

**FRANCE**
**Last Updated: 2005-12-27**

Level	Date	Region and sample descriptor	Sex	Age (years)	Sample size	Haemoglobin (g/L)						Mean	SD	Method	Reference	Notes	
						Proportion (%) of population with haemoglobin below:										General	Line
						70	100	110	115	120	130						
N	1994	Women by age	F	35.00- 39.99	833							134	10	A	2392	*	
		Women by age	F	40.00- 44.99	1404							134	11				
		Women by age	F	45.00- 49.99	1763							135	11				
		Women by age	F	50.00- 54.99	1131							136	10				
		Women by age	F	55.00- 60.99	1023							138	10				
		Men by age	M	45.00- 49.99	1531							152	11				
		Men by age	M	50.00- 54.99	1272							152	11				
		Men by age	M	55.00- 60.99	1370							152	11				
		L	1989 P	Paris: Infants	B	0.75- 0.99	389			22.4							
L	1988 -1994	Toulouse: PW by ethnicity: France	F	NS	3169		2.3							C	2718	*	2
		Toulouse: PW by ethnicity: Maghreb	F	NS	2224		11.4										3
		Toulouse: PW by ethnicity: Black Africa	F	NS	405		18.8										4
L	1988 -1989	Château Renault/Amboise, Haguenau and Romans:	B	70.00- 75.99	406									D	3342	*	5
		Château Renault/Amboise, Haguenau and Romans:	F	70.00- 75.99	179				4.5								6
		Château Renault/Amboise, Haguenau and Romans:	M	70.00- 75.99	227					4.8							7
L	1985 -1986	Paris: Infants: Total	B	NS	1235			21.7						C	2393	*	8
		Paris: Infants by ethnicity: France Metropolitan	B	NS	797			16.8			117	8	9				
		Paris: Infants by ethnicity: North Africa	B	NS	289			24.0			115	10	10				
		Paris: Infants by ethnicity: Sub-Saharan Africa	B	NS	149			43.6			109	13	11				
L	1985 -1986	Paris: Children by age and ethnicity: France Metropo	B	2.00- 2.99	745			8.0				121	8	C	2394	*	
		Paris: Children by age and ethnicity: Immigrants	B	2.00- 2.99	484			30.0			115	13					
		Paris: Children by age and ethnicity: France Metropo	B	4.00- 4.99	688			2.0			125	7					
		Paris: Children by age and ethnicity: Immigrants	B	4.00- 4.99	383			7.0			122	9					
L	1985 P	Paris: PW	F	NS	233			15.0						C	2549	*	12
LU	1985 P	Paris: PW: Total	F	NS	802			19.3						C	2818	*	13
		Paris: PW by gestational age (SD) and ethnicity: 15	F	NS	84			1.5			129		14				
		Paris: PW by gestational age (SD) and ethnicity: 15	F	NS	89			12.0			123		15				
		Paris: PW by gestational age (SD) and ethnicity: 28	F	NS	120			9.0			121		16				
		Paris: PW by gestational age (SD) and ethnicity: 28	F	NS	140			28.0			115		17				

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						Proportion (%) of population with haemoglobin below:										General	Line
						70	100	110	115	120	130						
LU	1985 P	Paris: PW by gestational age (SD) and ethnicity: 39	F	NS	155			9.0				127		C	2818		18
		Paris: PW by gestational age (SD) and ethnicity: 39	F	NS	214			37.0				114					
L	1985 P	Paris: Female students	F	18.00- 34.99	107					0.9		134	9	C	2820	*	20
L	1985 P	Paris: Female students	F	17.00- 42.99	476					1.3		140		C	2822	*	21
LU	1984 P	Paris: PW	F	18.00- 36.99	124			17.7						C	2819	*	22
L	1981	Paris: Infants	B	0.85- 0.9	207			12.0						NS	2396	*	23
L	1981 P	PW	F	NS	200			7.0				123	9	C	4790	*	24
L	1977 -1978	Clamart: PW	F	15.00- 40.99	100			0.0				130	12	C	968	*	25
		Clamart: Newborns	B	0.00	100							165	16				26
L	1976 -1980	Paris: PW	F	16.00- 41.99	203			23.6				115	9	C	4043	*	27
D	1976 P	Districts: Elderly women	F	65.00-NS	319					12.9		137	17	C	2606	*	28
		Districts: Elderly men	M	65.00-NS	16							152	17				29

