The effect of fresh cow's milk and pasteurized milk on hemoglobin levels after three weeks of physical activity in adolescents

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ABSTRACT

One of the beverage options to support the post-exercise recovery phase is milk consumption. It is separated into pasteurized milk and fresh cow's milk based on the manufacturing procedure. Since most research primarily cover the impact of milk consumption on fitness conditions and recovery advantages, no one has yet investigated how milk consumption affects hemoglobin levels in athletes. The purpose of this study is to compare the hemoglobin levels in the blood of adolescents who participate in sports after ingesting fresh cow's milk versus pasteurized milk for a period of three weeks. The three-week course of treatment is anticipated to have a good effect on hemoglobin levels, which may enhance physical performance. Methods: Utilizing a quasi-experimental investigation with a Pretest-Posttest Randomized-Groups Design over three consecutive weeks, with milk being given twice daily to each group. Using a purposive sampling technique, 24 university football players were separated into three groups: the fresh cow's milk (SSS) group, the pasteurized milk (SP) group, and the mineral water as control (K). The Karada Scan Body Fat Omron HBF-356 device is used to measure body composition, while the Easy Touch GCHb equipment is used to gather hemoglobin data. The participants were willing to have their blood drawn through capillaries before, as soon as feasible after, and 30 minutes after the activity. To find differences within groups as well as differences across groups, data analysis used paired t-tests and ANOVA computations. Result: When viewed from the point of data collection, hemoglobin immediately following exercise (0) in the post-test (after three weeks of treatment) showed a significant rise (0.020 < 0.05) in comparison to hemoglobin before activity (-) in the pre-test (prior to milk and exercise intervention), in both the fresh, pasteurized, and mineral water groups. Further investigation revealed that there was a highly significant difference in hemoglobin levels (0.010 < 0.05) between fresh cow's milk and pasteurization milk, as seen from data collection time group immediately after exercise (0) in the post-test (after three weeks of treatment). However, for other calculations, there was no significant difference (p-value > 0.05) between the groups or within the time group. Conclusion: After a three-week intervention of milk consumption, there was no discernible variation in the amount of hemoglobin in the blood. Further study is advised in order to maximize the numerous elements that can affect the acceleration of the increase in hemoglobin in the blood. Interventions with milk and additional food intake combined with physical activity are advised

Kata Kunci: *Susu sapi segar, susu pasteurisasi, hemoglobin, orang yang aktif berolahraga.*