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## Low Fat Yogurt Reduce Weight: Randomized Clinical Trial from Malaysia.

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### ABSTRACT

Intake yogurt has been linked to a reduced risk of developing bladder cancer, a lower risk of heart attack and heart disease, and decrease in blood pressure. The objective of this study was to determine the effectiveness of low fat yogurt in reducing body weight among Malaysian university students. Thirty volunteer were participated in this study; 15 cases and 15 controls. The participants were university students. Measuring waist, height and weight were recorded in the base line and at the end of the trail. For cases, the participant required to consume one container of low-fat yogurt (140ml) everyday for 14 days. Daily follow-up to measure waist, height and weight were recorded. They required carrying out their daily activities as usual and recording any changes to their normal daily activities. The control group is not required to consume any yogurt during the duration of the study. They followed-up by measuring their waist, height and weight. A total number of 30 volunteer were participated in this study. The majority of them were Malay (15), single (24), non-smoker (22), not physically active (24), and their age 18 to 20 years. This study showed significant differences between the weight of those who consumed 140 ml of low fat yogurt and those who did not. Consuming 140 ml of low fat yogurt for 14 days is significantly reducing the body weight.

**Keywords:** Low Fat Yogurt, body Weight, Randomized Clinical Trail, Malaysia

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## INTRODUCTION

Yogurt first gained international prominence in the early 1900s when Ilya Metchnikov, a Russian bacteriologist, observed that the long life span of Bulgarians was mainly due to their diet which included the consumption of large quantities of soured milk [1]. Yogurt is a very healthy snack, however, it should not have sweeteners and things added to them, and the best choice when it comes to yogurt is plain, all natural yogurt that contains such bacteria as *Lactobacillus acidophilus* and *Bifidobacterium bifidus*. If one wants to add flavor to the yogurt try adding fresh fruits or nuts on top [2]. Yogurt is an excellent source of protein and essential nutrients such as calcium, potassium and magnesium and also contains probiotics [3]. Much of what is known about the potential health effects of yogurt has come from studies examining one's overall consumption of dairy products, including milk and cheese. Fewer studies have focused on yogurt specifically [3-4]. Consumption of dairy products is associated with a reduced risk of developing some of the most prevalent diseases, including diabetes, hypertension and cancer [5-7]. Intake of cultured milk and yogurt specifically has been linked to a reduced risk of developing bladder cancer [6], a lower risk of heart attack and heart disease, and a decrease in blood pressure [7].

Several studies have also shown that yogurt consumption could aid weight management. A prospective study on three cohorts involving more than 120,000 U.S. adults showed that consumption of yogurt, fruits, vegetables and whole grains were associated with less weight gain over time, with yogurt showing the greatest association [3]. Another study showed that yogurt consumption is linked with smaller gains in weight and waist circumference over time [4, 9]. Increased dairy consumption has been demonstrated to reduce obesity [10], and modulate metabolic disturbances including hyperinsulinemia [11] and blood pressure [12,13]. Prospective cohort studies suggest that consumption of low fat dairy products is associated with a low incidence of type 2 diabetes compared with low dairy diets [14-17]. A recent meta-analysis of 7 cohort studies by Tong et al. [16] suggests that increased consumption of total and low fat dairy products may reduce the risk of type 2 diabetes by 5 and 10%, respectively. Some researchers have hypothesized that dairy products and calcium may assist in the loss of excess weight and body fat, [18-19] and extensive commercial advertising campaigns have been based on this hypothesis. However, this hypothesis is contradicted by studies showing that dairy products or calcium supplementation may have no effect [18, 20].

The prevalence of obesity in Malaysian adults is 19.5% due to continued urbanization and improved socioeconomic status, and adoption of more sedentary lifestyle and unhealthy dietary habits [21]. Low fat yogurt could be a valuable natural treatment option. Therefore, the objective of this study was to determine the effectiveness of low fat yogurt in reducing weight among Malaysian.

