World Health Organization

Vitamin and Mineral Nutrition Information System (VMNIS)

WHO Global Database on Anaemia

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UNITED REPUBLIC OF TANZANIA (THE)

Last Updated: 2006-10-25

Level	Date	Region and sample descriptor	Sex	Age (years)	Sample size	Haemoglobin (g/L)									Reference	Notes	
						Proportion (%) of population with haemoglobin below:						Mean	SD	Method		General	Line
						70	100	110	115	120	130						
N	2004 -2005	Women: Total	F	15.00- 49.99	10139	1.2								B	5221	*	1
		Children: Total	B	0.50- 4.99	7300	4.2		71.8									
		Women by physiological status: NPNLW	F	15.00- 49.99	6057	1.2				46.9							
		Women by physiological status: PW	F	15.00- 49.99	1075	2.7		58.2									
		Women by physiological status: LW	F	15.00- 49.99	3008	0.7				47.7							
		Women by age	F	15.00- 19.99	2207	0.8											2
		Women by age	F	20.00- 24.99	1962	0.8											3
		Women by age	F	25.00- 29.99	1846	1.3											4
		Women by age	F	30.00- 34.99	1515	1.7											5
		Women by age	F	35.00- 39.99	1038	1.4											6
		Women by age	F	40.00- 44.99	822	1.3											7
		Women by age	F	45.00- 49.99	2830	1.6											8
		Women by area: Urban	F	15.00- 49.99	2830	1.2											9
		Women by area: Rural	F	15.00- 49.99	7309	1.2											10
		Women by zone: Central	F	15.00- 49.99	788	2.0											11
		Women by zone: Eastern	F	15.00- 49.99	1609	1.2											12
		Women by zone: Lake	F	15.00- 49.99	1843	1.3											13
		Women by zone: Northern	F	15.00- 49.99	1459	1.6											14
		Women by zone: Southern	F	15.00- 49.99	860	0.3											15
		Women by zone: Southern Highlands	F	15.00- 49.99	1432	0.7											16
		Women by zone: Western	F	15.00- 49.99	1843	1.0											17
		Women by region: Arusha	F	15.00- 49.99	369	0.4											18
		Women by region: Dar es Salaam	F	15.00- 49.99	914	1.0											19
		Women by region: Dodoma	F	15.00- 49.99	459	2.2											20
		Women by region: Iringa	F	15.00- 49.99	410	1.1											21
		Women by region: Kagera	F	15.00- 49.99	542	0.5											22
		Women by region: Kigoma	F	15.00- 49.99	497	0.7											23
		Women by region: Kilimanjaro	F	15.00- 49.99	376	0.3											24
		Women by region: Lindi	F	15.00- 49.99	217	0.6											25
		Women by region: Manyara	F	15.00- 49.99	289	1.1											26
		Women by region: Mara	F	15.00- 49.99	367	1.7											27
		Women by region: Mbeya	F	15.00- 49.99	708	0.3											28
		Women by region: Morogoro	F	15.00- 49.99	445	1.6											29
		Women by region: Mtwara	F	15.00- 49.99	344	0.0											30
		Women by region: Mwanza	F	15.00- 49.99	933	1.7											31
		Women by region: Pemba North	F	15.00- 49.99	50	1.0											32

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						70	100	110	115	120	130						
N	2004 -2005	Women by region: Pemba South	F	15.00- 49.99	41	0.3								B	5221		33
		Women by region: Pwani	F	15.00- 49.99	250	1.1											34
		Women by region: Rukwa	F	15.00- 49.99	314	1.1											35
		Women by region: Ruvuma	F	15.00- 49.99	298	0.5											36
		Women by region: Shinyanga	F	15.00- 49.99	836	1.2											37
		Women by region: Singida	F	15.00- 49.99	329	1.9											38
		Women by region: Tabora	F	15.00- 49.99	510	0.9											39
		Women by region: Tanga	F	15.00- 49.99	425	4.3											40
		Women by region: Town West	F	15.00- 49.99	141	2.8											41
		Women by region: Zanzibar North	F	15.00- 49.99	47	2.7											42
		Women by region: Zanzibar South	F	15.00- 49.99	26	0.2											43
		Children by sex	F	0.50- 4.99	3628	3.8		71.6									
		Children by sex	M	0.50- 4.99	3673	4.6		72.1									
		Children by age	B	0.50- 0.82	604	4.2		83.3									
		Children by age	B	0.83- 0.99	304	11.3		87.5									
		Children by age	B	1.00- 1.99	1669	7.9		82.6									
		Children by age	B	2.00- 2.99	1658	3.8		75.0									
		Children by age	B	3.00- 3.99	1546	2.7		63.1									
		Children by age	B	4.00- 4.99	1520	0.8		57.8									
		Children by area: Urban	B	0.50- 4.99	1399	3.2		66.8									
		Children by area: Rural	B	0.50- 4.99	5902	4.5		73.0									
		Children by zone: Central	B	0.50- 4.99	615	3.2		68.8									
		Children by zone: Eastern	B	0.50- 4.99	810	4.2		73.5									
		Children by zone: Lake	B	0.50- 4.99	1583	8.2		78.5									
		Children by zone: Northern	B	0.50- 4.99	936	1.6		56.7									
		Children by zone: Southern	B	0.50- 4.99	545	3.4		80.7									
		Children by zone: Southern Highlands	B	0.50- 4.99	1080	1.5		62.5									
		Children by zone: Western	B	0.50- 4.99	1552	4.5		77.6									
		Children by region: Arusha	B	0.50- 4.99	236	1.5		52.1									
		Children by region: Dar es Salaam	B	0.50- 4.99	358	5.1		69.0									
		Children by region: Dodoma	B	0.50- 4.99	350	2.5		66.4									
		Children by region: Iringa	B	0.50- 4.99	250	0.0		46.6									
		Children by region: Kagera	B	0.50- 4.99	482	7.3		71.2									
		Children by region: Kigoma	B	0.50- 4.99	396	4.4		76.3									
		Children by region: Kilimanjaro	B	0.50- 4.99	187	1.1		51.3									
		Children by region: Lindi	B	0.50- 4.99	128	2.9		88.2									

