

THE UNITED REPUBLIC OF TANZANIA

Tanzania Mainland

MINISTRY OF HEALTH

National AIDS Control Programme



HIV/AIDS/STI Surveillance Report

January - December 2005

Report Number 20

Issued: March 2007

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Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Clinics
ARV	Antiretroviral
CDC	U.S. Centers for Disease Control and Prevention
CI	Confidence Interval
CTC	Care and Treatment Clinic
DBS	Dried blood spot filter paper cards
ELISA	Enzyme Linked Immunosorbent Assay
EPTB	Extra pulmonary tuberculosis
EU	European Union
FBOs	Faith Based Organizations
GDS	Genital Discharge Syndrome
GUD	Genital Ulcer Disease
HIV	Human Immunodeficiency Virus
IDC	Infectious Diseases Clinic
MOHSW	Ministry of Health and Social Welfare
MUCHS	Muhimbili University College of Health Sciences
NACP	National AIDS Control Programme
NGO	Non Government Organizations
NIMR	National Institute for Medical Research
PID	Pelvic Inflammatory Diseases
PLHA/PLWHA	People living with HIV/AIDS
PYAR	Person-years at risk
QA	Quality Assurance
RMO	Regional Medical Officer
RPR	Rapid Plasma Reagin
STD	Sexually Transmitted Disease
STI	Sexually Transmitted Infection
TDHS	Tanzania Demographic and Health Survey
UN	United Nations
UNAIDS	Joint United Nations Programme on AIDS
UNDP	United Nations Development Programme
VCT	Voluntary Counseling and Testing
VDRL	Venereal Disease Research Laboratory
WHO	World Health Organisation

Acknowledgements

The National AIDS Control Programme (NACP), Tanzania wishes to acknowledge with sincere gratitude all those who contributed to the production of this report.

Our thanks go to all health care providers at the Regional, District and Health care facilities levels who have given so earnestly of their time and energy. Their contributions made this report possible.

We acknowledge with gratitude the financial and technical contributions from partners towards the production of this report.

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Report Distribution

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EXECUTIVE SUMMARY

Introduction

This report summarizes the magnitude and trend of HIV/AIDS/STIs in Mainland Tanzania for the annual year January to December 2005.

A total of 13,285 AIDS cases were reported to the NACP from the 21 regions during the year 2005. This resulted into a cumulative total of 205,773 reported cases since 1983 when the first 3 cases were identified in the country.

About 5.6% (439) of the AIDS cases reported in 2005 were below 15 years of age and most of these are likely to have acquired infection through mother to child transmission. The age group 20-49 years remained the most affected for both sexes, an observation that has remained consistent for several years since the beginning of the epidemic in the country. The observed clustering of cases in the age group 20-49 indicates that the majority of infections occur during the age of maximum sexual activity.

As in the previous years, the predominant mode of HIV transmission has remained heterosexual constituting up to 81.6% of all reported AIDS cases during 2005. Mother to child transmission constituted 3.7% and blood transfusion 1.5%. In about 12.8% of the cases, the mode of acquisition of infection was not stated. Of all AIDS cases reported during year 2005, 55.7% were married, while 22.0% were single. The marital status of the remaining cases were; divorced (4.5%), separated (2.3%), cohabiting (2.5%) and widowed (0.3%). In about 12.7% of cases, the marital status was not stated. Readers are cautioned that it is wrong to interpret the data as 55.7% of married couples in Tanzania are HIV positive. They do not represent the proportion of AIDS cases among married couples in Tanzania; rather they reflect the proportion of cases among the different marital categories of patients with AIDS.

A total of 129,203 individuals donated blood during the year 2005. The majority of blood donors were males constituting 82.9% of all donors and the rest being females. As in the past year, most blood donors were relatives of patients (98.9%) and the rest were institutional (0.5%) and paid donors (0.5%).

The overall prevalence of HIV infection among blood donors during 2005 was 7.9% (95% CI, 7.87-7.92). There were no differences between the prevalence of HIV among blood donors for the year 2004 (7.7%) and that of year 2005 (7.9%) (P-value = 0.05). In the era of ARV delivery one would expect a constant or even a rise in prevalence of HIV infection if incidence remains constant.

Using estimations and projections package (EPP) and the spectrum model developed by WHO, it is estimated that, in the year 2005, 1,770,383 people were living with HIV. Of these 656,180 are from urban and 1,114,203 are from rural areas.

Sexually transmitted infections (STIs) are a marker of sexual networking and give a clue to the extent of unprotected sex in a community. During the year 2005, a total of 325,998 STI episodes were reported throughout the STI clinics. Of these, 143,616 (44.1%) were reported as genital discharge syndromes, 69,074 (21.2%) were genital ulcer diseases, 76,039 (23.3%) were pelvic inflammatory diseases and the rest 37,269 (11.4%) were reported as other syndromes.

Overall, regions reporting the highest number of episodes include Mbeya (43,421), Dar es Salaam (30,556), Mara (30,362), Tanga (26,028) Mwanza (24,942), Dodoma (24,107) and Kilimanjaro (22,245) in decreasing order. The smallest number of episodes was reported from Lindi (558), Singida (1,630) and Kagera. Generally, the number of STI episodes especially syphilis among females was higher than in males. This observation may not be due to a true higher incidence of STI among females, rather it reflects differences in health seeking between females and males. The most affected age groups in both sexes were those of 20-29 years, followed by the age group 30 years and above.

During the year 2005, a total of 217,116 new clients accessed Voluntarily Counseling and Testing (VCT) services in Tanzania mainland. This number was reported by counselors from all VCT of 21 regions and excludes those managed by AMREF through the Angaza Project. The increase in the number of clients who tested in 2005 was quite remarkable compared to the trend in the past. This increase is partly attributed to improved access to VCT services following opening of many VCT sites in different areas in the country during this year. It may also be a reflection of the growing awareness of the importance of VCT.

The overall HIV prevalence using data from VCT in health facility based sites was 26.9% while it was 11.0% using data from the 34 ANGAZA sites, which are distributed in some areas of the country. The prevalence of HIV infection in the health facility based sites ranged from 5.3% in Manyara to 46.3% in Iringa region.

Conclusion

In conclusion, the spread of HIV infection continued as in previous years. Data obtained from various surveys indicate high risk of HIV infection among youth and higher vulnerability to infection among women.

1

SURVEILLANCE OF AIDS CASES

1.1 Surveillance of clinically Reported AIDS Cases

Introduction

AIDS became a notifiable disease in Tanzania since 1985. Health authorities throughout the country were therefore obliged to report AIDS cases to the Ministry of Health and Social Welfare (MoHSW). In the early phase of the epidemic, surveillance of AIDS cases was the only type of data collected in the country to track the spread of the epidemic. Initially notification of AIDS cases was done using multiple approaches including special forms, telephone, and telex and telefax communication with MoHSW. This mixed system of reporting resulted into sets of data that lacked uniformity in terms of the parameters reported. This was later resolved by the introduction of a notification form that was adopted for use in all health care facilities in the country.

Methods

AIDS cases diagnosed in governmental and non governmental hospitals in the country are reported to the National AIDS Control Programme (NACP), using forms distributed to all hospitals through the Regional Medical Officers (RMO). Information collected include name of reporting hospital, socio-demographic characteristics of the diagnosed case including district of usual residence, case definition criteria used to make the diagnosis, possible source of infection and whether or not an HIV test was done. Hospitals return dully-filled forms to the Regional Medical Officer (RMO) monthly, for subsequent transmission to the NACP on a quarterly basis.

Distribution of AIDS cases

Between 1st January and 31st December 2005, a total of 13,285 cases were reported to the NACP from the 21 regions of Tanzania Mainland. This resulted into a cumulative total of 205,817 cases since 1983 when the first AIDS cases were reported in Tanzania. Table 1.1 and Figure 1.1 show the age and sex distribution of the reported AIDS cases for the year 2005. About 439 (5.6%) AIDS cases with known age and sex reported in 2005 were below 15 years of age and most of these are likely to have acquired infection through mother to child transmission. The age group 20-49 years remained the most affected for both sexes, an observation that has remained consistent for several years since the beginning of the epidemic. The observed clustering of cases in the age group 20-49 years indicates that the majority of infections occur during the age of maximum sexual activity. It is evident that there were more female AIDS cases than males in the age group 20-39. The preponderance of female cases was particularly striking for age groups 20-24 and 25-29 where female cases were almost twice as many as for males.

Figure 1.2 shows the age and sex specific cumulative case rates from 1987-2005. The figure, as in the previous years, shows that males generally have a higher case rate than females particularly for the age group 30 years and above while for the age group 15 – 29 years females have high case rates. High case rates for both sexes are in the age group 25-44 years.

Table 1.1: Distribution of reported AIDS cases by age and sex, Tanzania 2005

Age group	Male		Female		Unknown		Total	
	N	%	N	%	N	%	N	%
0 – 4	88	2.6	86	2.0	13	6.2	187	2.4
5 – 9	76	2.2	79	1.9	4	1.9	159	2.0
10 – 14	38	1.1	51	1.2	4	1.9	93	1.2
15 – 19	62	1.8	150	3.5	4	1.9	216	2.7
20 – 24	226	6.6	466	10.9	10	4.8	702	8.9
25 – 29	452	13.2	817	19.1	23	11.0	1,292	16.4
30 – 34	627	18.3	908	21.3	41	19.6	1,576	20.0
35 – 39	591	17.3	678	15.9	26	12.4	1,295	16.4
40 – 44	422	12.3	443	10.4	21	10.0	886	11.2
45 – 49	344	10.1	284	6.7	16	7.7	644	8.2
50 – 54	229	6.7	143	3.4	8	3.8	380	4.8
55 – 59	109	3.2	61	1.4	1	0.5	171	2.2
60 – 64	66	1.9	34	0.8	3	1.4	103	1.3
65+	61	1.8	30	0.7	4	1.9	95	1.2
Unknown	29	0.8	38	0.9	5,419	14.8	5,486	1.2
Total	3,420	100.0	4,268	100.0	209	100.0	13,285	100.0

Fig 1.1: Distribution of reported AIDS cases by age and sex, Tanzania, January-December 2005

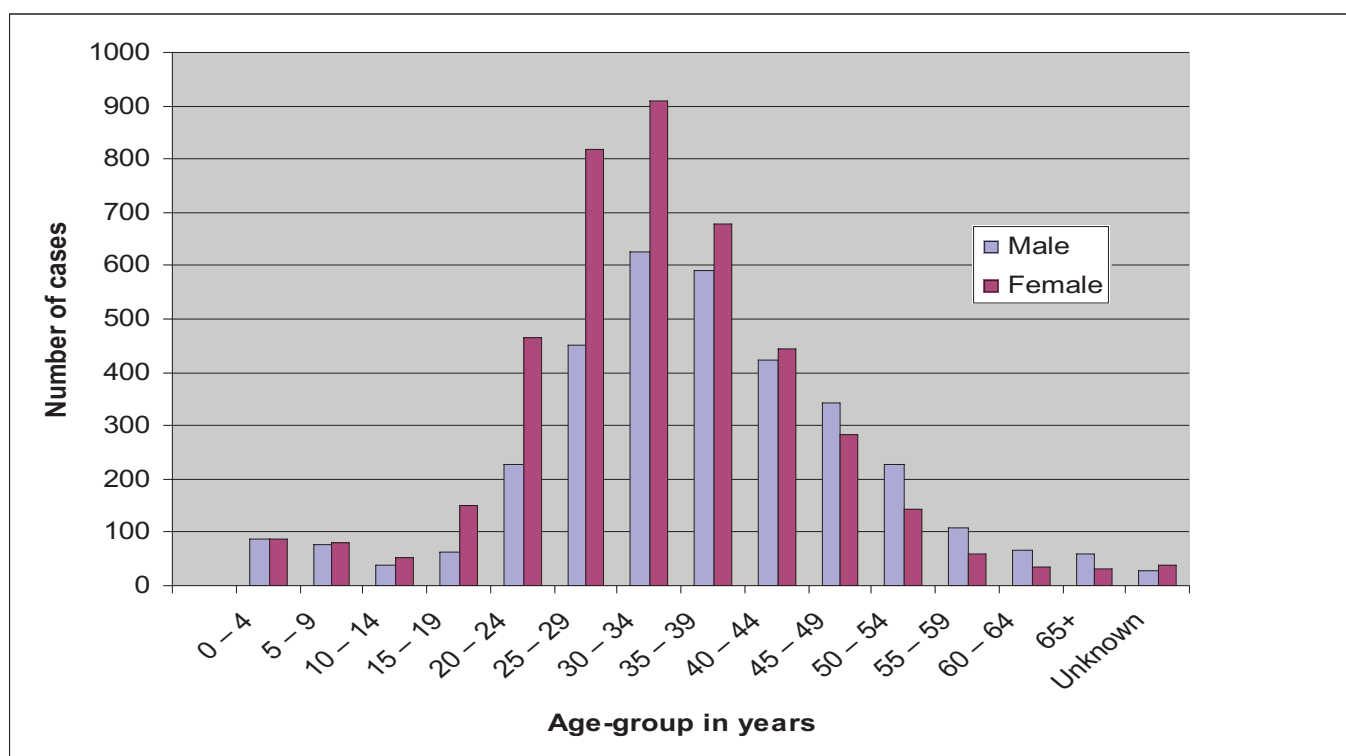


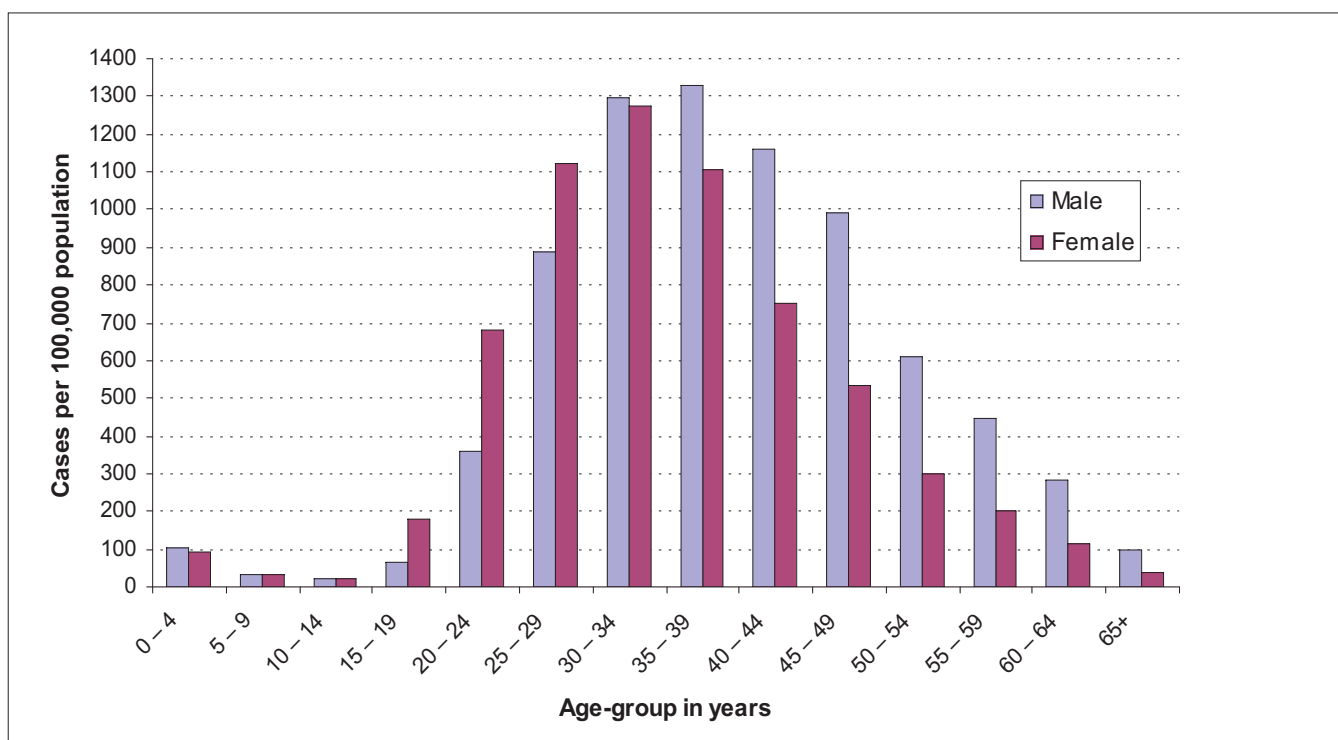
Table 1. 2: Case rates for Cumulative AIDS Cases by age and Sex, Tanzania, 1987 – 2005

Age	MALE			FEMALE			TOTAL						
	Cases	%	Population year 2005	Case rate*	Cases	%	Population year 2005	Case Rate*	Unknown Sex	Cases	%	+Population year 2005	Case Rate*
0 – 4	3,051	4	2,999,576	102	2,722	4	3,004,990	91	136	5,909	4	6,004,566	96
5 – 9	900	1	2,724,176	33	881	1	2,705,270	33	76	1,857	1	5,429,445	33
10 – 14	451	1	2,359,755	19	566	1	2,335,590	24	25	1,042	1	4,695,346	22
15 – 19	1,179	2	1,863,138	63	3,486	5	1,938,545	180	37	4,702	3	3,801,684	123
20 – 24	5,346	7	1,482,061	361	12,602	16	1,850,178	681	118	18,066	12	3,332,240	539
25 – 29	12,294	17	1,386,042	887	17,697	23	1,579,555	1,120	215	30,206	19	2,965,598	1,011
30 – 34	14,925	21	1,152,618	1,295	15,400	20	1,206,775	1,276	275	30,600	20	2,359,393	1,285
35 – 39	11,572	16	870,878	1,329	9,854	13	891,568	1,105	206	21,632	14	1,762,445	1,216
40 – 44	8,228	11	707,814	1,163	5,411	7	717,329	754	153	13,792	9	1,425,143	957
45 – 49	5,003	7	505,656	989	2,868	4	536,685	534	100	7,971	5	1,042,341	755
50 – 54	2,778	4	453,486	613	1,457	2	482,026	302	64	4,299	3	935,512	453
55 – 59	1,368	2	307,526	445	644	1	319,695	201	20	2,032	1	627,221	321
60 – 64	866	1	304,504	284	388	1	336,878	115	17	1,271	1	641,382	196
65+	682	1	695,796	98	290	0	740,159	39	18	990	1	1,435,955	68
Unknown	3,781	5			3,684	5			29,078	36,543	8		-
Total	7,2424	100	1,7813,027	406.6	77,950	100	18,119,770	430.2	30,538	180,912	100	35,932,797	433.6

* Case Rate: Number of cases per 100,000 populations

+ Population for 2005 is projected from the 2002 population census.

Fig 1.2: Case rates for cumulative AIDS cases by age and sex, Tanzania, 1987 – 2005



Marital status and possible sources of infection for the reported AIDS cases during the year 2003-2005 were analyzed. These findings are presented in figures 1.3a, 1.3b and 1.3c. As for previous years, the predominant mode of HIV transmission has remained heterosexual constituting up to 81.6% of all infections during 2005. Mother to child transmission constituted 3.7% and blood transfusion 1.5%. In a significant proportion of cases (12.8%), the mode of acquisition of infection was not stated, an observation that calls for the need to strengthen AIDS case reporting. The reported figure for infections resulting from transmission through blood transfusion has increased from 0.5 to 1.5 for the year 2004 to 2005. This figure is still unacceptably high given that all donor blood in the country is screened for HIV since 1987. It is likely that this category also contains cases that are misclassified, such as cases resulting from handling blood in other ways other than blood transfusion. As illustrated in figures 1.3a, 1.3b and 1.3c, the proportion of AIDS cases for the various modes of transmission in 2005 do not significantly differ from those for the year 2004.

From figures 1.4a, 1.4b, and 1.4c 48.7%, 55.6% and 55.7% of reported AIDS cases reported in 2003, 2004 and 2005 respectively were married. One should be circumspect in interpreting these data. They do not represent the proportion of AIDS cases among married couples in Tanzania; rather they reflect the proportion of cases among the different marital categories of patients with AIDS.

