Table 3: Global Burden of Low Vitamin A Status and Vitamin A Deficiency (VAD) Among Pregnant Women by WHO Region

WHO Region **Africa**

(1) Country Name	(2) CRA Index	(3) WHO/ CRA Index	(4) Annual Number of Live Births (000's)	(5) Measured Prevalence of VAD	(6) Measured Prevalence of Low Status/VAD	(7) National Weight	(8) National Prevalence of VAD	(9) National Prevalence Low Status/VAD	(10) Number with VAD (000's)	(11) Number with Low Status/VAD (000's)	(12) References
Algeria	D	AfrD	881.00	0.094	0.204	1.00	0.094	0.204	82.81	179.72	
Angola	D	AfrD	595.00	0.094	0.204	1.00	0.094	0.204	55.93	121.38	
Benin	D	AfrD	242.00	0.094	0.204	1.00	0.094	0.204	22.75	49.37	
Botswana	E	AfrE	53.00	0.094	0.204	1.00	0.094	0.204	4.98	10.81	
Burkina Faso	D	AfrD	530.00	0.576	0.850	0.40	0.230	0.340	122.11	180.20	WHO 1995
Burundi	E	AfrE	273.00	0.094	0.204	1.00	0.094	0.204	25.66	55.69	
Cameroon	D	AfrD	573.00	0.094	0.204	1.00	0.094	0.204	53.86	116.89	
Cape Verde	D	AfrD	13.00	0.094	0.204	1.00	0.094	0.204	1.22	2.65	
Central African Republic	E	AfrE	132.00	0.168	0.537	1.00	0.168	0.537	22.18	70.88	Mulder-Sibanda et al. 2001
Chad	D	AfrD	323.00	0.094	0.204	1.00	0.094	0.204	30.36	65.89	
Comoros	D	AfrD	24.00	0.094	0.204	1.00	0.094	0.204	2.26	4.90	
Congo	E	AfrE	123.00	0.094	0.204	1.00	0.094	0.204	11.56	25.09	
Cote d'Ivoire	E	AfrE	540.00	0.094	0.204	1.00	0.094	0.204	50.76	110.16	
Democratic Republic of the Congo	E	AfrE	2,293.00	0.094	0.204	1.00	0.094	0.204	215.54	467.77	
Equatorial Guinea	D	AfrD	18.00	0.094	0.204	1.00	0.094	0.204	1.69	3.67	
Eritrea	E	AfrE	148.00	0.094	0.204	1.00	0.094	0.204	13.91	30.19	
Ethiopia	E	AfrE	2,699.00	0.094	0.204	1.00	0.094	0.204	253.71	550.60	
Gabon	D	AfrD	44.00	0.094	0.204	1.00	0.094	0.204	4.14	8.98	
Gambia	D	AfrD	50.00	0.048	0.138	0.75	0.036	0.104	1.80	5.18	Villard and Bates 1987
Ghana	D	AfrD	724.00	0.094	0.204	1.00	0.094	0.204	68.06	147.70	
Guinea	D	AfrD	312.00	0.094	0.204	1.00	0.094	0.204	29.33	63.65	
Guinea-Bissau	D	AfrD	49.00	0.094	0.204	1.00	0.094	0.204	4.61	10.00	
Kenya	E	AfrE	992.00	0.151	0.388	0.60	0.091	0.233	89.88	230.94	Mostad et al. 1997
Lesotho	E	AfrE	73.00	0.094	0.204	1.00	0.094	0.204	6.86	14.89	
Liberia	D	AfrD	129.00	0.120	0.467	1.00	0.120	0.467	15.48	60.24	Mulder-Sibanda et al. 2001
Madagascar	D	AfrD	604.00	0.094	0.204	1.00	0.094	0.204	56.78	123.22	
Malawi	E	AfrE	497.00	0.235	0.645	0.60	0.141	0.387	70.08	192.34	Young et al. 2000 ; Semba et al. 1994
Mali	D	AfrD	507.00	0.361	0.767	0.60	0.217	0.460	109.82	233.32	Le Francois et al. 1980
Mauritania	D	AfrD	104.00	0.094	0.204	1.00	0.094	0.204	9.78	21.22	
Mauritius	D	AfrD	18.00	0.094	0.204	1.00	0.094	0.204	1.69	3.67	
Mozambique	E	AfrE	826.00	0.094	0.204	1.00	0.094	0.204	77.64	168.50	
Namibia	E	AfrE	60.00	0.094	0.204	1.00	0.094	0.204	5.64	12.24	
Niger	D	AfrD	497.00	0.653	0.800	0.25	0.163	0.200	81.14	99.40	WHO 1995
Nigeria	D	AfrD	4,176.00	0.094	0.204	0.50	0.047	0.102	196.27	425.95	
Rwanda	E	AfrE	295.00	0.224	0.637	0.60	0.134	0.382	39.65	112.75	Dushimimana 1992
Sao Tome and Principe	D	AfrD	6.00	0.094	0.204	1.00	0.094	0.204	0.56	1.22	
Senegal	D	AfrD	364.00	0.097	0.510	0.60	0.058	0.306	21.18	111.38	WHO 1995
Seychelles	D	AfrD	3.00	0.094	0.204	1.00	0.094	0.204	0.28	0.61	
Sierra Leone	D	AfrD	214.00	0.094	0.204	1.00	0.094	0.204	20.12	43.66	
South Africa	E	AfrE	1,055.00	0.239	0.611	0.40	0.096	0.244	100.86	257.84	Fairney et al. 1987
Swaziland	E	AfrE	37.00	0.280	0.570	0.90	0.252	0.513	9.32	18.98	Anonymous. 1997
Togo	D	AfrD	185.00	0.094	0.204	1.00	0.094	0.204	17.39	37.74	
Uganda	E	AfrE	1,081.00	0.094	0.204	0.60	0.056	0.122	60.97	132.31	Gray R. 2002

Table 3: Global Burden of Low Vitamin A Status and Vitamin A Deficiency (VAD) Among Pregnant Women by WHO Region

WHO Region **Africa**

(1) Country Name	(2) CRA Index	(3) WHO/ CRA Index	(4) Annual Number of Live Births (000's)	(5) Measured Prevalence of VAD	(6) Measured Prevalence of Low Status/VAD	(7) National Weight	(8) National Prevalence of VAD	(9) National Prevalence Low Status/VAD	(10) Number with VAD (000's)	(11) Number with Low Status/VAD (000's)	(12) References
United Republic of Tanzania	E	AfrE	1,332.00	0.334	0.640	0.60	0.200	0.384	266.93	511.49	Fawzi et al. 1998
Zambia	E	AfrE	377.00	0.215	0.430	1.00	0.215	0.430	81.06	162.11	WHO 2001
Zimbabwe	E	AfrE	354.00	0.160	0.590	0.60	0.096	0.354	33.98	125.32	Mzengeza and Humphrey 2001

Table 3: Global Burden of Low Vitamin A Status and Vitamin A Deficiency (VAD) Among Pregnant Women by WHO Region

WHO Region **Eastern Mediterranean**

(1) Country Name	(2) CRA Index	(3) WHO/ CRA Index	(4) Annual Number of Live Births (000's)	(5) Measured Prevalence of VAD	(6) Measured Prevalence of Low Status/VAD	(7) National Weight	(8) National Prevalence of VAD	(9) National Prevalence Low Status/VAD	(10) Number with VAD (000's)	(11) Number with Low Status/VAD (000's)	(12) References
Afghanistan	D	EmrD	1,139.00	0.094	0.204	1.00	0.094	0.204	107.07	232.36	
Bahrain	B	EmrB	11.00								
Cyprus	B	EmrB	11.00								
Djibouti	D	EmrD	23.00	0.094	0.204	1.00	0.094	0.204	2.16	4.69	
Egypt	D	EmrD	1,720.00	0.102	0.204	1.00	0.102	0.204	175.44	350.88	Moussa et al. 1997 ; Galal 1997
Iran, Islamic Republic of	B	EmrB	1,392.00								
Iraq	D	EmrD	804.00	0.094	0.204	1.00	0.094	0.204	75.58	164.02	
Jordan	B	EmrB	223.00								
Kuwait	B	EmrB	40.00								
Lebanon	B	EmrB	73.00								
Libyan Arab Jamahirya	B	EmrB	160.00								
Morocco	D	EmrD	703.00	0.125	0.463	1.00	0.125	0.463	87.88	325.49	Mokhtar et al. 1997
Oman	B	EmrB	87.00								
Pakistan	D	EmrD	5,349.00	0.107	0.214	0.60	0.064	0.128	343.41	686.81	WHO 1995
Qatar	B	EmrB	11.00								
Saudi Arabia	B	EmrB	696.00								
Somalia	D	EmrD	500.00	0.094	0.204	1.00	0.094	0.204	47.00	102.00	
Sudan	D	EmrD	944.00	0.024	0.064	1.00	0.024	0.064	22.66	60.42	el Bushra and el Tom 1987
Syrian Arab Republic	B	EmrB	472.00								
Tunisia	B	EmrB	190.00								
United Arab Emirates	B	EmrB	44.00								
Yemen	D	EmrD	821.00	0.094	0.204	1.00	0.094	0.204	77.17	167.48	

