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AN INTERNATIONAL AWARD-WINNING INSTITUTION FOR SUSTAINABILITY

# Undergraduate Research Symposium URS 2023



OUR  
*speakers*



**Assoc. Prof. Dr. Mohd Hafiz Bin Arzmi**  
Deputy Dean (Student Development and Community Engagement)  
Kulliyah of Dentistry  
International Islamic University Malaysia,

**Ts. Dr. Hajar Fauzan Bin Ahmad**  
Senior Lecturer  
Universiti Malaysia Pahang

**TITLE :**  
***From waste to wealth :  
How research can make money***

**TITLE :**  
***PUBLISH : Every data matters!***

TIME  
**8.00 AM - 4.30 PM**

DATE  
**30<sup>TH</sup> JANUARY 2023 | MONDAY**

VENUE  
**GRAND HALL, OFFICE OF THE CAMPUS DIRECTOR,  
IIUM**

APPENDIX A

**UNDERGRADUATE RESEARCH SYMPOSIUM (URS) 2023**

**TENTATIVE PROGRAMME**

**DATE : 30<sup>TH</sup> JANUARY 2023/MONDAY**

<b>Time</b>	<b>Descriptions</b>	<b>Venue</b>
8.30 am	Breakfast	Dining Hall, OCD
9.00 am	Opening ceremony by MC <ul style="list-style-type: none"> <li>• Negaraku song / IIUM song / Asmaul Husna</li> <li>• Quran recitation</li> </ul>	Grand Hall, OCD
9.20 am	Welcoming remarks & Officiation <ul style="list-style-type: none"> <li>• Assoc. Prof. Dr. Juliana Md Jaffri Dean Kulliyyah of Pharmacy International Islamic University Malaysia</li> </ul>	
9.30 am	Invited Speaker 1 <ul style="list-style-type: none"> <li>• Asst. Prof. Ts. Dr. Hajar Fauzan Bin Ahmad Universiti Malaysia Pahang Faculty of Industrial Sciences and Technology Universiti Malaysia Pahang</li> </ul>	
10.30 am	Poster assessment time	
1.00 pm	Lunch break & Zuhr prayer	
2.15 pm	Opening ceremony by MC	
2.30 pm	Invited Speaker 2 <ul style="list-style-type: none"> <li>• Assoc. Prof. Dr. Hafiz Arzmi Deputy Dean (Student Development and Community Engagement) Kulliyyah of Dentistry International Islamic University Malaysia</li> </ul>	
3.30 pm	Award ceremony for Best Poster (by department)  Closing ceremony <ul style="list-style-type: none"> <li>• Asst. Prof. Ts. Dr. Muhammad Salahuddin Haris Deputy Dean (Academic &amp; Internationalisation) Kulliyyah of Pharmacy International Islamic University Malaysia</li> </ul>	
4.30 pm	Tea break	Dining Hall, OCD



Nur Farhana Latfi &lt;nurfarhana@iium.edu.my&gt;

**Fwd: INVITATION TO THE UNDERGRADUATE RESEARCH SYMPOSIUM (URS) 2023, KULLIYAH OF PHARMACY, IIUM**

1 message

**FA'IZA BINTI ABDULLAH** . <drfaiza@iium.edu.my>  
To: Nur Farhana Latfi <nurfarhana@iium.edu.my>

Tue, Jan 31, 2023 at 9:24 AM

----- Forwarded message -----

From: **Farahidah Mohamed** <farahidah@iium.edu.my>

Date: Mon, 30 Jan 2023, 17:35

Subject: Fwd: INVITATION TO THE UNDERGRADUATE RESEARCH SYMPOSIUM (URS) 2023, KULLIYAH OF PHARMACY, IIUM

To: FA'IZA BINTI ABDULLAH &lt;drfaiza@iium.edu.my&gt;

Cc: NOR AZWANI BINTI MOHD SHUKRI &lt;norazwani@iium.edu.my&gt;

Salam Drs..FYI . Alhamdulillah, our student have done their best, the poster will be forwarded to you soon insyaallah. Poster presented here is part of study since then study yet to be completed.