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						Proportion (%) of population with haemoglobin below:						Mean	SD	Method		General	Line
						70	100	110	115	120	130						
N	2004 -2005	Children by region: Manyara	B	0.50- 4.99	246	1.7		55.6						B	5221		
		Children by region: Mara	B	0.50- 4.99	321	7.3		79.2									
		Children by region: Mbeya	B	0.50- 4.99	560	1.4		66.9									
		Children by region: Morogoro	B	0.50- 4.99	288	2.9		77.3									
		Children by region: Mtwara	B	0.50- 4.99	218	2.8		79.3									
		Children by region: Mwanza	B	0.50- 4.99	779	9.2		82.8									
		Children by region: Pemba North	B	0.50- 4.99	36	2.7		77.4									
		Children by region: Pemba South	B	0.50- 4.99	33	2.7		74.2									
		Children by region: Pwani	B	0.50- 4.99	164	4.7		76.6									
		Children by region: Rukwa	B	0.50- 4.99	270	3.1		68.0									
		Children by region: Ruvuma	B	0.50- 4.99	200	4.3		77.3									
		Children by region: Shinyanga	B	0.50- 4.99	754	5.0		79.5									
		Children by region: Singida	B	0.50- 4.99	265	4.2		71.9									
		Children by region: Tabora	B	0.50- 4.99	402	3.7		75.1									
		Children by region: Tanga	B	0.50- 4.99	268	2.0		65.6									
		Children by region: Town West	B	0.50- 4.99	68	1.5		74.7									
		Children by region: Zanzibar North	B	0.50- 4.99	27	1.8		76.7									
		Children by region: Zanzibar South	B	0.50- 4.99	16	0.4		70.9									
D	2000 P	Magu District: SAC: Total	B	7.00- 18.99	3400			31.2		62.6		115	14	B	1931	*	
		Magu District: SAC by sex	F	7.00- 18.99	1712			30.5		62.6		115	13				
		Magu District: SAC by sex	M	7.00- 18.99	1688			32.0		62.7		115	15				
L	2000 P	Kigoma: PW: Total	F	14.00- 45.99	579									NS	1932	*	44
		Kigoma: PW by age	F	14.00- 20.99	201												45
		Kigoma: PW by age	F	21.00- 25.99	180												46
		Kigoma: PW by age	F	31.00- 45.99	68												47
		Kigoma: PW by age	F	26.00- 30.99	130												48
		Kigoma: PW by pregnancy number: 1-2	F	14.00- 45.99	258												49
		Kigoma: PW by pregnancy number: >=3	F	14.00- 45.99	266												50
D	1997 -1998	Bagamoyo District and Kibaha District: SAC by inter	B	9.00- 15.99	602							115	13	B	4971	*	51
		Bagamoyo District and Kibaha District: SAC by inter	B	9.00- 15.99	331							115	14				52
D	1996	Tanga Region: SAC by age	B	8.00- 9.99	251			55.2		79.6		107	15	B	1772	*	
		Tanga Region: SAC by age	B	12.00- 13.99	448			49.8		75.2		109	15				

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						Proportion (%) of population with haemoglobin below:						Mean	SD	Method		General	Line
						70	100	110	115	120	130						
D	1996	Tanga Region: SAC by sex and age	F	8.00- 9.99	137			59.5		82.5		106	13	B	1772		
		Tanga Region: SAC by sex and age	M	8.00- 9.99	114			50.0		76.0		108	17				
		Tanga Region: SAC by sex and age	F	12.00- 13.99	233			50.2		75.1		109	14				
		Tanga Region: SAC: by sex and age	M	12.00- 13.99	215			49.2		75.4		109	16				
L	1996	Pemba Island: Kengeja: Pre-SAC	B	0.50- 4.99	613	14.7	80.6					87	16	B	1934	*	
R	1994	Pemba Island: SAC by sex	F	NS	1731	2.8		58.8				106	15	B	1769		
		Pemba Island: SAC by sex	M	NS	1864	4.1		65.6				103	16				
		Pemba Island: SAC by age	B	NS- 6.99	46	19.6		73.9				92	16				
		Pemba Island: SAC by age	B	7.00- 8.99	734	4.4		63.0				103	16				
		Pemba Island: SAC by age	B	9.00- 10.99	1585	2.6		62.8				104	16				
		Pemba Island: SAC by age	B	11.00- 12.99	935	3.5		61.7				105	16				
		Pemba Island: SAC by age	B	14.00-NS	295	2.7		57.6				104	16				
L	1994	Tanga: SAC	B	NS	441			49.0						B	1928		
D	1993	PW by district: Iramba	F	NS	114			14.9						B	787	*	
		PW by district: Singida	F	NS	108			13.9									
		PW by district: Nzega	F	NS	124			33.8									
		PW by district: Igunga	F	NS	134			46.3									
		PW by district: Kibondo	F	NS	152			39.4									
		PW by district: Kasulu	F	NS	68			42.7									
		PW by district: Kilwa	F	NS	118			74.6									
		PW by district: Lindi	F	NS	78			79.9									
		PW by district: Nachingwea	F	NS	83			49.4									
		PW by district: Liwale	F	NS	53			71.7									
		Pre-SAC by district: Iramba	B	0.50- 4.99	253	1.2		27.2									53
		Pre-SAC by sex and district: Iramba	F	0.50- 4.99	124	1.6		28.2									
		Pre-SAC by sex and district: Iramba	M	0.50- 4.99	129	0.8		26.4									
		Pre-SAC by district: Singida	B	0.50- 4.99	217	1.8		31.8									
		Pre-SAC by sex and district: Singida	F	0.50- 4.99	102	1.0		31.3									
		Pre-SAC by sex and district: Singida	M	0.50- 4.99	115	2.6		32.1									
		Pre-SAC by district: Nzega	B	0.50- 4.99	238	7.1		47.9									
		Pre-SAC by sex and district: Nzega	F	0.50- 4.99	121	6.6		49.5									
		Pre-SAC by sex and district: Nzega	M	0.50- 4.99	117	7.7		46.2									