Fig. 1.3: Possible sources of infection for the reported AIDS cases for

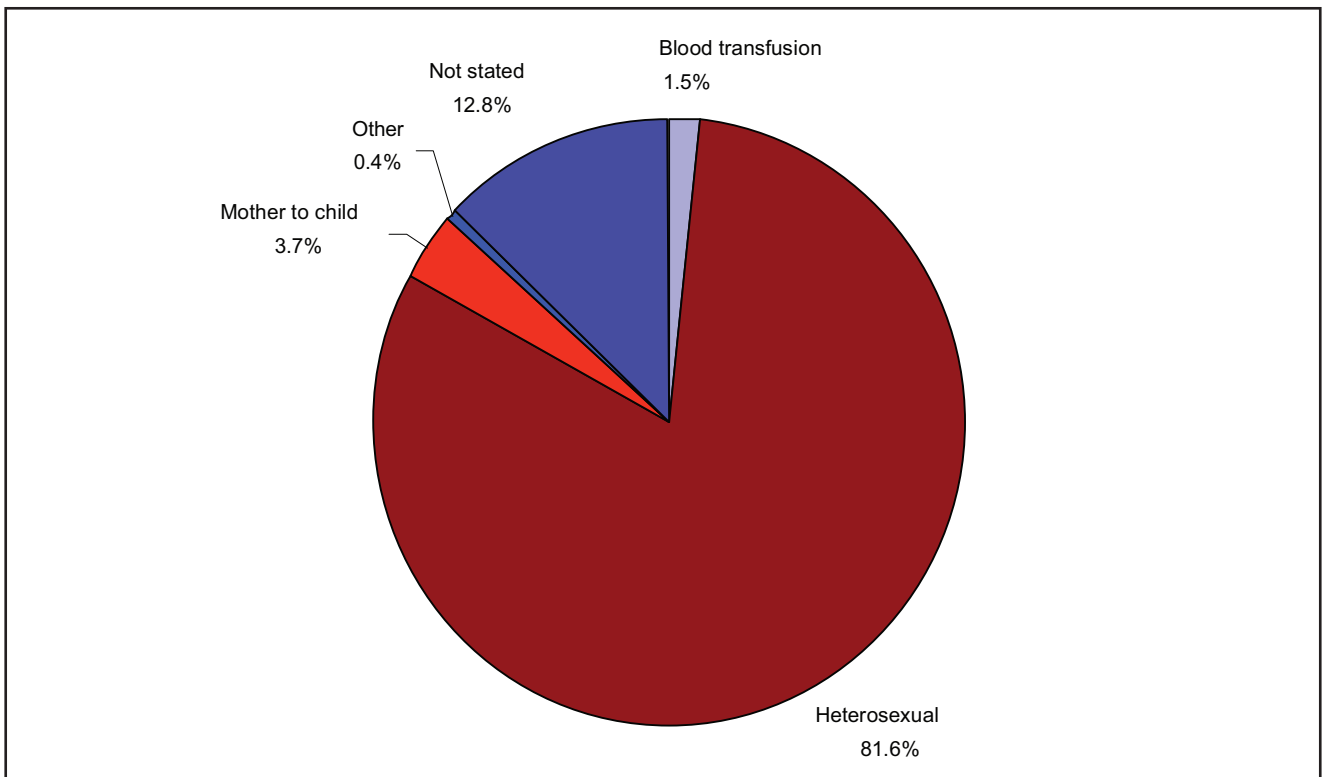
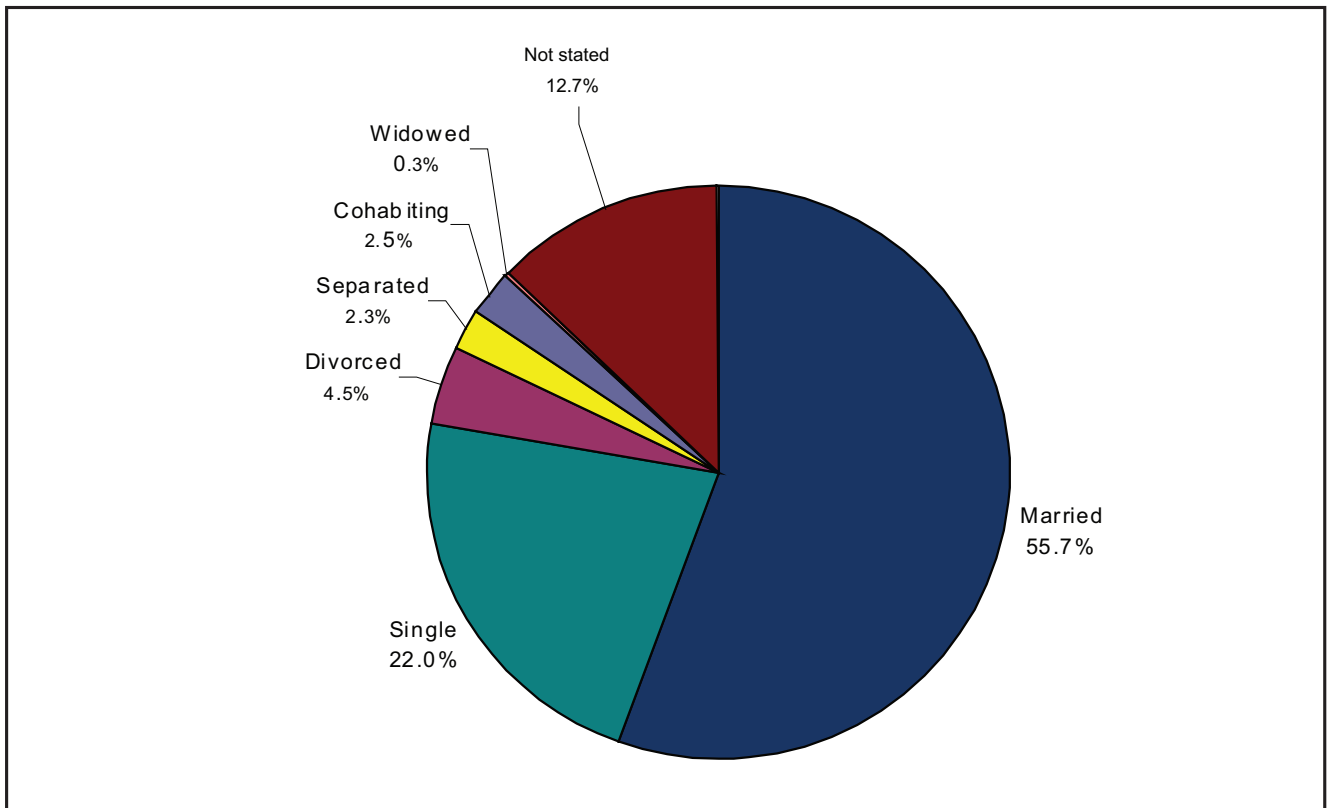
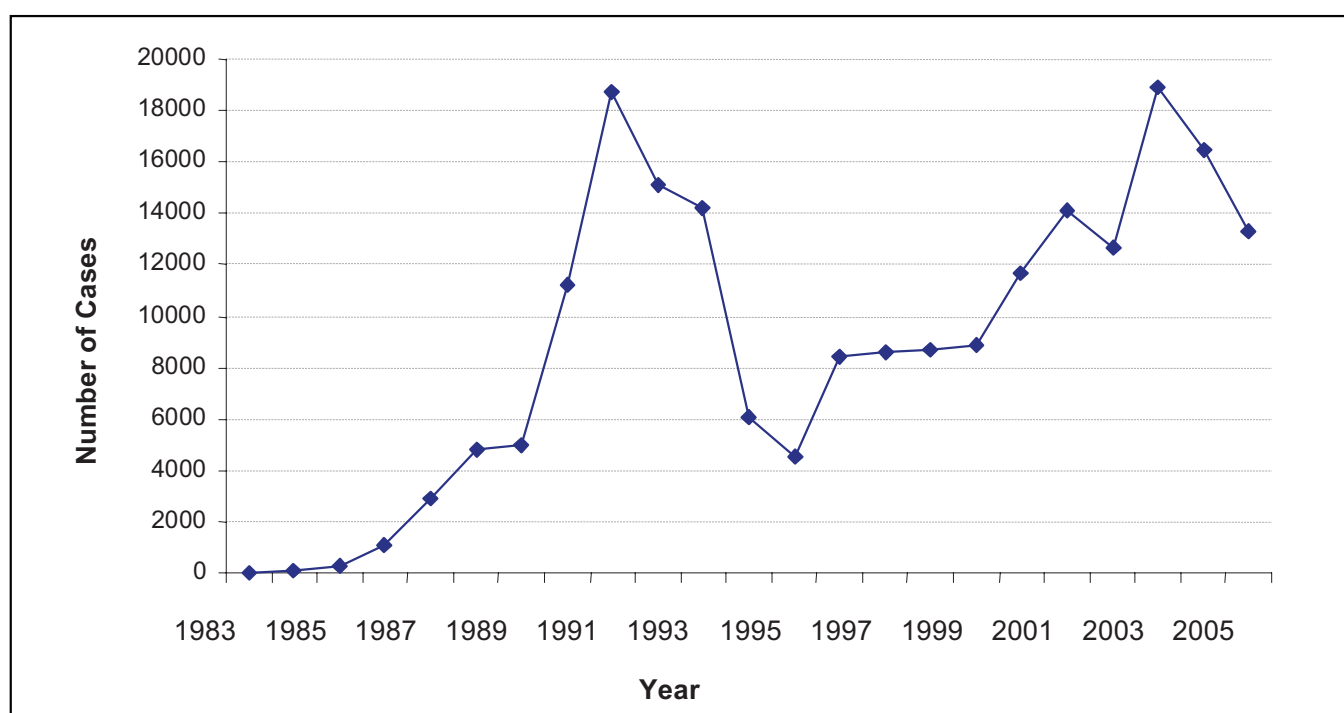


Fig 1.4: Marital status for the reported AIDS cases for the year 2003



Tables 1.3a and 1.3b show the cumulative number of AIDS cases by region since the detection of the early cases in Tanzania two decades ago (1983-2005). The distribution of AIDS cases by region is based on where the diagnosis was made and does not necessarily reflect the place of usual residence of the diagnosed case. The NACP estimates that only 1 out of 14 AIDS cases are reported due to underutilization of health services, under-diagnosis, under-reporting and delays in reporting. Despite these limitations, if the error of underreporting is consistent, the data is believed to reflect the trend of AIDS cases in the country. Figure 1.5 depicts the trend of reported AIDS cases in Tanzania from 1983-2005. In the period 1983-1986 few cases were reported to NACP and these were not characterized in terms of age group. Overall there has been a gradual increase in the number of reported cases from 1983-2005. There was a significant increase in the number of reported cases between 1990 -1993. This peak just reflects aggressive data collection during this period and does not represent a peak in AIDS morbidity in the country.

Fig 1.5 Trend of Reported AIDS cases from 1983 to 2005



In 2005 the three leading regions with high number of AIDS cases in descending order were Mbeya, Dar es Salaam and Kilimanjaro. Mbeya and Dar es Salaam have consistently ranked highest in the number of AIDS cases for the past several years. Population based findings from the Tanzania Health Indicator Survey (THIS) carried out in 2003/2004 also showed that the three leading regions in HIV prevalence in descending order were Mbeya, Iringa and Dar es Salaam. The first four regions which reported lowest numbers of AIDS cases in 2005 were Manyara, Rukwa, Kigoma, Dodoma and Mtwara in descending order. Interestingly, in the population based study done in 2003/2004, the four regions with lowest HIV prevalence were Kigoma, Manyara, Singida and Mara. From the NACP AIDS case reporting and THIS findings there appears to be a concordance in the pattern of HIV morbidity emphasizing that despite its limitations, surveillance data based on AIDS case reporting is still useful for tracking the trend of HIV/AIDS in the country.

Table 1.3a Trend of Reported AIDS cases from 1983 to 1992

<i>Region</i>	<i>Year</i>									
	<i>1983</i>	<i>1984</i>	<i>1985</i>	<i>1986</i>	<i>1987</i>	<i>1988</i>	<i>1989</i>	<i>1990</i>	<i>1991</i>	<i>1992</i>
Arusha	0	0	0	10	47	217	433	647	1,117	1,637
Coast	0	0	1	4	79	224	465	938	1,676	2,215
Dar es Salaam	0	0	51	471	1,470	3,093	5,209	7,246	8,834	9,259
Dodoma	0	0	0	7	47	105	262	310	536	762
Iringa	0	0	1	3	68	305	374	728	2,281	3,334
Kagera	3	106	322	847	1,666	2,143	2,576	3,472	4,742	5,813
Kigoma	0	0	0	3	50	109	244	607	930	1,556
Kilimanjaro	0	1	8	36	207	455	571	966	2,060	3,707
Lindi	0	0	0	1	10	46	113	484	842	1,211
Mara	0	0	0	3	30	99	141	280	639	980
Mbeya	0	0	0	16	208	751	1,077	3,890	6,924	9,890
Morogoro	0	0	0	11	88	254	364	637	2,398	3,598
Mtwara	0	0	1	5	26	90	199	479	1,361	1,968
Mwanza	0	0	15	54	171	448	667	1,303	3,041	4,207
Rukwa	0	0	0	1	5	98	94	140	261	496
Ruvuma	0	0	0	20	46	81	210	571	1,197	1,807
Shinyanga	0	0	0	8	31	144	238	583	1,278	496
Singida	0	0	0	6	74	197	284	456	763	1,807
Tabora	0	2	5	6	59	232	525	927	1,400	1,972
Tanga	0	0	0	13	80	210	210	838	1,914	2,636
Unspecified	-	-	-	-	-	-	-	1	1	1
TANZANIA	3	109	404	1,525	4,462	9,301	14,256	25,503	44,195	59,352

Table 1.3(b): Cumulative number of reported AIDS cases by region, Tanzania, 1993 – 2005

Region	Year													
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	
Arusha	2,185	2,368	2,615	2,787	3,244	3,567	3,948	4,196	4,688	4,785	6,476	6,569	6,853	
Coast	2,740	3,023	3,268	3,559	3,796	4,266	4,375	5,348	5,580	5,737	5,884	7,904	8,194	
Dar es Salaam	10,406	11,050	11,302	12,983	13,899	14,517	14,643	16,053	18,627	24,501	26,818	28,474	28,474	
Dodoma	1,028	1,294	1,608	1,938	2,517	2,641	2,748	2,941	3,170	3,565	4,306	4,746	5,042	
Iringa	4,462	4,674	4,785	4,883	5,008	5,031	5,076	5,179	5,298	5,318	6,079	6,167	7,000	
Kagera	6,646	7,064	7,223	7,426	7,671	7,881	8,310	8,529	8,976	9,072	12,034	12,234	12,234	
Kigoma	1,920	2,070	2,257	2,280	2,426	2,481	2,613	2,732	2,815	2,860	4,040	4,180	4,754	
Kilimanjaro	4,699	5,119	5,513	5,991	6,618	7,375	7,766	8,088	9,097	10,042	11,909	12,791	13,817	
Lindi	1,691	1,966	2,173	2,480	2,712	3,074	3,559	4,155	4,710	5,008	5,267	5,430	5,706	
Mara	1,304	1,393	1,486	1,486	1,486	1,515	1,634	2,021	2,229	2,345	2,920	5,356	8,874	
Mbeya	11,439	12,214	12,371	14,685	16,835	19,949	23,688	26,952	30,320	31,172	32,705	33,520	34,300	
Morogoro	4,328	4,575	4,903	5,189	5,438	5,534	5,863	6,388	6,820	7,073	7,467	7,491	7,614	
Mtwara	2,090	2,201	2,267	2,444	2,569	2,843	3,000	3,262	3,638	3,886	4,130	4,331	5,048	
Mwanza	5,349	5,731	5,974	6,365	7,006	7,384	7,884	8,338	8,752	9,194	9,676	12,359	12,787	
Rukwa	715	777	801	882	1,227	1,359	1,621	1,997	2,382	2,706	3,246	3,650	4,014	
Ruvuma	2,480	2,847	3,087	3,345	3,752	4,260	4,760	5,406	6,381	7,080	7,743	8,655	9,882	
Shinyanga	2,624	3,062	3,361	3,824	4,217	4,515	4,861	5,440	6,310	7,174	7,972	8,687	9,651	
Singida	1,472	1,688	1,908	2,135	2,167	2,262	2,329	2,396	2,692	2,872	3,040	3,383	3,563	
Tabora	2,786	3,075	3,428	3,805	4,278	4,733	5,199	5,946	6,349	6,810	7,323	7,720	8,185	
Tanga	3,207	3,475	3,793	4,062	4,278	4,632	4,792	4,975	5,620	5,819	6,711	8,352	9,053	
Manyara										110	312	489	728	
Unspecified	1	2	44	44	44	44	44	44	44	44	44	44	44	
TOTAL	73,572	79,668	84,167	92,593	101,188	109,863	118,713	130,386	144,498	157,173	176,102	192,532	205,773	

2

SURVEILLANCE OF HIV INFECTION: FINDINGS FROM ANTENATAL CLINIC ATTENDEES

2.1 Surveillance of HIV infection in pregnant Women

2.1.1 Introduction

The third round of a series of sero-surveys among pregnant women attending Antenatal Clinic (ANC) clinics in mainland Tanzania was conducted between November 14, 2005 and February 10, 2006. These surveys were introduced in 2001 and are meant to continue over time in an attempt to monitor HIV and syphilis infection trends in the general population. This section presents results from the survey. A full detailed report including methodology is available as a separate report in the report called ANC surveillance report.

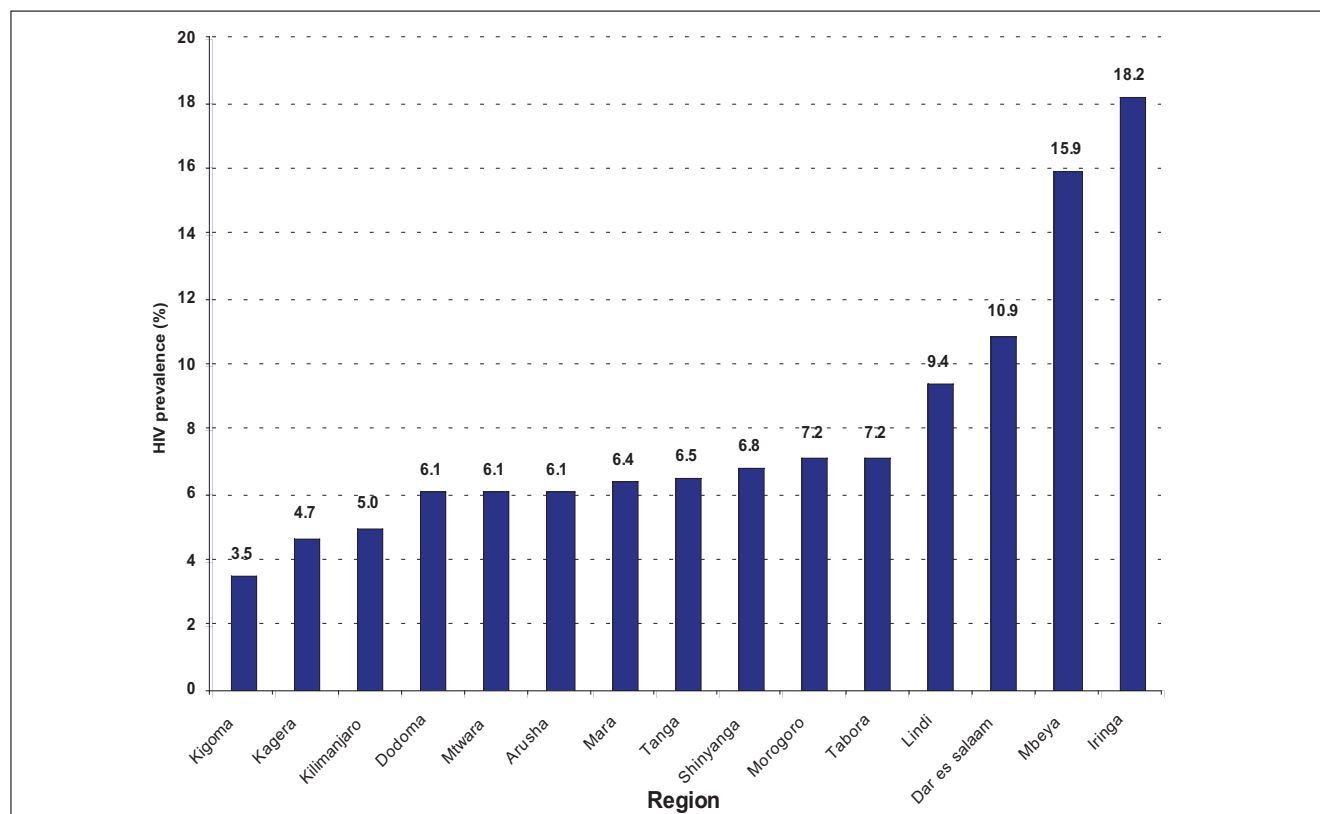
2.1.2 HIV prevalence

A total of 31,224 ANC attendees were enrolled in the ANC serosurveillance study from 92 clinics located in 15 regions of Tanzania between November 14th 2005 and February 10th 2006. The number of enrolled women regionally ranged from 1,290 in Lindi to 3,512 in Dar es Salaam. A total of 2,546 women tested HIV positive resulting in an overall HIV prevalence in this population of 8.2% (95% CI = 7.9-8.5%). HIV infection prevalence ranged from a low of 3.5% (95% CI = 2.6-4.5%) in Kigoma region to a high of 18.2% (95% CI = 16.3-20.2) in Iringa region (Figure 2.1). HIV prevalence is also presented at the clinic level (Table 2.1).

Of the 92 ANC sites surveyed in this round, 27 (30%) were found to have a prevalence of HIV infection of 10% or more. These high prevalence sites consisted of five urban clinics in Dar es Salaam city; two urban, two semi-urban and one rural clinics in Mbeya; two urban, one semi-urban and one rural clinics in Lindi; one urban clinic in Morogoro; one urban clinic in Tanga; one urban and one rural clinics in Mara; two urban clinics in Shinyanga; two urban, two semi-urban and one rural clinics in Iringa and two urban clinics in Tabora (Table 2.1).

The HIV prevalence differed according to residence ranging between 4.4% for rural clinics, and 9.9% for urban clinics ($p < 0.001$) (Figure 2.1).

