

COTE D'IVOIRE
Last Updated: 2006-12-20

Level	Date	Location and sample descriptor	Sex	Age (years)	Sample size	Prevalence of xerophthalmia (%)							Serum / plasma retinol concentration (µmol/l)			Reference	Notes			
						Current XN	Previous XN	X1B	X2	X3A	X3B	XS	Prevalence (%)				Mean	SD	General	Line
													<0.35	<0.70	< 1.05					
LR	2006 P	Dabou district: SAC	B	5.00-15.99	152								6.6		1.22	0.38	5595	*		
R	1996	Pre-SAC by zone: Abidjan	B	2.00-5.99	65								30.4	55.0			1986	*	1	
		Pre-SAC by zone: Bouaké	B	2.00-5.99	85								12.5	58.0				*	2	
		Pre-SAC by zone: Kolia	B	2.00-5.99	75								42.3	70.5				*	3	
		Pre-SAC by zone: Guitry	B	2.00-5.99	57								10.0	41.7				*	4	
		SAC by zone: Abidjan	B	6.00-15.99	135								14.6	44.5				*	5	
		SAC by zone: Bouaké	B	6.00-15.99	135								11.4	50.4				*	6	
		SAC by zone: Kolia	B	6.00-15.99	124								39.4	73.3				*	7	
		SAC by zone: Guitry	B	6.00-15.99	113								4.3	29.1				*	8	
		Women by zone: Abidjan	F	16.00-50.99	143								11.2	19.6				*	9	
		Women by zone: Bouaké	F	16.00-50.99	77								3.8	11.3				*	10	
		Women by zone: Kolia	F	16.00-50.99	83								12.1	43.4				*	11	
		Women by zone: Guitry	F	16.00-50.99	97								1.0	10.0				*	12	
		Men by zone: Abidjan	M	16.00-50.99	66								6.1	15.2				*	13	
		Men by zone: Bouaké	M	16.00-50.99	55								3.6	14.3				*	14	
		Men by zone: Kolia	M	16.00-50.99	112								12.5	26.8				*	15	
		Men by zone: Guitry	M	16.00-50.99	78								0.0	5.1				*	16	
D	1994	4 departments: Pre-SAC	B	0.50-4.99	342							12.3	36.5			42	*			
L	1988	3 communities: Pre-SAC	B	1.00-3.99	151							25.2	68.2			779	*			

NOTES

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Reference No: 5595

General notes: *Baseline results of subsample of children screened for an intervention study. Subjects children from 4 primary schools, Dabou district. Serum retinol measured only in children with normal C-reactive protein values (less than 10 mg/L).*

Reference No: 1986

General notes: *Multi-stage sampling. Sample selected from the 4 main different food zones. 4 communities selected in each zone and villages selected from each community. Bouaké community (zone) includes the villages of Bamoro, Akanzakro, Koloangonoau and Agbangnassou, Kolia community (zone) includes the villages of Maranama, Monongo, Koro and Ndiéou, Guitry community (zone) includes the villages of Lesidouougou, Cochem Dida, Zigriby and Babokoon Appolo, Abidjan (zone) includes the district of Koumassi. Serum retinol concentrations converted from µg/dl to µmol/L.*

Note 1 Geometric mean: 0.49 µmol/L

Note 2 Geometric mean: 0.70 µmol/L

Note 3 Geometric mean: 0.52 µmol/L

Note 4 Geometric mean: 0.70 µmol/L

Note 5 Geometric mean: 0.70 µmol/L

Note 6 Geometric mean: 0.70 µmol/L

Note 7 Geometric mean: 0.43 µmol/L

Note 8 Geometric mean: 0.86 µmol/L

Note 9 Geometric mean: 1.21 µmol/L

Note 10 Geometric mean: 1.15 µmol/L

Note 11 Geometric mean: 0.77 µmol/L

Note 12 Geometric mean: 1.37 µmol/L

Note 13 Geometric mean: 1.41 µmol/L

Note 14 Geometric mean: 1.56 µmol/L

Note 15 Geometric mean: 0.94 µmol/L

Note 16 Geometric mean: 1.56 µmol/L

Reference No: 42

General notes: *Two-stage cluster sampling (30 clusters) in the departments of Odienné, Touba, Séguéla and Mankono. Serum retinol concentrations converted from µg/mL to µmol/L. Survey carried out during the dry season.*

Reference No: 779

General notes: *Single stage cluster sampling. Sample comprised pre-SAC (mal- and wellnourished) from the communities of Dabakala, BoniéréDougou and Foubolo, Central-North region. Serum retinol concentrations converted from µg/mL to µmol/L.*

REFERENCES

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- Reference 42** Tebi A et al. Evaluation du statut en vitamine A de l'enfant de 6 a 59 mois du nord ouest de la Côte d'Ivoire. Abidjan, Institut National de Santé Publique, 1994.
- Reference 779** Institut National de Santé Publique. Paramètres biologiques des enfants malnutris (MPE) et d'un groupe d'enfants a statuts nutritionnel correct identifiés lors de l'enquête nutritionnelle transversale réalisée dans le secteur de Dabakala. Abidjan, Institut National de Santé Publique, 1990.
- Reference 1986** Asobayire FS. Development of a food fortification strategy to combat iron deficiency in the Ivory Coast. Zurich, Swiss Federal Institute of Technology, 2000
- Reference 5595** Wegmuller R, Camara F, Zimmermann MB, Adou P, Hurrell RF. Salt dual-fortified with iodine and micronized ground ferric pyrophosphate affects iron status but not hemoglobin in children in Cote d'Ivoire. Journal of Nutrition, 2006, 136 :1814-1820.

ADDITIONAL REFERENCES

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- Reference 364 Davidsson L, Adou P, Zeder C, Walczyk T, Hurrell R. The effect of retinyl palmitate added to iron-fortified maize porridge on erythrocyte incorporation of iron in African children with vitamin A deficiency. *British Journal of Nutrition*, 2003, 90 :337-343.
- Reference 3119 UNICEF. Enquête à Indicateurs Multiples - MICS 2000, République de Cote d'Ivoire [rapport final]. Abidjan, United Nations Children's Fund, 2000.
- Reference 5126 Lauber E, Haller L. Déterminations des taux sanguins des vitamines A, B1, B2, B6, B12, C, niacine et folates; étude de leur relation avec la clinique et l'alimentation [Blood level determinations of vitamins A, B1, B2, B6, B12, C, niacin and folates: study of their relation to clinical aspects and nutrition]. *Acta Tropica*, 1980, 37 (4 Suppl 11):90-109.