## METHODOLOGY

Thirty volunteer were participated in this study; 15 cases and 15 controls. The participants were university students. Measuring body waist and body weight were recorded in

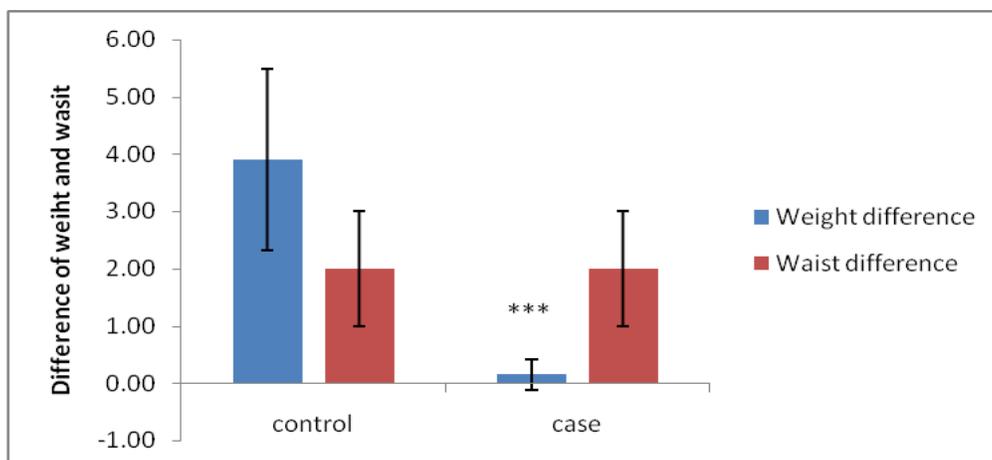
the base line and at the end of the trail. For cases, the participant required to consume one container of low-fat yogurt (140ml) everyday for 14 days. Daily Follow-up to measure waist, height and weight were recorded. They required carrying out their daily activities as usual and recording any changes to their normal daily activities. The control group is not required to consume any yogurt during the duration of the study. They followed-up by measuring their waist, height and weight. The proposal of this study was approved by the ethical committee, International Medical School, management and Science University. Statistical analysis conducted by spss 20. Analyses of efficacy low fat yogurt intervention against body weight were conducted with use of 2-sided t-tests, and a P value of  $\leq 0.05$  was considered statistically different. Comparison of means of waist and weight was performed.

### RESULTS

**Table 1 Socio-demographic catachrestic of the participants (n=30)**

Variable	Categorize	Case (15)	Control (15)	Total (30)
Age	18-20	6	5	11
	21-23	2	4	6
	24-26	4	2	6
	28-30	1	3	4
	31-33	2	1	3
Race	Malay	10	5	15
	Chinese	2	6	8
	Indian	3	3	6
	Others	0	1	1
Marital status	Single	13	11	24
	Married	2	4	6
Smoker	Yes	5	3	8
	No	10	12	22
Physical activity	Yes	3	3	6
	No	12	12	24

**Figure 1 Effect of low fat yogurt on body weight and waist**



Data represent (mean  $\pm$  SD: n = 15). \*\*\* denotes  $P < 0.001$  as determined by independent t test

A total number of 30 students participated in this study. The majority of them were Malay (15), single (24), non-smoker (22), not physically active (24), and their age 18 to 20 years (Table 1). The case group which ingested low fat yogurt for 15 days showed high significantly ( $p < 0.001$ ) body weight difference ( $0.15 \pm 0.27$ ) compared to control group ( $3.90 \pm 1.58$ ). However, no significant differences of body waist between cases group ( $2.00 \pm 1.00$ ) and control group ( $2.00 \pm 1.00$ ) (Figure 1).

## DISCUSSION

We found that 140 ml of low fat yogurt consumption every day for 2 weeks reduced significantly body weight difference but it did not effect on waist difference. Our finding with regard to low fat yogurt consumption is consistent with the results of prior observational studies and short-term interventions [4,8,9]. Consumption of low fat yogurt was associated with weight decreases, possibly because the low fat yogurt may change in colonic bacteria [22]. The fat yogurt contains may have favorable effects on plasma and liver lipid metabolism such as phospholipid [23]. The complexity of the low fat yogurt matrices may be important factors that may interfere with the physiological impact of dairy products ingestion. It is also may be consequently related to improve metabolic syndrome [24]. It is also possible that there is an unmeasured confounding factor that tracks with low fat yogurt consumption (e.g., people who change their yogurt consumption may have other weight-influencing behaviors that were not measured by our instruments). In addition, experimentally study was conducted on mice indicated that dairy products positively impact glucose and lipid homeostasis in obese and type 2 diabetic mice.

## CONCLUSION

Consuming 140 ml of low fat yogurt for 14 days is significantly reducing the body weight.

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