Fig 2.1: Prevalence of HIV infection among ANC attendees by region, Tanzania 2005/06



SURVEILLANCE OF HIV INFECTION: FINDINGS FROM ANTENATAL CLINIC ATTENDEES

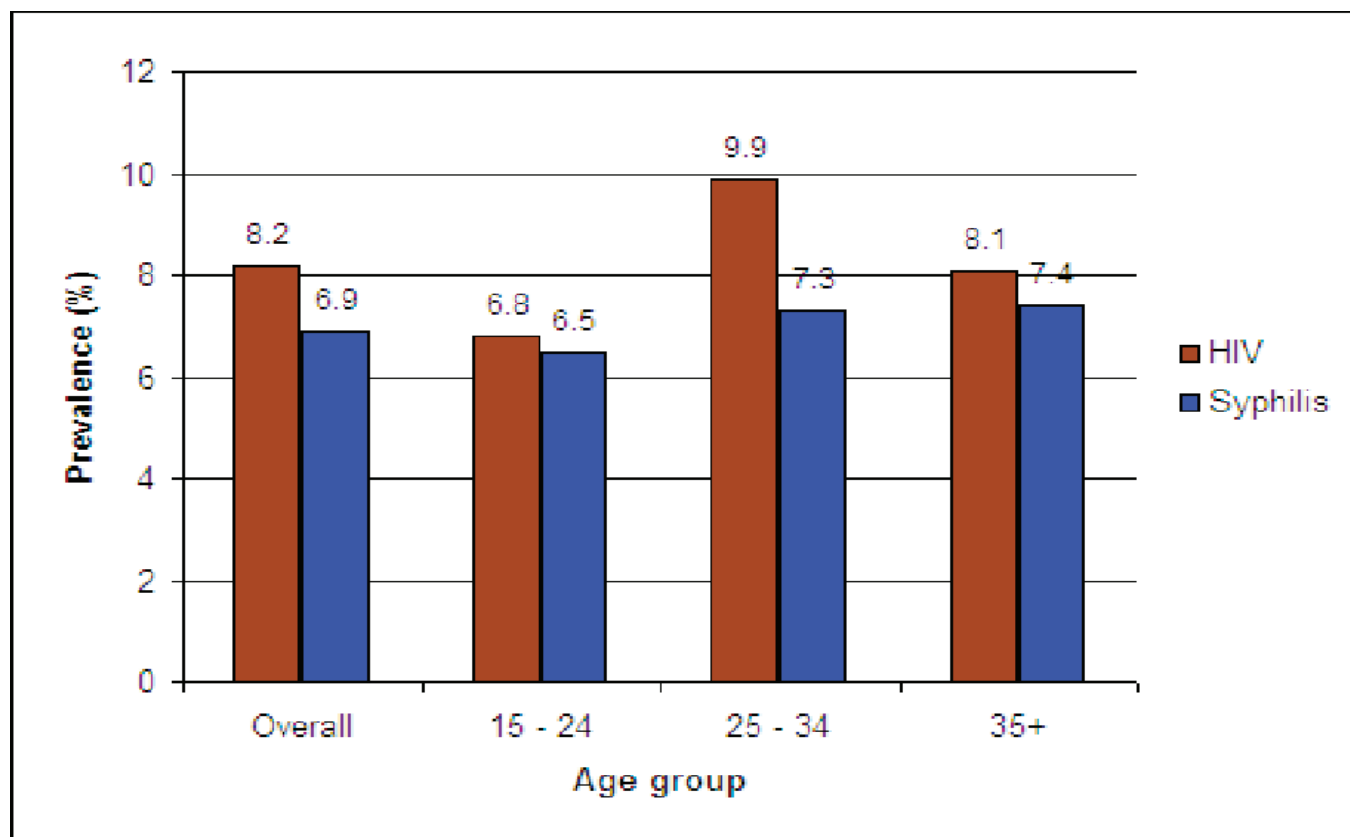
Table 2.1: Prevalence of HIV and syphilis infection by ANC sites, Tanzania 2005/06

Site	HIV				Syphilis				
	Total	Positive	% prevalence	95% CI	Total	Positive	% prevalence	95% CI	
Dar es salaam	3512	383	10.9	9.9-11.9	3510	254	7.2	6.40	8.14
Buguruni	954	116	12.2	10.2-14.4	953	3	0.31	0.06	0.92
Kasorobo	396	40	10.1	7.3-13.5	396	18	4.55	2.72	7.09
Kigamboni	571	66	11.6	9.1-14.5	570	4	0.7	0.19	1.79
Oysterbay	600	61	10.2	7.9-12.9	600	17	2.83	1.66	4.50
Kimara	433	41	9.5	6.9-12.6	433	92	21.25	17.49	25.41
Kiwalani	558	59	10.6	8.1-13.4	558	120	21.51	18.17	25.15
Dodoma	1885	115	6.1	5.4-7.7	1850	221	11.95	10.50	13.51
Bahi	268	5	1.9	0.6-4.2	258	8	3.1	1.35	6.02
Handali	209	3	1.4	0.3-4.1	209	55	26.32	20.48	32.84
Kibaigwa	276	23	8.3	5.4-12.2	274	4	1.46	0.40	3.70
Makole	478	46	9.6	7.1-12.6	464	30	6.47	4.40	9.10
Mpwapwa	215	12	5.6	2.9-9.5	210	19	9.05	5.54	13.77
Wajenzi	439	26	5.9	4.2-9.1	435	105	24.14	20.19	28.44
Kagera	2070	97	4.7	3.8-5.7	2060	168	8.16	7.01	9.42
Bukoba	515	30	5.8	4.0-8.2	514	33	6.42	4.46	8.90
Katoro	263	10	3.8	1.8-6.9	263	39	14.83	10.76	19.71
Kimeya	266	14	5.3	2.9-8.6	263	33	12.55	8.80	17.17
Nkwenda	495	14	2.8	1.6-4.7	491	25	5.09	3.32	7.42
Nyamiaga	237	7	3.0	1.2-6.0	235	25	10.64	7.00	15.30
Rwamishenye	294	22	7.5	4.7-11.1	294	13	4.42	2.38	7.44
Kilimanjaro	1426	71	5.0	3.9-6.2	1403	6	0.43	0.16	0.93
Hedaru	306	22	7.2	4.6-10.7	306	2	0.65	0.08	2.34
Majengo	330	23	7.0	4.5-10.2	327	0	0	0.00	
Masama	164	5	3.0	1.0-7.0	155	0	0	0.00	
Umbwe	109	5	4.6	1.5-10.3	107	2	1.87	0.23	6.59
Huruma	169	5	3	1.0-6.8	166	1	0.6	0.02	3.31
Pasua	348	11	3.2	1.6-5.6	342	1	0.29	0.01	1.62
Mbeya	2464	391	15.9	14.4-17.4	2463	74	3.0	2.37	3.76
Chimala	266	58	21.8	17.0-27.3	266	11	4.14	2.08	7.28
Ilembo	177	9	5.1	2.3-9.4	177	2	1.13	0.14	4.02
Kiwanjampaka	675	96	14.2	11.7-17.1	674	18	2.67	1.59	4.19
Kyela	323	64	19.8	15.6-24.6	323	13	4.02	2.16	6.78
Igamba	202	36	17.8	12.8-23.8	202	6	2.97	1.10	6.35
Ruanda	821	128	15.6	13.2-18.3	821	24	2.92	1.88	4.32
Mtwara	1319	81	6.1	4.9-7.6	1302	62	4.76	3.67	6.06
Ligula	339	27	8.0	5.3-11.4	339	17	5.01	2.95	7.91
Mangaka	335	18	5.4	3.2-8.4	332	20	6.02	3.72	9.15
Nanyamba	130	3	2.3	0.5-6.5	130	8	6.15	2.69	11.77

SURVEILLANCE OF HIV INFECTION: FINDINGS FROM ANTENATAL CLINIC ATTENDEES

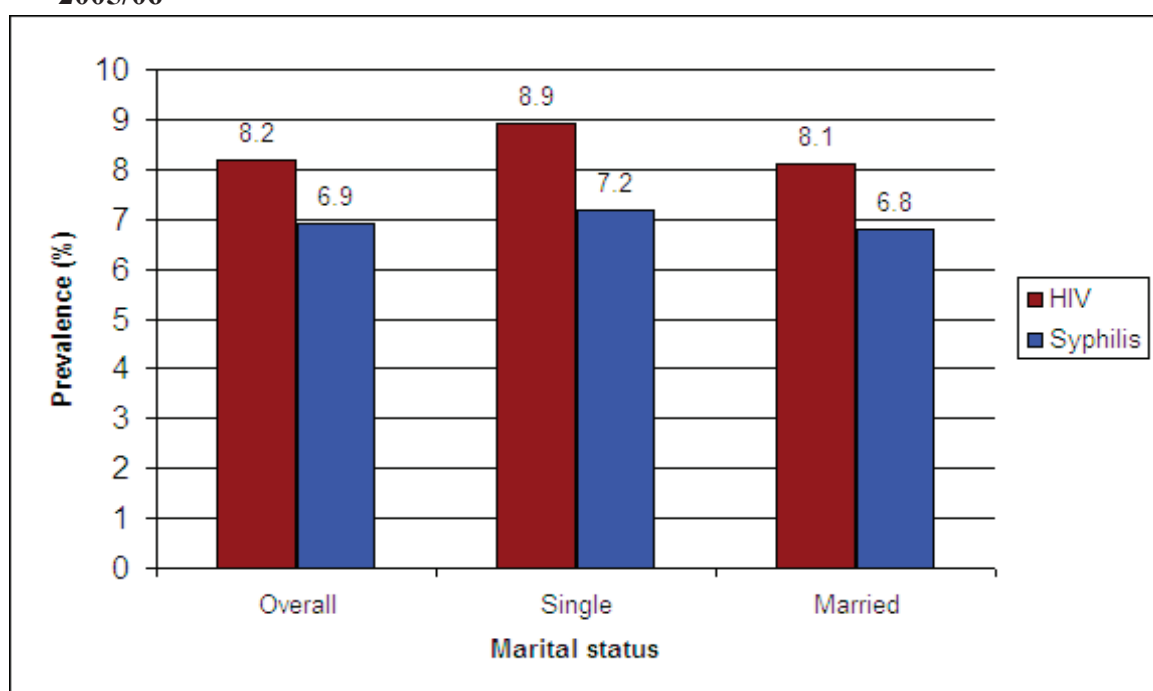
Site	HIV				Syphilis			
	Total	Positive	% prevalence	95% CI	Total	Positive	% prevalence	95% CI
Tandahimba	186	11	5.9	3.0-10.3	182	2	1.1	0.13 3.91
Likombe	150	14	8.0	5.2-15.2	143	7	5.01	1.99 9.83
Mkunya	179	8	4.5	1.9-8.6	176	8	4.55	1.98 8.76
Kigoma	1451	50	3.5	2.6-4.5	1426	38	2.66	1.89 3.64
Kibondo	223	8	3.6	1.6-7.0	210	5	2.8	0.78 5.47
Kiganamo	351	4	1.1	0.3-2.9	351	1	0.28	0.01 1.58
Kigoma	272	15	5.5	3.1-8.9	270	0	0	0.00
Keza	174	6	3.5	1.3-7.4	173	30	17.34	12.02 23.82
Nyakitonto	171	3	1.8	0.4-5.0	168	2	1.19	0.14 4.23
Ujiji	260	14	3.5	2.9-8.9	254	0	0	0.00
Lindi	1290	121	9.38	7.8-11.1	1261	62	4.92	3.79 6.26
Chumo	128	1	0.8	0.01-4.2	123	2	1.63	0.20 5.75
Mtama	154	4	2.6	0.7-6.5	154	10	6.49	3.16 11.62
Liwale	331	38	11.5	8.3-15.4	327	9	2.75	1.27 5.16
Nachingwea	259	31	12.0	8.3-16.6	256	9	3.52	1.62 6.57
Nyangao	165	11	6.7	3.4-11.6	162	16	9.88	5.75 15.54
Sokoine	117	17	14.5	8.7-22.2	109	10	9.17	4.49 16.23
Town clinic	136	19	14.0	8.7-21.0	130	6	4.62	1.71 9.78
Morogoro	2751	197	7.2	6.2-8.2	2742	178	6.49	5.60 7.48
Hembeti	90	4	4.4	1.2-11.0	88	14	15.91	8.98 25.25
Mkuyuni	178	1	0.6	0.01-3.1	178	12	6.74	3.53 11.48
Morogoro	728	57	7.8	6.0-10.0	723	22	3.04	1.92 4.57
St. Francis	418	34	8.1	5.7-11.2	417	6	1.44	0.53 3.11
Turiani	157	6	3.8	1.4-8.1	157	3	1.91	0.40 5.48
Gairo	647	33	5.1	3.5-7.1	647	84	12.98	10.49 15.82
Uhuru	533	62	11.6	9.0-14.7	532	37	6.95	4.94 9.46
Tanga	2270	147	6.5	5.5-7.6	2268	64	2.82	2.18 3.59
Handeni	475	22	4.6	2.9-6.9	475	19	4	2.43 6.18
Kwamkono	187	6	3.2	1.2-6.8	187	2	1.07	0.13 3.81
Lushoto	335	23	6.9	4.4-10.1	335	4	1.19	0.33 3.03
Magoma	159	1	0.6	0.01-3.5	159	6	3.77	1.40 8.03
Makorola	658	47	7.1	5.3-9.4	656	20	3.05	1.87 4.67
Ngamiani	456	48	10.5	7.9-13.7	456	13	2.85	1.53 4.83
Arusha	3009	183	6.1	5.3-7.0	2955	15	0.51	0.28 0.84
Ngarenaro	1360	89	6.5	5.3-8.0	1326	2	0.15	0.02 0.54
Kaloleni	825	63	7.6	5.9-9.7	825	5	0.61	0.20 1.41
Karatu	263	8	3.1	1.3-5.9	253	7	2.77	1.12 5.62
Monduli	225	8	3.6	1.5-6.9	218	1	0.46	0.01 2.53
Mbuguni	149	12	8.1	4.2-13.6	149	0	0	0.00 -!
Oldonyo Sambu	187	3	1.6	0.3-4.6	184	0	0	0.00 -

Fig 2. 2: Prevalence of HIV and syphilis infections among ANC attendees by age group, Tanzania 2005/06



In all the 15 regions, HIV prevalence was highest among women aged 25 – 34 years (9.9%), followed by those aged 35 years and above (8.1), while the 15-24 years age group had the lowest prevalence (6.8%)

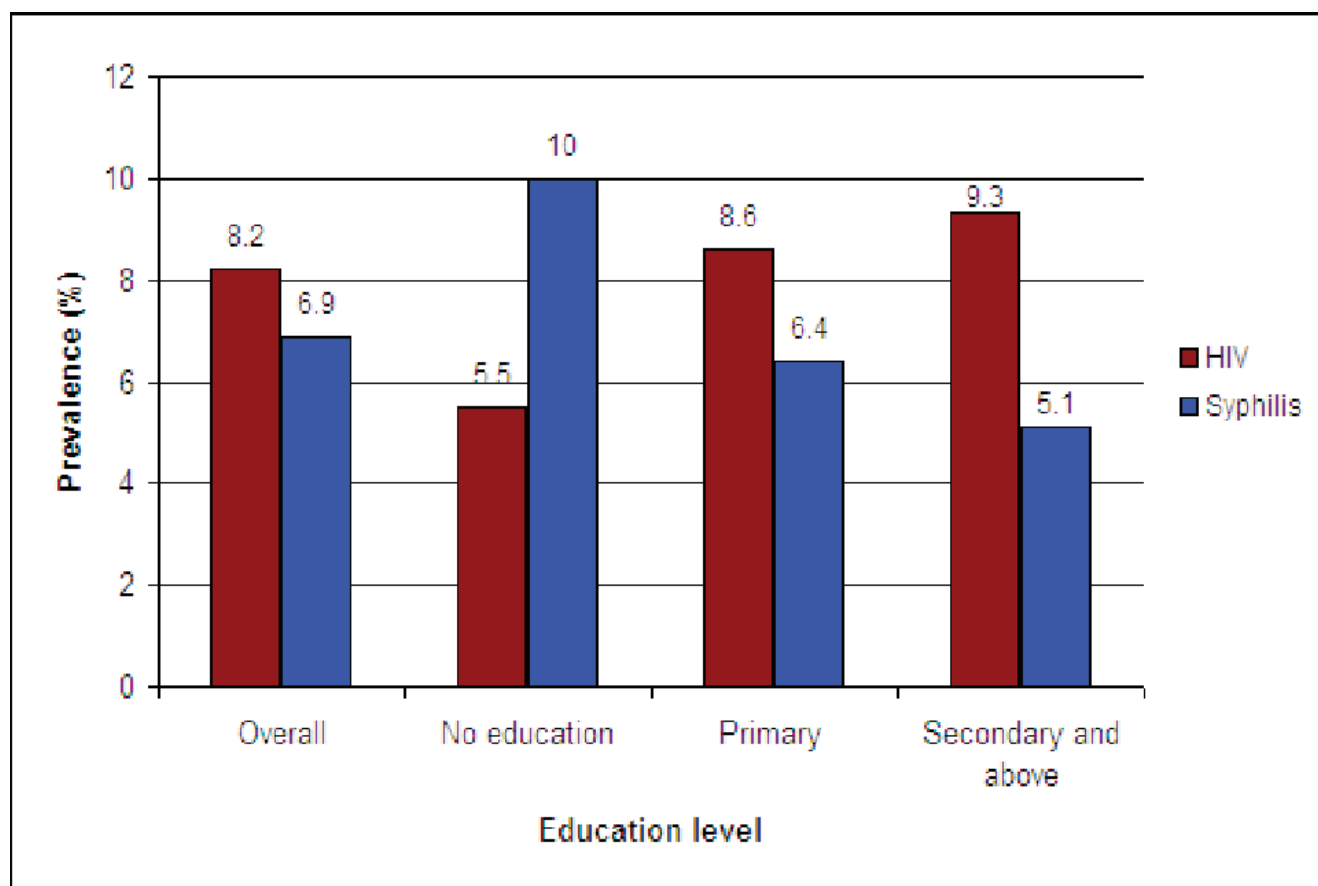
Fig 2.3: Prevalence of HIV and syphilis infection among ANC attendees by marital status, Tanzania 2005/06



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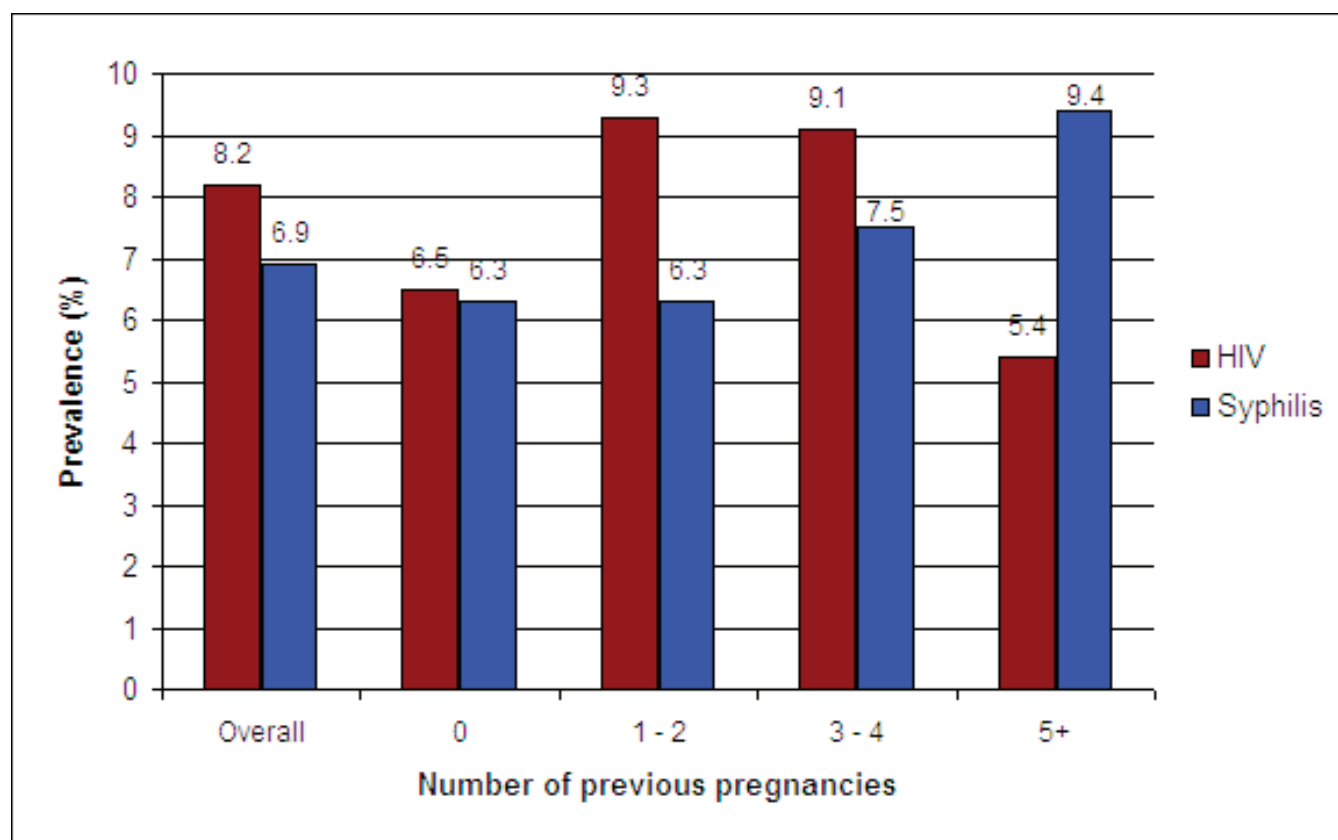
HIV prevalence among single women (8.9%) was higher than that of married women (8.1%) ($p>0.07$), However the difference was not statistically different (Figure 2.3).

Fig 2.4: Prevalence of HIV and syphilis infection among ANC attendees by level of education, Tanzania 2005/06



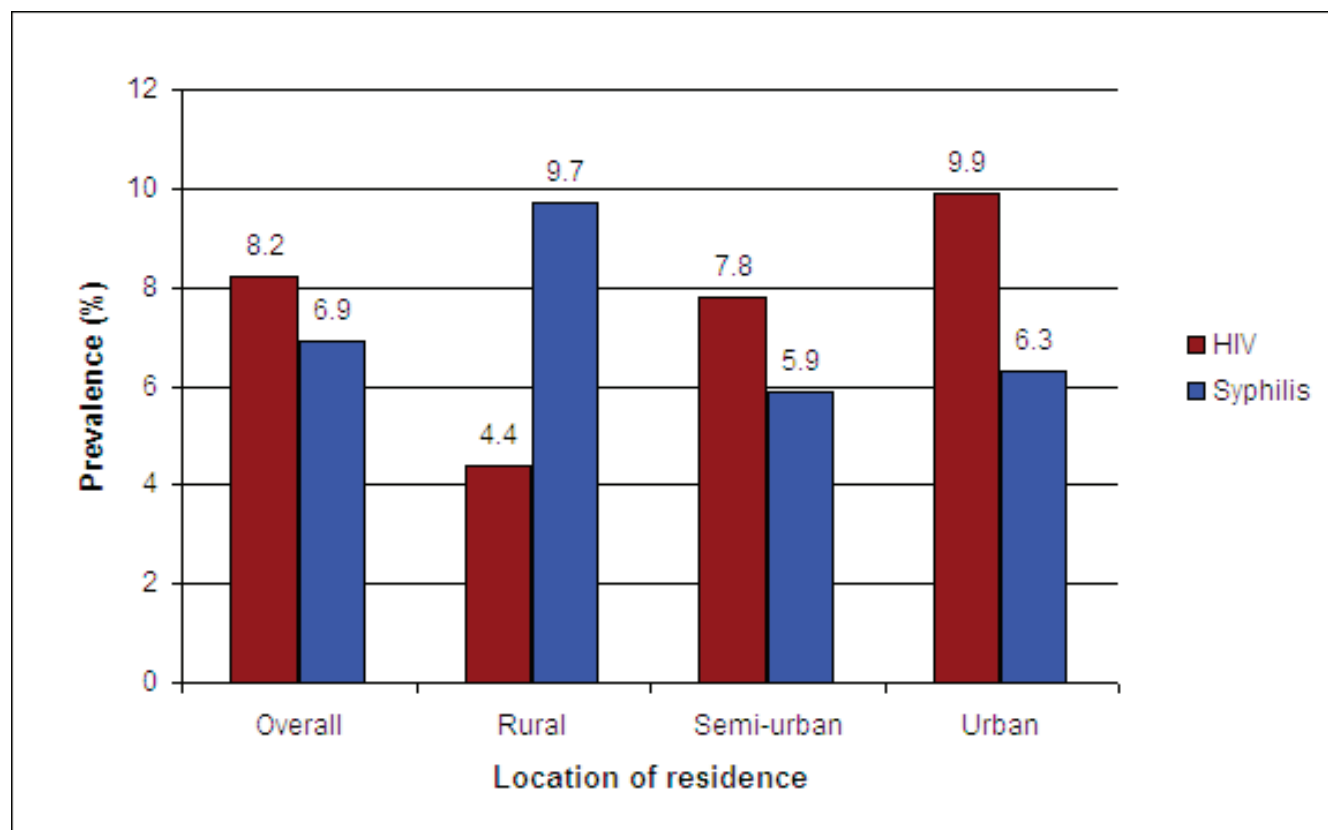
HIV prevalence increased with level of education from 5.5% among women with no education to 8.6% among those with primary education and to 9.3% among those with secondary education or more. The difference in prevalence between those with no education and those with primary education was statistically significant. ($p<0.001$) (Figure 2. 4).

