

## ABSTRACT

: High potency liquid multivitamin preparations contain many active vitamin ingredients having maximal daily dosage and formulated for prolonged administrations. They are intended to be used as food supplements and in the treatment or prophylaxis of vitamin deficiencies. Multivitamin preparations are highly nutritive products containing mixtures of parabens as preservatives; or used as appetizers. Parabens are highly active against most bacteria, yeast and moulds. Vitamin ingredients are hardly toxic when used individually; nonetheless, when formulated to contain high concentration of multivitamin ingredients, the possibility of its toxicity cannot be ignored. Study design: The toxicity of test multivitamin syrup containing 10 ingredients has been evaluated using acute and sub-acute toxicity studies. Results: Our results showed that the LD<sub>50</sub> of the preparation following oral administration in albino rats with average weight of 184.5g was found to be 8.53ml. An equivalent amount of this toxic dose volume in 70g adult human subject will give a value of 3236.31ml implying a relatively harmless product. Generally, there was a significant ( $P < 0.05$ ) dose dependent increase in body weight of the rats implying that multivitamin syrups can serve as a food supplement. The haematological parameters including Hb, PCV and WBC counts showed significant increases ( $P < 0.05$ ) indicative of a stimulatory effect on erythropoiesis and WBC formation. No toxic effects were observed in the systemic organs such as the liver, heart, kidney and spleen which showed no marked changes in their sizes or histologies. Conclusion: based on these findings, multivitamin syrup containing up to 10 ingredients apart from serving as a food supplements is safe for short and long term administration.