

**A SEROEPIDEMIOLOGICAL STUDY OF SEXUALLY TRANSMITTED
AGENTS (HIV, HEPATITIS B VIRUS, T. PALLIDUM) AMONG
SENTINEL POPULATIONS IN THE NORTH WEST AND
SOUTH WEST PROVINCES, CAMEROON**

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SUMMARY

A seroprevalence baseline study of HIV-1, HIV-2, Hepatitis B and Syphilis was conducted between September and November 1989 among 1275 people in the North West and the South West Provinces in Cameroon. Sentinel groups were pregnant women (n = 609), patients attending sexually transmissible disease clinics (STD-patients; n = 282), and blood donors (n = 384).

The prevalence of HIV-1 was 0.7% in pregnant women, 2.5% in STD patients, and 1.6% in blood donors. No case of HIV-2 was detected. The prevalence of HBs antigen ranged from 14% among STD-patients to 22% among blood donors, and 4 out of 5 individuals (77 - 80%) had serologic evidence for anti-HBc antibodies. The seroprevalence of syphilis ranged from 24% (pregnant women) to 48% (blood donors).

The HIV seroprevalences found in this study indicate that HIV infection rates in the two anglophone provinces of Cameroon are lower than in some other regions in Africa. However, the high prevalences of Hepatitis B and Syphilis suggest a great potential for further spread of HIV infection among the populations studied. Therefore STD control programmes should be intensified.

INTRODUCTION

The situation of HIV infection in Cameroun appears yet to be relatively favorable compared to some other regions in Africa. In the North West and South West Provinces, preliminary data obtained in 1987 revealed a HIV-1 seroprevalence of 0.5% in the adult population, and the absence of HIV-2.

Since February 1989, a sentinel surveillance framework (anonymous and unlinked) of HIV infection is progressively being established in Cameroun. Bamenda and Limbe have been selected for the North West and South West Provinces respectively as sentinel surveillance sites. Obtaining some recent baseline data on the seroprevalence of HIV in these two provinces was the purpose of this study.

Sexually transmitted diseases (STD) have been suggested as cofactors in the spread of HIV infection. It was therefore interesting to monitor also the seroprevalence of two frequent STDs, Hepatitis B and Syphilis, to obtain an idea of the potential for further spread of HIV in the populations studied.