Fig 2. 5: Prevalence of HIV and syphilis infections among ANC attendees by number of pregnancies, Tanzania 2005/06



The highest HIV prevalence (9.3%) was found in women having between 1 and 2 previous pregnancies while the lowest (5.4%) was found among those having more than five previous pregnancies.

Fig 2.6: Prevalence of HIV and syphilis infections among ANC attendees by location of residence, Tanzania 2005/06



2.1. 2 Syphilis prevalence

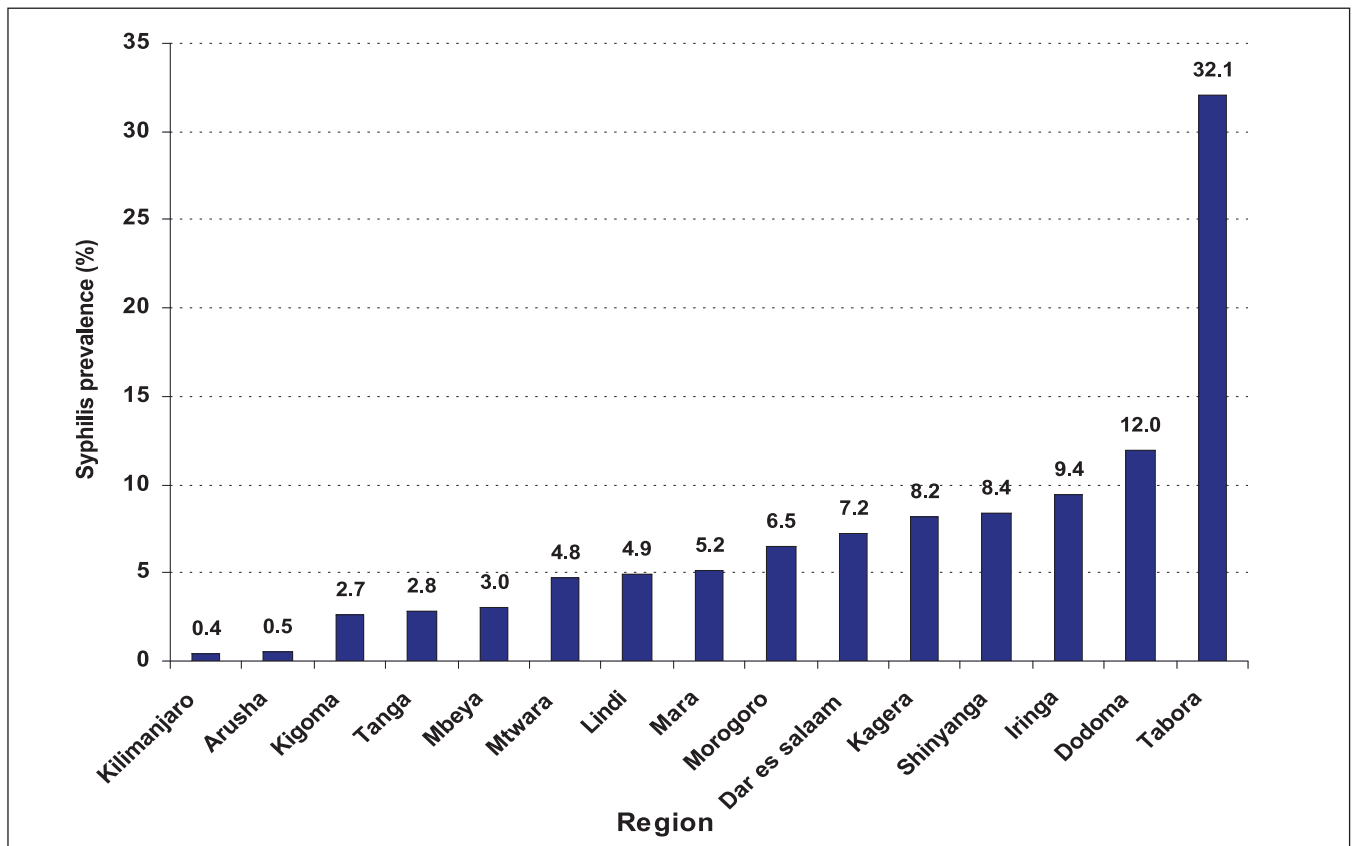
A total of 30,877 ANC attendees were tested for syphilis during the study period of whom 2,126 tested positive. The overall syphilis prevalence was therefore 6.9% (95% CI = 6.6-7.1), ranging from a low of 0.43% (95% CI = 0.16-0.9) in Kilimanjaro region to a high of 32.1% (95% CI = 29.0-34.4) in Tabora region. Selected socio-demographic variables associated with syphilis infection are reported by clinic, and are shown in Table 2.1.

The prevalence of syphilis was highest among attendees from rural clinics 9.7%, than those from urban clinics 6.3% and lowest among semi-urban clinic attendees 5.9% ($p < 0.001$). The age specific prevalence of syphilis were 6.5% for age group 15-24, 7.3% for age group 25-34 and 7.4% for age group 35-49. The observed differences in age-specific prevalence were not statistically significant ($p > 0.05$) (Figure 2.2). Marital status did not appear to have a significant influence on the prevalence of syphilis ($p > 0.05$) (Figure 2.3). Prevalence increased with the number of previous pregnancies from 6.3% among those with no previous pregnancies to 9.4% among those with more than five previous pregnancies ($p < 0.001$) Figure 2.4.

As in previous years, women with low education had a higher prevalence of syphilis than were women in the higher education levels ($p < 0.0001$).

Like for HIV infection, the prevalence of syphilis infection was higher among women residing within 5 Km from an ANC clinic than those residing more than 5 Km ($p < 0.0001$). Similarly, there was no association between syphilis infection and duration of stay at a particular residence ($p > 0.05$).

Fig 2.7: Prevalence of syphilis infection among ANC attendees by region, Tanzania 2005/06



2.1.3 HIV and syphilis co-infection

Overall, 0.74% (228/30,877) of clinic attendees were co-infected with syphilis and HIV in 2005/2006. The occurrence of syphilis was strongly associated with HIV infection ($p < 0.0001$).

2.1.4 Discussion

The HIV prevalence in this surveillance round that covered 15 regions of Tanzania was 8.2%, with a range of 4.7% in the region with the lowest prevalence to 18.2% in the region with the highest. This prevalence compares well with that reported in the last round (8.7%) involving ten regions, implying that the addition of five new regions in this round did not significantly affect the overall prevalence of HIV infection. This is due to the fact that four of the five new regions had a prevalence of between 6.1% and 7.2%.

The prevalence of HIV infection showed strong regional variations with Iringa (18.2%), Mbeya (15.9%) and Dar es Salaam (10.9%) being the most affected. Like in the previous two reports, Kagera region continued to record the lowest prevalence of HIV infection. More than a quarter (28.9%) of the 92 sites had a prevalence of more than 10%, with most of these sites (57.7%) being in the three regions with the highest HIV prevalence. Other important findings from these data include a higher HIV prevalence in women living in urban areas, aged between 25-34 years, reporting higher education level, residing within 5 Km from a particular ANC and having between 1 and 2 previous pregnancies. The prevalence of HIV infection was not associated with either marital status or duration of stay in residence.

The overall prevalence of syphilis was 6.7%, with a range of 0.43% in Kilimanjaro to 32.1% in Tabora region. Notable observations from the syphilis data include a higher syphilis prevalence in women from rural than urban

clinics and with high number of previous pregnancies and no formal education. However, there was no association with age, marital status or duration of stay at a particular address. As in the previous rounds, HIV and syphilis co-infections occurred in less than 1% of ANC attendees. However, the occurrence of the two infections was very strongly associated ($p < 0.0001$).

2.2 Trends in HIV prevalence between 2001 and 2006

2.2.1 Introduction

The aim of the surveillance program is to generate HIV infection prevalence trends so as to monitor the course of the epidemic in the general population using ANC attendees as a sentinel population. To that end the surveillance programme was intensified in 1999 after realizing that the surveillance system that began in 1990 was no longer providing the required data. The first round of the intensified survey was conducted by NACP in 2001/02, the second survey was conducted in 2003/04, and the third survey in 2005/06. Data from the three survey rounds have generated three data points, which serve as initial points for describing the HIV infection trends in future. Details of the methodology adopted in the three surveys are reported in Chapter 2 of this report as well as in the previous two ANC surveillance reports (2001/2002 and 2003/04).

The first survey round involved 24 clinic sites in 6 regions; the second involved 57 sites in 10 regions; and the third survey involved 92 sites in 15 regions. The second and third survey rounds incorporated all the 24 sites that were surveyed in the first round, making it possible to relate data of the 24 clinics collected during the three time periods.

2.2.2 HIV prevalence trends among ANC attendees of all ages during 2001 to 2006

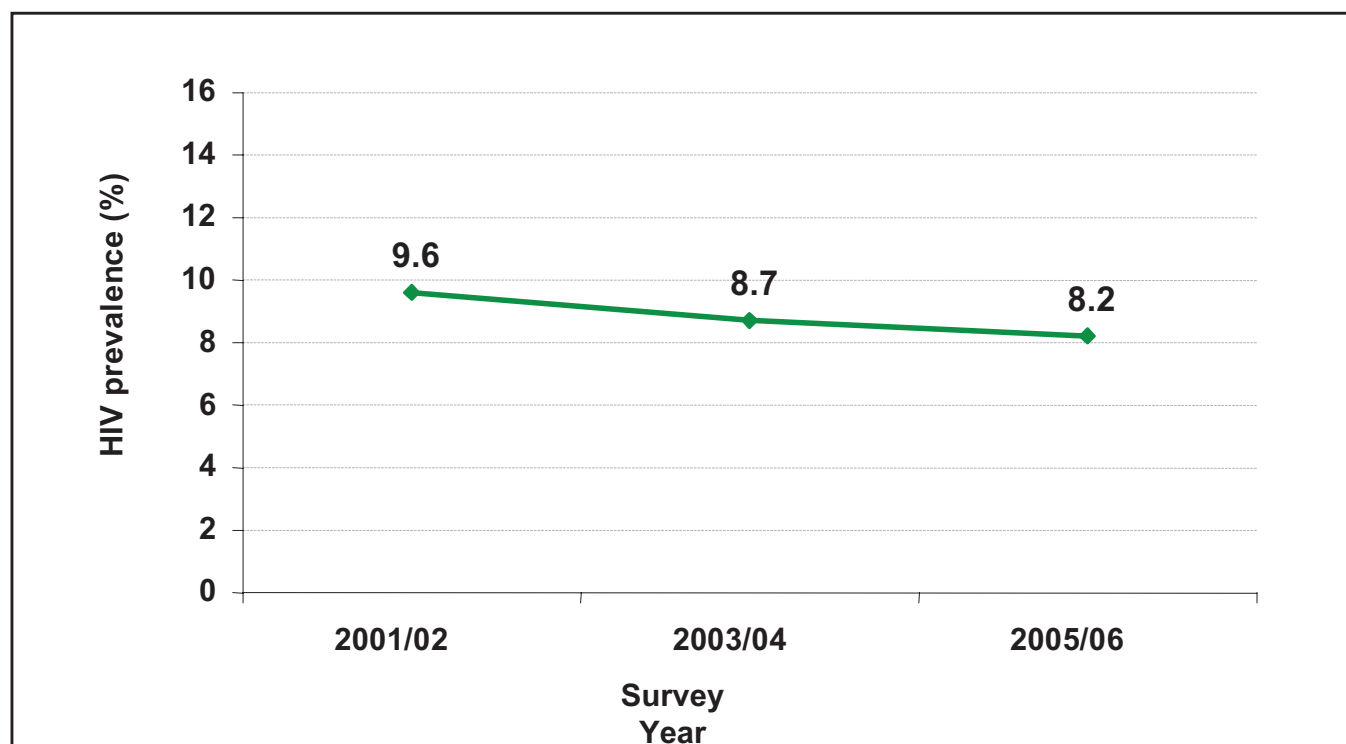
2.2.2.1 Comparisons between regions, clinics and time periods.

Prevalence estimates were made for every round of survey and included all women who were recruited into the survey for the respective years. This means that 24 sites were included in the first, 57 in the second and 92 in the third survey rounds.

Overall these estimates suggested that there is a decline in HIV prevalence, from 9.6% (95% C.I.= 8.9, 10.2) in 2001/02 to 8.7% (95% C.I.=8.3, 9.1) in 2003/04 to 8.2% (95% C.I. = 7.9, 8.5) in 2005/06. This finding is statistically significant, with $p=0.001$. (See figure 2.).

When the point estimates were calculated from the three rounds of surveys using only the 24 sites that had three data points, a similar trend was observed where the prevalence declined from 9.7% (95% C.I.= 8.9, 10.2) in 2001/02, to 8.8% (95% C.I.= 8.1- 9.4) in 2003/02 and 8.9% (95% C.I. = 8.3- 9.5) in 2005/06. This downward trend in prevalence was statistically significant at $p=0.0001$.

Fig 2.8: Trends of HIV Prevalence among ANC attendees of all ages (2001-2006)



At the regional-level, there was no significant variation in HIV prevalence, between 2001 and 2006. However at the facility-level, 5 of the 6 regions each had one site that had a statistically significant difference in HIV prevalence between 2001 and 2006. Those sites were Buguruni (Dar es Salaam region), Kimeya (Kagera region), Hedaru (Kilimanjaro region), Kiwanjampuka (Mbeya) and Tandahimba (Mtwara). Of these sites, two are urban, two are semi-urban and one is rural (Table 2.2).

SURVEILLANCE OF HIV INFECTION: FINDINGS FROM ANTENATAL CLINIC ATTENDEES

Table 2.2: Comparisons of HIV prevalence among ANC attendees by region during 2001/02, 2003/04 and 2005/06 surveys, Tanzania

Region & Sites	2001/02			2003/04			2005/06				p-value
	Total	Positive	Prevalence	Total	Positive	Prevalence	Total	Positive	Prevalence	95% CI	
Dar es salaam	1697	218	12.8	2201	236	10.7	2521	283	11.2	10.0-12.5	0.11
Buguruni	571	94	16.4	884	107	12.1	954	116	12.2	10.2-14.4	0.02
Kasorobo	280	28	10	450	43	9.6	396	40	10.1	7.3-13.5	0.96
Kigamboni	334	40	12	389	36	9.3	571	66	11.6	9.1-14.5	0.42
Oysterbay	512	56	11	478	50	10.5	600	61	10.2	7.9-12.9	0.91
Dodoma	888	54	6.1	951	58	6.1	1231	77	6.3	4.6-7.3	0.96
Bahi	173	2	1.2	181	8	4.4	268	5	1.9	0.6-4.2	0.10
Handali	204	1	0.5	228	1	0.4	209	3	1.4	0.3-4.1	0.42
Kibaigwa	181	20	11	203	18	8.9	276	23	8.3	5.4-12.2	0.60
Makole	330	32	9.8	339	31	9.1	478	46	9.6	7.1-12.6	0.96
Kagera	1494	84	5.6	1348	54	4.0	1539	68	4.4	3.4- 5.6	0.10
Bukoba	516	44	8.5	410	39	9.5	515	30	5.8	4.0-8.2	0.08
Katoro	333	10	3	245	6	2.4	263	10	3.8	1.8-6.9	0.67
Kimeya	181	11	6.1	241	2	0.8	266	14	5.3	2.9-8.6	0.00
Nkwenda	464	18	3.9	452	7	1.5	495	14	2.8	1.6-4.7	0.09
Kilimanjaro	965	61	6.3	915	47	5.1	909	55	6.1	4.5-7.8	0.521
Hedaru	294	16	5.5	221	5	2.3	306	22	7.2	4.6-10.7	0.04
Majengo	424	32	7.6	323	22	6.8	330	23	7	4.5-10.2	0.91
Masama	133	3	2.3	268	17	6.3	164	5	3.1	1.0-7.0	0.1
Umbwe	114	10	8.8	103	3	2.9	109	5	4.6	1.5-10.3	0.14
Mbeya	1369	219	16	1486	241	16.2	1441	227	15.8	13.9-17.7	0.95
Chimala	217	37	17.1	249	38	15.3	266	58	21.8	17.0-27.3	0.13
Ilembo	211	15	7.1	188	15	8	177	9	5.1	2.3-9.4	0.52
Kiwanjampaka	568	102	17.9	726	137	18.9	675	96	14.2	11.7-17.1	0.05
Kyela	373	64	17.2	323	51	15.8	323	64	19.8	15.6-24.6	0.39
Mtwara	862	61	7.1	979	57	5.8	990	59	6.0	4.6- 7.6	0.48
Ligula	305	38	12.5	389	37	9.5	339	27	8.0	5.3-11.4	0.15
Mangaka	279	12	4.3	267	13	4.9	335	18	5.37	3.2-8.4	0.82
Nanyama	125	5	4	176	6	3.4	130	3	2.31	0.5-6.5	0.73
Tandahimba	153	6	4	147	1	0.7	186	11	5.91	3.0-10.3	0.04

Overall, the HIV prevalence in 5 of the 6 regions was slightly higher in 2005/06, compared to 2003/04. One region, Mbeya, had HIV prevalence that was slightly lower in the third round compared to that in the second round i.e 15.8% in 2005/06 compared to 16.2% in 2003/04.

Fig 2.9: Trend in HIV Prevalence in 6 regions of Tanzania, 2001-2006

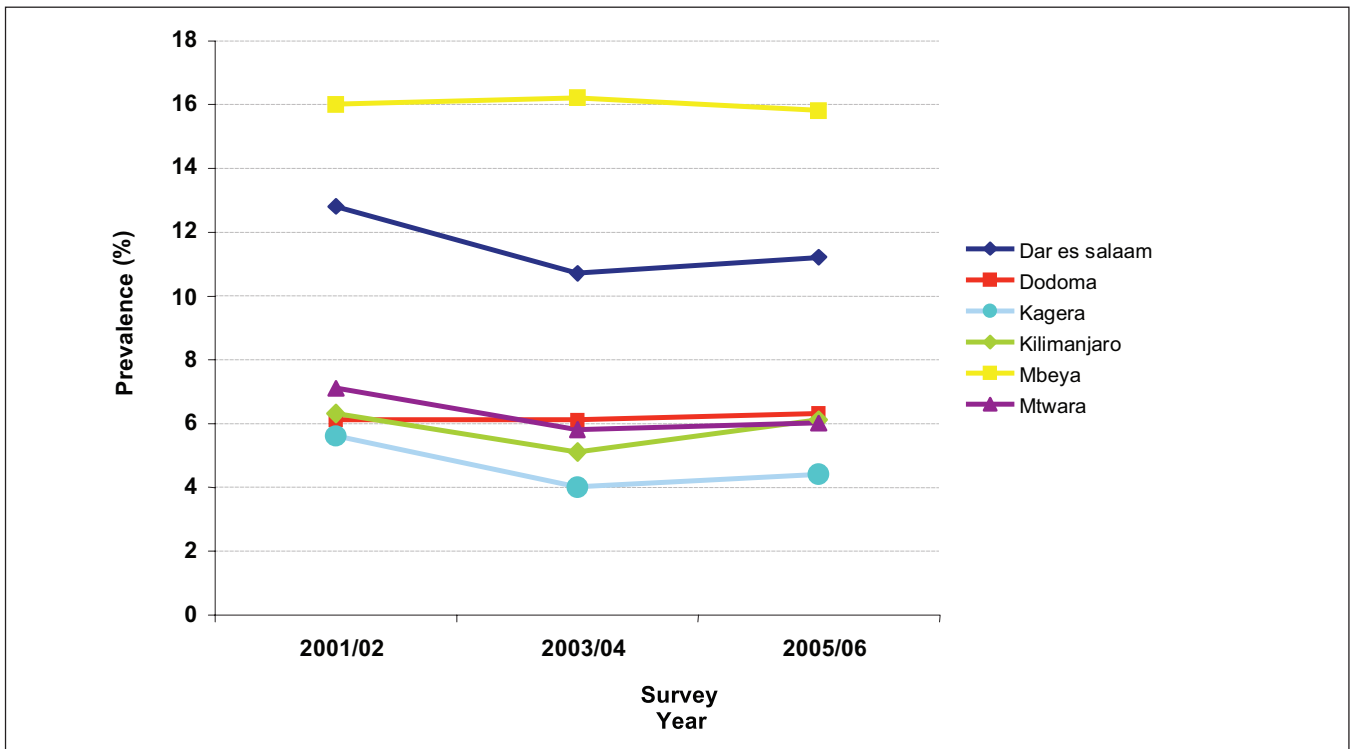
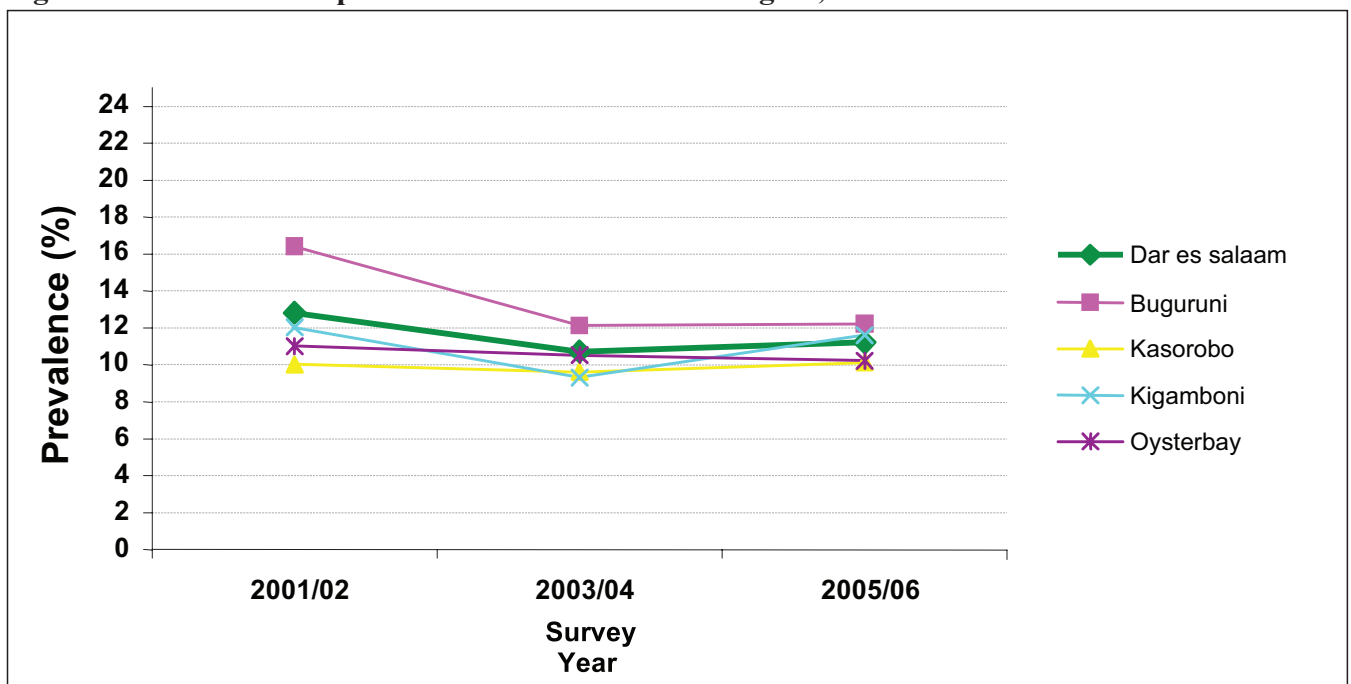


Fig 2.9 shows the trends in HIV prevalence among the 6 regions.