Table 3: Global Burden of Low Vitamin A Status and Vitamin A Deficiency (VAD) Among Pregnant Women by WHO Region

WHO Region **South-East Asia**

(1) Country Name	(2) CRA Index	(3) WHO/ CRA Index	(4) Annual Number of Live Births (000's)	(5) Measured Prevalence of VAD	(6) Measured Prevalence of Low Status/VAD	(7) National Weight	(8) National Prevalence of VAD	(9) National Prevalence Low Status/VAD	(10) Number with VAD (000's)	(11) Number with Low Status/VAD (000's)	(12) References
Bangladesh	D	SearD	3,504.00	0.080	0.300	0.75	0.060	0.225	210.24	788.40	Kolsteren et al. 1999 ; Rice et al. 1999 ; Ahmed et al. 1996 ; Ahmed et al. 1997 ; UNICEF and Progotir Pathey 1998
Bhutan	D	SearD	76.00	0.260	0.390	1.00	0.260	0.390	19.76	29.64	WHO 1995
Democratic People's Republic of Korea	D	SearD	472.00	0.080	0.300	0.40	0.032	0.120	15.10	56.64	
India	D	SearD	24,489.00	0.080	0.380	0.60	0.048	0.228	1,175.47	5,583.49	Shah and Rajalakshmi 1984 ; Sivakumar et al. 1997 ; Shatrugna et al. 1997 ; Bhaskaram et al. 2000 ; Basu and Arulanantham 1973
Indonesia	B	SearB	4,608.00	0.170	0.570	0.60	0.102	0.342	470.02	1,575.94	Stoltzfus et al. 1993 ; Suharno et al. 1993 ; de Pee et al. 1997 ; Tanumihardjo et al. 1996
Maldives	D	SearD	10.00	0.080	0.300	0.25	0.020	0.075	0.20	0.75	
Myanmar	D	SearD	942.00	0.080	0.300	0.60	0.048	0.180	45.22	169.56	
Nepal	D	SearD	786.00	0.315	0.540	1.00	0.315	0.540	247.59	424.44	Anonymous. 1999
Sri Lanka	B	SearB	328.00	0.154	0.360	0.75	0.116	0.270	37.88	88.56	Jayasekera et al. 1991
Thailand	B	SearB	997.00	0.030	0.080	1.00	0.030	0.080	29.91	79.76	

Table 3: Global Burden of Low Vitamin A Status and Vitamin A Deficiency (VAD) Among Pregnant Women by WHO Region

WHO Region **Western Pacific**

(1) Country Name	(2) CRA Index	(3) WHO/ CRA Index	(4) Annual Number of Live Births (000's)	(5) Measured Prevalence of VAD	(6) Measured Prevalence of Low Status/VAD	(7) National Weight	(8) National Prevalence of VAD	(9) National Prevalence Low Status/VAD	(10) Number with VAD (000's)	(11) Number with Low Status/VAD (000's)	(12) References
Australia	A	WprA	245.00								
Brunei Darussalam	A	WprA	7.00								
Cambodia	B	WprB	360.00	0.222	0.444	0.75	0.167	0.333	59.94	119.88	
China	B	WprB	19,821.00	0.020	0.040	1.00	0.020	0.040	396.42	792.84	
Cook Islands	B	WprB	0.00	0.222	0.444	0.25	0.056	0.111	0.00	0.00	Schaumberg et al. 1995
Fiji	B	WprB	17.00								
Japan	A	WprA	1,271.00								
Kiribati	B	WprB	3.00	0.222	0.444	0.75	0.167	0.333	0.50	1.00	
Lao People's Democratic Republic	B	WprB	205.00	0.222	0.444	0.75	0.167	0.333	34.13	68.27	
Malaysia	B	WprB	520.00	0.120	0.240	0.40	0.048	0.096	24.96	49.92	WHO 1995
Marshall Islands	B	WprB	2.00	0.222	0.444	0.75	0.167	0.333	0.33	0.67	
Micronesia, Federated States of	B	WprB	4.00	0.222	0.444	0.75	0.167	0.333	0.67	1.33	
Mongolia	B	WprB	58.00								
Nauru	B	WprB	0.00								
New Zealand	A	WprA	57.00								
Niue	B	WprB	0.00								
Palau	B	WprB	1.00	0.222	0.444	0.40	0.089	0.178	0.09	0.18	
Papua New Guinea	B	WprB	149.00	0.222	0.444	0.40	0.089	0.178	13.23	26.46	
Philippines	B	WprB	2,064.00	0.222	0.444	1.00	0.222	0.444	458.21	916.42	WHO 1995 ; Anonymous. 1995
Republic of Korea	B	WprB	681.00								
Samoa	B	WprB	5.00								
Singapore	A	WprA	49.00								
Solomon Islands	B	WprB	15.00	0.222	0.444	0.75	0.167	0.333	2.50	5.00	
Tonga	B	WprB	2.00	0.222	0.444	0.25	0.056	0.111	0.11	0.22	Schaumberg et al. 1995
Tuvalu	B	WprB	0.00	0.222	0.444	0.25	0.056	0.111	0.00	0.00	Schaumberg et al. 1995
Vanuatu	B	WprB	6.00	0.222	0.444	0.25	0.056	0.111	0.33	0.67	Schaumberg et al. 1995
Viet Nam	B	WprB	1,654.00	0.200	0.580	0.75	0.150	0.435	248.10	719.49	Northrop-Clewes 2001 ; Khan 2001

Table 3: Global Burden of Low Vitamin A Status and Vitamin A Deficiency (VAD) Among Pregnant Women by WHO Region