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						Proportion (%) of population with haemoglobin below:						Mean	SD	Method		General	Line
						70	100	110	115	120	130						
D	1993	Pre-SAC by district: Igunga	B	0.50- 4.99	234	5.6		53.5						B	787		
		Pre-SAC by sex and district: Igunga	F	0.50- 4.99	133	5.3		51.9									
		Pre-SAC by sex and district: Igunga	M	0.50- 4.99	101	5.9		55.4									
		Pre-SAC by district: Kibondo	B	0.50- 4.99	237	3.8		45.6									
		Pre-SAC by sex and district: Kibondo	F	0.50- 4.99	114	5.3		44.8									
		Pre-SAC by sex and district: Kibondo	M	0.50- 4.99	123	2.4		46.3									
		Pre-SAC by district: Kasulu	B	0.50- 4.99	172	2.9		51.7									
		Pre-SAC by sex and district: Kasulu	F	0.50- 4.99	99	2.0		53.5									
		Pre-SAC by sex and district: Kasulu	M	0.50- 4.99	73	4.1		49.3									
		Pre-SAC by district: Kilwa	B	0.50- 4.99	309	30.7		94.1									
		Pre-SAC by sex and district: Kilwa	F	0.50- 4.99	151	27.2		91.4									
		Pre-SAC by sex and district: Kilwa	M	0.50- 4.99	158	34.2		96.8									
		Pre-SAC by district: Lindi	B	0.50- 4.99	204	13.7		87.7									
		Pre-SAC by sex and district: Lindi	F	0.50- 4.99	95	13.7		89.5									
		Pre-SAC by sex and district: Lindi	M	0.50- 4.99	109	13.8		86.3									
		Pre-SAC by district: Nachingwea	B	0.50- 4.99	261	8.8		82.8									
		Pre-SAC by sex and district: Nachingwea	F	0.50- 4.99	141	10.6		87.2									
		Pre-SAC by sex and district: Nachingwea	M	0.50- 4.99	120	6.7		77.5									
		Pre-SAC by district: Liwale	B	0.50- 4.99	272	26.1		94.8									
		Pre-SAC by sex and district: Liwale	F	0.50- 4.99	129	25.6		93.8									
		Pre-SAC by sex and district: Liwale	M	0.50- 4.99	143	26.6		95.8									
D	1992	Lindi District: All	B	0.50-NS	2320							118	23	B	1770	*	54
		Lindi District: Women	F	16.00-NS	683	1.9				45.4		120	19				
		Lindi District: Men	M	16.00-NS	649	0.9					41.4	133	22				
		Lindi District: Pre-SAC	B	0.50- 4.99	261	15.3		83.9				90	19				
		Lindi District: SAC	B	5.00- 14.99	727	1.4				66.8		113	18				
L	1991 -1994	Moshi: PW	F	15.00- 45.99	1798	7.0						97	16	D	1942	*	
L	1991 -1992	Dar es Salaam: PW	F	NS	1045	2.2								B	1935	*	55
R	1987 -1989	Women by region: Morogoro	F	16.00-NS	1631	1.0	26.8			80.5		105	15	D	2493	*	56
		Women by region: Kilimanjaro	F	16.00-NS	2749	0.1	2.1			25.8		128	16				57
		Women by region: Mara	F	16.00-NS	587	0.7	16.9			80.1		108	13				58
		Women by region: Dar es Salaam	F	16.00-NS	831	1.6	16.5			62.6		112	18				59