2.2.2.2 Trends at facility-level by region

The following 6 charts illustrate the trends in HIV prevalence, for 24 sites that have participated in the 3 survey rounds, by region.

Fig 2.10: Trends in HIV prevalence in Dar es Salaam region, 2001-2006



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In the Dar es Salaam region, there was less variation between the 4 sites, compared to the sites in the other 5 regions. All the sites in the Dar es Salaam region are categorized as urban sites. Figure 2.10 shows that, Buguruni has the highest prevalence and the biggest decline in HIV prevalence between 2001/02 and 2005/06, which is noted as statistically significant ($p=0.02$). The graph also shows that the overall HIV prevalence trend appears to follow a downward direction among the four sites, in the region.

Fig 2.11: Trends in HIV Prevalence in Dodoma region, 2001-2006

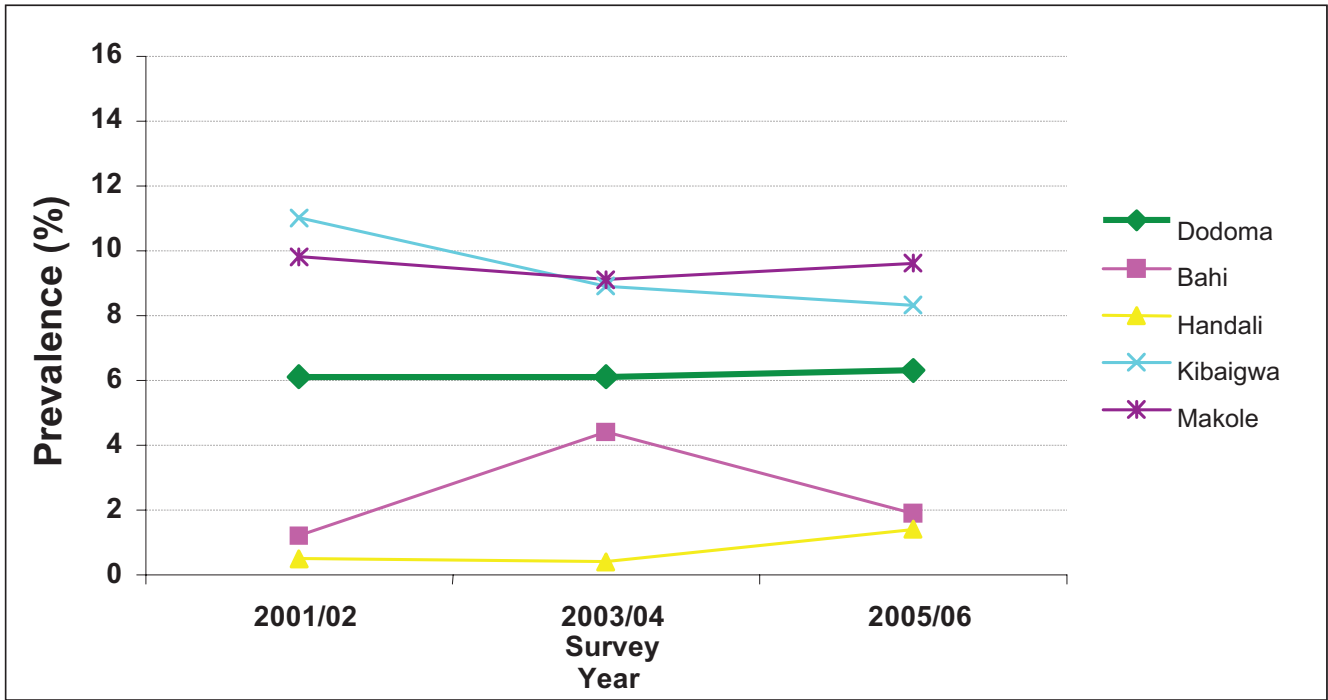
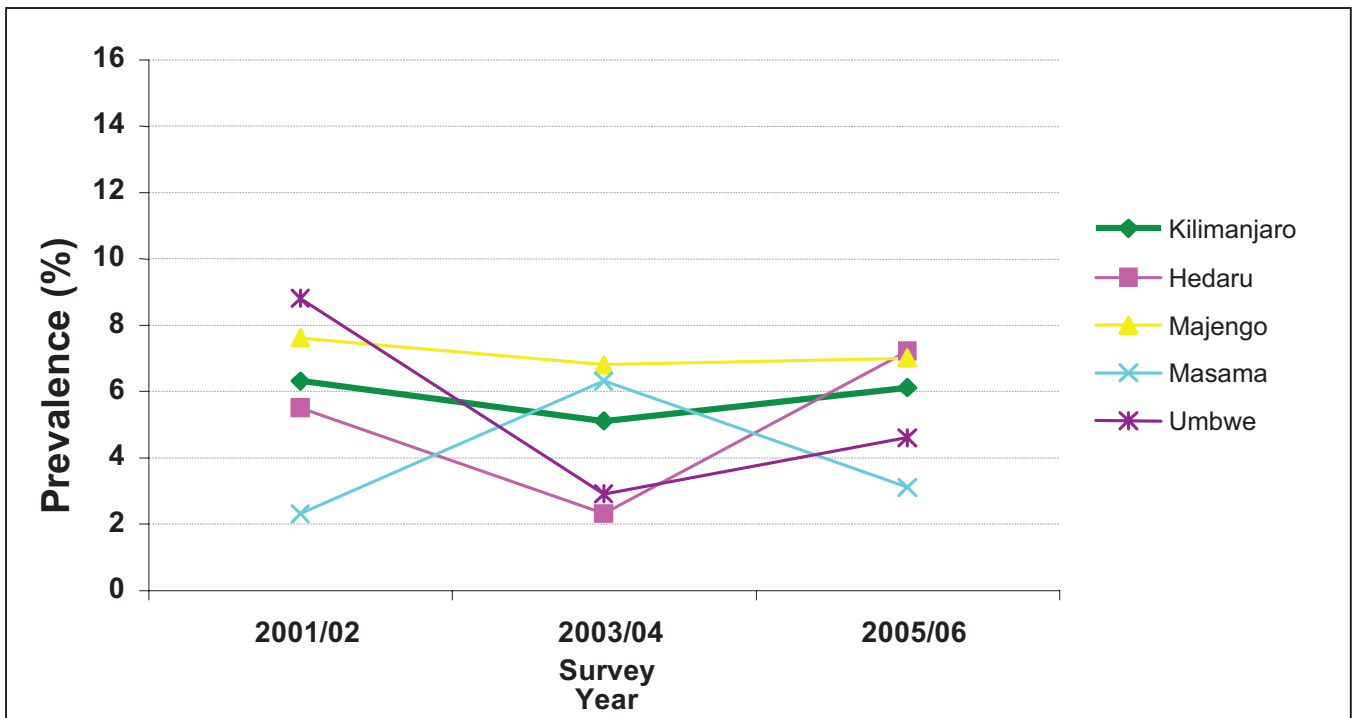


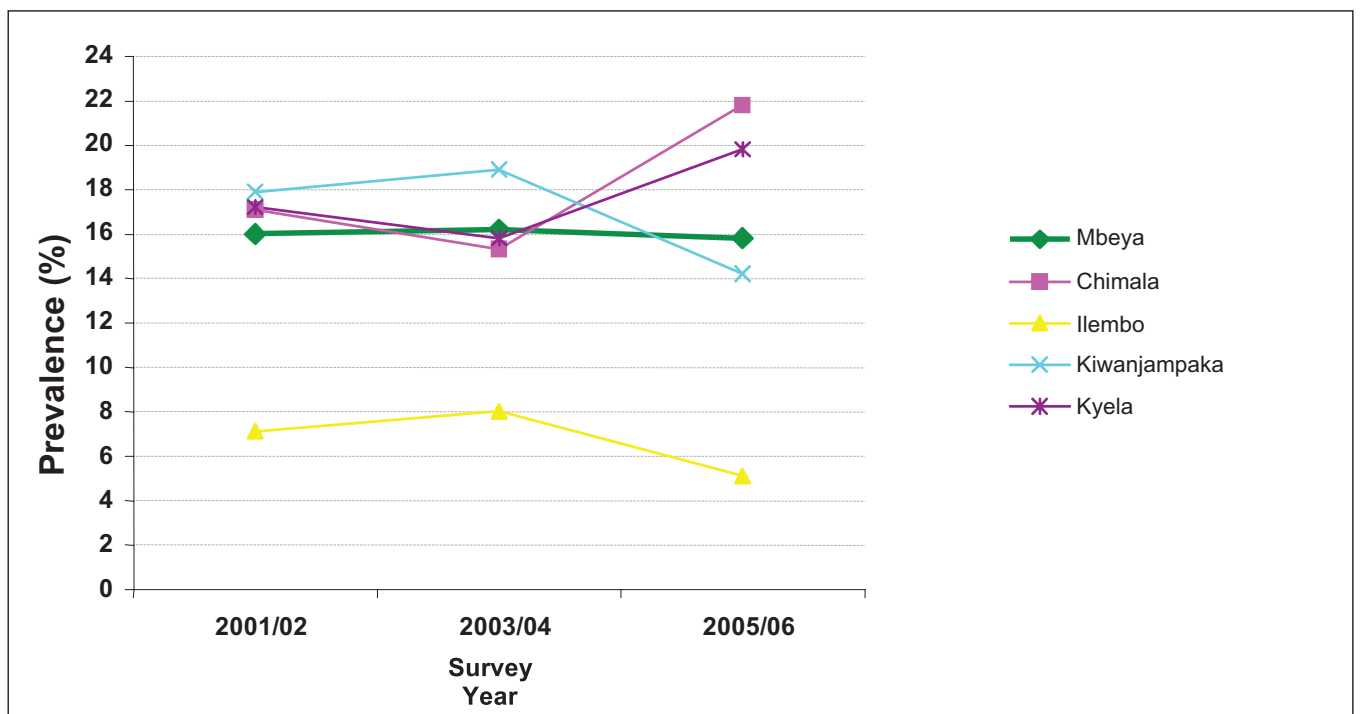
Figure 2.11 shows that there is some variation in HIV prevalence among the sites in Dodoma region. Two rural sites have reported HIV prevalence below the regional HIV prevalence and two sites (one urban and one semi-urban) have reported HIV prevalence above the regional HIV prevalence. However no sites in the region reported any statistically significant change in HIV prevalence between 2001 and 2006.

Fig 2.12: Trends in HIV Prevalence in Kilimanjaro region, 2001-2006



Kilimanjaro region shows had variation in HIV prevalence among the sites (see figure 2.12). Masama is the only site in the Kilimanjaro that had an increase in HIV prevalence between 2001/02 and 2003/04. However, it is the only site that had decrease in HIV prevalence between 2003/04 and 2005/06. Hedaru, a semi-urban site, had a statistically significant increase in HIV prevalence between 2001 and 2006 ($p=0.04$).

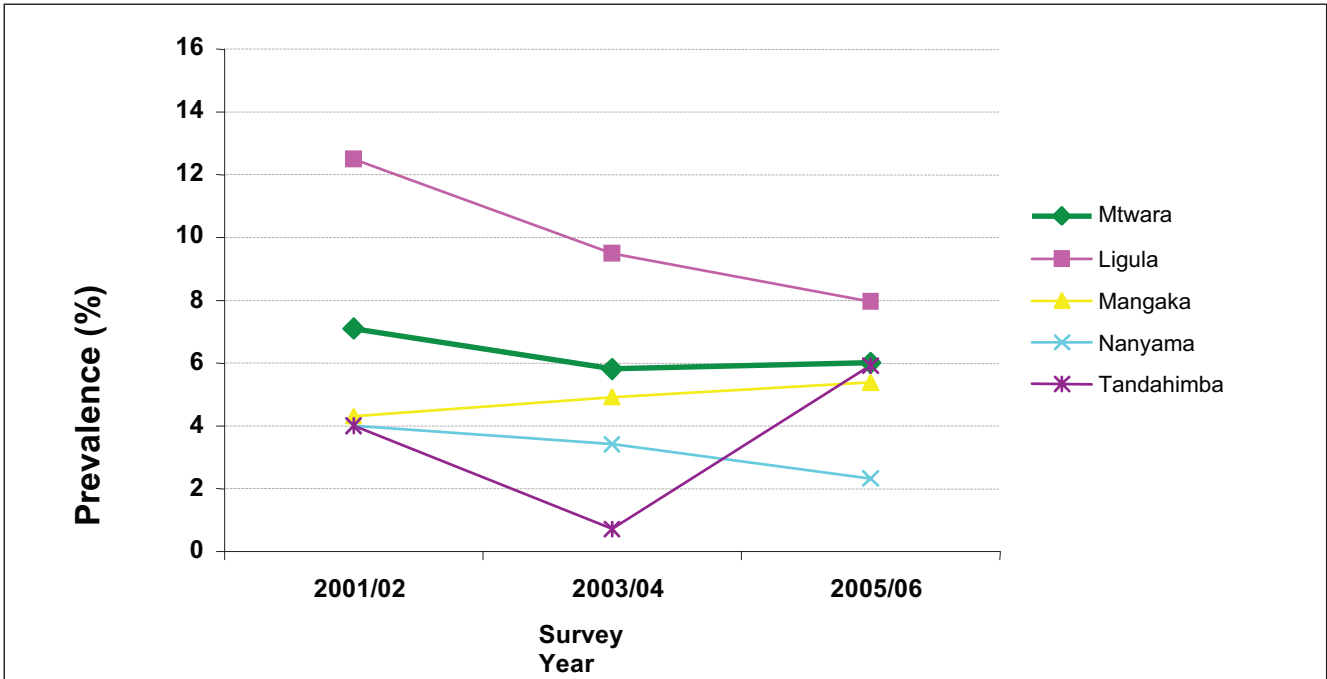
Fig 2.13.: Trends in HIV prevalence in Mbeya region, 2001-2006



SURVEILLANCE OF HIV INFECTION: FINDINGS FROM ANTENATAL CLINIC ATTENDEES

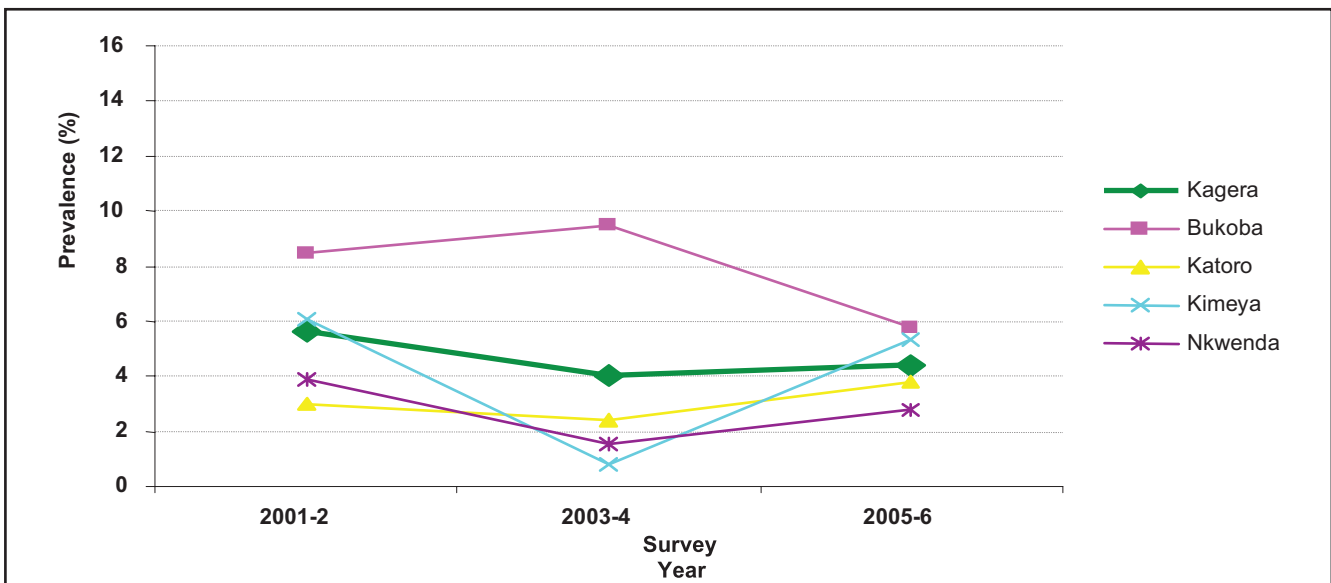
In the Mbeya region, Ilembo is the only site that had HIV prevalence among clinic attendees that is much lower than the other sites and the regional HIV prevalence (see figure 2.13). Yet it appears to have similar trend in HIV prevalence as that of Kiwanjampaka. Ilembo is a rural site and Kiwanjampaka is an urban site.

Fig 2.14: Trends in HIV prevalence in Mtwara region, 2001-2006



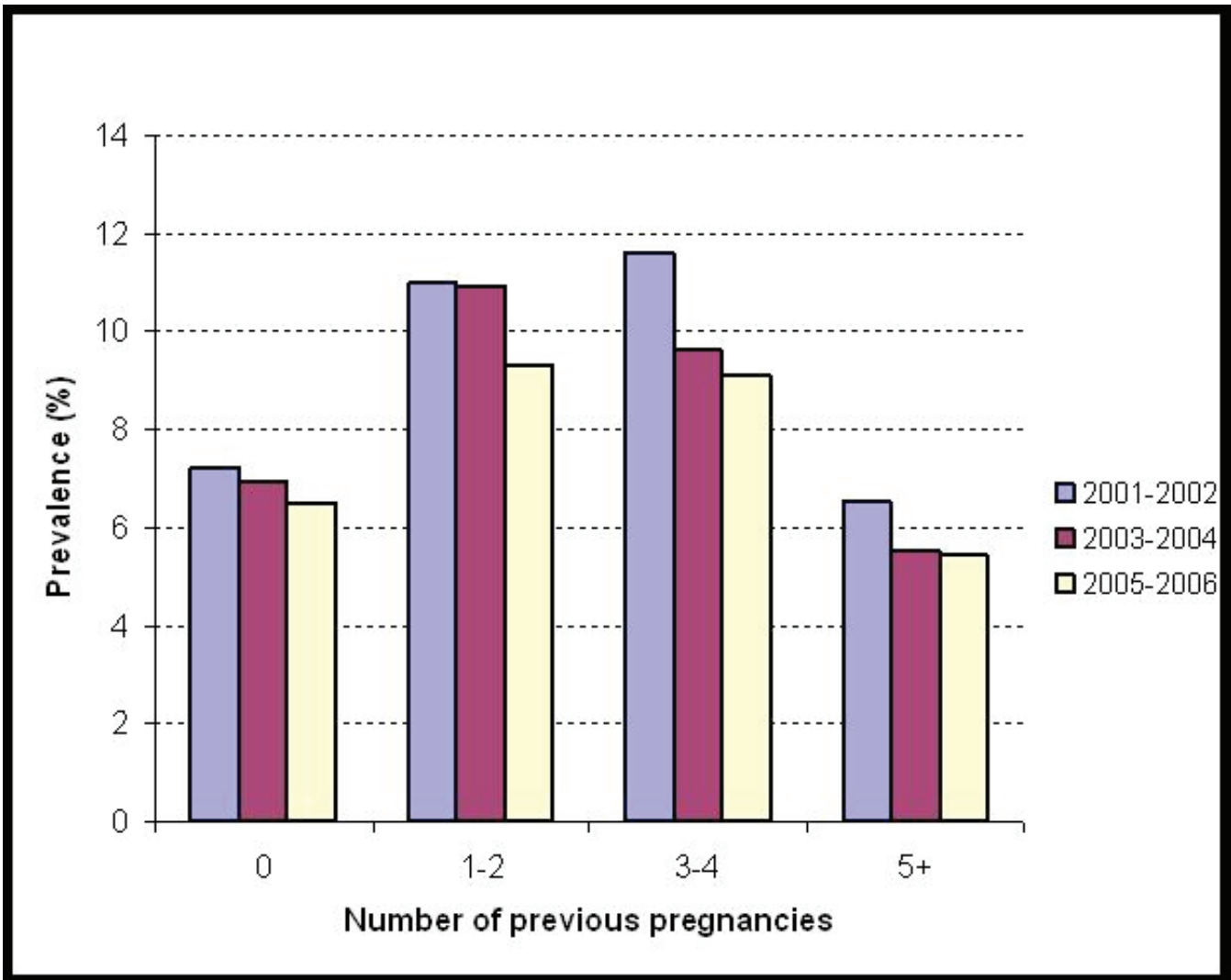
In the Mtwara region, there is also a significant variation between the 4 sites (see figure 2.14). In 2001/02 round, three sites had a very similar HIV prevalence, but all three sites had HIV prevalence less than the regional HIV prevalence. Two of the sites are semi-urban while one rural. Tandahimba had the largest increase in the HIV prevalence between 2003/04 and 2005/06, which was statistically significant ($p=0.04$). Ligula consistently reported an HIV prevalence that was greater than the regional HIV prevalence but declining with time.