WHO Region **Americas**

(1) Country Name	(2) CRA Index	(3) WHO/ CRA Index	(4) Annual Number of Live Births (000's)	(5) Measured Prevalence of VAD	(6) Measured Prevalence of Low Status/VAD	(7) National Weight	(8) National Prevalence of VAD	(9) National Prevalence Low Status/VAD	(10) Number with VAD (000's)	(11) Number with Low Status/VAD (000's)	(12) References
Antigua and Barbuda	B	AmrB	1.00								
Argentina	B	AmrB	718.00								
Bahamas	B	AmrB	7.00								
Barbados	B	AmrB	3.00								
Belize	B	AmrB	7.00	0.070	0.150	0.60	0.042	0.090	0.29	0.63	
Bolivia	D	AmrD	264.00	0.070	0.150	0.75	0.053	0.113	13.86	29.70	
Brazil	B	AmrB	3,344.00	0.025	0.050	1.00	0.025	0.050	83.60	167.20	WHO 1995
Canada	A	AmrA	343.00								
Chile	B	AmrB	290.00								
Colombia	B	AmrB	988.00	0.070	0.150	0.60	0.042	0.090	41.50	88.92	
Costa Rica	B	AmrB	90.00	0.070	0.150	0.75	0.053	0.113	4.73	10.13	
Cuba	A	AmrA	141.00								
Dominica	B	AmrB	1.00	0.070	0.150	0.60	0.042	0.090	0.04	0.09	
Dominican Republic	B	AmrB	195.00	0.070	0.150	0.60	0.042	0.090	8.19	17.55	
Ecuador	D	AmrD	309.00	0.070	0.150	0.60	0.042	0.090	12.98	27.81	
El Salvador	B	AmrB	167.00	0.065	0.204	0.75	0.049	0.153	8.14	25.55	
Grenada	B	AmrB	2.00								
Guatemala	D	AmrD	399.00	0.070	0.150	0.75	0.053	0.113	20.95	44.89	Arroyave et al. 1979
Guyana	B	AmrB	18.00								
Haiti	D	AmrD	255.00	0.070	0.150	0.60	0.042	0.090	10.71	22.95	
Honduras	B	AmrB	205.00	0.070	0.150	0.75	0.053	0.113	10.76	23.06	
Jamaica	B	AmrB	54.00								
Mexico	B	AmrB	2,324.00	0.070	0.150	0.60	0.042	0.090	97.61	209.16	
Nicaragua	D	AmrD	174.00	0.070	0.150	0.75	0.053	0.113	9.14	19.58	
Panama	B	AmrB	61.00	0.070	0.150	0.60	0.042	0.090	2.56	5.49	Arroyave et al. 1979
Paraguay	B	AmrB	165.00								
Peru	D	AmrD	610.00	0.070	0.150	0.60	0.042	0.090	25.62	54.90	Arroyave et al. 1979
Saint Kitts and Nevis	B	AmrB	1.00								
Saint Lucia	B	AmrB	3.00								
Saint Vincent and the Grenadines	B	AmrB	2.00								
Suriname	B	AmrB	8.00								
Trinidad and Tobago	B	AmrB	18.00								
United States of America	A	AmrA	3,754.00								
Uruguay	B	AmrB	58.00								
Venezuela, Bolivarian Republic of	B	AmrB	574.00	0.070	0.150	0.60	0.042	0.090	24.11	51.66	Arroyave et al. 1979

Table 3: Global Burden of Low Vitamin A Status and Vitamin A Deficiency (VAD) Among Pregnant Women by WHO Region

WHO Region **Europe**

(1) Country Name	(2) CRA Index	(3) WHO/ CRA Index	(4) Annual Number of Live Births (000's)	(5) Measured Prevalence of VAD	(6) Measured Prevalence of Low Status/VAD	(7) National Weight	(8) National Prevalence of VAD	(9) National Prevalence Low Status/VAD	(10) Number with VAD (000's)	(11) Number with Low Status/VAD (000's)	(12) References
Albania	B	EurB	62.00								
Andorra	A	EurA	1.00								
Armenia	B	EurB	46.00								
Austria	A	EurA	81.00								
Azerbaijan	B	EurB	121.00								
Belarus	C	EurC	99.00								
Belgium	A	EurA	105.00								
Bosnia and Herzegovina	B	EurB	39.00								
Bulgaria	B	EurB	71.00								
Croatia	A	EurA	47.00								
Czech Republic	A	EurA	88.00								
Denmark	A	EurA	63.00								
Estonia	C	EurC	12.00								
Finland	A	EurA	57.00								
France	A	EurA	711.00								
Georgia	B	EurB	69.00								
Germany	A	EurA	736.00								
Greece	A	EurA	97.00								
Hungary	C	EurC	96.00								
Iceland	A	EurA	4.00								
Ireland	A	EurA	53.00								
Israel	A	EurA	118.00								
Italy	A	EurA	506.00								
Kazakhstan	C	EurC	292.00								
Kyrgystan	B	EurB	116.00								
Latvia	C	EurC	20.00								
Lithuania	C	EurC	36.00								
Luxembourg	A	EurA	5.00								
Malta	A	EurA	5.00								
Monaco	A	EurA	0.00								
Netherlands	A	EurA	176.00								
Norway	A	EurA	57.00								
Poland	B	EurB	417.00								
Portugal	A	EurA	102.00								
Republic of Moldova	C	EurC	56.00								
Romania	B	EurB	201.00								
Russian Federation	C	EurC	1,434.00								
San Marino	A	EurA	0.00								
Slovakia	B	EurB	56.00								
Slovenia	A	EurA	18.00								
Spain	A	EurA	358.00								
Sweden	A	EurA	86.00								
Switzerland	A	EurA	79.00								
Tajikistan	B	EurB	189.00								
The former Yugoslav Republic of Macedonia	B	EurB	31.00								
Turkey	B	EurB	1,415.00								

Table 3: Global Burden of Low Vitamin A Status and Vitamin A Deficiency (VAD) Among Pregnant Women by WHO Region

WHO Region **Europe**

(1) Country Name	(2) CRA Index	(3) WHO/ CRA Index	(4) Annual Number of Live Births (000's)	(5) Measured Prevalence of VAD	(6) Measured Prevalence of Low Status/VAD	(7) National Weight	(8) National Prevalence of VAD	(9) National Prevalence Low Status/VAD	(10) Number with VAD (000's)	(11) Number with Low Status/VAD (000's)	(12) References
Turkmenistan	B	EurB	121.00								
Ukraine	C	EurC	482.00								
United Kingdom	A	EurA	680.00								
Uzbekistan	B	EurB	653.00								
Yugoslavia	B	EurB	136.00								

Column Heading Footnotes:

1. Country names as listed by WHO, based on the World Health Report 2001, List of Member States by WHO Region and Mortality Stratum, page 168 (WHO 2001).
2. Comparative Risk Assessment Index of WHO, with letters assigned to countries based on risks of adult and child mortality: A=very low child, very low adult mortality; B=low child, low adult mortality; C=low child, high adult mortality; D=high child, high adult mortality; E=high child, very high adult (mainly due to HIV/AIDS) mortality. (WHO 2001A)
3. A combined alpha code to facilitate joint classification by both WHO region and CRA index.
4. The annual number of live births (000's), based on the UNICEF 2001 State of the World's Children Report, Table 1: Basic Indicators, column 5 (UNICEF 2001), estimates the number of pregnant women per year.
5. No Note Available
6. No Note Available
7. A subjective weight applied to the measured prevalence (col 5 x col 7; col 6 x col 7) to obtain an estimated "national prevalence". A weight of 1.00 was assigned if a measured prevalence was reported or imputed as "national". Weights < 1.00 have been applied to nationally non-representative, or possibly outdated measured prevalence rates in order to estimate the national prevalence based on available data. Weights may differ from those used previously by analysts at WHO (WHO 1995) or the Micronutrient Initiative (MI 1998) due to availability of new data or re-interpretation of previously existing findings.
8. Estimated national prevalence of vitamin A deficiency (col 5 x col 7).
9. Estimated national combined prevalence of vitamin A deficiency and low serum retinol status (col 6 x col 7).

10 Estimated number of vitamin-A-deficient pregnant women (000's) (col 4 x col 8).

11 Estimated number of pregnant women with low serum retinol status or vitamin A deficiency (000's) (col 4 x col 9).

12 See the references in Section 8.

Table: A blank cell indicates that no data, either empirical or imputable, are available for a country and/or the country is not considered to have a measurable population at-risk of vitamin A deficiency.

Table 3: Comments: Global Burden of Low Vitamin A Status and Vitamin A Deficiency (VAD) Among Pregnant Women Table By WHO Region

WHO Region **Africa**

Country Name	Comments: 1. National Weight and 2. Measured Prevalences
Algeria	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.
Angola	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.
Benin	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.
Botswana	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.
Burkina Faso	1. This analysis assigned a weight of 0.40 based on the 1978 survey of only 78 pregnant women, versus a much larger number of children (n = 1899) reported to have been surveyed in 1986 to 1989 by MDIS95, which assigned the child prevalence estimate a weight of 0.60. 2. A 1978 survey of pregnant women reported by MDIS95 (WHO 1995) indicated a prevalence = 0.576 of women with serum retinol levels < 20 ug/dl. This prevalence estimate of mothers with serum retinol levels < 30 ug/dl is based on a normal approximation, using mean = 20 (standard deviation = 9.4) ug/dl (WHO 1995).
Burundi	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.
Cameroon	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.
Cape Verde	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.
Central African Republic	1. No data available. 2. A 1999 national survey of pregnant women reported by Mulder-Sibanda (Mulder-Sibanda et al. 2001) indicated a prevalence = 0.168 of serum retinol levels < 20 ug/dl and a prevalence = 0.537 of serum retinol levels < 30 ug/dl.
Chad	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.
Comoros	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.
Congo	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.