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						70	100	110	115	120	130						
R	1987 -1989	Women by village/area: Madizini	F	16.00-NS	NS		34.6			90.1				D	2493		
		Women by village/area: Melela	F	16.00-NS	NS		21.9			76.4							
		Women by village/area: Msolwa	F	16.00-NS	NS		22.9			73.4							
		Women by village/area: Naibili	F	16.00-NS	NS		2.8			20.7							
		Women by village/area: Usari	F	16.00-NS	NS		0.6			7.6							
		Women by village/area: Mdawi	F	16.00-NS	NS		3.6			35.2							
		Women by village/area: Nyambori	F	16.00-NS	NS		16.9			80.1							
		Women by village/area: Kimara	F	16.00-NS	NS		19.4			76.4							
		Women by village/area: Manzese	F	16.00-NS	NS		13.7			49.0							
		Men by region: Morogoro	M	16.00-NS	1447	0.7		26.3			73.5	116	18				
		Men by region: Kilimanjaro	M	16.00-NS	1685	0.0		3.1			29.8	138	19				
		Men by region: Mara	M	16.00-NS	480	0.0		25.1			79.9	116	13				
		Men by region: Dar es Salaam	M	16.00-NS	627	0.3		9.7			47.9	128	16				
		Men by village/area: Madizini	M	16.00-NS	NS			27.4			76.8						
		Men by village/area: Melela	M	16.00-NS	NS			18.1			69.9						
		Men by village/area: Msolwa	M	16.00-NS	NS			31.7			78.4						
		Men by village/area: Naibili	M	16.00-NS	NS			1.4			14.7						
		Men by village/area: Usari	M	16.00-NS	NS			2.5			9.0						
		Men by village/area: Mdawi	M	16.00-NS	NS			2.7			35.7						
		Men by village/area: Nyambori	M	16.00-NS	NS			25.1			79.9						
		Men by village/area: Kimara	M	16.00-NS	NS			14.1			60.2						
		Men by village/area: Manzese	M	16.00-NS	NS			5.1			35.3						
L	1971	Dar es Salaam: PW	F	NS	1317			86.0				93		A	1947	*	60
L	1964 -1965	Zanzibar: Women	F	21.00-NS	270		26.7			56.8		111		D	1948	*	61
		Zanzibar: Men	M	21.00-NS	280		33.6					114					
		Zanzibar: Children by sex	F	0.00- 19.99	165		36.4					106					
		Zanzibar: Children by sex	M	0.00- 19.99	230		37.4					105					

NOTES

UNITED REPUBLIC OF TANZANIA (THE)

Reference No: 5221

General Notes: *Two-stage cluster sampling; adjustment for altitude and smoking;*

Line note 1 Prevalence of anaemia 48.4% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 2 Prevalence of anaemia 49.0% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 3 Prevalence of anaemia 48.7% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 4 Prevalence of anaemia 48.6% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 5 Prevalence of anaemia 44.5% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 6 Prevalence of anaemia 49.4% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 7 Prevalence of anaemia 50.1% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 8 Prevalence of anaemia 49.3% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 9 Prevalence of anaemia 46.5% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 10 Prevalence of anaemia 49.1% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 11 Prevalence of anaemia 44.6% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 12 Prevalence of anaemia 54.9% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 13 Prevalence of anaemia 55.5% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 14 Prevalence of anaemia 37.89% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 15 Prevalence of anaemia 44.9% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 16 Prevalence of anaemia 33.7% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 17 Prevalence of anaemia 56.0% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 18 Prevalence of anaemia 27.7% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 19 Prevalence of anaemia 53.6% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 20 Prevalence of anaemia 38.8% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 21 Prevalence of anaemia 21.6% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 22 Prevalence of anaemia 41.0% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 23 Prevalence of anaemia 43.5% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 24 Prevalence of anaemia 30.0% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 25 Prevalence of anaemia 46.3% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 26 Prevalence of anaemia 36.2% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 27 Prevalence of anaemia 60.5% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 28 Prevalence of anaemia 36.1% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 29 Prevalence of anaemia 56.2% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 30 Prevalence of anaemia 47.6% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 31 Prevalence of anaemia 62.0% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 32 Prevalence of anaemia 65.1% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 33 Prevalence of anaemia 60.3% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 34 Prevalence of anaemia 57.2% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 35 Prevalence of anaemia 44.3% (Hb <110 g/L PW, Hb <120 g/L NPW).

Line note 36 Prevalence of anaemia 40.8% (Hb <110 g/L PW, Hb <120 g/L NPW).
Line note 37 Prevalence of anaemia 65.0% (Hb <110 g/L PW, Hb <120 g/L NPW).
Line note 38 Prevalence of anaemia 52.7% (Hb <110 g/L PW, Hb <120 g/L NPW).
Line note 39 Prevalence of anaemia 53.5% (Hb <110 g/L PW, Hb <120 g/L NPW).
Line note 40 Prevalence of anaemia 54.7% (Hb <110 g/L PW, Hb <120 g/L NPW).
Line note 41 Prevalence of anaemia 63.9% (Hb <110 g/L PW, Hb <120 g/L NPW).
Line note 42 Prevalence of anaemia 66.2% (Hb <110 g/L PW, Hb <120 g/L NPW).
Line note 43 Prevalence of anaemia 50.8% (Hb <110 g/L PW, Hb <120 g/L NPW).

Reference No: 1931
General Notes: *Facility based study (59 schools); Hb determination only for subsample (every 2nd subject).*

Reference No: 1932
General Notes: *Facility based study (antenatal clinic); Hb cut-off level PW not according to WHO recommendations (please see 'Key to the data tables').*
Line note 44 Prevalence of anaemia 12.4% (Hb <85 g/L).
Line note 45 Prevalence of anaemia 18.9% (Hb <85 g/L).
Line note 46 Prevalence of anaemia 10.0% (Hb <85 g/L).
Line note 47 Prevalence of anaemia 2.9% (Hb <85 g/L).
Line note 48 Prevalence of anaemia 10.8% (Hb <85 g/L).
Line note 49 Prevalence of anaemia 14.3% (Hb <85 g/L).
Line note 50 Prevalence of anaemia 9.0% (Hb <85 g/L).