----- Forwarded message -----

From: **KOP Academic & Internationalisation** <kop\_acadunit@iium.edu.my>

Date: Sun, Jan 29, 2023, 17:57

Subject: INVITATION TO THE UNDERGRADUATE RESEARCH SYMPOSIUM (URS) 2023, KULLIYAH OF PHARMACY, IIUM

To: phacad &lt;phacad@iium.edu.my&gt;

Assalamualaikum w.b.t and good day,

Dear Prof/Assoc. Prof/Asst. Prof/Dr/Br/Sr,

May this email reach you while you are in the best of *Iman* and health by the Grace of Allah S.W.T.

A friendly reminder on the Undergraduate Research Symposium (URS) 2023.

Date: 30th January 2023

Time: 8.30 am to 4.30 pm

Venue: Grand Hall, OCD

Kindly refer to the poster and schedule for further information.

InsyaAllah refreshment will be available during breakfast, lunch and tea time at the Dining Room, OCD for all academic staff.

We look forward to participation and support.

Thank you, Wasaalam.

Organising Committee  
URS 2023**OFFICE OF DEPUTY DEAN ACADEMIC & INTERNATIONALISATION**  
**Kulliyah of Pharmacy**  
**IIUM Kuantan Campus****Contact Number:**  
**09 - 570 4817 (Sr. Nor Azira Johari)**

09 - 570 4804 (Sr. Noor Suhaida)  
09 - 570 4819 (Sr. Nur Hanin Amirah)

<http://www.iium.edu.my/pharmacy>



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 Please consider the environment before printing this e-mail

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## 2 attachments



Poster URS 2023.jpeg  
146K

 tentative programme.pdf  
481K



Nur Faizah binti Mohamad, Farahidah binti Mohamed, Fa'iza binti Abdullah, Nor Azwani binti Mohd Shukri, Nurul Syazwani bt Ahmad Joni  
<sup>1</sup> Kulliyah of Pharmacy, International Islamic University Malaysia (IIUM), Jalan Sultan Ahmad Syah, 25200 Kuantan, Pahang Malaysia, <sup>2</sup> Kulliyah of Medicine International Islamic University Malaysia (IIUM), Jalan Sultan Ahmad Syah, 25200 Kuantan, Pahang Malaysia, <sup>3</sup> Kulliyah of Allied Health Science, International Islamic University Malaysia (IIUM), Jalan Sultan Ahmad Syah, 25200 Kuantan, Pahang Malaysia, <sup>4</sup> COOP Farmasi, B-16G, Jalan IM 7/18, Bandar Indera Mahkota, 25200 Kuantan, Pahang.



## Introduction

The alarming growth in the incidence of pre-obese and obesity among adults in Malaysia could significantly impact their health and lead to non-communicable diseases (NCDs). Based on the Asia Pacific BMI guidelines, the BMI for overweight is  $\geq 23 \text{ kg/m}^2$ , whereas for obesity is  $\geq 25 \text{ kg/m}^2$ . Obesity occurs primarily due to dietary intake. Over one-third of daily calories are consumed via snacking, with many snacks consisting of energy-dense and nutrient-deficient foods. Snacking can be referred to as eating food or caloric beverages apart from the regular main meal. Altering dietary intake via healthy snacking is one of the interventions accessible to encourage weight loss. Furthermore, there is no precise clinical data on healthy snacking incorporated with STEKO mixed coffee on weight loss and satiety sensation.

STEKO premixed coffee contains multiple natural components, including garcinia cambogia, skim milk, stevia glycoside, inulin, ceylon cinnamon, and coffee that may synergistically affect weight loss and satiety level. This study aims to observe the effect of snacks incorporated with STEKO premixed coffee in changes in anthropometry (weight, body mass index (BMI), waist-hip ratio (WHR) and satiety and to improve the quality and efficacy of the future main study.