Table 3: Comments: Global Burden of Low Vitamin A Status and Vitamin A Deficiency (VAD) Among Pregnant Women Table By WHO Region

WHO Region **Africa**

Country Name	Comments: 1. National Weight and 2. Measured Prevalences
Cote d'Ivoire	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.
Democratic Republic of the Congo	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern
Equatorial Guinea	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.
Eritrea	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.
Ethiopia	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.
Gabon	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.
Gambia	1. This analysis assigned a weight of 0.75, because the Gambia is very small and study areas may be reasonably representative. 2. Two studies were reported in Newman's book on maternal vitamin A in breast milk. These were studies were reported in 1987 by Villard et al. (Villard and Bates 1987). The studies were conducted in Keneba and Manduar among women who were 0 to 18 months postpartum. That is a long time after birth, but these are all of the data that have been found. Means and large standard deviations are given, that gave rise to estimates of percentages with retinol levels < 20 ug/dl of 0.054 and 0.041. These two estimates were averaged with equal weight (they are very close in value) to obtain an estimate of 0.048 for the prevalence of retinol levels < 20 ug/dl. The same method was applied to obtain estimate of percentages with retinol levels < 30 ug/dl of 0.119 and 0.159, with an equally-weighted (since the estimates are so close in value) mean of 0.139.
Ghana	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.
Guinea	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.
Guinea-Bissau	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.
Kenya	1. Although this is not a population-based survey, HIV-positive women of reproductive age are likely to have slightly lower serum retinol levels than the non-infected population. Therefore, this analysis assigned a weight of 0.60. 2. A clinic-based survey of HIV-positive women of reproductive age (Mostad et al. 1997) reported a < 20 ug/dl prevalence of 0.151 and a < 30 ug/dl prevalence of 0.388.
Lesotho	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.

Table 3: Comments: Global Burden of Low Vitamin A Status and Vitamin A Deficiency (VAD) Among Pregnant Women Table By WHO Region

WHO Region **Africa**

Country Name	Comments: 1. National Weight and 2. Measured Prevalences
Liberia	1. No data available. 2. A 1999 national survey reported by Mulder-Sibunda (Mulder-Sibanda, Ortiz, Andele, and Baker 2001) indicated a < 20 ug/dl prevalence of 0.12 and a < 30 ug/dl prevalence of 0.467.
Madagascar	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.
Malawi	1. This analysis assigned a weight of 0.60, because these prevalences are derived from a likely non-representative, high-risk population. 2. A survey of adolescent girls in 1998 found prevalence < 20 ug/dl = 0.266 (Young et al. 2000). Another survey reported in 1994 by Semba (Semba et al. 1994) indicated a < 20 ug/dl prevalence of 0.203 among 513 HIV-positive women in the early stages of their pregnancies. These two estimates were averaged (with equal weight) to obtain a < 20 ug/dl prevalence of 0.235. The 1994 Semba et al study also reported a < 30 ug/dl prevalence of 0.64.
Mali	1. While these are old data, when they are examined along with preschool data, clearly there is considerable VAD in Mali, leading this analysis to assign a weight of 0.60. 2. Two surveys were conducted in 1978 and 1979 among pregnant women (n = 60 and 92, respectively) (Le Francois et al. 1980), and one was in the rainy and the other in the dry season, respectively. This analysis averaged the two reported means (standard deviations) and the percent of the sample population with serum retinol levels < 10 ug/dl, and he weighted them by their respective sample sizes (in order to get a proper variance). This gave a prevalence of 0.361 women with serum retinol levels < 20 ug//dl (versus the 0.356 determined by normal approximation). Using the same method, this analysis calculated a prevalence of 0.767 of serum retinol levels < 30 ug/dl among pregnant mothers, given a mean of 23.37 ug/dl (converted from umol/L) and a standard deviation of 9 ug/dl.
Mauritania	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.
Mauritius	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.
Mozambique	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.
Namibia	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.
Niger	1. This analysis assigned a weight of 0.25 since these prevalence estimates are based on a refugee population and since these are older data. It is a question of using data, even if they are old, wherever available in order to curb reliance on extrapolation. Though with a weight of 0.25, the operational prevalences becomes 0.16 and 0.20 instead of the extrapolated values of 0.094 and 0.204 being assigned to other African and Eastern Mediterranean Region countries that lack measured data. 2. A 1975 refugee survey reported by MDIS95 (WHO 1995) indicated that among 199 pregnant or lactating women there was a < 20 ug/dl prevalence of 0.653. No mean prevalence or standard deviation was specified; therefore it was not possible to use normal approximation. This analysis arbitrarily assigned a < 30 ug/dl prevalence of 0.80.
Nigeria	1. A study reported by Ette (Ette Trop Geogr Med 1986) and also reported by Allen and Haskell (Allen and Haskell FNB 2001; 3; 214), involved 100 healthy, non-anemic postpartum Nigerian women. This study measured a mean serum retinol level of 58.3 ug/dl and a standard deviation of 14.0 ug/dl. A normal distribution was assumed, so this analysis calculated a normal approximation of the prevalences of women with serum retinol < 20 ug/dl and < 30 ug/dl to be 0.00 and 0.01, respectively. This is a likely an underestimate of the extent of VAD since large proportions of Nigerian women of reproductive age are both anemic and would be expected to be VAD as well. On the other hand, it may be that the Ette study was done in a palm oil area of the country, and that this is controlling VAD (reflected by an assigned weight of 0.50, thereby bringing Ette study data into consideration). 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.

Table 3: Comments: Global Burden of Low Vitamin A Status and Vitamin A Deficiency (VAD) Among Pregnant Women Table By WHO Region

WHO Region **Africa**

Country Name	Comments: 1. National Weight and 2. Measured Prevalences
Rwanda	1. This analysis assigned a weight of 0.60, because of an assumed lower risk in other un-surveyed areas of Rwanda. 2. A study reported at the 8th AIDS Congress in July 1992 (Dushimimana 1992) involved 107 HIV-positive and HIV-negative pregnant women, with an observed a mean serum retinol of 26.87 ug/dl. A standard deviation of 9 ug/dl (not reported) was assumed, 0.224 was estimated as the prevalence of serum retinol levels < 20 ug/dl and 0.637 the prevalence of serum retinol levels < 30 ug/dl. The study sampled women from a mixed HIV-positive and HIV-negative population of pregnant women in Butare.
Sao Tome and Principe	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.
Senegal	1. This analysis assigned a weight of 0.60 to reflect the possibility that the VAD prevalence estimates may apply to a lesser proportion of the country and to reflect the age of these data (though there is little reason to think things have improved substantially given the high rates of VAD among preschool children). 2. A November/December 1979 survey in the Casmance (the south) was reported by MDIS95 (WHO 1995). This survey of 113 pregnant women reported a mean serum retinol level of 29.7 ug/dl, with a standard deviation of 9.14 ug/dl. The survey also reported a < 20 ug/dl prevalence of 0.097. This analysis calculated a < 30 ug/dl prevalence of 0.51, using normal approximation.
Seychelles	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.
Sierra Leone	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.
South Africa	1. Since these women participants were booked deliveries with uncertain representativeness, the assigned weight should be less than 1.00. Though, in a country where VAD is known to exist in 33% of children and due to the age of these data, a weight of 0.40 was assigned. 2. Fairney et al. reported a study (Fairney et al. 1987) where 43 black, immediately-postpartum mothers living in the Transkei had a mean serum retinol level (computed for this analysis) of 27.1 ug/dl with a standard deviation of 22.0 ug/dl. Using a normal approximation, a < 20 ug/dl prevalence of 0.239 and a < 30 ug/dl prevalence of 0.611 were calculated.
Swaziland	1. This was a national survey, but because of the use of breast milk retinol measurements and the "guess" used to estimate the < 20 ug/dl prevalence, a weight of 0.90 was assigned. 2. At the Cairo IVACG meeting (1997) a < 30 ug/dl breast milk retinol prevalence of 0.57 was reported among breast feeding mothers. No other data are reported. It is assumed for the purposes of this analysis that breast milk and serum retinol levels are in equilibrium, so the 0.57 < 30 ug/dl breast milk retinol prevalence was viewed as pertaining to serum retinol levels, also. Then this analysis arbitrarily cut this value in half (to be conservative) to estimate a < 20 ug/dl serum retinol prevalence of 0.28.
Togo	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.
Uganda	1. This analysis assigned a lower weight of 0.60 (versus the 1.00 figure used elsewhere), because of the existence of some unpublished data from Ron Gray's study area among HIV-positive women in Uganda (Gray unpublished data). Gray found an adequate distribution of serum retinol in that sample. These data are still being retrieved from R. Gray. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.
United Republic of Tanzania	1. This analysis assigned a weight of 0.60, because of the single urban/peri-urban location and the uncertainty about HIV-positive women being representative of the entire population. These women are likely to have slightly worse VA status than the general population. 2. A study reported by Fawzi et al. (Fawzi et al. 1998), involved 1075 booked pregnant women in Dar es Salaam, who were 12 to 27 weeks gestation. These women were screened positive for HIV (thus early in disease progression) and had a mean serum retinol levels of 26.0 ug/dl. No standard deviation was reported, but a < 20 ug/dl prevalence of 0.34 was reported. From these two figures, This analysis computed a standard deviation of 11 ug/dl and used this estimate to derive a < 30 ug/dl prevalence of 0.64.