Reference No: 4971
General Notes: *Facility based study (10 schools) in the coastal area of Bagamoyo and Kibaha Districts; baseline values of intervention study; sampling: a total of 2004 children were eligible, 1650 signed a consent form and were included in the study, complete data for 933 children; exclusion of children who had severe clinical symptoms or infections, physical or mental handicaps, or other chronic diseases; inclusion only of schools that had >100 children enrolled in grades 2 through 5, were accessible by road during the rainy season and had a relatively high (>20%) prevalence of schistosoma haematobium; inclusion only of children enrolled in grades 2 through 5, who were 9-15 yrs old and whose parents consented; only mean Hb values; disaggregated data by intestinal helminths infection, anthelmintic treatment.*
Line note 51 Mean (SD) age 146.1 (14.6) months.
Line note 52 Mean (SD) age 146.9 (15.5) months.

Reference No: 1772
General Notes: *Facility based study (41 schools, biased towards poorest schools); Hb determination only for subsample (50%); all 6 districts of Tanga Region.*

Reference No: 1934
General Notes: *See also reference No. 5040.*

Reference No: 787
General Notes: *Facility based study for PW (antenatal clinics).*

Line note 53 Disaggregated data by age.

Reference No: 1770
General Notes: *Hb determination only for subsample (72.6%).*
Line note 54 Prevalence of anaemia 55.3% (different Hb cut-off levels).

Reference No: 1942
General Notes: *Facility based study (antenatal clinic); method: Corning colorimeter.*

Reference No: 1935
General Notes: *Facility based study (2 antenatal clinics).*
Line note 55 Prevalence of anaemia 60.0% (Hb <105 g/L); prevalence of anaemia 17.0% (Hb <85 g/L); median Hb: 101 g/L.

Reference No: 2493
General Notes: *Method: Cyanox digital haemoglobin meter.*
Line note 56 Region includes 3 rural villages (Madizini, Melela, Msolwa); disaggregated data by age.
Line note 57 Region includes 3 rural villages (Naibili, Usari, Mdawi); altitude 1830-3050 m.
Line note 58 Region includes 1 rural village (Nyambori).
Line note 59 Region includes 2 urban areas (Kimara, Manzese).

Reference No: 1947
General Notes: *Facility based study (antenatal clinic).*
Line note 60 Values for other Hb cut-off levels.

Reference No: 1948
General Notes: *Study in 4 villages near Donge 18 miles north of Zanzibar; method: MRC Grey Wedge photometer.*
Line note 61 Hb cut-off level not according to WHO recommendations (please see 'Key to the data tables'); disaggregated data by age.

R E F E R E N C E S

UNITED REPUBLIC OF TANZANIA (THE)

Reference 787 Jeje B, Bategeki W, Mwikongi S, Njebele C, Nyang'ali E, Kimboka S, Ruhiye D, Mbunda J, Kaijage P, Mduma B, Ndossi G, Kisanga P. Tanzania Health and Nutrition Project-Component II. Baseline Survey Report. Dar es Salaam, The United Republic of Tanzania, Prime Minister's Office, Regional Administration, 1994

Reference 1769 Stoltzfus RJ, Chwaya HM, Tielsch JM, Schulze KJ, Albonico M, Savioli L. Epidemiology of iron deficiency anemia in Zanzibari schoolchildren: the importance of hookworms. American Journal of Clinical Nutrition, 1997, 65 :153-159.

Reference 1770 Tatala S, Svanberg U, Mduma B. Low dietary iron availability is a major cause of anemia: a nutrition survey in the Lindi District of Tanzania. American Journal of Clinical Nutrition, 1998, 68 :171-178.

Reference 1772 [Anonymous]. The health and nutritional status of schoolchildren in Africa, evidence from school-based health programmes in Ghana and Tanzania: the Partnership for Child Development. Transactions of the Royal Society of Tropical Medicine and Hygiene, 1998, 92 :254-261.

Reference 1928 Beasley NM, Hall A, Tomkins AM, Donnelly C, Ntimbwa P, Kivuga J, Kihamia CM, Lorri W, Bundy DA. The health of enrolled and non enrolled children of school age in Tanga, Tanzania. Acta Tropica, 2000, 76 :223-229.

Reference 1931 Lwambo NJ, Brooker S, Siza JE, Bundy DA, Guyatt H. Age patterns in stunting and anaemia in African schoolchildren: a cross-sectional study in Tanzania. European Journal of Clinical Nutrition, 2000, 54 :36-40.

Reference 1932 Mnyika SK, Kabalimu TK, Mbaruku G, Masisila R, Mpanju-Shumbusho W. Randomised trial of alternative malaria chemoprophylaxis strategies among pregnant women in Kigoma, Tanzania, II: results from baseline studies. East African Medical Journal, 2000, 77 :105-110.

Reference 1934 Stoltzfus RJ, Edward-Raj A, Dreyfuss ML, Albonico M, Montresor A, Dhoj Thapa M, West KP Jr, Chwaya HM, Savioli L, Tielsch J. Clinical pallor is useful to detect severe anemia in populations where anemia is prevalent and severe. Journal of Nutrition, 1999, 129 :1675-1681.

Reference 1935 Massawe SN, Urassa EN, Nystrom L, Lindmark G. Effectiveness of primary level antenatal care in decreasing anemia at term in Tanzania. Acta Obstetricia et Gynecologica Scandinavica, 1999, 78 :573-579.

Reference 1942 Bergsjo P, Seha AM, Ole-King'ori N. Hemoglobin concentration in pregnant women: experience from Moshi, Tanzania. Acta Obstetricia et Gynecologica Scandinavica, 1996, 75 :241-244.

Reference 1947 Mwanukuzi E, Nhonoli AM. Anaemia in expectant mothers. East African Medical Journal, 1972, 49 :101-107.

Reference 1948 Forsyth DM. Anaemia in Zanzibar. Transactions of the Royal Society of Tropical Medicine and Hygiene, 1970, 64 :601-606.