## Objectives

- To examine the randomisation and open-label process for a larger main trial.
- To explore the effect of the daily healthy snacking incorporated with STEKO mixed coffee on anthropometry (weight, BMI, WHR).
- To explore the effect of the daily healthy snacking incorporated with STEKO mixed coffee on satiety sensation in pre-obese and obese adults.

## Methods

### Sample size

- 10 people per arm. Minimum 20 people with 5% dropout rate so it will be 21 people.

### Study design & flow

- Simple randomisation via Microsoft Excel ver. 15.0 with 1:1 ratio.
- Control & parallel clinical trial.
- Period: 28 days.
- Open label:
  - Group 1: Supplied with STEKO snack (40 g/day florentine, 241 Kcal) + recommended daily calorie intake (RDCI) (approximately 2000 Kcal).
  - Group 2: RDCI.
- Participants consumed the snacks before dinner and lunch.

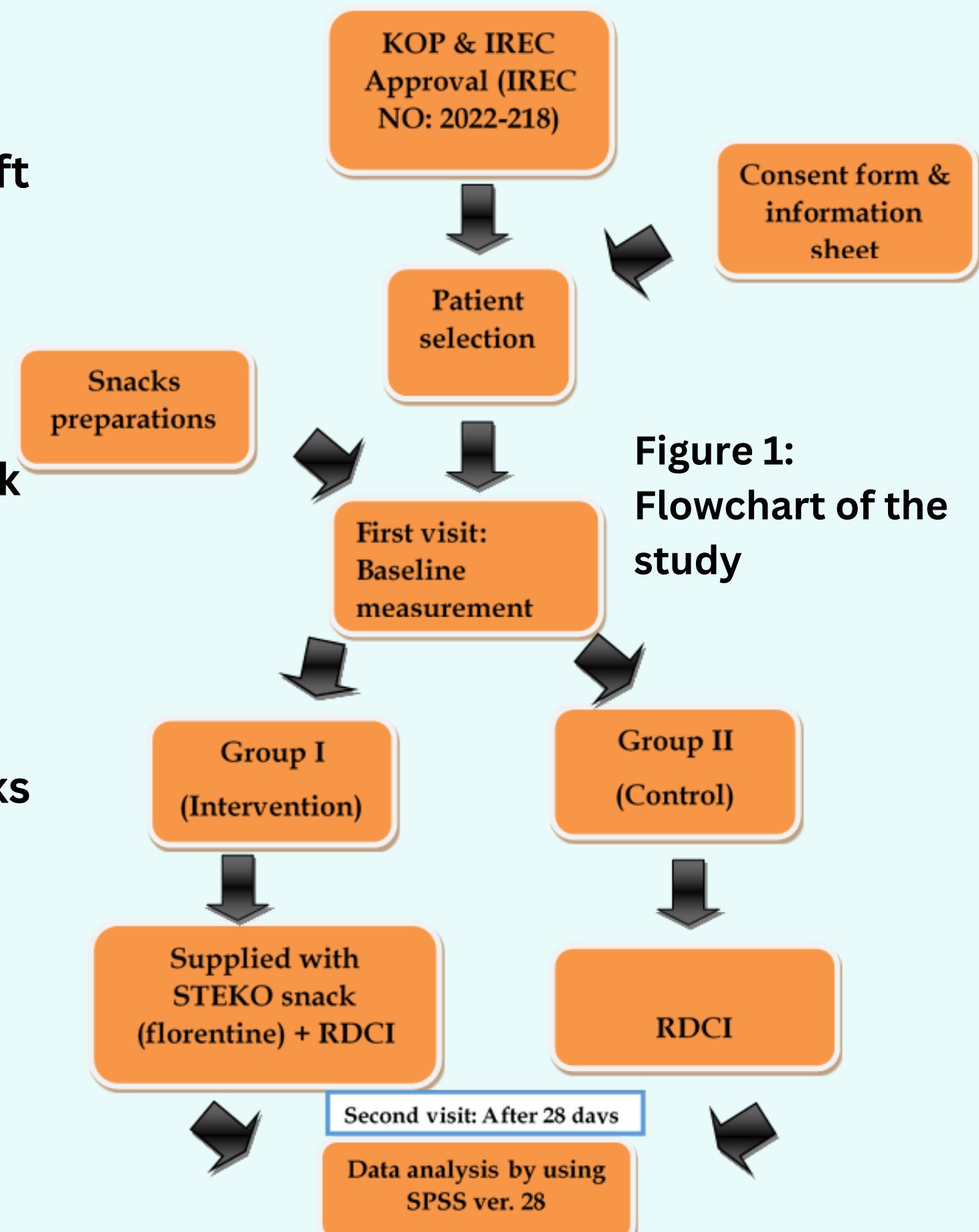


Figure 1: Flowchart of the study

### 1 Participants recruitment

- Through poster, social media advertisement, messages, and email.

Table 1: Inclusion and exclusion criteria.

Inclusion	Exclusion
<ul style="list-style-type: none"> <li>Male IIUM Kuantan campus student</li> <li>Age between 18-35 years old</li> <li>BMI <math>\geq 23 \text{ kg/m}^2</math></li> </ul>	<ul style="list-style-type: none"> <li>Allergic to nuts and dairy products</li> <li>Recent participation in a weight loss program/activity</li> <li>Diagnosed with chronic diseases</li> <li>Consume any appetite suppressant products</li> </ul>