Table 3: Comments: Global Burden of Low Vitamin A Status and Vitamin A Deficiency (VAD) Among Pregnant Women Table By WHO Region

WHO Region **Africa**

Country Name	Comments: 1. National Weight and 2. Measured Prevalences
Zambia	1. No data available. 2. A 1998 OMNI-supported national survey reported by MDIS2001 (WHO 2001) indicated a prevalence = 0.215 of mothers with serum retinol levels < 20 ug/dl. Since no other mean or percentage cutoff data were given, it was assumed that 2-times the < 20 ug/dl prevalence is equivalent to the < 30 ug/dl prevalence, leading to arbitrarily calculated figure of 0.43. This prevalence figure represents the status of women as they enter pregnancy or are in a postpartum state. The < 20 ug/dl prevalence of 0.215 in lactating women was used as surrogate for the VA status of women as they enter pregnancy. This is not entirely consistent with efforts to standardize the prevalence in women between 28 weeks gestation to term! Still, in the absence of any other data, and due to the likelihood that VA status deteriorates during pregnancy, the use of these data provided a conservative estimates. This figure was applied to the numbers of live births per year in the country to estimate numbers of deficient women.
Zimbabwe	1. This analysis assigned a conservative weight of 0.60, to reflect the uncertainty of these data's representativeness for the entire country. 2. The source for these estimates is a personal communication by Faith Mzengeza and Jean Humphrey of the ZVITAMBO study (Mzengeza and Humphrey 2001). From baseline data (1-2 days postpartum) involving 66 HIV-positive and 53 HIV-negative women, the following was calculated: prevalences of 0.66 and 0.19 in HIV-positive women, and of 0.50 and 0.12 in HIV-negative women, were reported for women with serum retinol levels < 30 ug/dl and < 20 ug/dl, respectively. Their mean serum retinol levels were 27.4 ug/dl (HIV-positive) and 29.9 ug/dl (HIV-negative), which showed that the HIV-negative women had slightly better vitamin A status. The two groups were averaged, since such a high percentage of women in Zimbabwe are HIV-positive, to obtain an overall mean serum retinol level of 28.5 ug/dl. The same method was used to obtain the follow overall prevalences: 0.59 for < 30 ug/dl and 0.16 for < 20 ug/dl.

Table 3: Comments: Global Burden of Low Vitamin A Status and Vitamin A Deficiency (VAD) Among Pregnant Women Table By WHO Region

WHO Region **Eastern Mediterranean**

Country Name	Comments: 1. National Weight and 2. Measured Prevalences
Afghanistan	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.
Bahrain	1. No data available. 2. No data available.
Cyprus	1. No data available. 2. No data available.
Djibouti	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.
Egypt	1. No data available. 2. A 1995 national survey reported by Moussa (Moussa et al. 1997) indicated a prevalence = 0.102 of serum retinol levels < 20 ug/dl among mothers of preschool children. It was arbitrarily estimated that the < 30 ug/dl prevalence was 2-times the < 20 ug/dl figure, yielding a value of 0.204. Using this doubling factor seems justified given a national food consumption survey (1995-6?) showing about half of the VA intakes among women of reproductive age to be less than 50% of the RDA (Galal 1997).
Iran, Islamic Republic of	1. No data available. 2. No data available.
Iraq	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.
Jordan	1. No data available. 2. No data available.
Kuwait	1. No data available. 2. No data available.
Lebanon	1. No data available. 2. No data available.
Libyan Arab Jamahirya	1. No data available. 2. No data available.
Morocco	1. No data available. 2. A survey of women of reproductive age in 2 agricultural areas found < 20 ug/dl prevalence rate of 0.073 and a 20 to 40 ug/dl prevalence rate of 0.656 (Mokhtar et al. 1997). However, in a VA situation report for OMNI, dated August 1998, Mokhtar reports a mean plasma retinol level of 34.34 (standard deviation = 12.45) ug/dl, and a < 20 ug/dl prevalence of 0.133. Normal approximation values for the survey show an estimated < 20 ug/dl prevalence of 0.125 and an estimated < 30 ug/dl prevalence of 0.463. These were the values used for this analysis.
Oman	1. No data available. 2. No data available.
Pakistan	1. This analysis assigned a conservative weight of 0.60 to account for the possibility of lower prevalences at a national level. 2. Among Pakistani pregnant women, MDIS95 (WHO 1995) reported one 1976 to 1977 study, which indicated a < 20 ug/dl prevalence of 0.107 and a < 10 ug/dl prevalence of 0.056. No other data were available. Following the pattern, a < 30 ug/dl prevalence was calculated by doubling 0.107, yielding 0.214.
Qatar	1. No data available. 2. No data available.
Saudi Arabia	1. No data available. 2. No data available.
Somalia	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.

Table 3: Comments: Global Burden of Low Vitamin A Status and Vitamin A Deficiency (VAD) Among Pregnant Women Table By WHO Region

WHO Region **Eastern Mediterranean**

Country Name	Comments: 1. National Weight and 2. Measured Prevalences
Sudan	1. Since this is one individual study, there is almost certainly severe under reporting of the prevalence of low serum retinol among pregnant women. The only correction possible is to assign a weight of 1.00. 2. A study reported by El Bushra (el Bushra and el Tom 1987) indicated a < 20 ug/dl serum retinol prevalence of 0.024 and a < 30 ug/dl serum retinol prevalence of 0.064.
Syrian Arab Republic	1. No data available. 2. No data available.
Tunisia	1. No data available. 2. No data available.
United Arab Emirates	1. No data available. 2. No data available.
Yemen	1. This analysis assigned a weight of 1.00, because the original 19 prevalences were already weighted. 2. Due to the lack of national data concerning the prevalence of maternal serum retinol < 20 ug/dl and < 30 ug/dl, it was decided to apply a conservative estimate for this country. The estimate was the 25th percentile value (0.094 for < 20 ug/dl and 0.204 for < 30 ug/dl) from a distribution of measured prevalence values from 19 countries within the African and Eastern Mediterranean regions.