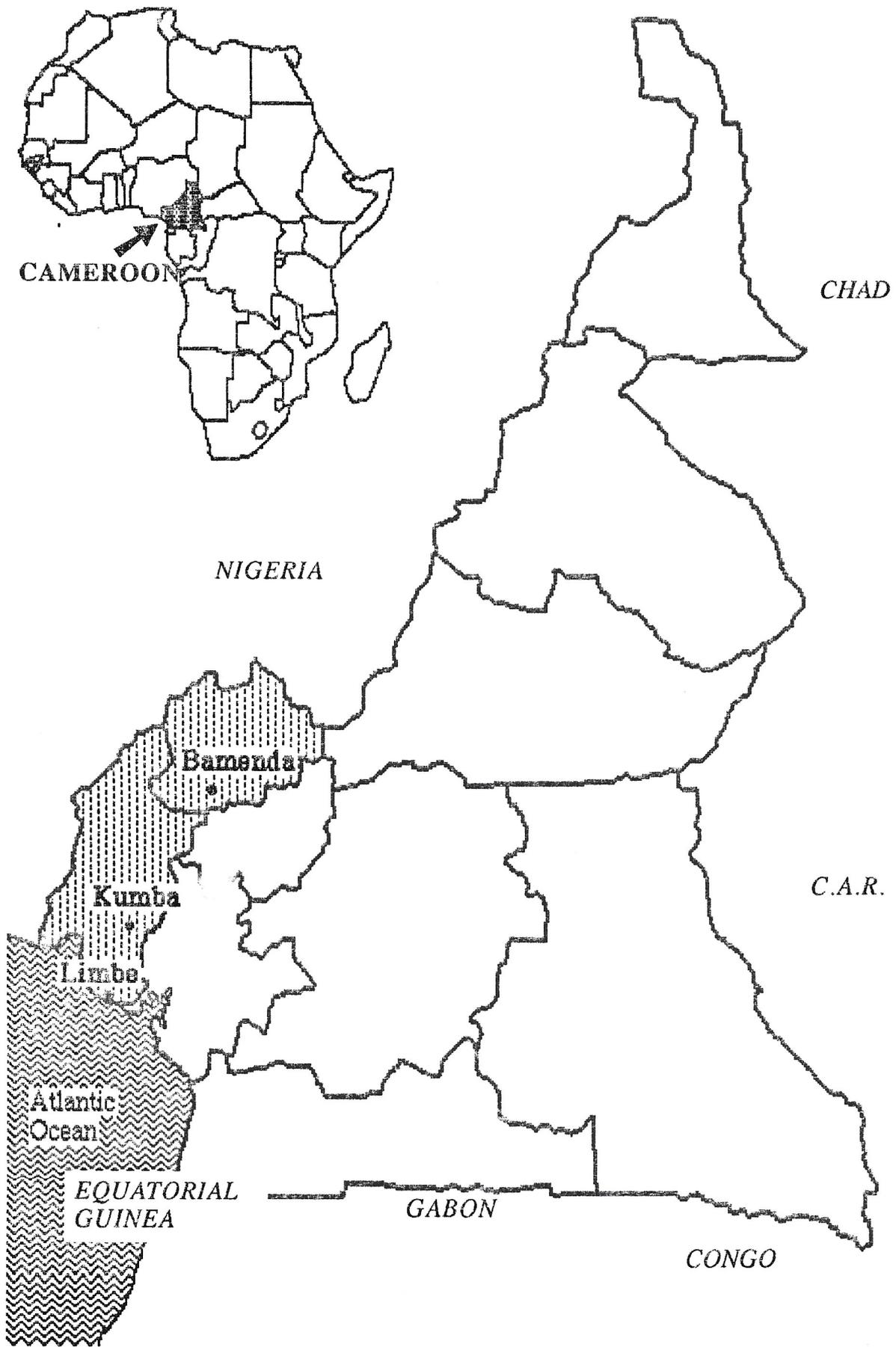


FIGURE 1

METHODS

Subjects

The study was carried out in three main towns of the two anglophone provinces in Cameroun (Fig. 1): Bamenda, the capital of the North West Province; Limbe, the former capital of the South West Province; and Kumba, an important trade center and the largest town of the South West Province.

1275 individuals in three sentinel groups were studied: 609 pregnant women attending consecutively to the Centers of Mother-and-Child Protection (PMI) in Bamenda, Kumba and Limbe for prenatal consultation; 282 consecutive patients attending to a consultation for STD at the Preventive Medicine or the general hospital; 384 consecutive blood donors in the general hospital of Bamenda and Limbe (Fig. 2).

Data collection

10ml of blood were taken by venipuncture. After separation, the sera were kept at -20°C until tested. Parallel to the blood collection, some demographic data (age, sexe, nationality, residence, marital and social status, and level of education) were obtained through a questionnaire, and were treated anonymously and unlinked.

Serological methods

Specimens were tested by enzyme-linked immunosorbent assay (ELISA) for HIV-1 (Behring) and HIV-2 (ELAVIA, Pasteur). Confirmation tests on ELISA-positive samples were done by specific Western blot (Dupont de Nemours). Sera were further tested for HBs antigen and anti-HBc antibodies by ELISA (Behring), for antibodies to Syphilis agent by Treponema pallidum hemagglutination assay (TPHA, Behring).

RESULTS

TABLE 1: Characteristics of population groups; Prevalences of HIV-1, Hepatitis B and Syphilis

<u>Pregnant women</u>		Median age (yrs)	Age range (yrs)	HIV-1 pos ¹⁾ [%]	HBsAg pos [%]	αHBc pos [%]	TPHA pos [%]
	Number						
Bamenda	200	25	15 - 42	0.5	13	72	27
Kumba	199	23	15 - 40	0.5	13	86	26
Limbe	210	23	13 - 40	1	18	75	18
Total	609			0.7	15	78	24