Fig 2.15: Trends in HIV Prevalence in Kagera region, 2001-2006



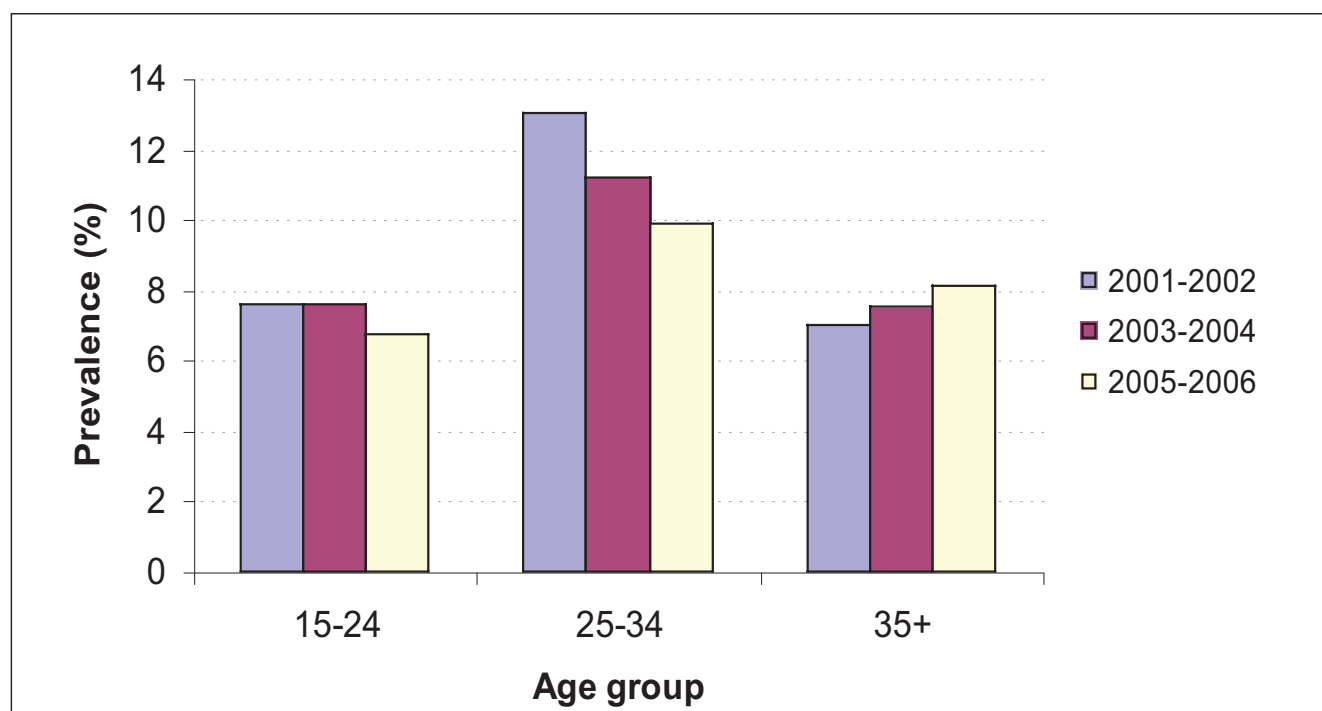
In the Kagera region, all the sites reported lower HIV prevalence in 2005/6 as compared to 2001/02 round (see figure 2.15). Bukoba was the only site that had HIV prevalence that was consistently higher than the regional HIV prevalence. This is the only site categorized as urban which has high volume of clients. Three of the sites reported HIV prevalence that was slightly higher in 2005/06 as compared to 2003/04. Kimeya, a rural site, was the only site that had statistically significant decrease in HIV prevalence ($p=0.001$) between 2001 and 2006.

Fig 2.16: Comparison of HIV Prevalence among ANC attendees according to number of previous pregnancies between 2001 and 2006



Throughout the nation, there was a decline in HIV prevalence between 2001/2 and 2005/6, irrespective of the number of previous pregnancies. Generally, the highest magnitude is consistently observed between 1st and 4th pregnancy. This may be the women who are 25 years and above and are exposed to repeated risk of HIV exposure through unprotected sex.

Fig 2.17: Comparisons of age groups specific HIV Prevalence among ANC attendees between 2001-2006



The age group 25-34 years was at the highest risk of infection for all the three rounds of survey. The age specific prevalence was stable for the first two rounds of survey and decreased for the last round of survey for the age group 15-24. A similar trend was observed for the age group 25-34 years.

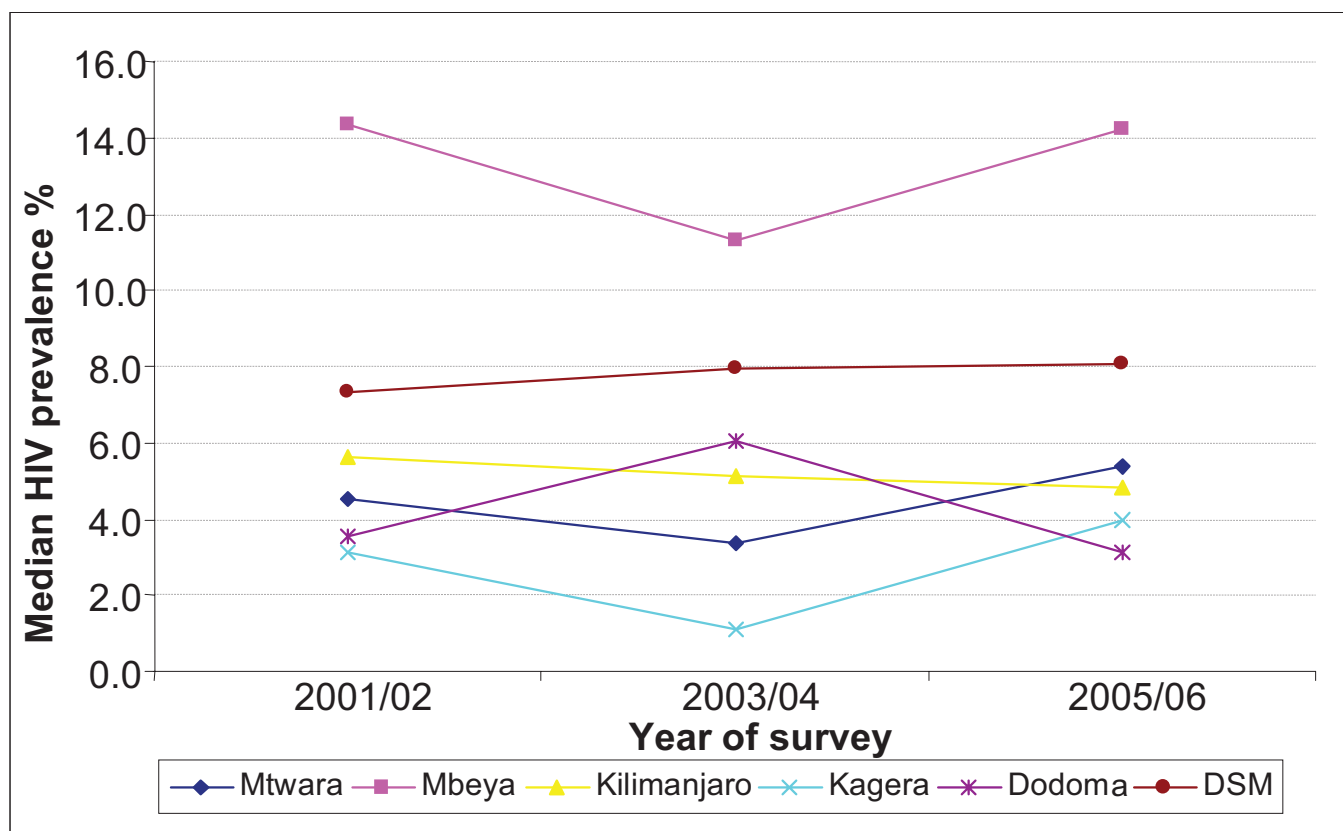
2.3 HIV prevalence trends among ANC attendees aged 15 - 24 years

Due to wide range in prevalence estimates in various locations within a region, the median prevalence has been presented at a regional level in addition to site specific prevalence estimates. Since prevalence in the youngest age group (15 - 24 years) represents new infection and hence approximates incidence, median prevalence data presentation will concentrate on this age group, table 2.3.

Fig 2.17 shows the median prevalence among ANC attendees aged 15-24 years in 6 regions. The highest median prevalence over time in descending order is noted in Mbeya, Dar es Salaam and Kilimanjaro. Kagera was having the lowest prevalence between 2001 -2004 and replaced by Dodoma in 2005/06.

No specific pattern by site is noted except in Kilimanjaro where there is a tendency of decreasing prevalence. All patterns however, were not statistically significant $p=0.1$.

Fig 2.18: Region specific trends of median HIV prevalence among ANC attendees aged 15-24 years; Tanzania 2001 - 2006



The urban population consistently had the highest median prevalence while the rural population had the lowest over time. A tendency for HIV infection to decrease in these two populations is noted over time. The Semi-urban population prevalence lies between the two without a specific pattern, implying that the Semi-urban population has characteristics of the two populations, in terms of risk of HIV infection, Figure 2.19.

Fig 2.19: Trend of median HIV prevalence among ANC attendees aged 15-24 years by residence location; Tanzania 2001 - 2006

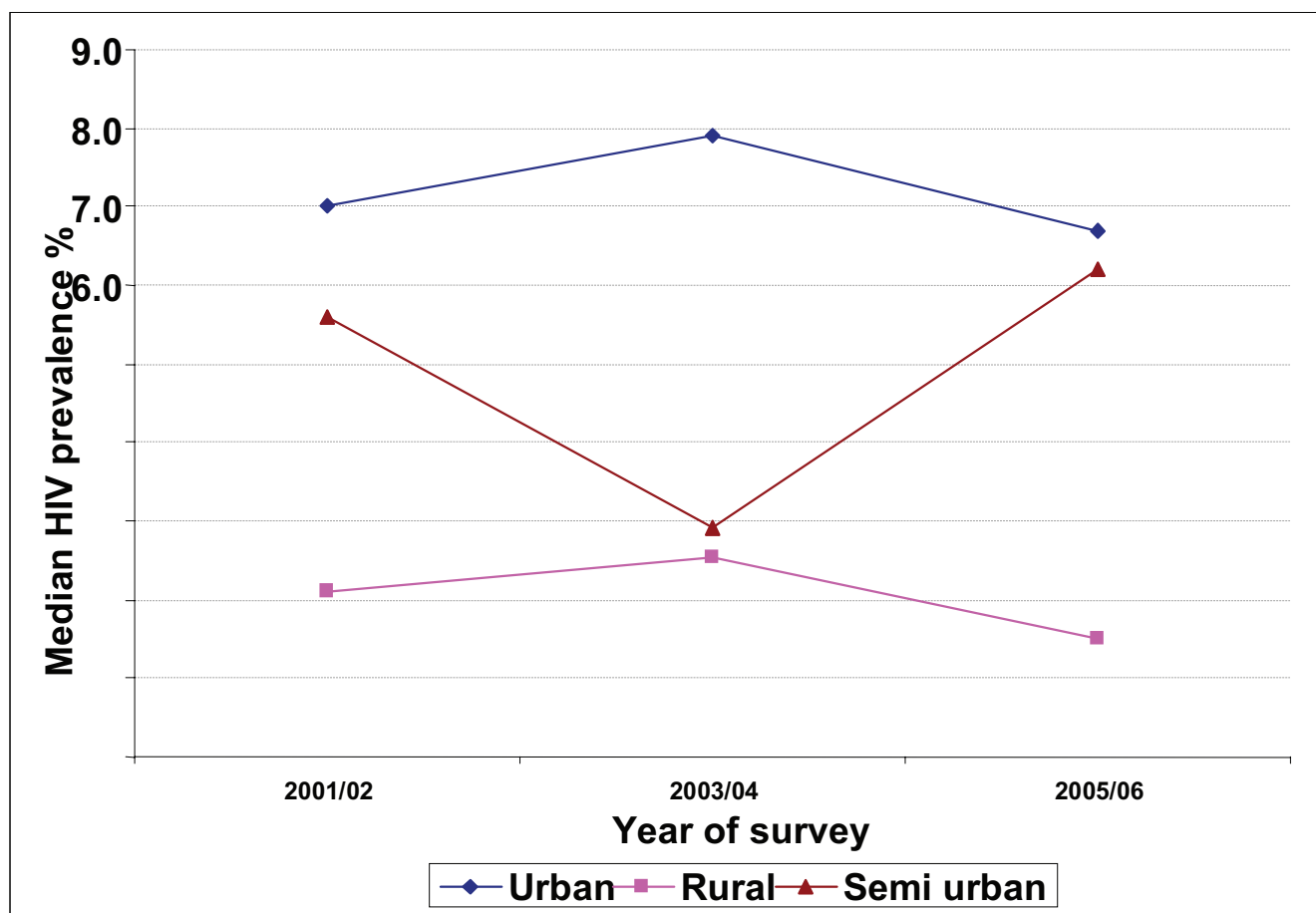


Table 2.3: Prevalence of HIV infection among ANC attendees aged 15-24 years by ANC sites and regions; Tanzania 2001/02 – 2005/06

Region/Site	2001/02	2003/04	2005/06
<i>Dar es Slaam</i>			
Buguruni	12.0	8.2	9.4
Kigamboni	6.1	9.1	6.7
MICO Kasorobo	6.7	7.7	4.0
Oyesterbay	7.9	6.1	9.7
<i>Dar es Salaam median prevalence</i>	7.3	8.0	8.1
Dodoma			
Makole	9.0	8.0	6.9
Bahi	1.5	4.1	0.0
Handali	0.0	0.9	1.1
Kibaigwa	5.6	8.3	5.1
Dodoma median prevalence	3.6	6.1	3.1
<i>Kagera</i>			
Bukoba	6.5	6.9	4.4
Kimeya	2.7	0.0	7.2
Nkwenda	3.5	1.3	1.9
Katoro	1.8	0.9	3.5
Kagera median prevalence	3.1	1.1	4.0
<i>Kilimanjaro</i>			
Majengo	6.4	7.9	4.8
Masama	1.3	9.2	4.8
Umbwe	6.7	0.0	0.0
Hedaru	4.8	2.4	7.6
Kilimanjaro median prevalence	5.6	5.2	4.8
<i>Mbeya</i>			
Kiwanja Mpaka	13.1	16.1	11.2
Chimala	15.6	8.6	17.3
Kyela	16.0	14.0	18.2
Ilembo	5.8	8.2	4.3
Mbeya median prevalence	14.4	11.3	14.3
<i>Mtwara</i>			
Ligula	7.0	6.3	6.6
Nanyamba	1.5	3.8	0.0
Mangaka	6.0	2.9	4.6
Tandahimba	3.0	0.0	6.2
Mtwara median prevalence	4.5	3.4	5.4

In order to obtain estimates of site specific HIV prevalence, crude prevalence's were calculated by site for the three time period. Table 2.3 shows prevalence estimated for the three points from the 24 participating sites. Prevalence ranged from zero percent in some parts of Dodoma to as high as 18.2 % in some parts of Mbeya.

Discussion

Overall this analysis has revealed that there is a statistically significant ($p=0.001$) decline in HIV prevalence, from 9.6% (95% C.I= 8.9, 10.2) in 2001/2 to 8.7% (95% C.I=8.3, 9.1) in 2003/4 to 8.2% (95% C.I.= 7.9, 8.5) in 2005/6 in the 24 sites surveyed consistently between 2001 to 2006. The analysis has also shown that there is no significant variation of HIV prevalence, between 2001-2006 at regional-level. The decline in prevalence noted in the trend analysis is therefore partly attributable to the significant changes in HIV prevalence that occurred during the period 2001-2006 in some of the facilities in the surveyed sites, including Buguruni (Dar es Salaam region), Kimeya (Kagera region), Hedaru (Kilimanjaro region), Kiwanjampuka (Mbeya) and Tandahimba (Mtwara). In addition the HIV prevalence in the 6 regions was lower during 2003/2004 compared to 2001/2002

Prevalence in the age group 15 - 24 years approximates new infection in the general population since individuals in this age group are just becoming sexually active and almost free from the disease as they enter this age group. The trend patterns in this age group are either stable or declining indicating that the rate of new infection is low. Describe this general national overview however, some regions still show high rate of infection especially Mbeya region followed by Dar es Ssalaam and Kilimanjaro. Since the surveillance program currently does not cover the entire country there may be regions with higher prevalence estimates beyond those observed in the said 3 regions. Since surveillance is expanding to cover greater parts of the country this problem may be considered temporary.

The surveillance program using ANC attendees reports the trend of the epidemic in the general population; specific studies are however required to illustrate the determinate of such trend.

3

SURVEILLANCE OF HIV INFECTION AMONG BLOOD DONORS

3.1 Introduction

Persons donating blood in health care facilities constitute the surveillance population of blood donors. After donation or before blood is given to patients, screening for HIV infection is done in order to ensure provision of safe blood. HIV screening of the potential transfusion blood has been in place since 1987. This service which was originally limited to regional and referral hospitals was later extended to cover all health care facilities providing blood transfusion services so as to ensure provision of safe blood.

Methods

During 2005, information was collected from a total of 167 health care facilities distributed throughout the 21 regions of Tanzania mainland. Screening for HIV infection is done by using either simple/rapid tests in almost all health care facilities except a few regional, referral and some missionary hospitals where ELISA testing strategy is used. Test results and blood donor demographic information (age, sex, residence and type of donor) are filled in the blood donor HIV register forms made available to the health care facilities from the NACP through the RMOs. Dully filled forms are then returned to the NACP for data entry, cleaning, analysis and reporting.

Characteristics of blood donors

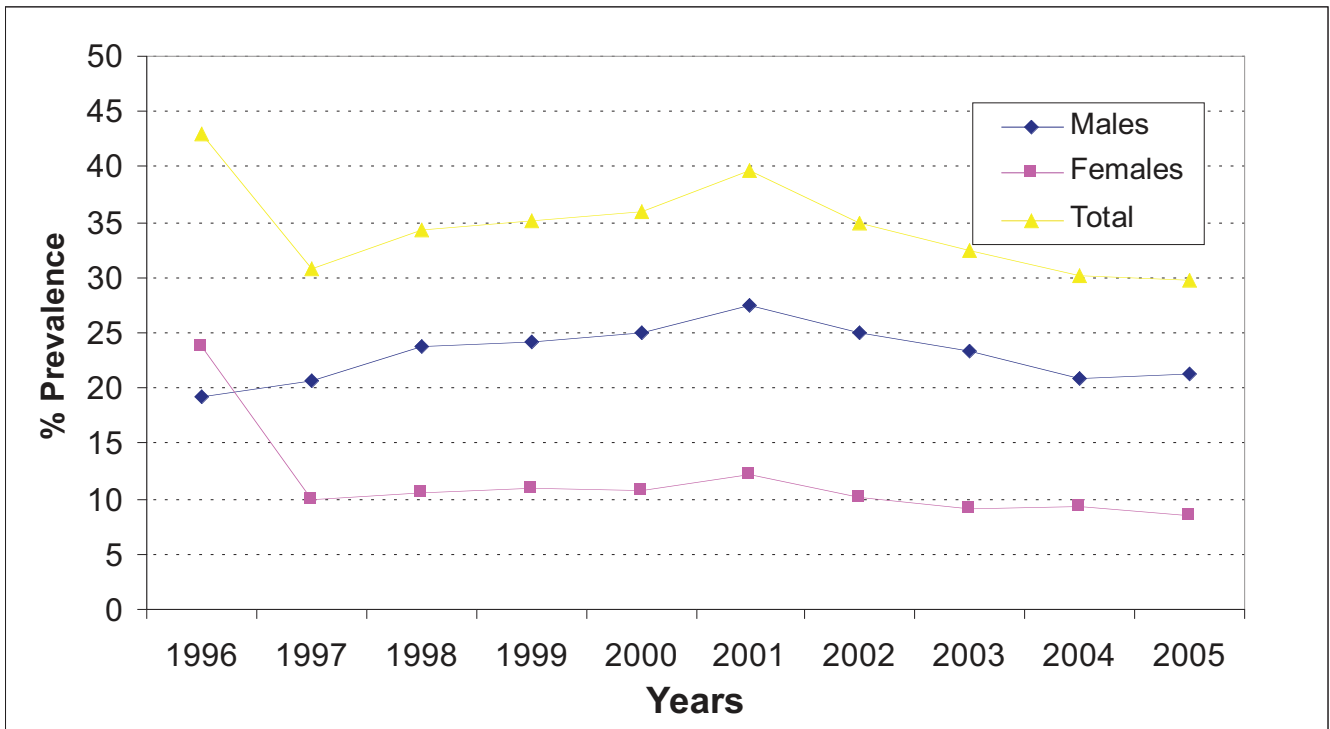
A total of 129,203 individuals donated blood during the year 2005. The majority of blood donors were in the age group 25-34 years (42.7%) followed by 35 years plus (31.1%) and 15-24 years (26.2%). The majority of donors were males constituting up to (82.9%) of all donors the rest being females. As it has been for the past years, the majority of blood donors were relatives of patients (98.9%), the rest being institutional (0.5%), paid donors (0.5%). Institutional donors were from secondary schools, colleges and a few from prisons.

3.2 Trends of HIV infection among blood donors

From a total of 129,203 blood donors during 2005, 10,235 individuals were found to be HIV positive resulting into an overall prevalence of 7.9% (95%CI=7.87-7.92). There were no difference between the prevalence of HIV among blood donors for the year 2004 (7.7%) and that of year 2005 (7.9%) (p-value = 0.05).

The sex specific prevalence as in the previous year was higher among females at 10.8% (N=22,146) compared to that of 7.3% (N=107,075) among males (p<0.0001). There was no difference in sex specific prevalence estimates when the figures for 2005 were compared to those of 2004 for both males and females. Figure 3.1 below details the trends over a ten year period.

Fig. 3.1 Prevalence of HIV Infection among Blood Donors year 1996- 2005



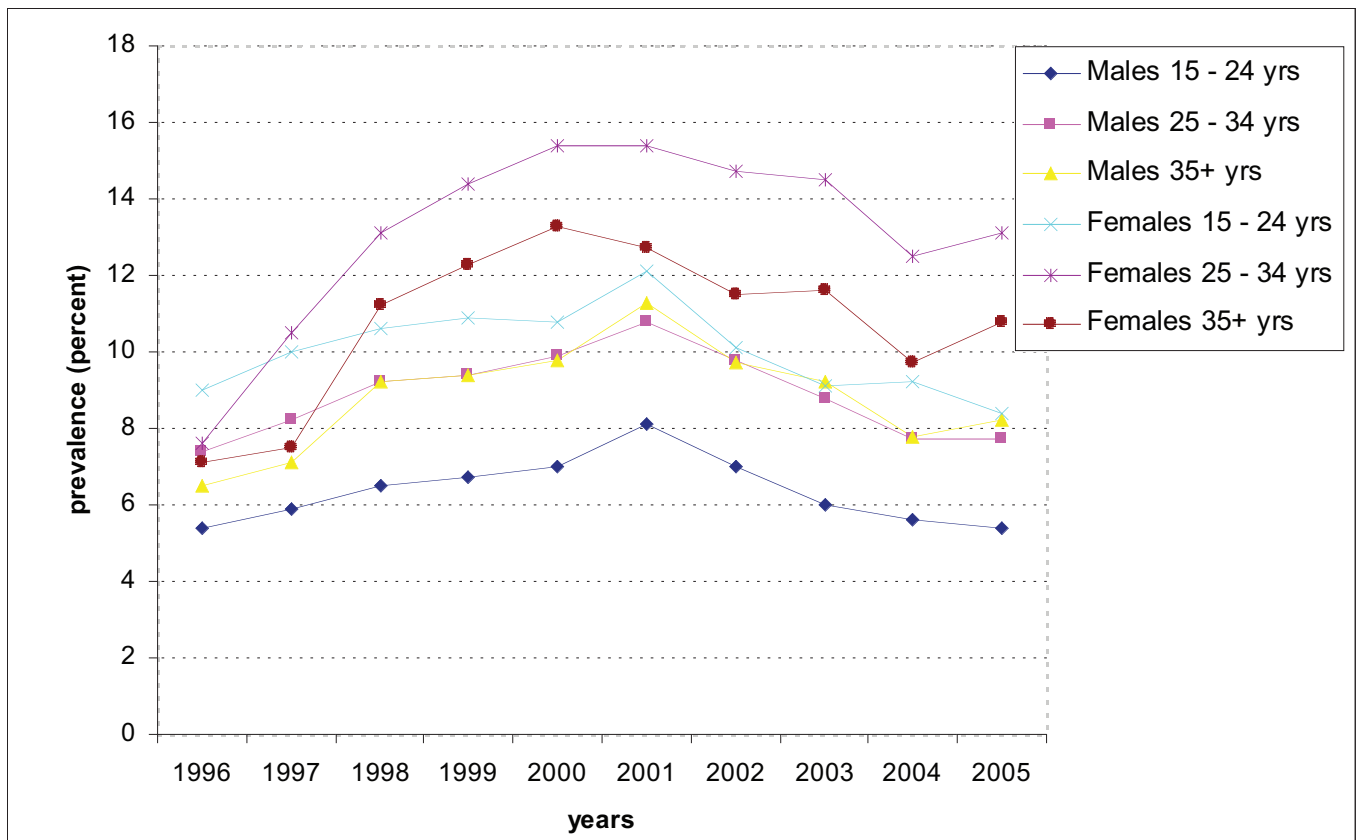
Prevalence varied by donor type, it was highest among relative donors at 7.9% (N=127,813) followed by institutional donors at 6.9% (N=649) and was lowest among paid donors at 4.1% (N=741), $p < 0.0005$.