Table 3: Comments: Global Burden of Low Vitamin A Status and Vitamin A Deficiency (VAD) Among Pregnant Women Table By WHO Region

WHO Region **South-East Asia**

Country Name	Comments: 1. National Weight and 2. Measured Prevalences
Bangladesh	1. Although not nationally representative, these prevalence estimates are derived from several studies and appear to be within a reasonable range. Therefore, a weight of 0.75 was assigned.
	2. Several small studies in adolescent girls and/or women of reproductive age, show evidence of unstable distributions of serum retinol levels. Two rural prevalence estimates (Kolsteren et al. 1999;Rice et al. 1999) show 0.015 and 0.125 (estimate) with serum retinol levels < 20 ug/dl, so these two estimates were averaged to obtain a mean, rural, < 20 ug/dl prevalence of 0.07. The estimated < 30 ug/dl prevalences were 0.189 and 0.28 in rural areas, so the calculated mean prevalence of retinol levels < 30 ug/dl was 0.29 for a rural setting. Two urban < 20 ug/dl prevalence estimates exist (Ahmed et al. 1996;Ahmed et al. 1997), 0.016 and 0.14, respectively, so a mean < 20 ug/dl prevalence of 0.08 was calculated. Since the rural and urban < 20 ug/dl prevalence estimates were very similar, the 0.08 figure was chosen for this analysis. From the urban estimates of the < 30 ug/dl prevalence, 0.133 and .560, a mean < 30 ug/dl prevalence of 0.35 in urban areas is calculated, which is close to the rural estimate of 0.29. Given that urban residents represent 10% of the population (UNICEF and Progotir Pathey 1998), the weight ratio of the urban to rural estimates was 1:9, or 10% urban and 90% rural. This gives a "national prevalence estimate" of 0.08 for women with serum retinol < 20 ug/dl and 0.30 (truly 0.296) with serum retinol < 30 ug/dl.
Bhutan	1. No data available.
	2. A 1985 national survey that included pregnant women (WHO 1995) (p91) observed a < 10 ug/dl prevalence of 0.13. Using the doubling rule, this analysis estimated a < 20 ug/dl prevalence of 0.26 and a < 30 ug/dl prevalence of 0.39.
Democratic People's Republic of Korea	1. Due to the presence of famine conditions, it was decided to assign a conservative weight of 0.40.
	2. Due to the lack of available data concerning the prevalence of serum retinol levels of < 20 ug/dl and < 30 ug/dl among
India	1. Since these studies may have been carried out in highly susceptible populations, This analysis assigned a weight of 0.60 to reflect the uncertain validity of these estimates.
	2. Shah (Shah and Rajalakshmi 1984) found (by normal approximation performed for this analysis) a < 20 ug/dl prevalence of 0.106 and an < 30 ug/dl prevalence of 0.544 in 62 low and high income postpartum women in Baroda. Pant (Pant BJN 1990) found prevalences of 0.08 and 0.405 for the same cutoffs among pregnant women in Hyderabad. Sivakumar (Sivakumar et al. 1997) in Hyderabad found prevalences of 0.04 and 0.25, under the same cutoffs. Shatrugna (Shatrugna et al. 1997) found a < 20 ug/dl prevalence of 0.12 and a < 30 ug/dl prevalence of 0.62 among pregnant women in Hyderabad in a study with very poor follow-up. Still, all 4 of these studies give very similar results. Most recently, breast milk data from a study by Bhaskaram (Bhaskaram et al. 2000) in Hyderabad among 99 women at 45 days postpartum reveal a mean of 60.0 (standard deviation = 28.0) ug/dl, with an estimated < 20 ug/dl prevalence of 0.078, but only a < 30 ug/dl prevalence of 0.14, possibly with a quite large standard deviation. Years before, Basu (Basu and Arulanantham 1973), reported (by normal approximation performed for this analysis) a < 20 ug/dl prevalence of 0.325 and a < 30 ug/dl prevalence of 0.925 among pregnant women. These are a very few studies, some quite old and disparate, that however provide a similar impression of the prevalence of low serum retinol amongst pregnant women: 0.04 to 0.125 with serum retinol levels < 20 ug/dl and 0.14 to 0.62 with serum retinol levels < 30 ug/dl. With no additional data available, and given generally high prevalences of maternal xerophthalmia, this analysis has assigned the following prevalences by cutoff: 0.08, < 20 ug/dl; and 0.38, < 30 ug/dl (midpoints of estimates).
Indonesia	1. Since these studies may have been conducted among highly susceptible populations, This analysis assigned a weight of 0.60 to reflect the uncertain validity of these estimates.
	2. Six studies provide evidence of VAD among lactating Indonesian women: Dhikhusien (thesis 2001), 2 villages in Bogor in lactating women: prevalence < 20 ug/dl and < 30 ug/dl were 0.18 and 0.46; Stoltzfus (Stoltzfus et al. 1993) in pregnant women found 0.12 and 0.31; Suharno (Suharno et al. 1993) among anemic pregnant women found 0.11 and 0.46; de Pee (de Pee et al. 1997) among women 6 months postpartum found 0.32 and 0.73; Tanumihardjo (Tanumihardjo et al. 1996) among women < 3 months postpartum found 0.17 and 0.68; and Muhilal in a noodle intervention study among women of reproductive age found 0.117 and 0.776. Most of these estimates were derived by normal approximation. So, for estimates of a < 20 ug/dl prevalence, there is 0.11, 0.12, 0.12, 0.17, 0.18, and 0.32. The mean prevalence of these 6 estimates is 0.17. For an estimate of a < 30 ug/dl prevalence, there is 0.31, 0.46, 0.46, 0.68, 0.73 and 0.78. The mean of these 6 study estimates is 0.57. So, this analysis used 0.17 for a < 20 ug/dl prevalence and 0.57 for a < 30 ug//dl prevalence.
Maldives	1. No data available.
	2. Due to the lack of available data concerning the prevalence of serum retinol levels of < 20 ug/dl and < 30 ug/dl among pregnant women, it was decided to apply the Bangladesh prevalence figures to this country.
Myanmar	1. This analysis assigned a weight of 0.60 to reflect that proportion of Myanmar that these prevalence estimates are assumed to represent.
	2. Due to the lack of available data concerning the prevalence of serum retinol levels of < 20 ug/dl and < 30 ug/dl among pregnant women, it was decided to apply the Bangladesh prevalence figures to this country.
Nepal	1. No data available.
	2. A 1998 National Micronutrient Survey reported a prevalence = 0.315 of women of reproductive age with serum retinol levels < 20 ug/dl and a prevalence = 0.54 of serum retinol levels < 30 ug/dl (1999).
Sri Lanka	1. This analysis assigned a weight of 0.75, because of the diverse settings represented in these data and because these are older data.
	2. Jayasekara (Jayasekera et al. 1991) reported the distributions of serum retinol levels in early and late gestation pregnant women by income groups from 5 different areas of the country in 1991. Let women in late pregnancy and from the middle income category (group II) be representative. Using normal approximation, a < 20 ug/dl prevalence of 0.154 and a < 30 ug/dl prevalence of 0.30 were calculated, using a reported mean serum retinol (standard deviation) of 35.3 (14.9) ug/dl. No other serum retinol level data are available from Sri Lankan pregnant women or women of reproductive age.

Table 3: Comments: Global Burden of Low Vitamin A Status and Vitamin A Deficiency (VAD) Among Pregnant Women Table By WHO Region

WHO Region **South-East Asia**

Country Name	Comments: 1. National Weight and 2. Measured Prevalences
Thailand	1. This analysis assigned a weight of 1.00, to reflect, in this instance, a reasonable degree of certainty about the relative absence of VAD amongst women in the country. This is a rare instance where a high weight was given in the absence of data. 2. There exist no current national or sub national data concerning the VA status of women in Thailand, except unpublished data from dietary stable isotope studies in the northeast corner of the country. At this locale it was very difficult to find 90 women with serum retinol levels of < 25 ug/dl. There is seasonality, but since this is the one of the worst areas of the country, low prevelances for pregnant women were arbitrarily assigned: 0.03 for < 20 ug/dl and 0.08 for < 30 ug/dl.