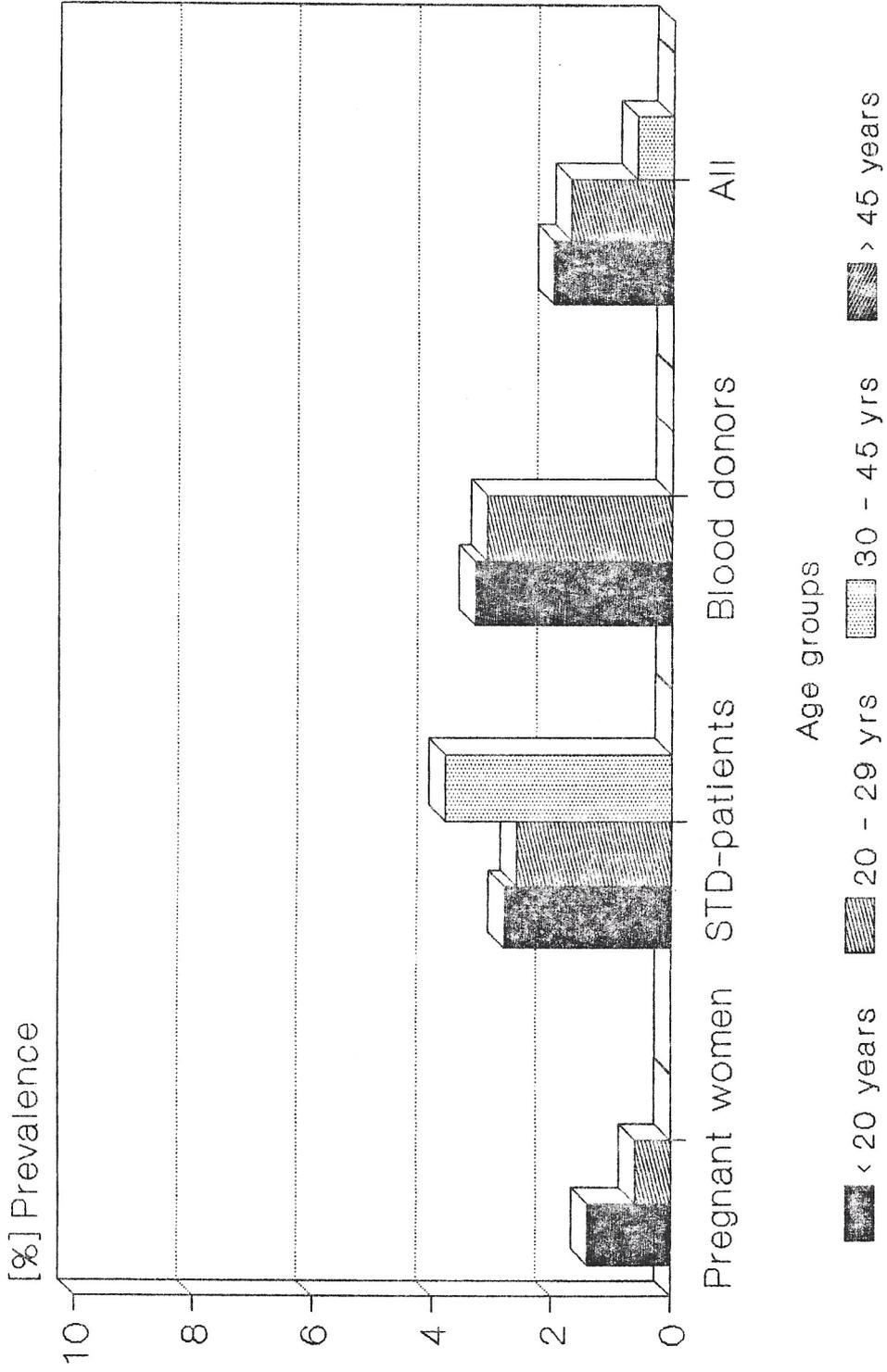
<u>STD-patients</u>		Male/Female [%]	Median age (yrs)	Age range (yrs)	HIV-1 pos ¹⁾ [%]	HBsAg pos [%]	αHBc pos [%]	TPHA pos [%]
	Number							
Bamenda	200	35/65	26	15 - 60	3.0	13	78	29
Kumba	51	24/76	22	15 - 50	1.2	18	75	33
Limbe	31	13/87	22	16 - 33	0	10	77	42
Total	282				2.5	14	77	31

<u>Blood donors</u>		Male/Female [%]	Median age (yrs)	Age range (yrs)	HIV-1 pos ¹⁾ [%]	HBsAg pos [%]	αHBc pos [%]	TPHA pos [%]
	Number							
Bamenda	155	96/4	29	18 - 55	1.9	27	73	54
Limbe	229	99/1	30	17 - 59	1.3	18 ²⁾	87 ²⁾	43 ²⁾
Total	384				1.6	22	80	48