Reference 2493 Kitange HM, Swai ABM, Kilima PM, Masuki G, Alberti KGMM, Mclarty DG. Anaemia is a major public health problem in Tanzania. Health Policy and Planning, 1993, 8 :413-424.

Reference 4971 Bhargava A, Jukes M, Lambo J, Kihamia CM, Lorri W, Nokes C, Drake L, Bundy D. Anthelmintic treatment improves the hemoglobin and serum ferritin concentrations of Tanzanian schoolchildren. Food and Nutrition Bulletin, 2003, 24 :332-342.

Reference 5221 National Bureau of Statistics (NBS) Tanzania, ORC Macro. Tanzania Demographic and Health Survey 2004-05. Dar es Salaam, Tanzania, National Bureau of Statistics, ORC Macro, 2005.

ADDITIONAL REFERENCES

UNITED REPUBLIC OF TANZANIA (THE)

Reference 776 Kavishe FP. The food and nutrition situation in Tanzania. 1987

Reference 783 Government of the United Republic of Tanzania, UNICEF. Analysis of the situation of children and women - volume 1. Dar-es-Salaam, 1985.

Reference 965 Marchant T, Armstrong Schellenberg JR, Edgar T, Ronsmans C, Nathan R, Abdulla S, Mukasa O, Urassa H, Lengeler C. Anaemia during pregnancy in southern Tanzania. Annals of Tropical Medicine and Parasitology, 2002, 96 :477-487.

Reference 1568 Ash DM, Tatala SR, Frongillo EA Jr, Ndossi GD, Latham MC. Randomized efficacy trial of a micronutrient-fortified beverage in primary school children in Tanzania. American Journal of Clinical Nutrition, 2003, 77 :891-898.

Reference 1671 Kitange HM, Swai ABM, Mclarty D, Masuki GE, Mtinangi BL, Tatala S. Prevalence of anaemia in adults in eight rural villages in Tanzania,. Dar es Salaam, 1991 :60-66.

Reference 1674 Vaughan JP, Menu JP, Kihama F, Brooke D, Kiwia A, Mohamed SA. Anaemia treatment trials in a rural population of Tanzania. Tropical and Geographical Medicine, 1977, 29 :369-373.

Reference 1882 Beasley NMR, Tomkins AM, Hall A, Lorri W, Kihamia CM, Bundy DAP. The impact of weekly iron supplementation on the iron status and growth of adolescent girls in Tanzania. Tropical Medicine & International Health, 2000, 5 :794-799.

Reference 1929 Stoltzfus RJ, Chwaya HM, Montresor A, Albonico M, Savioli L, Tielsch JM. Malaria, hookworms and recent fever are related to anemia and iron status indicators in 0- to 5-y old Zanzibari children and these relationships change with age. Journal of Nutrition, 2000, 130 :1724-1733.

Reference 1930 Menendez C, Kahigwa E, Hirt R, Vounatsou P, Aponte JJ, Font F, Acosta CJ, Schellenberg DM, Galindo CM, Kimario J, Urassa H, Brabin B, Smith TA, Kitua AY, Tanner M, Alonso PL. Randomised placebo-controlled trial of iron supplementation and malaria chemoprophylaxis for prevention of severe anaemia and malaria in Tanzanian infants. Lancet, 1997, 350 :844-850.

Reference 1933 Beasley NM, Tomkins AM, Hall A, Kihamia CM, Lorri W, Nduma B, Issae W, Nokes C, Bundy DA. The impact of population level deworming on the haemoglobin levels of schoolchildren in Tanga, Tanzania. Tropical Medicine & International Health, 1999, 4 :744-750.

Reference 1937 Albonico M, Stoltzfus RJ, Savioli L, Tielsch JM, Chwaya HM, Ercole E, Cancrini G. Epidemiological evidence for a differential effect of hookworm species, Ancylostoma duodenale or Necator americanus, on iron status of children. International Journal of Epidemiology, 1998, 27 :530-537.

Reference 1938 Stoltzfus RJ, Albonico M, Chwaya HM, Tielsch JM, Schulze KJ, Savioli L. Effects of the Zanzibar school-based deworming program on iron status of children. American Journal of Clinical Nutrition, 1998, 68 :179-186.

Reference 1939 Stoltzfus RJ, Chwaya HM, Albonico M, Schulze KJ, Savioli L, Tielsch JM. Serum ferritin, erythrocyte protoporphyrin and hemoglobin are valid indicators of iron status of school children in a malaria-holoendemic population. Journal of Nutrition, 1997, 127 :293-298.

Reference 1941 Stoltzfus RJ, Albonico M, Chwaya HM, Savioli L, Tielsch J, Schulze K, Yip R. Hemoquant determination of hookworm-related blood loss and its role in iron deficiency in African children. American Journal of Tropical Medicine and Hygiene, 1996, 55 :399-404.

Reference 1943 Matteelli A, Donato F, Shein A, Muchi JA, Leopardi O, Astori L, Carosi G. Malaria and anaemia in pregnant women in urban Zanzibar, Tanzania. Annals of Tropical Medicine and Parasitology, 1994, 88 :475-483.

Reference 1944 Kimati VP, Lema RA, Magessa PM, Arun Kumar K. Childhood anaemias in Dar-es-Salaam. Journal of Tropical Pediatrics, 1986, 32 :263-267.

ADDITIONAL REFERENCES

UNITED REPUBLIC OF TANZANIA (THE)

Reference 1946 Vaughan JP, Menu JP, Kihama F, Brooke D, Kiwia A, Mohamed SA. Anaemia in a coastal area of Tanzania: population survey and investigation of anaemic subjects. East African Medical Journal, 1973, 50 :86-93.

