Hydroquinone and Heavy Metals Levels in Cosmetics Marketed in Nigeria
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Abstract: Eighty cosmetic emulsions were purchased from a whole sale supermarket in Ibadan, Nigeria with the aim of finding out if the creams contained hydroquinone and heavy metals at levels which were harmful to the populace. The 41.25% of these emulsions were manufactured in Africa, 30.00% in Europe, 1.25% in Asia and 27.50% in USA. Their physico-chemical properties were determined. The results obtained indicate that the color of the samples ranged from white through blue to light brown. The emulsions were mostly oil-in-water. pH was from 4.91-7.32; moisture content, 0.45-88.93%; total volatile matter 2.43-89.67% and total non volatile matter from 10.33-97.57%. The neutral fatty matter of the emulsions, were in the range 10.17-83.24%; total fatty acids 1.32-15.86%. The acid values of the emulsions from 1.30-51.80 mg KOH g⁻¹. Their ester values were in the range 9.95-61.40 mg KOH g⁻¹, their saponification values 13.30-101.80 mg KOH g⁻¹ and the unsaponifiable matter content 1.32-75.75%. The glycerol content ranged from 1.15-2.56% and sorbitol from 1.39-1.45. About 51.25% of the emulsions contained hydroquinone having concentration ranging from 9.50-50.35 mg g⁻¹ showing that hydroquinone present are within, usual limit in most cases. Iron levels of the emulsions were in the range 0.05-1.830 mg L⁻¹ and lead from 0.01-0.9 mg L⁻¹. Chromium level from 0.002-0.097 mg L⁻¹ and aluminum 0.320-1.002 mg L⁻¹. In conclusion most of the emulsions do not contain hydroquinone or heavy metals at levels that are detrimental to human health and the manufacturers are likely to have used utility water during