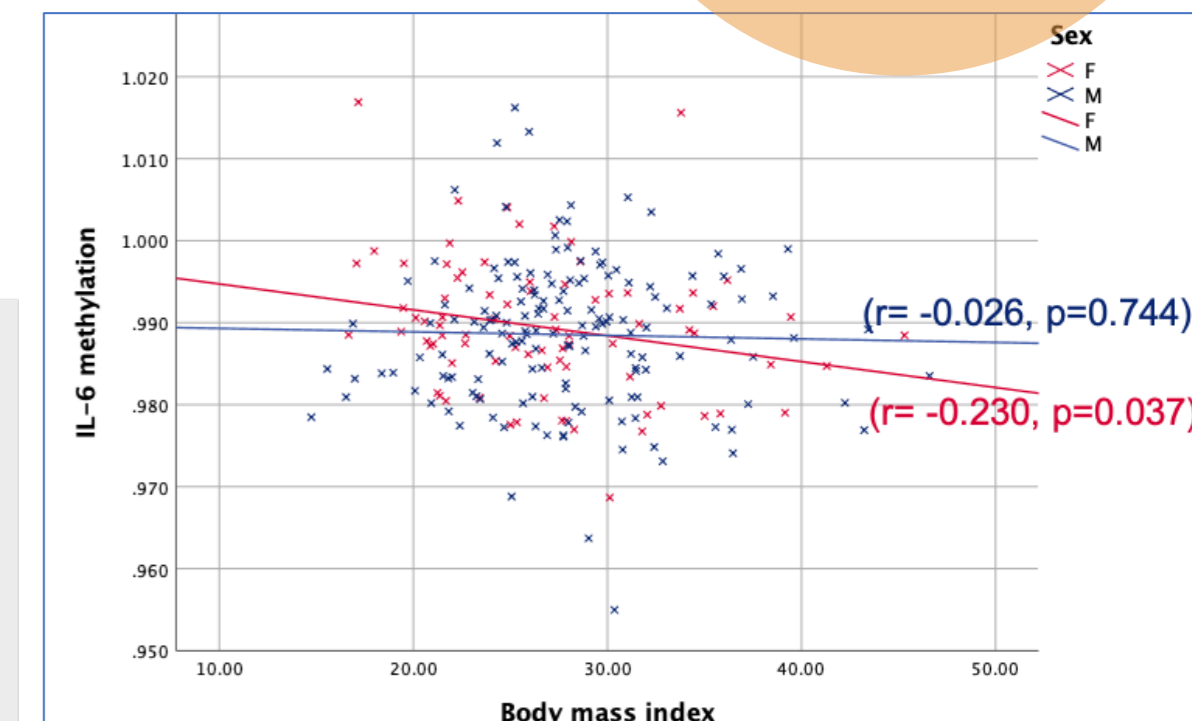
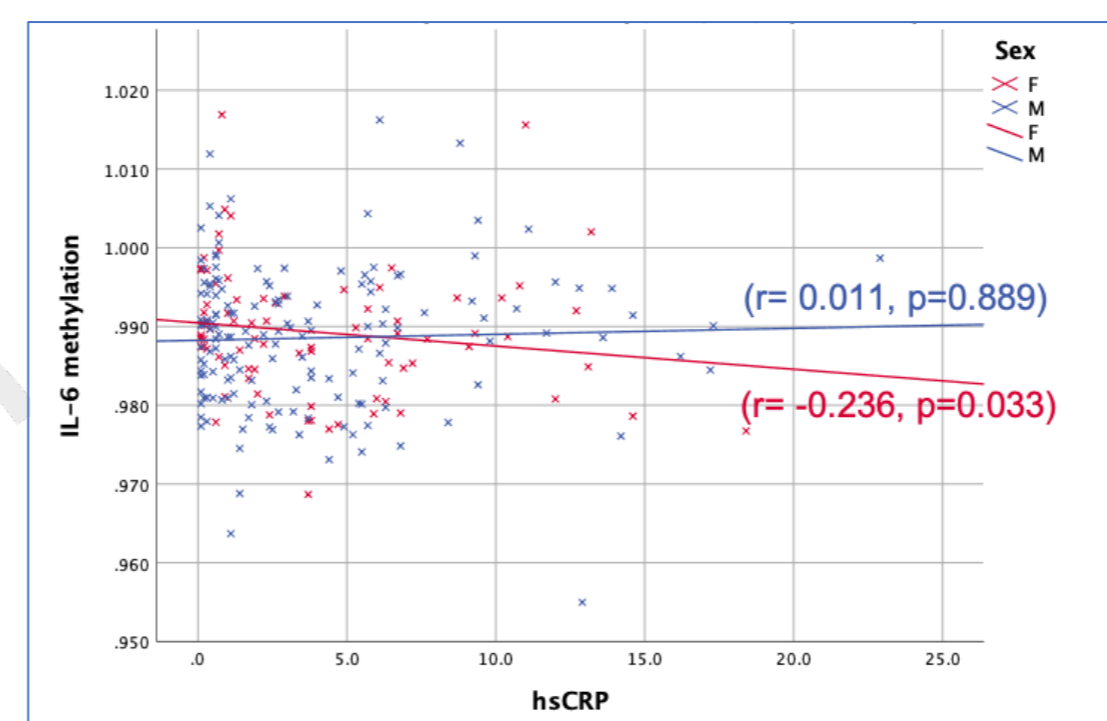
Results

