

Abstract (600 word limits)

Presence of contaminants in foods is a serious health challenge especially in developing countries. Owing to poverty, native beer 'brewers' use sub-standard quality brewing vessels, contaminated substrates (*Sorghum bicolor*) and water, which could themselves be sources of both organic and inorganic contaminants. The inhabitants are farmers who cultivate cereal crops such as sorghum, maize, and millet on soils whose geochemistry and fertility have been degraded owing to the mining activities which took place years ago. Ethyl alcohol toxicity is implicated in disease conditions such as hepatitis, cirrhosis, cancer, loss of nutrients and depletion of antioxidants. The incidence of these ailments among drinkers of native beers is high and persists even after seeking medical attention. This would suggest that ethyl alcohol may not be the sole causative factor. Hence, contaminants such as zinc (Zn), iron (Fe), and manganese (Mn), could emanate from water, or are leached from the walls of the vessels into the liquor ultimately ingested by drinkers. Even the fermentation process could cause contamination since leftovers contaminated with microorganisms, some of which are pathogenic are used as starters to drive fermentation. This work was performed to ascertain the presence of contaminants in native beers. Atomic absorption spectrophotometric technique was applied. InStat3 statistical software was used to analyse the data obtained; $P=0.05$ was considered significant. Culture media, Gram staining, catalase and biochemical tests were applied to detect microbes present in the samples. Mean level of Fe in Burukutu prepared in clay and metallic vessels were 30.82 ± 0.03 and 19.36 ± 0.32 respectively. In Pito, values were 10.15 ± 0.21 and 9.19 ± 0.12 in that order. Mean levels of Zn in Burukutu for clay and metallic containers were 10.41 ± 0.88 and 11.10 ± 0.98 respectively; in Pito, levels for clay and metallic vessels were 6.65 ± 1.17 and 8.03 ± 0.72 . Mean levels of Mn in Burukutu for clay and metallic vessels were 2.10 ± 0.98 and 1.10 ± 1.04 in that order. In Pito, levels were 1.75 ± 0.90 and 1.67 ± 0.83 . Magnitude of contamination of the drinks with Fe was higher ($P=0.05$) in clay than metallic vessel. *Streptococci*, *Candida krusei*, *Candida pseudotropicalis*, *Candida tropicalis* and *Lactobacilli* were isolated in the samples. No microbial growth in the control. Contamination with Zn appeared to be higher in metallic than clay containers for both drinks ($p=0.05$). Contaminants in the native beer samples may aggravate significantly the toxicity of alcohol.

Biography (200 word limit)

Dr. Samuel Yusufu Gazuwa is currently working as Senior Lecturer at the University of Jos where he received his Ph.D and MSc in Biochemistry in 2014 and 2004 respectively. He has authored several publications in various journals. His publications reflect his research interests in Nutritional and Environmental Toxicology. He is a member of Nigeria Society of Biochemistry and Molecular Biology (NSBMB), Nutrition Society of Nigeria (NSN) and Nigeria Institute of Food Science and Technology (NIFST).

References (With Hyperlink)

Gazuwa, S.Y., Dabak, J.D, Ubom G.A. (2006). [Iron Contamination of Two Local Alcoholic Drinks](#). Journal of Medicine in the Tropics, 8 (1): 33-38.

Gazuwa, S.Y., Dabak, J.D, Ubom G.A. (2008). [Contaminants in local alcoholic beverages: zinc and manganese contamination](#). International Journal of Biological and Chemical Sciences 2(4): 411-416.

Gazuwa, S. Y., Jaryum, K. H, Ajayi, S (2014). [Total aflatoxins load and phytochemical composition of Cola nitida \(Kola Nut\) samples purchased within Jos metropolis](#). IOSR Journal of Pharmacy and Biological Sciences, 9(6): 39-43.

Gazuwa, S. Y., Dabak, J. D. D, Ubom, G.A (2014). [Consequences of in vivo interactions of binary mixtures of salts of metals in alcoholic milieu on the liver and kidney of male albino Wistar rats](#). IOSR Journal of Pharmacy and Biological Sciences,9 (3): 23-27.

Gazuwa, S.Y., Kiri H. Jaryum and Mafulul, S.G (2016). [Organic Contaminants and Microbial Load of Native Beers Locally Prepared Within Jos Metropolis](#). Journal of Applied Life Sciences International; 8(2): 1-7, 2016; Article no.JALSI.28389 ISSN: 2394-1103.

Organization / University Logo



<https://nutrition.euroscicon.com/>