## NOTES

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**Reference No:** 2392

**General Notes:** *Baseline values of intervention study (SU.VI.MAX Study); sampling design and date of survey adapted from reference No. 4107; sampling: a population of 12 735 adults were selected from a national sample of 79 976 subjects recruited for participation in the study via a multimedia campaign, the selected subjects were randomly assigned to receive either multivitamin and mineral supplement or placebo, complete data on iron status of 6648 women and 3283 men; data on baseline characteristics of the participants suggest that the sample is, for the selected age groups, close to the national population in terms of geographic density and socioeconomic status; only mean Hb values; see also reference No. 4373.*

**Reference No:** 2479

**General Notes:** *Facility based study (2 children health care centers) located in the North and Southwest of Paris; sampling: all 9-11 month children seen during a 4 month period for a free medical check-up were invited; exclusion of infants who had taken supplemental iron, were either hetero or homozygote for hemoglobinopathies and/or  $\beta$ -thalassemia.*

**Line note 1** Prevalence of iron deficiency 60.2% ( $\geq 1$  of the indicators: serum ferritin  $< 10 \mu\text{g/L}$ , serum iron  $< 10 \mu\text{m/L}$ , transferrin saturation  $< 16\%$ , mean corpuscular volume  $< 74 \text{ fL}$ ); mean age 10 months.

**Reference No:** 2718

**General Notes:** *Facility based study (Service de Gynécologie Obstétrique du Centre Hospitalo-Universitaire); sampling design and method of Hb determination provided by investigator; no data was collected in 1990; sampling: all foreign women who delivered in the hospital between 1988 and 1994 were included and of all the French women, 1 out of 4 was sampled; in general, Hb determination at 6-month pregnancy; Hb cut-off level not according to WHO recommendations (please see 'Key to the data tables').*

**Line note 2** Mean (SD) age 29.4 (5.1) yrs.

**Line note 3** Mean (SD) age 29.1 (5.9) yrs.

**Line note 4** Mean (SD) age 28.0 (5.1) yrs.

**Reference No:** 3342

**General Notes:** *Euronut SENECA study (Survey in Europe on Nutrition and the Elderly, a Concerted Action) conducted in 19 towns (these were chosen for having a stable population of 10 000 to 20 000 and a socioeconomic structure comparable to that of the region or the country as a whole) situated in 12 European countries; method: Technicon H1 analyser and Coulter counter; sampling: random sample stratified by sex and age, 568 out of 1825 selected subjects were enrolled; inclusion only of elderly subjects born in 1913-1918; participation in blood sampling was not mandatory; Hb determination only for subsample; values for other Hb cut-off levels.*

**Line note 5** Prevalence value calculated; prevalence of anaemia 4.7% (Hb  $< 120 \text{ g/L}$  females, Hb  $< 130 \text{ g/L}$  males); disaggregated data by city.

**Line note 6** Prevalence value calculated; disaggregated data by city.

**Line note 7** Prevalence value calculated; disaggregated data by city.

**Reference No:** 2393

**General Notes:** *Facility based study (Parisian Children Health Examination Center); dates of survey and sampling design adapted from reference No. 2394; sampling: random sampling; inclusion only of subjects who did not present any infections according to a clinical exam and/or the number of leucocytes  $> 14000/\text{mm}^3$ , who did not have received antibiotics during the last 3 months or followed an iron or folate treatment during the last 6 months prior to the measurements; see also reference No. 4366.*

**Line note 8** Prevalence value calculated; mean (SD) age 10.0 months (21 jours).

**Line note 9** Mean (SD) age 9.9 (0.4) months.

**Line note 10** Mean (SD) age 9.9 (0.4) months.

**Line note 11** Mean (SD) age 10.0 (0.4) months.

**Reference No:** 2394

**General Notes:** *Facility based study (Parisian Children Health Examination Center); sampling: random sampling of 3676 children aged 10 months, 2 yrs and 4 yrs; exclusion of 187 subjects who either presented an infection according to a clinical exam and/or the number of leucocytes, had received antibiotics during the last 3 months or followed an iron or folate treatment during the last 6 months prior to the measurements; see for the data of the 10-month-old infants in reference No. 2393; see also reference No. 4366.*