### 2 Questionnaires

- Several questionnaires were used to collect baseline and after study data.
- Sociodemography.
  - Quality of life (17 question)- Obesity and weight-loss quality of life (OWLQOL).
  - Symptoms related to obesity & overweight (20 questions)- Weight-related symptoms measure (WRSM).
  - Physical activity- International physical activity questionnaire short form (IPAQ-SF).
  - Dietary intake (96 questions)- Food frequency questionnaire (FFQ).

### 3 Anthropometry measurement

- Weight, height, waist, and hip circumference were measured with SECA measuring tape (SECA, Germany) and Rossmax weighing scale (Rossmax, Taiwan) with 0.1 cm/kg precision repeated two times, and the data will be collected at baseline and after 28 days.
- Body mass index (BMI) was calculated by dividing weight by height squared ( $\text{kg/m}^2$ )
- The waist-hip ratio was calculated by dividing the waist circumference (cm) by the hip circumference (cm).

### 4 Satiety measurement

- Day 1, Day 13, and Day 28, 60 minutes after lunch and at 9 p.m. using visual analog score on satiety (4 questions).
- The overall appetite score was calculated by using a formula:  $[(\text{satiety} + \text{fullness} + (100 - \text{prospective food consumption}) + (100 - \text{hunger}))/4]$ .