Table 3: Comments: Global Burden of Low Vitamin A Status and Vitamin A Deficiency (VAD) Among Pregnant Women Table By WHO Region

WHO Region **Western Pacific**

Country Name	Comments: 1. National Weight and 2. Measured Prevalences
Australia	1. No data available. 2. No data available.
Brunei Darussalam	1. No data available. 2. No data available.
Cambodia	1. This analysis assigned a weight of 0.75 to account for potential non-representativeness of these data. 2. Due to the lack of available data, this analysis applied the maternal < 20 ug/dl prevalence from the Philippines (0.222) to this country, as well as the < 30 ug/dl prevalence of 0.444.
China	1. This analysis applied a weight of 1.00, because the reported maternal xerophthalmia results were based on a national survey. 2. There are no serological data related to vitamin A status available for pregnant women or women of reproductive age in China. Therefore, the < 20 ug/dl prevalence was estimated by assuming that it would be 2-times the national prevalence of maternal xerophthalmia, conservatively estimated to be 0.01. The resultant < 20 ug/dl prevalence is 0.02, and (arbitrarily, 2-times this prevalence) is the estimated < 30 ug/dl prevalence of 0.04. These are all expected to be underestimates.
Cook Islands	1. This analysis assigned a weight of 0.25, because of much lower xerophthalmia rates reported in these island states by Schaumber (Schaumber et al Public Health 1995; 109: 311) as compared to rates in the Philippines. 2. Due to the lack of available data, this analysis applied the maternal < 20 ug/dl prevalence from the Philippines (0.222) to this country, as well as the < 30 ug/dl prevalence of 0.444.
Fiji	1. No data available. 2. No data available.
Japan	1. No data available. 2. No data available.
Kiribati	1. This analysis assigned a weight of 0.75 due to potential non-representativeness of these data. 2. Due to the lack of available data, this analysis applied the maternal < 20 ug/dl prevalence from the Philippines (0.222) to this country, as well as the < 30 ug/dl prevalence of 0.444.
Lao People's Democratic Republic	1. This analysis assigned a weight of 0.75 due to potential non-representativeness of these data. 2. Due to the lack of available data, this analysis applied the maternal < 20 ug/dl prevalence from the Philippines (0.222) to this
Malaysia	1. The high uncertainty concerning the representativeness of these data are reflected by the assigned weight of 0.40. Also, palm oil consumption may be helping to keep the VAD prevalence low. 2. Very poor and old data are reported in the MDIS95 (WHO 1995). These are small study/survey data collected amongst women of reproductive age and a few pregnant women in the 1960's through the 1980's. A few estimates had a < 20 ug/dl prevalence of approximately 0.12 (WHO 1995) (p 95). This prevalence was used for this analysis, and the “doubling rule” was applied to arrive at a < 30 ug/dl prevalence of 0.24.
Marshall Islands	1. This analysis assigned a weight of 0.75 due to potential non-representativeness of these data. 2. Due to the lack of available data, this analysis applied the maternal < 20 ug/dl prevalence from the Philippines (0.222) to this country, as well as the < 30 ug/dl prevalence of 0.444.
Micronesia, Federated States of	1. This analysis assigned a weight of 0.75 due to potential non-representativeness of these data. 2. Due to the lack of available data, this analysis applied the maternal < 20 ug/dl prevalence from the Philippines (0.222) to this
Mongolia	1. No data available. 2. No data available.
Nauru	1. No data available. 2. No data available.
New Zealand	1. No data available. 2. No data available.
Niue	1. No data available. 2. No data available.
Palau	1. This analysis assigned a weight of 0.40, to reflect the high uncertainty of the representativeness of these prevalence estimates. 2. Due to the lack of available data, this analysis applied the maternal < 20 ug/dl prevalence from the Philippines (0.222) to this country, as well as the < 30 ug/dl prevalence of 0.444.
Papua New Guinea	1. This analysis assigned a weight of 0.40, to reflect the high uncertainty of the representativeness of these prevalence estimates. 2. Due to the lack of available data, this analysis applied the maternal < 20 ug/dl prevalence from the Philippines (0.222) to this country, as well as the < 30 ug/dl prevalence of 0.444.
Philippines	1. This analysis assigned a weight of 1.00, because the most recent data are based on a national survey. 2. Several mid-1980's studies reported by MDIS95 (WHO 1995) indicate < 20 ug/dl prevalences of 0.073, 0.075 and 0.241 among Filipino pregnant women. The 1993 national survey (1995) reported a < 20 ug/dl prevalence of 0.222 among pregnant women, suggesting little has change. No < 30 ug/dl prevalence is reported, so the doubling rule was invoked to arbitrarily assign a < 30 ug/dl prevalence of 0.444.

Table 3: Comments: Global Burden of Low Vitamin A Status and Vitamin A Deficiency (VAD) Among Pregnant Women Table By WHO Region

WHO Region **Western Pacific**

Country Name	Comments: 1. National Weight and 2. Measured Prevalences
Republic of Korea	1. No data available. 2. No data available.
Samoa	1. No data available. 2. No data available.
Singapore	1. No data available. 2. No data available.
Solomon Islands	1. This analysis assigned a weight of 0.75 due to a potential non-representativeness of these data. 2. Due to the lack of available data, this analysis applied the maternal < 20 ug/dl prevalence from the Philippines (0.222) to this country, as well as the < 30 ug/dl prevalence of 0.444.
Tonga	1. This analysis assigned a weight of 0.25, because of much lower xerophthalmia rates reported in these island states by Schaumber (Schaumber et al Public Health 1995; 109: 311) as compared to rates in the Philippines. 2. Due to the lack of available data, this analysis applied the maternal < 20 ug/dl prevalence from the Philippines (0.222) to this country, as well as the < 30 ug/dl prevalence of 0.444.
Tuvalu	1. This analysis assigned a weight of 0.25, because of much lower xerophthalmia rates reported in these island states by Schaumber (Schaumber et al Public Health 1995; 109: 311) as compared to rates in the Philippines. 2. Due to the lack of available data, this analysis applied the maternal < 20 ug/dl prevalence from the Philippines (0.222) to this country, as well as the < 30 ug/dl prevalence of 0.444.
Vanuatu	1. This analysis assigned a weight of 0.25, because of much lower xerophthalmia rates reported in these island states by Schaumber (Schaumber et al Public Health 1995; 109: 311) as compared to rates in the Philippines. 2. Due to the lack of available data, this analysis applied the maternal < 20 ug/dl prevalence from the Philippines (0.222) to this country, as well as the < 30 ug/dl prevalence of 0.444.
Viet Nam	1. This analysis assigned a weight of 0.75, because of the currency of these data (Hanoi 2001) and the clear attention the Viet Namese are paying to collecting these types of data. 2. In lactating women, 58% were reported to have “low” breast milk vitamin A levels (Khan 2001). This analysis interpreted this to equivalent to serum retinol levels < 30 ug/dl, and therefore arbitrarily imputing ONE-THIRD of that prevalence to be equivalent to a < 20 ug/dl breast milk prevalence of 0.20 among lactating women. Note: this refers to breast milk VA levels as the indicator versus serum retinol levels.

Table 3: Comments: Global Burden of Low Vitamin A Status and Vitamin A Deficiency (VAD) Among Pregnant Women Table By WHO Region