**Reference No:** 2549

**General Notes:** *Facility based study (Maternité de l'Hôpital de Poissy) in the Paris area; sampling: non-random selection of 233 pregnant women; exclusion of women who had received iron supplementation or intervention or who had any complications.*

**Line note 12** Prevalence value calculated; disaggregated data by gestational age, ethnicity.

**Reference No:** 2818

**General Notes:** *Facility based study (antenatal clinics of 6 urban and suburban Parisian maternities); sampling: design not explained; inclusion only of women who did not receive iron supplementation or drugs likely to modify their iron status during the current pregnancy.*

**Line note 13** Prevalence value calculated.

**Line note 14** Standard error mean: 1 g/L.

**Line note 15** Standard error mean: 2 g/L.

**Line note 16** Standard error mean: 1 g/L.

**Line note 17** Standard error mean: 1 g/L.

**Line note 18** Standard error mean: 1 g/L.

**Line note 19** Standard error mean: 1 g/L.

**Reference No:** 2820

**General Notes:** *Facility based study (school); sampling: design not explained; baseline values of intervention study; exclusion of blood donors and subjects who had taken iron or drugs likely to modify their iron status; inclusion only of apparently healthy female nurse students living in the Paris area.*

**Line note 20** Mean (SD) age 23.3 (4.8) yrs.

**Reference No:** 2822

**General Notes:** *Facility based study (Students Health Examination Center); sampling: random selection of female students undergoing a compulsory annual medical check up; exclusion of pregnant and lactating women, blood donors and those who had taken iron or drugs likely to modify their iron status during the 6 months preceding the survey.*

**Line note 21** Mean age 21.3 yrs; standard error mean 0.4 g/L; disaggregated data by use of contraceptives.

**Reference No:** 2819

**General Notes:** *Facility based study (4 maternity units of Paris and Parisian region: C.H.U. Lariboisière, C.H.I. de Colombes, C.H.I. d'Aulnay, C.H.I. de Saint-Cloud); sampling: non-random selection of 124 pregnant women who came to the clinic for delivery; inclusion only of women with a normal pregnancy; exclusion of women who had received any treatment likely to have modified their iron status during the current pregnancy; blood sample at onset of labour.*

**Line note 22** Prevalence value calculated; 65 women were of French metropolitan and 59 of another ethnic origin; mean (SD) age 26.0 (4.6) yrs; disaggregated data by ethnicity.

**Reference No:** 2396

**General Notes:** *Facility based study (2 well-baby health centres linked to the Social Security) in the 11th and 13th arrondissement of Paris; sampling: children whose parents were linked to the social security system were invited; inclusion only of children whose parents accepted.*

**Line note 23** Mean (SD) age 10.5 (0.3) months; disaggregated data by ethnicity, maternal parity, maternal iron supplementation during pregnancy.

**Reference No:** 4790

**General Notes:** *Facility based study (antenatal clinic); location not specified; baseline values of intervention study (1. iron; 2. iron+folate acid); sampling: during a period of 2 months, all women attending the compulsory antenatal examination at the end of the 6th month of pregnancy, up to a total of 200, were entered into the study.*

**Line note 24** Mean (SD) age 27.5 (4.5) yrs.

**Reference No:** 968

**General Notes:** *Facility based study (hospital); sampling: design not explained; inclusion only of subjects who had given informed consent, had not received iron or folate supplementation during pregnancy and who had delivered during the day.*

**Line note 25** 21 immigrants+79 multiparous parturient French women; blood sample at onset of labour.

**Line note 26** Prevalence of anaemia 3.0% (Hb <140 g/L); 56 boys+44 girls.

**Reference No:** 4043

**General Notes:** *Facility based study (antenatal clinic l'Hôpital Antoine-Béclère); dates of survey adapted from reference No. 4339; sampling: design not explained; Hb determination at second clinical visit during pregnancy (28 ± 2 wks); same study as reference No. 4768.*

**Line note 27** Mean age 27.0 yrs.

**Reference No:** 2606

**General Notes:** *Haematological surveys of representative adult population samples were conducted simultaneously in 12 countries all but one of which are in Europe; sampling: random samples of persons over 65 years of age were taken from social security lists of both suburban and urban districts; location not specified; values for other Hb cut-off levels.*

**Line note 28** Mean (SD) age 83.7 (6.3) yrs.

**Line note 29** Only mean Hb values; mean (SD) age 74.8 (7.5) yrs.

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