3.2.1 Age and sex specific HIV infection trends

The following line graph illustrates trends in the age and sex specific prevalence of HIV infection among the blood donor population for the years 1996 to 2005.

SURVEILLANCE POPULATION: BLOOD DONORS

Fig 3.2: Age and sex specific trends of HIV infection, Tanzania, 1996 - 2005



Between 2004 and 2005, prevalence in all age groups showed an increasing trend except among females and males in the age group 15-24 years whose prevalence showed slight decrease and males 25-34 years whose prevalence remained constant. This is different from year 2004 where prevalence for most age groups was decreasing.

For ease of presentation, figure 3.2 displays information covering a 10 year age interval using a common scale to facilitate comparisons. This is a further breakdown of the sex and age specific trends.

Over a 15 year period, a gradual rise in the prevalence of HIV infection is noted with increasing age especially after the year 1994 to a peak level during 2000 and 2001. From the year 2002 a gradual descent is noted for most age-groups.

Referring to figure 3.2 a decrease in prevalence was noted among females and males aged 15-24 years during 2004 and 2005.

The following figures 3.3-3.7 show the age and sex specific prevalence trends of HIV infection among blood donors for a 15 years period from 1991 to 2005. Data is presented in five year age-groups covering the age range of 15 to 54 years. Different from last year there is rise HIV prevalence among females aged 25 - 34 and 35+ years. There was no difference in prevalence for the year 2004 and 2005 among males age group 25 - 34 and 35+. Overall prevalence among females were higher than those among males for all age groups.

SURVEILLANCE POPULATION: BLOOD DONORS

Fig 3.3 Age and sex specific prevalence of HIV infection among blood donors aged 15-24 years, 1991-2005

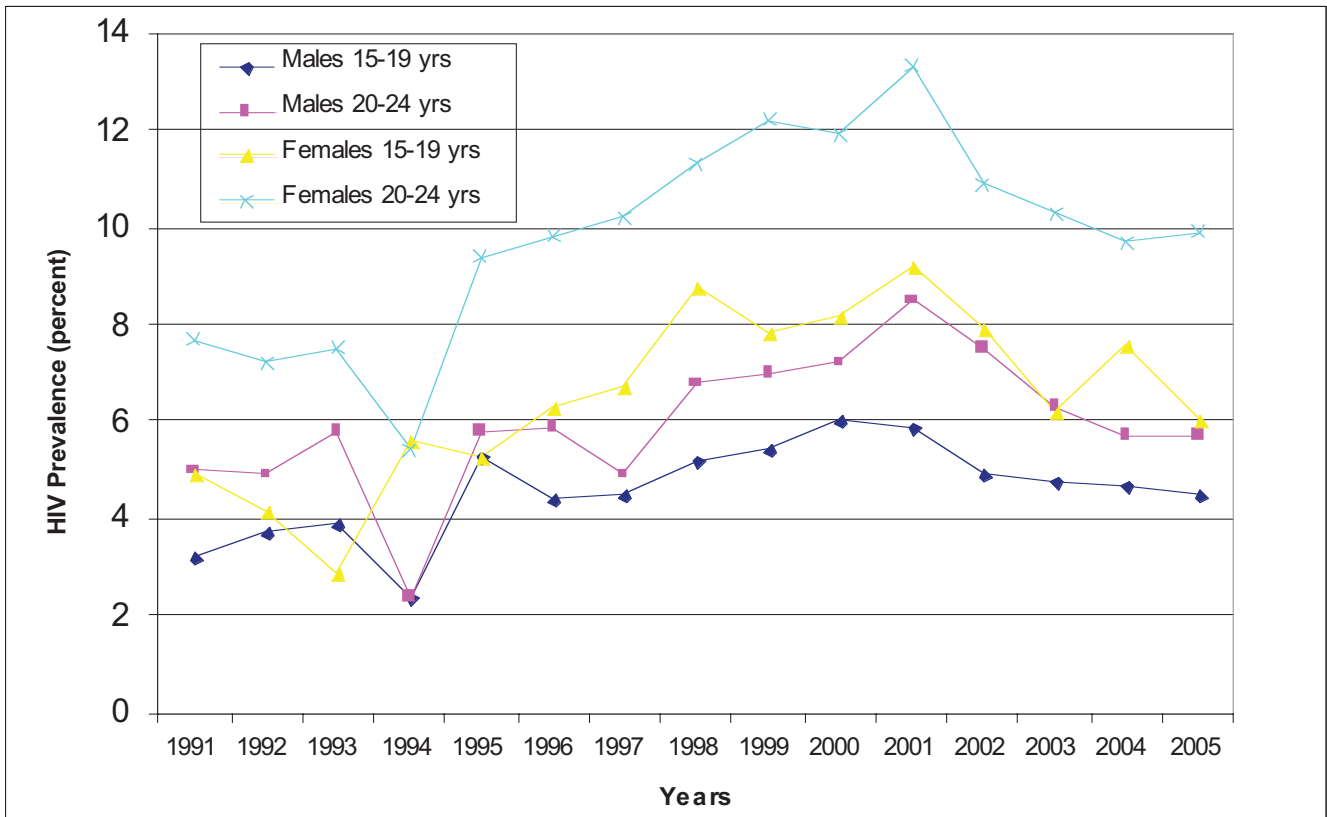
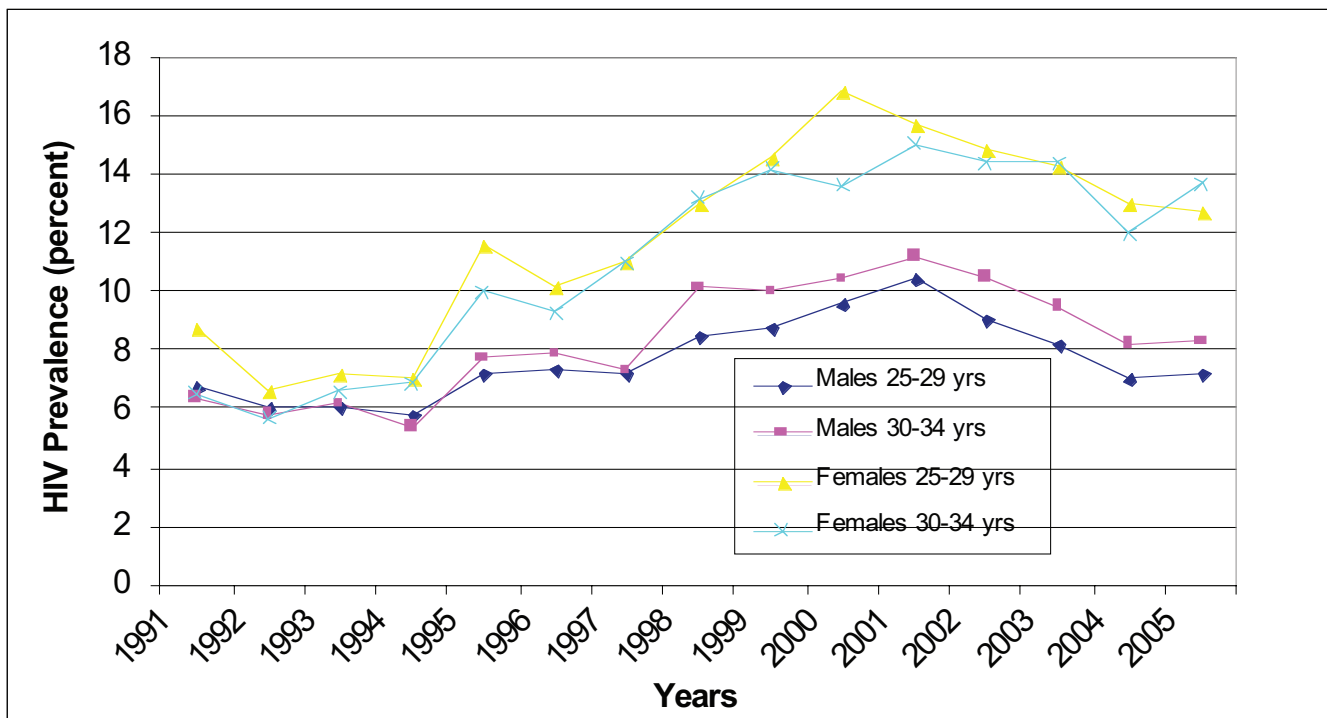


Fig 3.4 Age and sex specific prevalence of HIV infection among blood donors aged 25-34 years, 1991-2005



SURVEILLANCE POPULATION: BLOOD DONORS

Fig 3.5 Age and sex specific prevalence of HIV infection among blood donors aged 35-44 years, 1991-2005

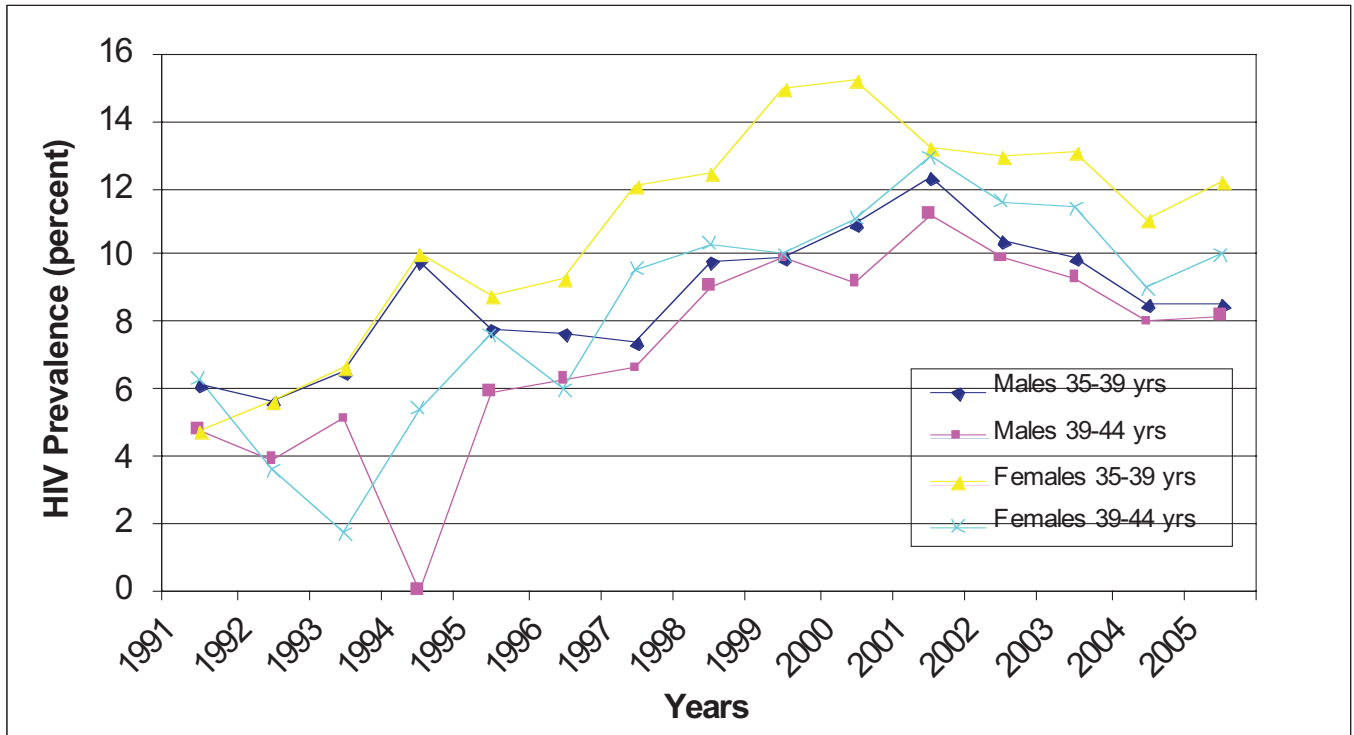
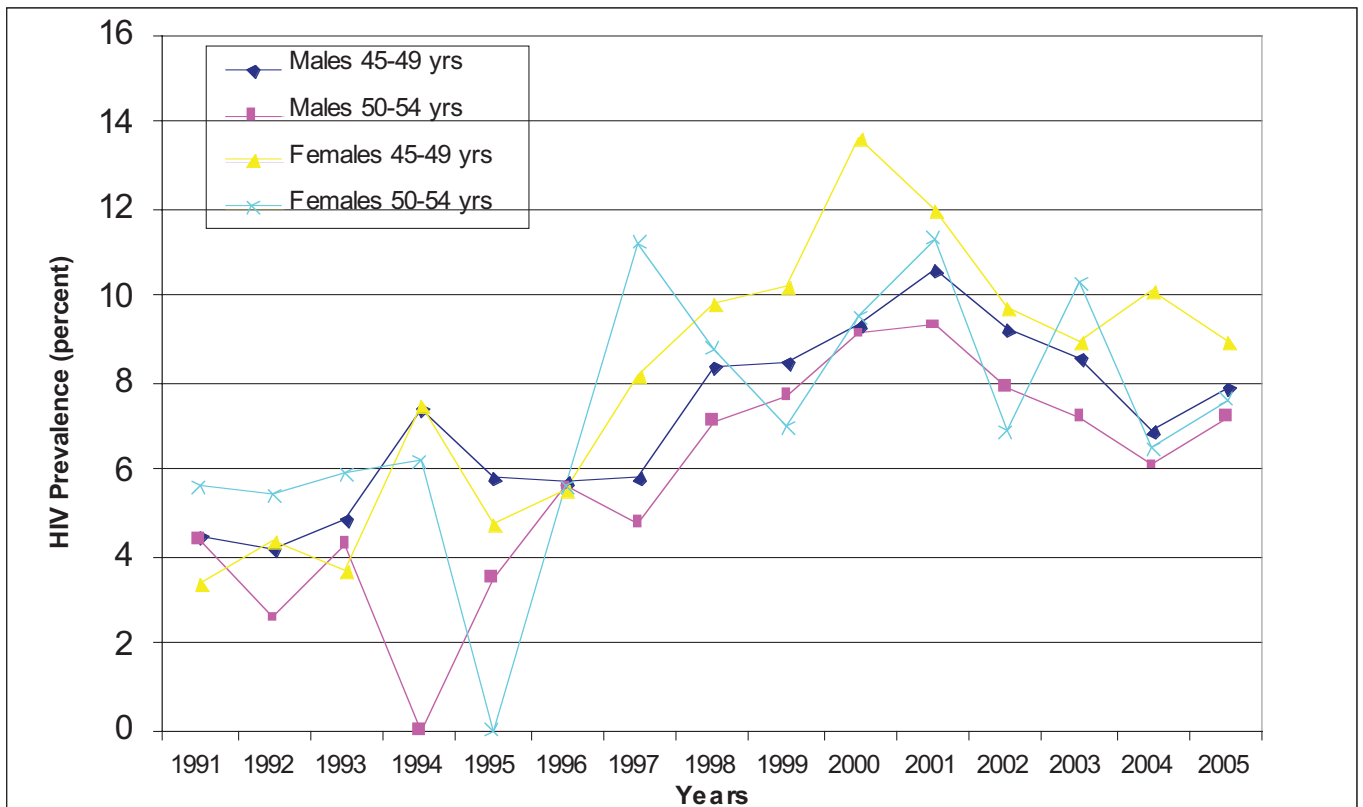


Fig 3.7 Age and sex specific prevalence of HIV infection among blood donors aged 45-54 years, 1991-2005



SURVEILLANCE POPULATION: BLOOD DONORS

To keep track of the exact age and sex specific prevalence figures, the following tables (2.5 and 2.6) are added in for this purpose. Similar information however may better be interpreted in the preceding graphs.

Table 3.1: Age-specific prevalence (%) of HIV infection among male blood donors. Tanzania, 1991 – 2005

Age	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
15 – 19	3.2	3.7	3.9	2.4	5.3	4.4	4.5	5.2	5.4	6.0	5.9	4.9	4.8	4.7	4.5
20 – 24	5.0	4.9	5.8	2.4	5.8	5.9	4.9	6.8	7.0	7.2	8.5	7.5	6.3	5.7	5.7
25 – 29	6.7	6.0	6.1	5.8	7.2	7.4	7.2	8.5	8.8	9.6	10.4	9.1	8.2	7.0	7.2
30 – 34	6.4	5.8	6.2	5.4	7.7	7.9	7.3	10.1	10.0	10.4	11.2	10.5	9.5	8.2	8.3
35 – 39	6.1	5.6	6.5	9.8	7.8	7.7	7.4	9.8	9.9	10.9	12.3	10.4	9.9	8.5	8.5
40 – 44	4.8	3.9	5.1	0.0	5.9	6.3	6.6	9.1	9.9	9.2	11.2	9.9	9.3	8.0	8.2
45 – 49	4.5	4.2	4.9	7.4	5.8	5.7	5.8	8.4	8.5	9.3	10.6	9.2	8.6	6.9	7.9
50 – 54	4.4	2.6	4.3	0.0	3.5	5.6	4.8	7.1	7.7	9.1	9.3	7.9	7.2	6.1	7.2
55+	4.0	2.3	5.2	12.5	2.5	4.4	5.9	8.2	5.5	6.8	7.6	6.3	6.7	6.8	7.3
Total	5.8	5.3	5.9	4.8	6.7	6.9	6.0	8.5	8.7	9.2	10.3	9.1	8.2	7.2	7.3

Table 3.2: Age-specific prevalence (%) of HIV infection among female blood Donors, Tanzania 1991 – 2005

Age	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
15 – 19	4.9	4.2	2.9	5.6	5.3	6.3	6.7	8.8	7.8	8.2	9.2	7.9	6.2	7.6	6.0
20 – 24	7.7	7.2	7.5	5.4	9.4	9.8	10.2	11.3	12.2	11.9	13.3	10.9	10.3	9.7	9.9
25 – 29	8.7	6.6	7.2	7.1	11.6	10.1	11.0	13	14.5	16.8	15.7	14.9	14.3	13.0	12.7
30 – 34	6.5	5.7	6.6	6.9	10.0	9.3	11.0	13.2	14.2	13.6	15.0	14.4	14.4	12.0	13.7
35 – 39	4.8	5.7	6.7	10.1	8.8	9.3	12.1	12.5	14.9	15.2	13.2	13.0	13.1	11.0	12.2
40 – 44	6.3	3.6	1.7	5.4	7.6	6.0	9.6	10.3	10.0	11.1	12.9	11.6	11.4	9.0	10.0
45 – 49	3.4	4.4	3.7	7.5	4.8	5.5	8.2	9.8	10.2	13.6	12.0	9.7	9.0	10.1	9.0
50 – 54	5.6	5.4	5.9	6.2	*6.3	5.6	11.2	8.8	7.0	9.5	11.3	6.9	10.3	6.5	7.6
55+	6.7	4.2	5.3	3.3	*16.7	7.1	7.6	7.8	8.8	9.7	10.3	5.2	9.1	3.3	7.6
Total	7.2	5.9	6.3	6.9	9.2	8.7	9.7	11.8	12.6	13.3	13.6	12.3	11.9	10.7	10.8

HIV infection trends by regions and districts

The prevalence of HIV infection varies by regions and districts. To enable geographical assessment of the trend of the epidemic, data is presented in Tables 3.3-3.5 by region and by district. The same information has been shown graphically at region level in a set of graphs (Figure 3.8a -e).

There has been a change in the region with the highest prevalence when 2005 data is compared to that of 2004. HIV prevalence rose in Dar es Salaam region from the former prevalence of 7.9% in 2004 to 17.4% in 2005 resulting into Dar es Salaam being the region with the highest prevalence during 2005. The other regions in decreasing prevalence of HIV infection include: Iringa 17.4%, Mbeya 15.2%, Kagera 13.6%, Arusha 11.7% and Ruvuma 10.0%.

Kongwa district has the highest prevalence of HIV infection at 21.3% followed by Njombe at 20.8%, Biharamulo 18.8%, Ilala 18.3% and Kinondoni 18.2% in this decreasing order.

Muleba district which had highest prevalence in the previous year showed a decrease in prevalence almost half (33.7% for year 2004 to 15.0% for year 2005). For details regarding the trend of the epidemic for other regions and districts refer to Table 3.3 and figures 3.8a-e. The sex specific prevalence by region are shown in Tables 2.8 for males and 2.9 for females.