## Results & Discussion

### 1 Participants recruitment

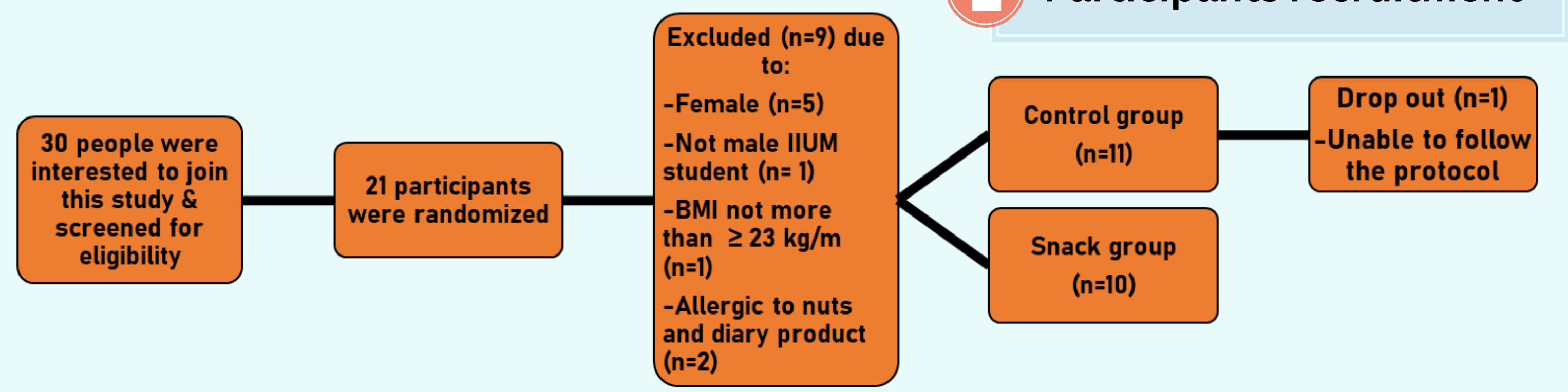


Figure 2: Flowchart of the participants throughout the study.

- Based on the flow chart of the trial 20 participants currently in this study. 21 participants were randomly divided into snack group (n= 10) and control group (n=11).

### 2 Questionnaires

Table 2: sociodemographic characteristic of the study participants.

Characteristic	N (%)		p value
	Intervention (n=10)	Control (n=10)	
Age (year) [Median (IQR)]	23.00 (20.00-23.00)	23.00 (22.00-23.00)	0.796 <sup>b</sup>
<b>Kulliyah</b>			
Allied health science	3 (15.0)	1 (5.0)	-
Medicine	0 (0.0)	3 (15.0)	-
Pharmacy	5 (25.0)	4 (20.0)	-
Science	2 (10.0)	2 (10.0)	-
<b>Years of study</b>			
First year	0 (0.0)	1 (5.0)	-
Second year	3 (15.0)	0 (0.0)	-
Third year	1 (5.0)	3 (15.0)	-
Fourth year	6 (30.0)	6 (30.0)	-
<b>Family monthly household income</b>			
Below RM 4,850 per month	6 (30.0)	3 (15.0)	-
Between RM 4,851 to RM 10,970 per month	2 (10.0)	2 (10.0)	-
Exceeds RM 10,971 per month	2 (10.0)	5 (25.0)	-

<sup>a</sup> P<sup>2</sup> value obtained from Man Whitney U test (p: <0.05).

Table 3: Baseline quality of life, physical activity, symptoms related to overweight and obesity, and dietary intake.

Questionnaires	Baseline (Mean $\pm$ SD)		p value
	Intervention (n=10)	Control (n=10)	
Quality of life	69.41 $\pm$ (27.08)	59.90 $\pm$ (25.98)	0.433 <sup>a</sup>
Symptoms related to overweight and obesity	21.40 $\pm$ (12.19)	33.20 $\pm$ (22.72)	0.165 <sup>a</sup>
Physical activity	1837.90 $\pm$ (1208.86)	1385.00 $\pm$ (894.62)	0.354 <sup>a</sup>
Dietary intake	2123.54 $\pm$ (747.04)	2578.17 $\pm$ (566.93)	0.143 <sup>a</sup>

All of the data has been tested for normality by using Shapiro-Wilk test (sig: >0.05)  
<sup>a</sup> P<sup>2</sup> value obtained from independent t-test (p: <0.05).

- There is no significant difference in age, baseline quality of life, symptoms related to overweight and obesity, dietary intake and physical activity between the intervention and control groups based on Table 2 and Table 3.

### 3 Anthropometry measurement

Table 4: Baseline anthropometry measurements.

Measurement	Baseline (Median IQR)		p value
	Intervention (n=10)	Control (n=10)	
Weight (kg)	81.45 (71.68-101.98)	78.70 (71.45-104.80)	0.971 <sup>b</sup>
Body mass index (BMI) (Kg/m <sup>2</sup> )	27.90 (24.80-33.93)	27.25 (24.65-34.73)	0.912 <sup>b</sup>
Hip circumference (cm)	102.80 (98.95-114.23)	103.75 (98.58-116.33)	0.684 <sup>b</sup>
<b>Baseline (Mean <math>\pm</math> SD)</b>			
Waist circumference (cm)	91.76 $\pm$ (11.23)	96.64 $\pm$ (14.70)	0.415 <sup>a</sup>
Waist-hip ratio (WHR)	0.87 $\pm$ (0.048)	0.88 $\pm$ (0.042)	0.498 <sup>a</sup>
Height (cm)	170.60 $\pm$ (7.11)	169.85 $\pm$ (6.16)	0.804 <sup>a</sup>

All of the data has been tested for normality by using Shapiro-Wilk test (sig: >0.05)  
<sup>a</sup> P<sup>2</sup> value obtained from independent t-test (p: <0.05).  
<sup>b</sup> P<sup>2</sup> value obtained from Man Whitney U test (p: <0.05).