Reference 1949 Rowland HA. Anaemia in Dar-es-Salaam and methods for its investigation. Transactions of the Royal Society of Tropical Medicine and Hygiene, 1966, 60 :143-169.

Reference 1979 Ekvall H, Premji Z, Björkman A. Micronutrient and iron supplementation and effective antimalarial treatment synergistically improve childhood anaemia. Tropical Medicine & International Health, 2000, 5 :696-705.

Reference 2291 Massawe SN, Urassa EN, Mmari M, Ronquist G, Lindmark G, Nystrom L. The complexity of pregnancy anemia in Dar-es-Salaam. Gynecologic and Obstetric Investigation, 1999, 47 :76-82.

Reference 2329 Schellenberg D, Menendez C, Kahigwa E, Font F, Galindo C, Acosta C, Schellenberg JA, Aponte JJ, Kimario J, Urassa H, Mshinda H, Tanner M, Alonso P. African children with malaria in an intense Plasmodium Falciparum transmission: features on admission to the hospital and risk factors for death. American Journal of Tropical Medicine and Hygiene, 1999, 6 :431-438.

Reference 2330 Abdulla S, Schellenberg JA, Nathan R, Mukasa O, Marchant T, Smith T, Tanner M, Lengeler C. Impact on malaria morbidity of a programme supplying insecticide treated nets in children aged under 2 years in Tanzania: community cross sectional study. British Medical Journal, 2001, 322 :270-273.

Reference 2347 Nhonoli AM, Ndowo VA, Mhoja JW. Electronically determined values for haemoglobin red cell and white cell indices in cord bloods of East Africans. East African Journal of Medical Research, 1975, 2 :241-249.

Reference 2494 Lwambo NJS, Siza JE, Brooker S, Bundy DAP, Guyatt H. Patterns of concurrent hookworm infection and schistosomiasis in schoolchildren in Tanzania. Transactions of the Royal Society of Tropical Medicine and Hygiene, 1999, 93 :497-502.

Reference 2495 Tatala S, Mamboso VM. Prevalence of anaemia in pregnant women in rural Tanzania. 1991 :31-41.

Reference 2527 WHO. Prevention and management of severe anaemia in pregnancy: report of a technical working group. 1991.

Reference 2779 Guyatt HL, Brooker S, Kihamia CM, Hall A, Bundy DA. Evaluation of efficacy of school-based anthelmintic treatments against anaemia in children in the United Republic of Tanzania. Bulletin of the World Health Organization, 2001, 79 :695-703.

Reference 3099 Stoltzfus RJ, Kvalsvig JD, Chwaya HM, Montresor A, Albonico M, Tielsch JM, Savioli L, Pollitt E. Effects of iron supplementation and anthelmintic treatment on motor and language development of preschool children in Zanzibar: double blind, placebo controlled study. British Medical Journal, 2001, 323 :1389-1393.

Reference 3495 Marchant T, Schellenberg JA, Edgar T, Nathan R, Abdulla S, Mukasa O, Mponda H, Lengeler C. Socially marketed insecticide-treated nets improve malaria and anaemia in pregnancy in southern Tanzania. Tropical Medicine & International Health, 2002, 7 :149-158.

Reference 3513 Urassa DP, Carlstedt A, Nystrom L, Massawe SN, Lindmark G. Quality assessment of the antenatal program for anaemia in rural Tanzania. International Journal for Quality in Health Care, 2002, 14 :441-448.

Reference 3696 Massawe SN, Urassa EN, Nystrom L, Lindmark G. Anaemia in women of reproductive age in Dar-es-Salaam, Tanzania. East African Medical Journal, 2002, 79 :461-466.

Reference 3700 Schellenberg D, Armstrong Schellenberg JRM, Mushi A, de Savigny D, Mgalula L, Mbuya C, Victora CG. The silent burden of anaemia in Tanzanian children: a community-based study. Bulletin of the World Health Organization, 2003, 81 :581-590.

ADDITIONAL REFERENCES

UNITED REPUBLIC OF TANZANIA (THE)

Reference 3888 Fraser-Hurt N, Felger I, Edoh D, Steiger S, Mashaka M, Masanja H, Smith T, Mbena F, Beck HP. Effect of insecticide-treated bed nets on haemoglobin values, prevalence and multiplicity of infection with Plasmodium falciparum in a randomized controlled trial in Tanzania. Transactions of the Royal Society of Tropical Medicine and Hygiene, 1999, 93 (Suppl 1):47-51.

Reference 3891 Shiff C, Checkley W, Winch P, Premji Z, Minjas J, Lubega P. Changes in weight gain and anaemia attributable to malaria in Tanzanian children living under holoendemic conditions. Transactions of the Royal Society of Tropical Medicine and Hygiene, 1996, 90 :262-265.

Reference 3916 Makola D, Ash DM, Tatala SR, Latham MC, Ndossi G, Mehansho H. A micronutrient-fortified beverage prevents iron deficiency, reduces anemia and improves the hemoglobin concentration of pregnant Tanzanian women. Journal of Nutrition, 2003, 133 :1339-1346.

Reference 3968 Maxwell CA, Chambo W, Mwaimu M, Magogo F, Carneiro IA, Curtis CF. Variation of malaria transmission and morbidity with altitude in Tanzania and with introduction of alphacypermethrin treated nets. Malaria journal [electronic resource], 2003, 2 :28.