1) confirmed by Western Blot

2) tests not done on 62 specimens

FIG. 2A: Seroprevalence of HIV-1 in different groups according to age



**FIG 2C: Seroprevalence of anti-HBc abs
in different groups according to age**

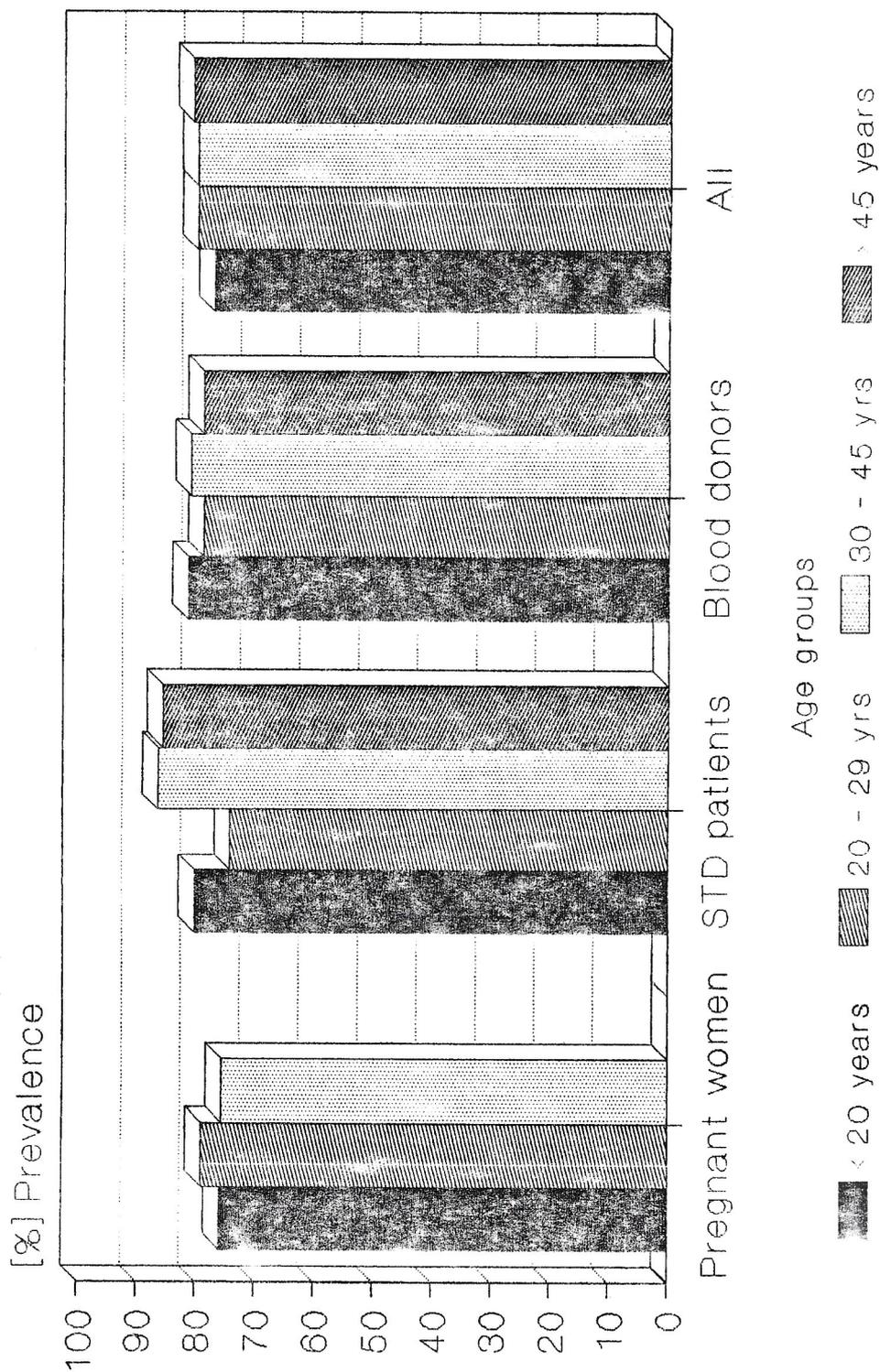


FIG 2D: Seroprevalence of Syphilis found by TPHA in different groups according to age