WHO Region **Americas**

Country Name	Comments: 1. National Weight and 2. Measured Prevalences
Antigua and Barbuda	1. No data available. 2. No data available.
Argentina	1. No data available. 2. No data available.
Bahamas	1. No data available. 2. No data available.
Barbados	1. No data available. 2. No data available.
Belize	1. This analysis assigned a weight of 0.60, to adjust for the effects of fortification of sugar with vitamin A. 2. Due to the lack of sufficient data concerning the prevalence of serum retinol levels < 20 ug/dl, the prevalence from Guatemala (0.07) was applied to this country, as well as the < 30 ug/dl prevalence of 0.15.
Bolivia	1. Due to concerns about the likely generalizability of these findings for the whole country, a weight of 0.75 was assigned. 2. Due to the lack of sufficient data concerning the prevalence of serum retinol levels < 20 ug/dl, the prevalence from Guatemala (0.07) was applied to this country, as well as the < 30 ug/dl prevalence of 0.15.
Brazil	1. This analysis assigned a full weight of 1.00, so as not to make any potential (conservative) distortion worse. 2. A 1973 study reported by MDIS95 (WHO 1995) (p 89) involved 165 pregnant women, who had a < 20 ug/dl prevalence of 0.025, and an assumed < 30 ug/dl prevalence of 0.05, using the doubling rule. Since these are almost certainly underestimates and even though they are certainly not representative in any way, they are data, and so these estimates have been included in this analysis.
Canada	1. No data available. 2. No data available.
Chile	1. No data available. 2. No data available.
Colombia	1. This analysis assigned a weight of 0.60, to adjust for the effects of fortification of sugar with vitamin A. 2. Due to the lack of sufficient data concerning the prevalence of serum retinol levels < 20 ug/dl, the prevalence from Guatemala (0.07) was applied to this country, as well as the < 30 ug/dl prevalence of 0.15.
Costa Rica	1. This analysis assigned a weight of 0.75, because of concerns about the likely generalizability of these findings for the whole country. 2. Due to the lack of sufficient data concerning the prevalence of serum retinol levels < 20 ug/dl, the prevalence from Guatemala (0.07) was applied to this country, as well as the < 30 ug/dl prevalence of 0.15.
Cuba	1. No data available. 2. No data available.
Dominica	1. This analysis assigned a weight of 0.60, to adjust for the effects of fortification of sugar with vitamin A. 2. Due to the lack of sufficient data concerning the prevalence of serum retinol levels < 20 ug/dl, the prevalence from Guatemala (0.07) was applied to this country, as well as the < 30 ug/dl prevalence of 0.15.
Dominican Republic	1. This analysis assigned a weight of 0.60, to adjust for the effects of fortification of sugar with vitamin A. 2. Due to the lack of sufficient data concerning the prevalence of serum retinol levels < 20 ug/dl, the prevalence from Guatemala (0.07) was applied to this country, as well as the < 30 ug/dl prevalence of 0.15.
Ecuador	1. This analysis assigned a weight of 0.60, to adjust for the effects of fortification of sugar with vitamin A. 2. Due to the lack of sufficient data concerning the prevalence of serum retinol levels < 20 ug/dl, the prevalence from Guatemala (0.07) was applied to this country, as well as the < 30 ug/dl prevalence of 0.15.
El Salvador	1. No data available. 2.
Grenada	1. No data available. 2. No data available.
Guatemala	1. This analysis assigned a weight of 0.75, because of concerns about the likely generalizability of these findings for the whole country. 2. Arroyave (Arroyave, Aguilar, Flores, and Guzman 1979) reported breast milk retinol concentrations among breast feeding mothers who had been consuming VA fortified sugar in the population. The analysis was chosen because sugar fortification has indeed been sustained in Guatemala over much of the past 2 decades and is likely to represent the national status quo with respect to VA fortification effects on the population. Based on normal approximations, a < 20 ug/dl prevalence of 0.07 and a < 30 ug/dl prevalence of 0.15 were calculated from breast milk retinol levels.
Guyana	1. No data available. 2. No data available.
Haiti	1. This analysis assigned a weight of 0.60, to adjust for the effects of fortification of sugar with vitamin A. 2. Due to the lack of sufficient data concerning the prevalence of serum retinol levels < 20 ug/dl, the prevalence from Guatemala (0.07) was applied to this country, as well as the < 30 ug/dl prevalence of 0.15.

Table 3: Comments: Global Burden of Low Vitamin A Status and Vitamin A Deficiency (VAD) Among Pregnant Women Table By WHO Region

WHO Region **Americas**

Country Name	Comments: 1. National Weight and 2. Measured Prevalences
Honduras	1. This analysis assigned a weight of 0.75, because of concerns about the likely generalizability of these findings for the whole country. 2. Due to the lack of sufficient data concerning the prevalence of serum retinol levels < 20 ug/dl, the prevalence from Guatemala (0.07) was applied to this country, as well as the < 30 ug/dl prevalence of 0.15.
Jamaica	1. No data available. 2. No data available.
Mexico	1. This analysis assigned a weight of 0.60, to adjust for the effects of fortification of sugar with vitamin A. 2. Due to the lack of sufficient data concerning the prevalence of serum retinol levels < 20 ug/dl, the prevalence from Guatemala (0.07) was applied to this country, as well as the < 30 ug/dl prevalence of 0.15.
Nicaragua	1. This analysis assigned a weight of 0.75, because of concerns about the likely generalizability of these findings for the whole country. 2. Due to the lack of sufficient data concerning the prevalence of serum retinol levels < 20 ug/dl, the prevalence from Guatemala (0.07) was applied to this country, as well as the < 30 ug/dl prevalence of 0.15.
Panama	1. This analysis assigned a weight of 0.60, to adjust for the effects of fortification of sugar with vitamin A. 2. Due to the lack of sufficient data concerning the prevalence of serum retinol levels < 20 ug/dl, the prevalence from Guatemala (0.07) was applied to this country, as well as the < 30 ug/dl prevalence of 0.15.
Paraguay	1. No data available. 2. No data available.
Peru	1. This analysis assigned a weight of 0.60, to adjust for the effects of fortification of sugar with vitamin A. 2. Due to the lack of sufficient data concerning the prevalence of serum retinol levels < 20 ug/dl, the prevalence from Guatemala (0.07) was applied to this country, as well as the < 30 ug/dl prevalence of 0.15.
Saint Kitts and Nevis	1. No data available. 2. No data available.
Saint Lucia	1. No data available. 2. No data available.
Saint Vincent and the Grenadines	1. No data available. 2. No data available.
Suriname	1. No data available. 2. No data available.
Trinidad and Tobago	1. No data available. 2. No data available.
United States of America	1. No data available. 2. No data available.
Uruguay	1. No data available. 2. No data available.
Venezuela, Bolivarian Republic of	1. This analysis assigned a weight of 0.60, to adjust for the effects of fortification of sugar with vitamin A. 2. Due to the lack of sufficient data concerning the prevalence of serum retinol levels < 20 ug/dl, the prevalence from Guatemala

Table 3: Comments: Global Burden of Low Vitamin A Status and Vitamin A Deficiency (VAD) Among Pregnant Women Table By WHO Region

WHO Region **Europe**

Country Name	Comments: 1. National Weight and 2. Measured Prevalences
Albania	1. No data available. 2. No data available.
Andorra	1. No data available. 2. No data available.
Armenia	1. No data available. 2. No data available.
Austria	1. No data available. 2. No data available.
Azerbaijan	1. No data available. 2. No data available.
Belarus	1. No data available. 2. No data available.
Belgium	1. No data available. 2. No data available.
Bosnia and Herzegovina	1. No data available. 2. No data available.
Bulgaria	1. No data available. 2. No data available.
Croatia	1. No data available. 2. No data available.
Czech Republic	1. No data available. 2. No data available.
Denmark	1. No data available. 2. No data available.
Estonia	1. No data available. 2. No data available.
Finland	1. No data available. 2. No data available.
France	1. No data available. 2. No data available.
Georgia	1. No data available. 2. No data available.
Germany	1. No data available. 2. No data available.
Greece	1. No data available. 2. No data available.
Hungary	1. No data available. 2. No data available.
Iceland	1. No data available. 2. No data available.
Ireland	1. No data available. 2. No data available.
Israel	1. No data available. 2. No data available.
Italy	1. No data available. 2. No data available.
Kazakhstan	1. No data available. 2. No data available.
Kyrgystan	1. No data available. 2. No data available.
Latvia	1. No data available. 2. No data available.

Table 3: Comments: Global Burden of Low Vitamin A Status and Vitamin A Deficiency (VAD) Among Pregnant Women Table By WHO Region

WHO Region **Europe**

Country Name	Comments: 1. National Weight and 2. Measured Prevalences
Lithuania	1. No data available. 2. No data available.
Luxembourg	1. No data available. 2. No data available.
Malta	1. No data available. 2. No data available.
Monaco	1. No data available. 2. No data available.
Netherlands	1. No data available. 2. No data available.
Norway	1. No data available. 2. No data available.
Poland	1. No data available. 2. No data available.
Portugal	1. No data available. 2. No data available.
Republic of Moldova	1. No data available. 2. No data available.
Romania	1. No data available. 2. No data available.
Russian Federation	1. No data available. 2. No data available.
San Marino	1. No data available. 2. No data available.
Slovakia	1. No data available. 2. No data available.
Slovenia	1. No data available. 2. No data available.
Spain	1. No data available. 2. No data available.
Sweden	1. No data available. 2. No data available.
Switzerland	1. No data available. 2. No data available.
Tajikistan	1. No data available. 2. No data available.
The former Yugoslav Republic of Macedonia	1. No data available. 2. No data available.
Turkey	1. No data available. 2. No data available.
Turkmenistan	1. No data available. 2. No data available.
Ukraine	1. No data available. 2. No data available.
United Kingdom	1. No data available. 2. No data available.
Uzbekistan	1. No data available. 2. No data available.
Yugoslavia	1. No data available. 2. No data available.

Column Heading Footnotes:

Country Name. Country names as listed by WHO, based on the World Health Report 2001, List of Member States by WHO Region and Mortality Stratum, page 168 (WHO 2001).

Comments. No Note Available

References. See the references in Section 8.