Figure 3: Measuring waist circumference of the participant.

- There is no significant difference in baseline anthropometry measurements in both groups.

### 4 Satiety measurement

Table 5: Satiety score on day 1 and day 13.

Day (time)	(Mean $\pm$ SD)		p value
	Intervention (n=10)	Control (n=10)	
Day 1 (60 minutes after lunch)	65.00 $\pm$ (20.95)	66.00 $\pm$ (12.76)	0.899 <sup>a</sup>
Day 13 (60 minutes after lunch)	65.25 $\pm$ (19.01)	63.25 $\pm$ (19.51)	0.819 <sup>a</sup>
P value	0.975 <sup>b</sup>	0.721 <sup>b</sup>	-
Mean changes	-0.25 $\pm$ (24.08)	2.75 $\pm$ (23.58)	-
Day 1 (9 p.m.)	65.25 $\pm$ (19.02)	70.25 $\pm$ (13.56)	0.784 <sup>a</sup>
Day 13 (9 p.m.)	68.00 $\pm$ (25.98)	57.00 $\pm$ (25.98)	0.316 <sup>a</sup>
P value	0.945 <sup>b</sup>	0.098 <sup>b</sup>	-
Mean changes	0.500 $\pm$ (22.23)	13.25 $\pm$ (22.67)	-

All of the data has been tested for normality by using Shapiro-Wilk test (sig: >0.05)  
<sup>a</sup> P<sup>2</sup> value obtained from independent t-test (p: <0.05).  
<sup>b</sup> P<sup>2</sup> value obtained from pair t-test (p: <0.05).



Figure 4: STEKO premixed coffee.



Figure 5: STEKO snack (florentine).

- The consumption of daily STEKO snack resulted in similar subsequent satiety sensation with the control group.

## Conclusion

In conclusion, from the statistical analysis, there is no significant difference between the two groups with regard to the baseline data for anthropometry measurement, physical activity, and dietary intake. Thus, this study's randomization and recruitment method can be utilized in the future. The consumption of daily STEKO snacks resulted in similar subsequent satiety sensations with the control group. Lastly, more time is needed to measure any differences between groups for the measured variables and to estimate the sample size for the main trial.

### References

- Benelam, B. (2009). Satiety, satiety and their effects on. 126-173.
- In, J. (2017). Introduction of a pilot study. Korean Journal of Anesthesiology, 70(6), 601. <https://doi.org/10.4097/kjae.2017.70.6.601>
- Bhurosy, T., & Jeewon, R. (2014). Overweight and obesity epidemic in developing countries: A problem with diet, physical activity, or socioeconomic status? Scientific World Journal, 2014. <https://doi.org/10.1155/2014/964236>
- Carugh, A., Belliste, F., Dougkas, A., Giboreau, A., Feeney, M. J., & Higgs, J. (2019). A Randomized Controlled Pilot Study to Assess Effects of a Daily Pistachio (Pistacia Vera) Afternoon Snack on Next-Meal Energy Intake, Satiety, and Anthropometry in French Women. Nutrients 2019, Vol. 11, Page 767, 11(4), 767. <https://doi.org/10.3390/NU11040767>
- Whitehead, A. L., Julious, S. A., Cooper, C. L., & Campbell, M. J. (2016). Estimating the sample size for a pilot randomised trial to minimise the overall trial sample size for the external pilot and main trial for a continuous outcome variable. Statistical Methods in Medical Research, 25(3), 1057. <https://doi.org/10.1177/0962280215588241>