Parameter	Overall	Male (n=155)	Female (n=85)	p-value
BMI (kg/m ²)	27.5 (5.7)	27.9 (5.5)	26.8 (5.9)	0.165
HsCRP (mg/l)	1.88 (4.23)	3.81 (4.29)	4.02 (4.14)	0.715
<i>IL-6</i> methylation	0.989 (0.009)	0.989 (0.009)	0.989 (0.008)	0.467

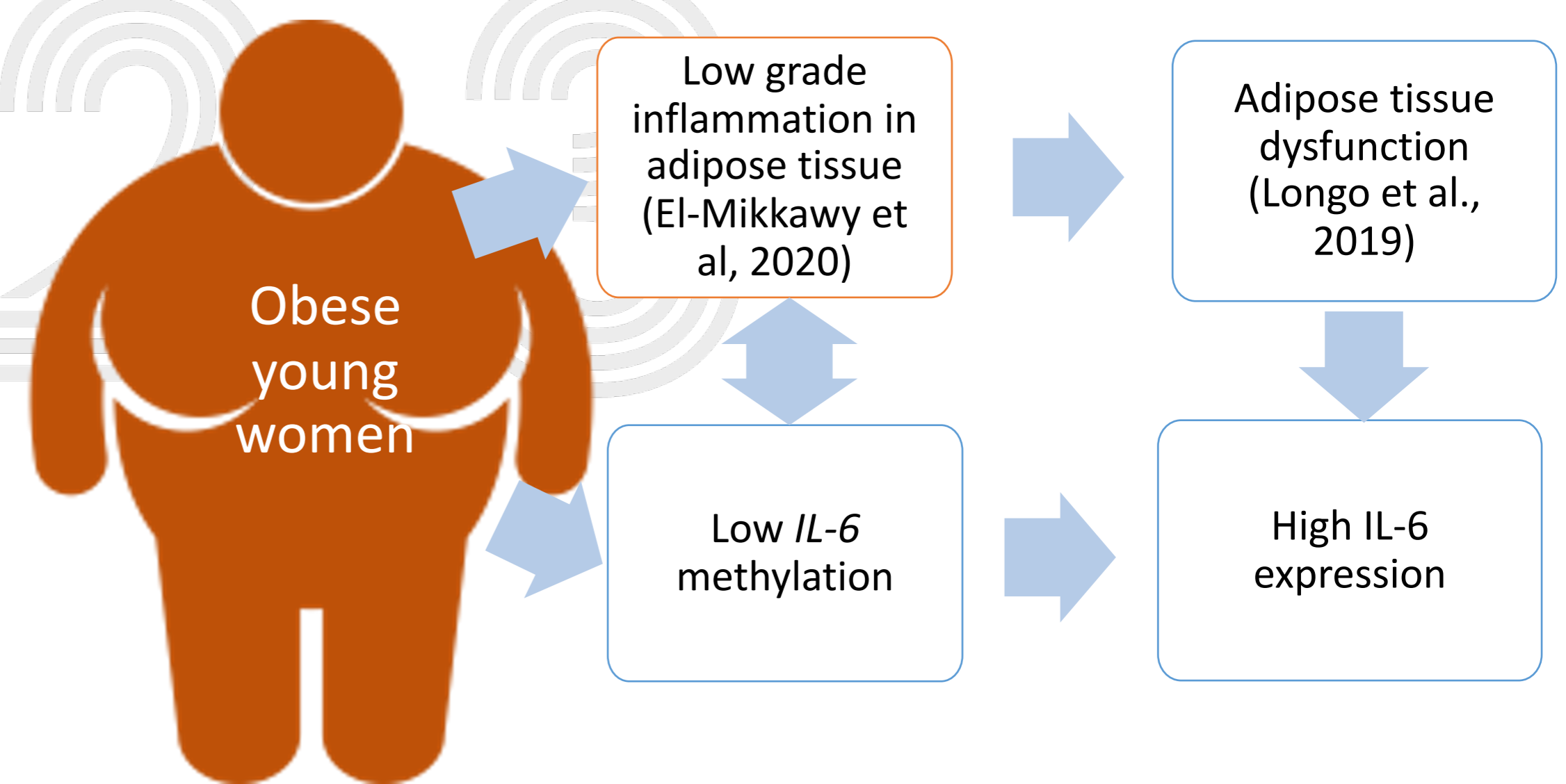


In young women, *IL-6* methylation is negatively associated with hsCRP and BMI

In young men, *IL-6* methylation is not associated with hsCRP and BMI



Discussion



Conclusion

Lower *IL-6* methylation is associated with higher hsCRP and higher BMI in female young adults.

Implication

Understanding the different etiology in female young population help us to consider specific treatment modality in treating them.

Acknowledgement:

- This study is funded by International Islamic University Malaysia (RIGS15-076-0076 & RIGS15-077-0077)
- Equipments were provided by Molecular and Medical Genetic Lab, Kulliyah of Medicine, IIUM
- Special appreciation to co-researchers; Norbaiyah B, Nurashikin M, Mohd Zhafri MR, Asmak AS, and staffs of Molecular and Medical Genetic Lab for assistance.

Reference:

1. World Health Organization, Obesity and overweight (2021). Retrieved from: <https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight>
2. El-Mikkawy, D.M.E. et al. Circulating level of interleukin-6 in relation to body mass indices and lipid profile in Egyptian adults with overweight and obesity. *Egypt Rheumatol Rehabil* 47, 7 (2020). <https://doi.org/10.1186/s43166-020-00003-8>
3. Eder K, Baffy N, Falus A, Fulop AK. The major inflammatory mediator interleukin-6 and obesity. *Inflamm Res*. 2009 Nov;58(11):727-36. doi: 10.1007/s00011-009-0060-4. Epub 2009 Jun 19. PMID: 19543691.c
4. Longo, M. et al. Adipose Tissue Dysfunction as Determinant of Obesity-Associated Metabolic Complications. *Int. J. Mol. Sci.* 2019, 20, 2358. <https://doi.org/10.3390/ijms20092358>

Obesity in female young adults is linked to reduced methylation of IL-6.

Wan Fatein Nabeila Wan Omar^{1*}, Aszrin Abdullah¹, Norlelawati A. Talib²

