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Letter to the Editor

Reply to Letter re: 'Coconut oil consumption improves fat-free mass, plasma HDL-cholesterol and insulin sensitivity in healthy men with normal BMI compared to peanut oil'

Dear Editor,

At the outset, we would like to thank the author of the letter to editor, Dr. Krititka Kalia for appreciating our work on "Coconut oil consumption improves fat-free mass, plasma HDL-cholesterol and insulin sensitivity in healthy men with normal BMI compared to peanut oil" appeared in Clin Nutr 2018 [1]. The sample size of the study, though small, was statistically adequate to address the primary objectives of the study, which was justified in our research paper. The major focus/emphasis of the study was to assess/ascertain the impact of coconut oil consumption on various health indicators, such as lipids, lipoproteins, inflammation, cardiovascular disease risk markers in comparison with more widely consumed cooking/vegetable oil of South India viz. peanut oil. Therefore, the discussion was mainly confined to the health effects of coconut oil and the negative effects of peanut oil consumption were not explicitly discussed. It is true that some of the favourable effects reported in the study, due to coconut oil consumption, especially, increased plasma HDL-C (other reports as well) might help in decreasing the resistance against saturated fat consumption. Further, the observed rise in plasma HDL-C in coconut oil-consuming subjects could be due to lauric (C12:0) and myristic (C14:0) acids of coconut oil, which are saturated fatty acids. However, they are categorised as medium chain fatty acids. On the other hand, butter predominantly consists of palmitic (C16:0) acid, a saturated fatty acid classified as long chain fatty acid and therefore, the consumption of butter does not raise the plasma HDL-C, thereby suggesting that all the saturated fatty acids/fats do not behave the same way. Therefore, the classification of fatty acids into saturated and unsaturated fatty acids is an over-simplification.

We stored the cooking oils in a cold room before use. We used 35 g of coconut oil or peanut oil in one day's menu preparation (not as a cold formulation). However, we have followed typical Indian cooking procedure (like sauting and seasoning). We completely avoided deep-frying. 35 g of visible/cooking oil (coconut/peanut oil) were distributed in the seasoning of dal, curries and chutneys, which involves a brief less than 2min heating of oil. In the preparation of uthappam (a breakfast item), approximately, 1 mL of oil as such (unheated) was added.

As both the oils were not used for deep-frying, the preparation procedures and the items prepared were similar (there were no differences in the menus followed for both the study periods) and there was no over-heating and repeated heating and re-use of re-heated oils, it is unlikely that there was increased lipid peroxidation status of the food items. However, it is true that compared to coconut oil, peanut oil has 15 times more of linoleic acid (C18:2 n-6 PUFA) and only traces of n-3 PUFA. Further, the role of n-6 PUFA, especially linoleic acid (C18:2) in cardiovascular disease risk or protection is not clearly established. However, increased endogenous oxidative process and products formed thereof cannot be ruled out. Though, the importance of n-6 to n-3 PUFA balance in cardiovascular health is very well recognized, we did not discuss this aspect, as both the test oils have no significant proportion of n-3 PUFA.

Conflicts of interest

None of the authors has conflicts of interest to report.

Reference

[1] Korrapati D, Jeyakumar SM, Putcha UK, Mendu VR, Ponday LR, Acharya V, et al. Coconut oil consumption improves fat-free mass, plasma HDL-cholesterol and insulin sensitivity in healthy men with normal BMI compared to peanut oil. Clin Nutr 2018. https://doi.org/10.1016/j.clnu.2018.12.026 [Epub ahead of print].

K. Damayanti
Division of Publication, Extension and Training, ICMR-National Institute of Nutrition, Jamai Osmania, Hyderabad, 500 007, Telangana, India

S.M. Jeyakumar, A. Vajreswari*
Lipid Biochemistry Division, ICMR-National Institute of Nutrition, Jamai Osmania, Hyderabad, 500 007, Telangana, India

* Corresponding author.
E-mail address: vaj_lipidresearch@yahoo.com (A. Vajreswari).

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