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Comparative study of some lipid contents of selected fishes in Bayelsa state, Nigeria

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The present study compared the fatty acids, cholesterol, low density lipoprotein (LDL), and high density lipoprotein (HDL) of four commercially important fresh-water fish species, *Clarias gariepinus* (CG), *Oreochromis niloticus* (ON), *Synodontis budgetti* (SB), and *Mormyrops deliciosus* (MD), using Gas Chromatographic and High Performance Lipid Chromatographic methods. Results showed that the percent polyunsaturated fatty acids (PUFAs) determined from CG were, 35.709, 14.310, 45.845 and 32.345, from Amassoma, Swali, Tombia (in Bayelsa State, South-South of Nigeria) and Lagos rivers respectively. The prominent omega-3 fatty acid determined were eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA); while the major omega-6 fatty acid was eicosatetraenoic acid (AA). Cholesterol content of fishes from the study rivers ranged from 5.080 to 5.570 (mg/100g DW) and was more or less significantly lower than that from Lagos river (in a populous city in the South-west of Nigeria), ($p < 0.05$). Cholesterol, HDL and LDL content in the four fish species were according to the decreasing order $CG > ON > SB > MD$. For the HDL content of fish, higher value was obtained from Amassoma than those of Swali and Tombia rivers but (with the exception of that of *O. niloticus* in Amassoma) were all found to be significantly lower than that of Lagos, ($p < 0.05$). Fishes from Amassoma and Lagos rivers were prominent in n-3 PUFA particularly DHA and EPA; while those from SB showed the lowest levels. This information should find application not only for personal and institutional nutrition practices, but also for development and processing in fish cultures.

Biography

C. Madukosiri has a PhD in Biochemistry in the year 2003 from University of Jos, Nigeria. At present she is an Associate Professor of Nutritional Biochemistry in Niger Delta University. She has published twenty-two papers relating to Nutrition, Agriculture, and Clinical Biochemistry in both local and international Journals. Before joining the University she had worked as a Nutritionist / Dietician for eighteen years in Federal Ministry of Defence.

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