

European Chemistry Congress

June 16-18, 2016 Rome, Italy

The benefit of supplementing with iron and vitamin B12 singly and in combination on haemoglobin among 6 to 9 years old rural primary school children in Kilifi County, Kenya?

Priscilla Monyangi Nyakundi
Kenya Medical Research Institute, Kenya

A double blind placebo controlled clinical trial supplemented 6 to 9 years old children both sexes with once daily 3 mg/kg Iron and 500 µg vitamin B12 singly and in combination three consecutive months, reviewed 3 and 6 months. Randomly selected: 81 Iron alone, 81 Iron combined with B12, 80 vitamin B12 alone and 80 placebo. Haemoglobin done: baseline, 3 and 6 months, WHO 11.5 g/dl haemoglobin cutoff used.

Approvals: Kenya Pharmacy and Poisons Board, Kenya Medical Research Institutional Review Committees, Ministry of Public Health and Sanitation and Ministry of Education. Caregivers signed informed consent.

Results: 322 recruited, 46.0% (148) boys, 54.0% (174) girls. Baseline haemoglobin: 11.27±1.14 g/dl, normal 46.9% (151), anaemic 53.1 % (171). Six months haemoglobin: 11.5 g/dl, normal 52.8% (170), anaemic 47.2% (152) - statistically significant χ^2 3df $p = 0.033$. Normal haemoglobin: Iron 39.5% (32) to 48.1% (39), Iron combined with B12 50.6% (40) to 55.6 (45), Placebo 47.5% (38) to 61.3% (49), and B12 alone 50.0% to 46.3% (37). Paired haemoglobin 0 & 6 months statistically significant gain in Iron alone T-Test t 80 df $p = 0.006$ at 95% level of confidence. Oneway ANOVA Post Hoc Tests *Iron alone superior* to B12 - statistically significant 80 df $p = 0.021$ at 95% level of confidence.

Conclusion: 1. Anaemia: severe public health problem, 2. Iron improved haemoglobin 3. Haemoglobin changes at 6 months.

Recommendation: 1. Iron for 6 - 9 years old children, 2. Haemoglobin analysis 6 months 3, Analyze plasma for vitamin B12 and ferritin.

Biography

Priscilla Monyangi Nyakundi obtained MB. CH. B aged 25 years and M. MED (Paediatrics) at 32 years from University of Nairobi; MSc (Immunology) at 37 years University of Birmingham, United Kingdom, and had her one year Postdoctoral studies Osaka University, Japan at 38 years; completing PhD from Jomo Kenyatta University of Agriculture and Technology (2016). She has six publications, and two dissertations. She was Vice Chairlady the Medical Advisory Council Gertrude's Garden Children's Hospital and their consultant since 1997. She joined Kenya Medical Research Institute 1985 and currently a Principal Research Officer. She founded Mzabibu Medical Services an outpatient medical consultancy.

pm_nyakundi@yahoo.co.uk

Notes: