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Cardioprotective and disease preventive effects of traditional and novel green leafy vegetables

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Calthough the consumption of green leafy vegetables (GLVs) has been demonstrated to reduce the risks associated with cardiovascular and other diseases, very little attention has been devoted to the traditional and relatively novel GLVs available to individuals most at risk. Our research examined the influence of collard greens, purslane and sweet potato greens, supplemented into the diet of spontaneously hypertensive rats over a 6 week period, on the hepatic fatty acid profile. This research revealed that consumption of diets containing these GLVs resulted in improved fatty acid profiles, namely decreased saturated fatty acid percentages and increased polyunsaturated and omega-3 fatty acid percentages. These findings suggest the ability of GLVs to modulate the hepatic fatty acid composition, thus attenuating elevations in atherogenic fatty acids, which may be implicated in CVD pathogenesis. Other research studies with these GLVs have yielded similar observations, with the cardioprotective benefits of these vegetables increasing with decreasing dietary omega-6/omega-3 fatty acid ratios. Future research will focus on extensively investigating the influence of these diets on the cardiovascular system and other biological systems. As CVD is both exacerbated by and exacerbates other co-morbities and endocrine disorders, which may adversely affect the cardiovascular system, efforts to mitigate CVD should involve an integrative approach, with practical and accessible intervention strategies particularly among those at highest risk.

Biography

Melissa Johnson completed her PhD in Integrative Biosciences at Tuskegee University and is currently engaged in Postdoctoral studies within the College of Agriculture, Environment and Nutrition Sciences at Tuskegee University. She received her BS in Food and Nutritional Science and her MS in Food Science from Southern University and A&M College and The Pennsylvania State University, respectively. She has published several papers in peer reviewed journals and has co-authored two book chapters; additional manuscripts and book chapters are in progress for submission and publication. Her research interests include cardiovascular and other chronic disease prevention, health promotion and health disparities.

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