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## Comparison of the effects of three different *Baccaurea angulata* whole fruit juice doses on plasma, aorta and liver MDA levels, antioxidant enzymes and total antioxidant capacity (Article)

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### Abstract

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Purpose: *Baccaurea angulata* (common names: belimbing dayak or belimbing hutan) is a Malaysian underutilized fruit. The preliminary work on *B. angulata* fruit juice showed that it possesses antioxidant properties. Therefore, further work is needed to confirm the efficacy and proper dosage of *B. angulata* as a potential natural antioxidant. The present study was thus carried out to compare the effects of three different *B. angulata* whole fruit (WF) juice doses administered at nutritional doses of 0.50, 1.00 and 1.50 ml/kg/day on plasma, aorta and liver malondialdehyde (MDA) levels, antioxidant enzymes (superoxide dismutase, glutathione peroxidase and catalase) as well as total antioxidant capacity in rabbits fed high-cholesterol diet. Methods: Thirty-five male rabbits of New Zealand strain were randomly assigned to seven groups. For 12 weeks, group CH was fed 1% cholesterol diet only; group C1 was fed 1% cholesterol diet and 0.50 ml/kg/day *B. angulata* WF juice; group C2 was fed 1% cholesterol diet and 1.00 ml/kg/day *B. angulata* WF juice; group C3 was fed 1% cholesterol diet and 1.50 ml/kg/day *B. angulata* WF juice; group N was fed standard pellet only; group N1 was fed standard pellet and 0.50 ml/kg/day *B. angulata* WF juice; and group N2 was fed standard pellet and 1.00 ml/kg/day *B. angulata* WF juice. Results: The three doses reduced the formation of MDA and enhanced the expression of endogenous antioxidant enzymes. The highest dose used (1.50 ml/kg/day) was, however, seen as the most potent. Conclusion: Higher doses of *B. angulata* juice exerted better antioxidant activity. © 2017, Springer-Verlag Berlin Heidelberg.

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