¹Department of Basic Medical Sciences, Kulliyah of Medicine, International Islamic University Malaysia, Kuantan, Pahang, Malaysia

²Department of Pathology and Laboratory Medicine, International Islamic University Malaysia, Kuantan, Pahang, Malaysia

Objectives: Obesity is a complex condition with multiple contributing factors and is an epidemic in all population including young adults. Epigenetic modifications in the form of DNA methylation, and inflammation has been associated with the etiology of obesity. Interleukin-6 (IL-6) is a pro-inflammatory cytokine linked to obesity. However, the interrelation between IL-6 methylation, inflammation and obesity requires further investigation. In this study, we would like to investigate the correlation between IL-6 methylation, inflammation and obesity in young adults in males and females.

Methods & Materials: In a cross-sectional study conducted in Kuantan, Pahang, we recruited 240 young adults aged 18-45 years. We measured their body mass index (BMI) and collected venous blood for high sensitivity C-reactive protein (hsCRP). We assessed DNA methylation level of IL-6 gene promoter in peripheral blood leukocytes using bisulphite conversion and MethyLight assay. Data normality was evaluated using histogram, skewness, and kurtosis. Bivariate correlation was assessed using Pearson and Spearman's correlation where appropriate.

Results: We found inverse correlation between IL-6 methylation and BMI in female young adults ($p = 0.037$, $r = -0.230$), but not in males ($p = 0.744$). Meanwhile, high sensitivity C-reactive protein (hsCRP) showed positive association with body mass index and waist circumference in both sexes, with stronger association seen in female. There was significant association between IL-6 methylation and hsCRP in female ($p = 0.033$, $r = -0.236$) but not in males ($p = 0.889$).

Conclusion: Lower IL-6 methylation is associated with higher hsCRP and higher BMI in female young adults. This finding could help to understand the different etiology in young females, and consider specific treatment modality in treating this population.