Reference 4081 Ekström EC, Kavishe FP, Habicht JP, Frongillo EA Jr, Rasmussen KM, Hemed L. Adherence to iron supplementation during pregnancy in Tanzania: determinants and hematologic consequences. American Journal of Clinical Nutrition, 1996, 64 :368-374.

Reference 4201 Mwanri L, Worsley A, Ryan P, Masika J. Supplemental vitamin A improves anemia and growth in anemic school children in Tanzania. Journal of Nutrition, 2000, 130 :2691-2696.

Reference 4202 Mwanri L, Worsley A, Masika J. School and anaemia prevention: current reality and opportunities--a Tanzanian case study. Health Promotion International, 2001, 16 :321-331.

Reference 4206 Antelman G, Msamanga GI, Spiegelman D, Urassa EJ, Narh R, Hunter DJ, Fawzi WW. Nutritional factors and infectious disease contribute to anemia among pregnant women with human immunodeficiency virus in Tanzania. Journal of Nutrition, 2000, 130 :1950-1957.

Reference 4427 Villamor E, Mbise R, Spiegelman D, Ndossi G, Fawzi WW. Vitamin A supplementation and other predictors of anemia among children from Dar Es Salaam, Tanzania. American Journal of Tropical Medicine and Hygiene, 2000, 62 :590-597.

Reference 4428 Hinderaker SG, Olsen BE, Bergsjo P, Lie RT, Gasheka P, Kvale G. Anemia in pregnancy in the highlands of Tanzania. Acta Obstetricia et Gynecologica Scandinavica, 2001, 80 :18-26.

Reference 4463 Stoltzfus RJ, Albonico M, Tielsch JM, Chwaya HM, Savioli L. Linear growth retardation in Zanzibari school children. Journal of Nutrition, 1997, 127 :1099-1105.

Reference 4464 Stoltzfus R, Chwaya HM, Abdulla AM, Albonico M, TieischJ, Savioli L. Evaluation of the nutritional impact of a school-based deworming program in Zanzibar. 1993.

Reference 4485 Marchant T, Schellenberg JA, Nathan R, Abdulla S, Mukasa O, Mshinda H, Lengeler C. Anaemia in pregnancy and infant mortality in Tanzania. Tropical Medicine & International Health, 2004, 9 :262-266.

Reference 4641 Massawe SN, Ronquist G, Nyström L, Lindmark G. Iron status and iron deficiency anaemia in adolescents in a Tanzanian suburban area. Gynecologic and Obstetric Investigation, 2002, 54 :137-144.

Reference 4825 Schellenberg D, Menendez C, Kahigwa E, Aponte J, Vidal J, Tanner M, Mshinda H, Alonso P. Intermittent treatment for malaria and anaemia control at time of routine vaccinations in Tanzanian infants: a randomised, placebo-controlled trial. Lancet, 2001, 357 :1471-1477.

Reference 4875 Menendez C, Quinto LL, Kahigwa E, Alvarez L, Fernandez R, Gimenez N, Schellenberg D, Aponte JJ, Tanner M, Alonso PL. Effect of malaria on soluble transferrin receptor levels in Tanzanian infants. American Journal of Tropical Medicine and Hygiene, 2001, 65 :138-142.

ADDITIONAL REFERENCES

UNITED REPUBLIC OF TANZANIA (THE)

Reference 4936 Hinderaker SG, Olsen BE, Lie RT, Bergsjø PB, Gasheka P, Bondevik GT, Ulvik R, Kvåle G. Anemia in pregnancy in rural Tanzania: associations with micronutrients status and infections. European Journal of Clinical Nutrition, 2002, 56 :192-199.

Reference 5006 Menendez C, Schellenberg D, Quinto L, Kahigwa E, Alvarez L, Aponte JJ, Alonso PL. The effects of short-term iron supplementation on iron status in infants in malaria-endemic areas. American Journal of Tropical Medicine and Hygiene, 2004, 71 :434-440.

Reference 5040 Mebrahtu T, Stoltzfus RJ, Chwaya HM, Jape JK, Savioli L, Montresor A, Albonico M, Tielsch JM. Low-dose daily iron supplementation for 12 months does not increase the prevalence of malarial infection or density of parasites in young Zanzibari children. Journal of Nutrition, 2004, 134 :3037-3041.

Reference 5049 Msolla MJ, Kinabo JL. Prevalence of anaemia in pregnant women during the last trimester. International Journal of Food Sciences and Nutrition, 1997, 48 :265-270.

Reference 5219 Micronutrient and Health Project (MICAH). MICAH Tanzania Final Survey Report. Tanzania, World Vision Tanzani MICAH, 2002.

Reference 5266 Mamiro PS, Kolsteren P, Roberfroid D, Tatala S, Opsomer AS, Van Camp JH. Feeding practices and factors contributing to wasting, stunting, and iron-deficiency anaemia among 3-23-month old children in Kilosa district, rural Tanzania. Journal of Health, Population, and Nutrition, 2005, 23 :222-230.

Reference 5537 Sazawal S, Black RE, Ramsan M, Chwaya HM, Stoltzfus RJ, Dutta A, Dhingra U, Kabole I, Deb S, Othman MK, Kabole FM. Effects of routine prophylactic supplementation with iron and folic acid on admission to hospital and mortality in preschool children in a high malaria transmission setting: community-based, randomised, placebo-controlled trial. Lancet, 2006, 367 :133-143.

Reference 5579 Schellenberg D, Kahigwa E, Sanz S, Aponte JJ, Mshinda H, Alonso P, Menendez C. A randomized comparison of two anemia treatment regimens in Tanzanian children. American Journal of Tropical Medicine and Hygiene, 2004, 71 :428-433.