Proceedings of the Nutrition Society (2022), **81 (OCE2)**, E63 doi:10.1017/S0029665122000866

3rd International Symposium on Nutrition (ISN 2022): Urban food policies for sustainable nutrition and health, 27–28 January 2022

Effect of Sea grapes-Antioxidants Extract on Lipid Profile and PGC-1α Levels in Obese Men: 4 Weeks Randomized-Double Blind Controlled Trial

Fahrul Nurkolis[1], Hardinsyah Hardinsyah[2], Nurpudji Astuti Taslim[3], Jodi Visnu[4], Dian Aruni Kumalawati[1], Endang Achadi[5], Najda Rifqiyati[1], Isma Kurniatanty[1], Christopherous Diva Vivo[6], Melvin Junior Tanner[5], Nindy Sabrina[7] and Nelly Mayulu[8]

[1]*Biological Sciences (Faculty of Sciences and Technology), UIN Sunan Kalijaga Yogyakarta, Yogyakarta,,*
[2]*Nutrition, IPB University, Bogor,*
[3]*Clinical Nutrition, Hasanuddin University, Makassar,*
[4]*Public Health, Universitas Gadjah Mada, Yogyakarta,*
[5]*Nutrition, University of Indonesia, Depok,*
[6]*Faculty of Dentistry, University of Indonesia, Salemba,*
[7]*Nutrition, Sahid University of Jakarta, South Jakarta, and*
[8]*Food and Nutrition, Sam Ratulangi University, Manado, Indonesia*

Background/Objectives: Sea grapes are harvested intensively because it considered as important source of macronutrients-micronutrients, especially in Southeast Asia as the main source of traditional diets[1,2]. Therefore, this clinical trial was conducted to evaluate the effect of sea grapes extract on lipid profile and PGC-1α levels in obese men for 4 weeks with a randomized-double blind controlled trial.

Methods: The study was a 4-week, randomized, double-blind, placebo-controlled clinical trial. A random number between 1 and 70 was generated for each subject and registered participants were scheduled for their first visit and randomly assigned dose 1.68 g/70 kg BB/day to the placebo (A; n = 35) or sea grape extract group (B; n = 35). Sea grape extract/placebo tablets/capsules were given to participants every 1 week (1 day of consumption per oral) 15 Minutes before eating. Only individuals men who are obese (BMI≥25 kg.m-2) and Waist Hip Ratio (WHR)≥0.90 according to Asia-Pacific guidelines, not been diagnosed with other diseases were included in the study. An Independent T-test (SPSS 26) CI 95% was used to analyze the difference between characteristics at the baseline and 4 weeks of intervention. Ethical approval from the RSUP Prof. Dr. RD. Kandou No.142/EC/KEPK-KANDOU/VIII/2021 and ClinicalTrials.gov NCT05037591. Sea grape extract capsules contain antioxidant activity 45.66 ± 0.55%.

Results: A total of 69 participants (35 sea grapes extract and 34 placebo group). There was no significant differences ($p > 0.05$) from each variable at baseline (Group A to B). After 4 weeks of intervention, there was a significant decreases in blood glucoes, total cholesterol, LDL, triglycerides, waist circumference, waist-hip ratio and body weight ($p < 0.05$); PGC-1α and HDL increases significant ($p = 0.000$), respectively in group B compared to the group A. Anova's One-Way test of physical activity, food and water intake from 0–4 weeks showed no change ($p > 0.05$; which means controlled). No clinically significant changes in any safety parameter were observed (safe).

Discussion / Conclusion: Sea grapes extract has benefits in improving lipid profile, waist circumference, waist-hip ratio, and body weight as well as improving serum PGC-1α. These results suggest that sea grapes extract supplementation may be effective for treating obese individuals as a functional anti-obesity and anti-aging food supplement.

References

1. Chen X, *et al.* (2019) *PeerJ* **7**, e6118.2.
2. Kuswari M, *et al.* (2021) *F1000Research* **10**(718), 718.

Disclosure of Interest

None Declared