SURVEILLANCE POPULATION: BLOOD DONORS

Table 3.3: Prevalence of HIV infection among blood donors by region and district, Tanzania 1999-2005

Region		Year 1999		Year 2000		Year 2001		Year 2002		Year 2003		Year 2004		Year 2005	
District	Total donors	% prev	Total donors	% prev	Total donors	% prev	Total donors	% prev	Total donors	% prev	Total donors	% prev	Total donors	% prev	
Arusha	3,030	22	7,223	13.8	6,827	17.8	-	-	2,095	11.1	2,072	12.9	1,618	11.7	
Arusha municipality	-	-	1,372	9.1	1,825	11.2	1,456	8.9	1,608	12.7	1,505	16.6	1,031	15.5	
Karatu	-	-	-	-	-	-	-	-	292	3.1	343	2.3	303	6.9	
Monduli	112	0	152	11.8	119	10.1	165	10.9	138	12.3	92	8.7	75	5.3	
Ngorongoro	-	-	-	-	-	-	-	-	57	5.3	-	-	-	-	
Manyara	-	-	-	-	-	-	-	-	4,780	12	4,450	6.3	3,818	5.9	
Babati	2,095	30.4	4,132	19.1	2,428	33.9	3,676	23.7	2,224	18.6	1,419	4.7	1,435	8.4	
Hanang	-	-	-	-	223	18	279	13.6	210	14.3	335	15.2	447	11.0	
Kiteto	-	-	64	10.9	266	11.7	537	10.6	579	10.5	858	3.7	428	3.3	
Mbulu	809	3.6	1,503	3.7	1,892	7.5	1,601	7.8	1,767	4	1,938	2.9	1,508	2.8	
Coast	3,510	8.9	3,160	12.5	3,240	10.4	4,470	9.6	4,688	7	3,351	6.4	1,705	6.8	
Bagamoyo	320	5.9	463	7.8	236	13.6	282	14.2	692	3.3	658	9.4	-	-	
Kibaha	1,730	10.6	664	11.9	1,147	9.1	2,286	8.9	2,113	7	782	5.8	-	-	
Kisarawe	112	9.8	452	19	281	8.2	-	-	145	11	-	-	112	16.1	
Mafia	256	8.2	249	8	292	5.8	384	4.7	249	1.6	381	3.1	362	3.6	
Rufiji	1,092	7.1	1,318	13.1	1,284	12.5	1,518	11.1	1,489	9.3	1,530	6.3	1,080	6.4	
DSM	694	33.1	1,739	8.6	1,956	18.8	3,547	12	4,923	10	2,572	7.9	3,297	17.4	
Ilala	428	45.1	1,005	9.7	1,351	14.7	1,536	6.3	2,125	6.9	2,348	6.9	1,971	18.3	
Kinondoni	162	12.4	658	5.5	153	33.3	1,295	15.1	1,833	10.3	224	18.8	674	18.2	
Temeke	-	-	-	-	452	25.9	716	18.4	965	16.3	-	-	652	13.8	
Dodoma	2,269	5.1	3,001	3.9	8,984	7.9	4,351	7.6	3,933	7	4,390	5.7	5,510	8.3	
Dodoma municipality	1,364	4.8	1,129	5.6	4,249	13.2	2,280	6.9	2,251	4.6	1,125	5.2	2,160	6.0	
Kondoa	-	-	797	4.9	1,122	4.4	855	3.7	785	6.6	1,034	6.2	761	3.5	
Kongwa	-	-	-	-	441	7.3	1,216	11.7	897	13.3	1,004	7.6	1,246	21.3	
Mpwapwa	905	5.4	1,075	1.5	3,172	2.3	-	-	-	-	1,227	4.4	1,343	2.7	
Iringa	4,258	14.7	2,393	14.6	5,104	18.7	3,450	14.8	2,115	15.4	2,163	12.1	3,297	17.4	
Iringa municipality	2,643	14.3	1,008	14.7	3,057	21.4	1,911	16.6	1,431	14.2	1,453	9.7	1,404	10.6	
Ludewa	280	22.1	415	15.2	534	18.4	165	17.6	-	-	298	26.5	598	12.9	
Mafinga	-	-	-	-	96	10.4	-	-	181	14.9	-	-	-	-	
Mufindi	297	8.1	301	8.9	62	3.2	318	6.6	83	3.6	412	10.2	-	-	
Njombe	1,038	15.7	669	16.6	1,355	13.9	1,056	13.7	420	22.1	-	-	1,051	20.8	
Kagera	4,572	17.7	3,827	19.5	5,753	22	5,965	18	4,699	20.7	6,060	18.2	6,936	13.6	
Biharamulo	428	19.6	413	8.5	350	10.6	947	6.7	729	11.8	852	15.5	1,523	18.8	
Bukoba	1,615	20.7	650	12.2	1,577	12.7	1,501	13.1	836	13	309	12	907	6.0	
Karagwe	638	20.8	998	19.5	1,183	17.4	1,585	19.2	871	24.8	2,732	17.6	1,987	17.3	
Muleba	1,159	15.5	1,472	24.6	1,843	33.7	1,403	31.1	1,246	29.3	858	33.7	579	15.0	
Ngara	732	10.4	294	25.8	800	25.4	529	14	1,017	19.2	1,309	12.3	1,940	9.0	
Kigoma	6,860	6.4	6,772	3.8	7,412	4.9	3,935	3.2	8,124	4.8	9,049	3.1	9,380	4.5	
Kasulu	4,935	6.8	3,503	3.5	3,918	3.7	3,200	3	3,029	2.7	3,841	2.8	4,001	4.1	
Kibondo	752	4.5	530	6.2	543	4.6	142	0	1,135	1.4	945	2.6	1,354	4.6	
Kigoma	1,173	5.7	2,739	3.8	2,951	6.5	593	4.9	3,960	7.4	4,263	3.6	3,113	4.5	
Kilimanjaro	5,218	4.8	4,435	6.7	4,823	5.9	4,125	6.8	3,334	4.8	3,499	4.5	1,615	5.1	
Hai	-	-	416	10.1	310	1.6	15	-	-	-	-	-	-	-	
Moshi	3,233	5.4	2,221	6.4	2,948	5.6	2,792	7.4	2,041	4.2	2,466	4.3	1,072	4.7	
Mwanga	277	3.6	115	7	162	10.5	202	3	166	5.4	169	7.1	192	2.1	

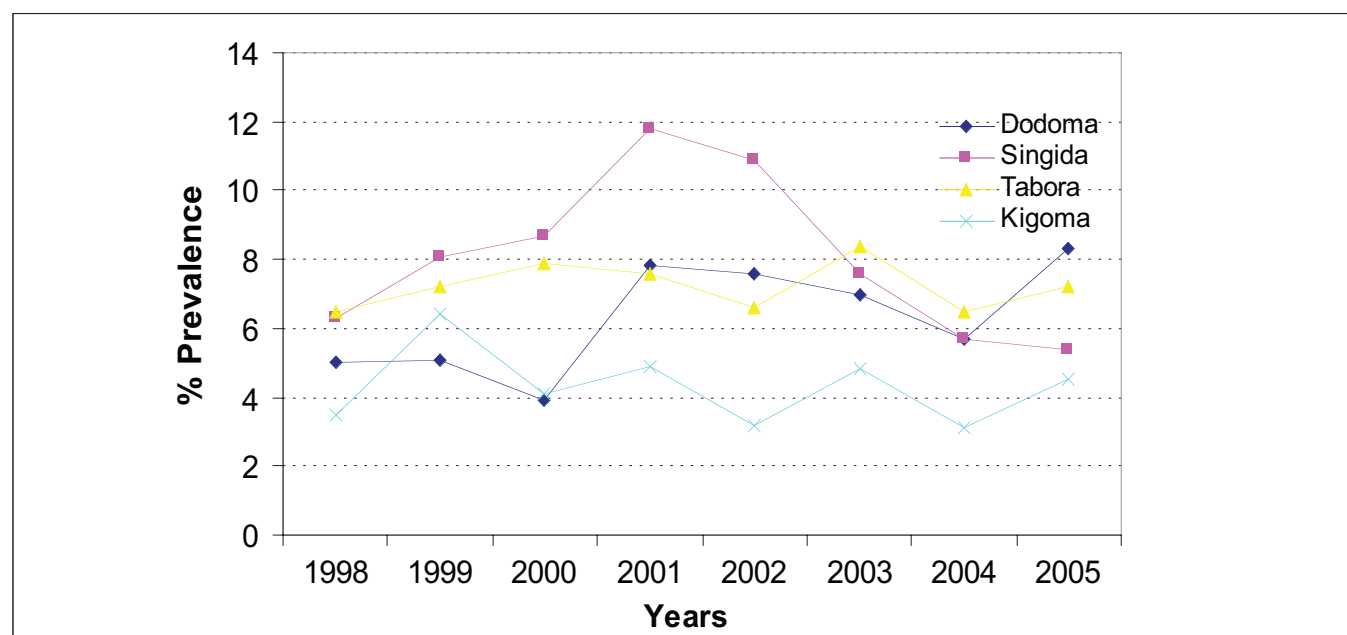
SURVEILLANCE POPULATION: BLOOD DONORS

Region		Year 1999		Year 2000		Year 2001		Year 2002		Year 2003		Year 2004		Year 2005	
District	Total donors	% prev	Total donors	% prev	Total donors	% prev	Total donors	% prev	Total donors	% prev	Total donors	% prev	Total donors	% prev	
Rombo	305	2.9	222	3.3	302	2.6	372	2.4	238	4.2	97	2.1	63	1.6	
Same	1,369	4.2	1,461	6.8	1,101	8	744	8.2	889	6.3	767	4.8	106	4.7	
Lindi	7,083	3.4	5,092	4.2	6,046	3.8	5,856	3.6	5,308	3.8	5,645	3.6	3,637	3.2	
Kilwa	879	5.6	478	3.1	656	5	673	4.2	812	5.5	1,021	3.6	789	2.9	
Lindi	2,788	5.1	2,175	4.5	2,159	4	2,367	3	1,858	4.7	2,041	4	868	1.8	
Liwale	986	1.3	931	3.6	837	3.9	638	3.9	787	2.7	879	3.1	499	2.6	
Nachingwea	2,430	1.6	1,508	4.4	2,394	3.3	2,069	2.8	1,587	2.4	1,269	3.4	626	3.7	
Ruangwa	-	-	-	-	-	-	-	-	264	4.9	435	4.1	252	2.4	
Mara	5,151	9.2	10,676	9.4	9,277	9	10,709	10.3	8,108	7.8	11,732	5.9	7,761	6.2	
Bunda	262	9.9	2,416	10.7	2,495	9	2,391	9.1	584	16.3	3,889	4.7	1,284	3.7	
Musoma	2,835	8	4,230	7.6	4,670	7.5	2,943	9.5	4,994	8.5	4,846	6.3	2,431	7.4	
Serengeti	988	6.3	1,335	2.9	1,042	2.1	1,567	2.7	1,657	2.5	1,641	3.3	1,734	3.2	
Tarime	1,066	14.7	2,695	14.3	1,070	22.2	3,794	14.9	873	8.6	1,356	11.1	2,001	8.6	
Mbeya	6,691	15.2	7,338	17	10,618	16.4	7,462	12.7	7,957	14.8	7,144	13.3	4,143	15.2	
Chunya	865	17.8	868	19.9	1,938	20	1,207	17.9	1,688	26.5	1,707	17.7	1,376	17.8	
Ileje	218	13.8	211	11.9	190	11.6	125	2.4	138	5.8	80	6.3	111	9.0	
Kyela	750	13.6	1,110	16.4	1,671	15.7	1,388	17	1,408	14.1	1,675	16.4	1,431	16.5	
Mbarali	1,470	18.3	1,683	25.4	1,868	20.3	946	14.4	1,033	15.8	925	14.7	220	13.6	
Mbeya	1,254	16.3	1,153	18.3	1,390	13.3	1,093	7.5	1,368	5.6	1,134	3	-	-	
Mbozi	635	16.4	566	11.1	934	11.7	741	16.3	974	17.4	837	13.3	739	14.2	
Rungwe	1,499	10.5	1,747	9.6	2,627	15.1	1,962	7.9	1,348	8.3	786	10.7	266	0.8	
Morogoro	12,389	11.3	7,606	16.6	12,755	17.2	9,764	8.6	10,140	8.3	12,387	8	9,052	5.4	
Kilombero	2,697	18.1	1,671	35.3	3,334	34.6	2,346	11.5	2,867	14.4	4,039	10.2	1,906	9.0	
Kilosa	4,435	11.7	1,309	6.9	3,581	8.7	3,173	6.1	2,265	3.7	2,969	4.9	3,021	4.0	
Mahenge	-	-	-	-	-	-	-	-	14	0	-	-	-	-	
Morogoro	4,440	8.2	4,072	12.1	4,964	13.5	2,887	10.4	1,685	7.1	1,905	6.7	1,688	7.6	
Mvomero	-	-	-	-	-	-	-	-	1,763	12	1,753	16.2	548	5.5	
Ulanga	805	3.7	540	15.4	876	6.4	849	1.9	1,546	1	1,721	1.5	1,889	1.9	
Mtwara	3,030	7.8	8,665	8.2	5,767	7.5	6,476	6.8	4,833	6.5	3,541	4.7	3,948	3.6	
Mtwara urban	739	4.5	139	7.2	1,994	4.6	1,971	5.3	1,522	5.4	618	2.9	-	-	
Masasi	2,291	8.9	3,725	10.1	2,955	9.8	2,981	8.3	2,497	7.7	2,721	5.3	1,866	4.3	
Mtwara rural	-	-	3,182	7.2	-	-	-	-	-	-	-	-	-	-	
Newala	-	-	1,619	5.7	818	6.2	1,493	6	650	5.5	-	-	1,786	3.6	
Tandahimba	-	-	-	-	-	-	-	-	164	1.8	202	2.5	296	1.4	
Mwanza	10,373	7	9,858	7.6	12,526	8	16,672	7.7	15,235	8.7	11,151	8.9	14,745	7.2	
Geita	832	8.8	1,173	7	1,942	6.2	2,228	7.2	2,289	7.3	2,238	8.3	1,923	7.2	
Kwimba	1,977	4.9	1,171	4.4	1,293	7.8	2,685	7.1	2,714	7.4	2,784	6.4	1,415	6.4	
Magu	1,436	9.5	1,243	12.6	1,539	13	2,214	12.2	2,571	14.6	3,544	10.8	3,337	10.4	
Misungwi	372	3.2	444	5.6	491	6.3	1,111	5.2	1,124	5.1	222	12.2	90	3.3	
Mwanza	2,561	5.8	2,377	8.2	3,061	7.6	3,544	6.3	4,148	5.4	813	11.8	6,343	6.3	
Sengerema	2,518	7.5	2,868	6.5	3,406	7.2	3,400	6.1	235	8.5	-	-	-	-	
Ukerewe	677	10.6	558	10	772	10	1,490	11.3	2,154	13.2	1,550	7.9	1,623	5.3	
Rukwa	-	-	3,277	11.8	531	10.7	1,829	9.8	1,749	17.9	2,381	19.5	1,118	7.3	
Mpanda	-	-	565	12.2	341	8.8	375	7.5	-	-	1,854	9.8	581	3.1	
Nkasi	-	-	652	15.6	-	-	927	9.9	1,355	18.4	1,427	32.1	537	11.9	
Sumbawanga	-	-	2,045	10.6	190	14.2	527	11.4	394	16.2	-	-	-	-	
Ruvuma	8,301	9.8	9,813	10.2	12,187	11.2	14,965	10.9	12,318	10.3	13,127	8.1	13,191	10.0	
Mbinga	3,502	7.5	3,618	9.4	3,646	11.4	5,370	10.1	3,950	8.8	4,155	8.8	5,343	11.1	
Songea	3,460	13.8	4,605	12.4	5,678	14.3	6,919	13.7	6,003	13.5	5,965	9.4	5,160	10.5	

SURVEILLANCE POPULATION: BLOOD DONORS

Region	Year 1999		Year 2000		Year 2001		Year 2002		Year 2003		Year 2004		Year 2005	
District	Total donors	% prev	Total donors	% prev	Total donors	% prev	Total donors	% prev	Total donors	% prev	Total donors	% prev	Total donors	% prev
Tunduru	1,339	5.3	1,590	6	2,863	4.8	2,663	5.3	2,365	4.4	3007	4.4	1997	6.3
Shinyanga	8,654	8.2	9,332	9.4	12,316	8.4	15,603	8.3	19,748	7	19267	7.3	12973	7.6
Bariadi	2,676	4.2	1,580	4.8	2,569	6.2	4,045	6.1	9,754	4.9	5037	3.9	2619	4.0
Kahama	2,534	10.2	2,344	9.6	3,754	8.6	5,632	7.8	4,743	9.4	6400	8.5	3947	8.8
Maswa	690	9.3	908	9	1,239	10.1	1,800	9	1,059	6.6	1813	8.3	1511	7.7
Meatu	426	10.3	307	10.1	569	12	799	8.1	436	12.4	-	-	424	7.8
Shinyanga	2,328	9.9	4,185	11.1	4,185	8.6	3,327	11.5	3,756	9	6017	8.6	4472	8.6
Singida	4,187	8.1	5,326	8	6,785	11.8	5,896	10.9	4,962	7.6	5213	5.7	4482	5.4
Iramba	181	5.5	1,095	12	710	5.2	737	14.2	537	8.6	875	6.4	648	11.1
Kiomboi	-	-	-	-	14	7.1	-	-	-	-	-	-	-	-
Manyoni	877	7.1	1,864	7.4	2,024	8.3	2,335	6.6	2,042	5.5	2604	4.9	2444	5.2
Singida urban	3,129	8.6	2,367	6.8	3,557	13	2,269	14.9	2,383	9.2	1734	6.7	1390	3.0
Singida rural	-	-	-	-	480	27.5	552	8.3	-	-	-	-	-	-
Tabora	11,335	7.1	9,084	7.2	9,628	7.6	7,973	6.6	9,052	8.4	12314	6.5	7762	7.2
Igunga	4,120	7	2,359	7.6	2,427	8.2	3,379	7.3	3,137	8.8	2520	9.2	1914	8.3
Nzega	1,812	6.4	1,604	5.4	3,156	5.7	2,172	4.3	3,076	7.6	3403	7	2774	5.9
Sikonge	892	5.7	875	5	1,043	6.7	1,210	6.4	1,317	6.1	1647	5.3	1483	4.9
Tabora	2,918	7.8	2,445	7.8	1,487	8.1	-	-	-	-	3201	5	631	9.8
Urambo	1,593	7.7	1,801	8.8	1,515	10.8	1,197	9	1,522	11.3	1543	5.3	960	10.5
Tanga	10,967	8.3	9,749	8.8	9,583	8.6	6,100	9.8	9,276	7.4	11637	5.9	9459	7.2
Handeni	1,531	9.7	1,296	5.3	1,937	3.5	799	1.9	1,571	2.9	1840	2.6	277	2.9
Kilindi	-	-	-	-	-	-	-	-	--	-	499	0	399	2.5
Korogwe	1,945	9	1,034	6.1	795	6.8	-	-	1,798	6.4	1839	3.7	1449	4.8
Lushoto	450	22.2	811	13.2	537	11	179	11.2	916	15.1	1338	9	1282	9.3
Muheza	2,667	8.1	1,712	10.2	2,463	9.1	1,537	6.4	1,036	6.5	2381	7.2	2584	6.0
Pangani	621	5.5	1,169	5.7	509	4.7	545	4.8	1,345	5.5	1237	5.1	1784	6.2
Tanga	3,753	6.3	3,727	10.1	3,342	11.7	3,040	14.4	2,610	9.5	2503	8.7	1684	12.4

Fig 3.8a: Region specific trends of HIV prevalence among blood donors, Tanzania, 1998- 2005



SURVEILLANCE POPULATION: BLOOD DONORS

3.8b: Region specific trends of HIV prevalence among blood donors, Tanzania, 1998- 2005

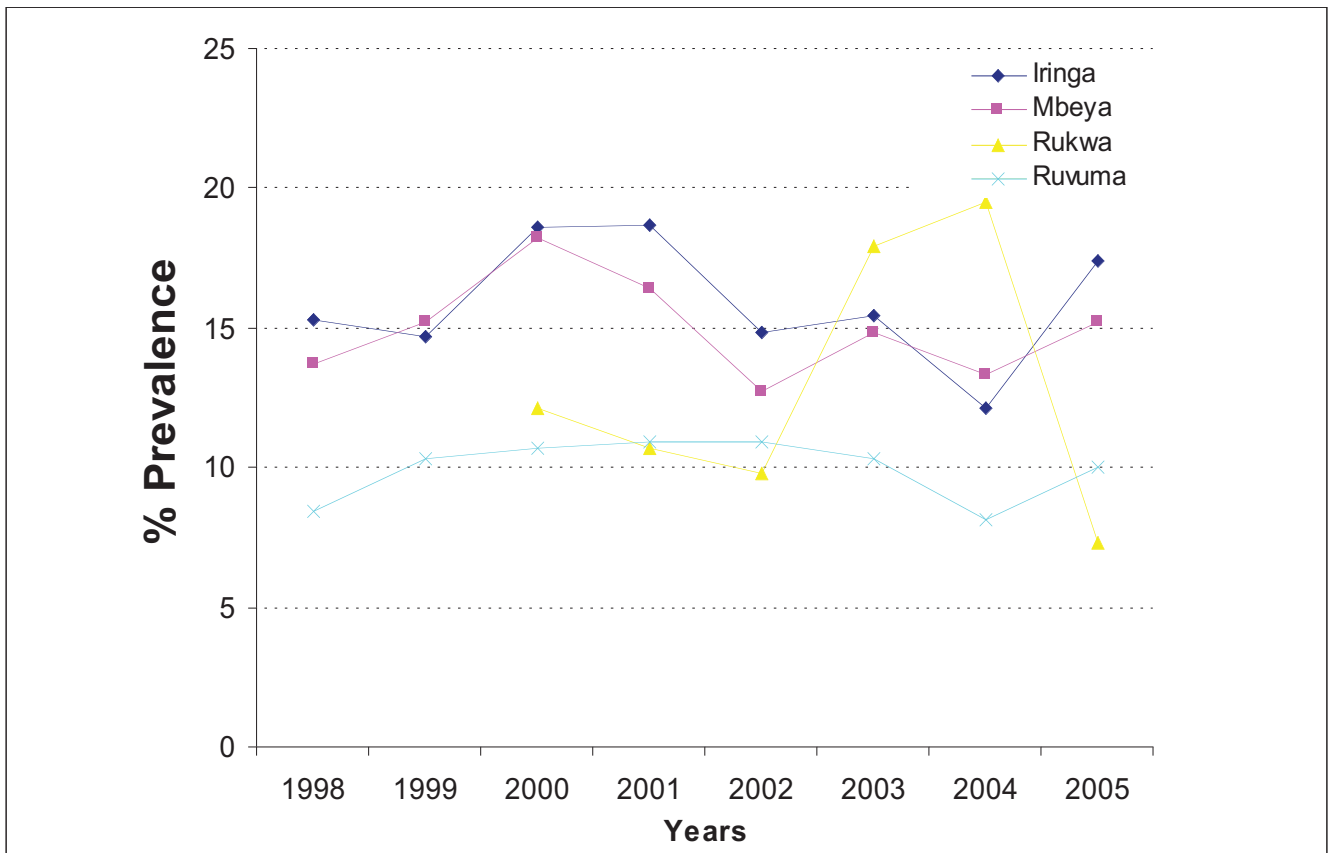
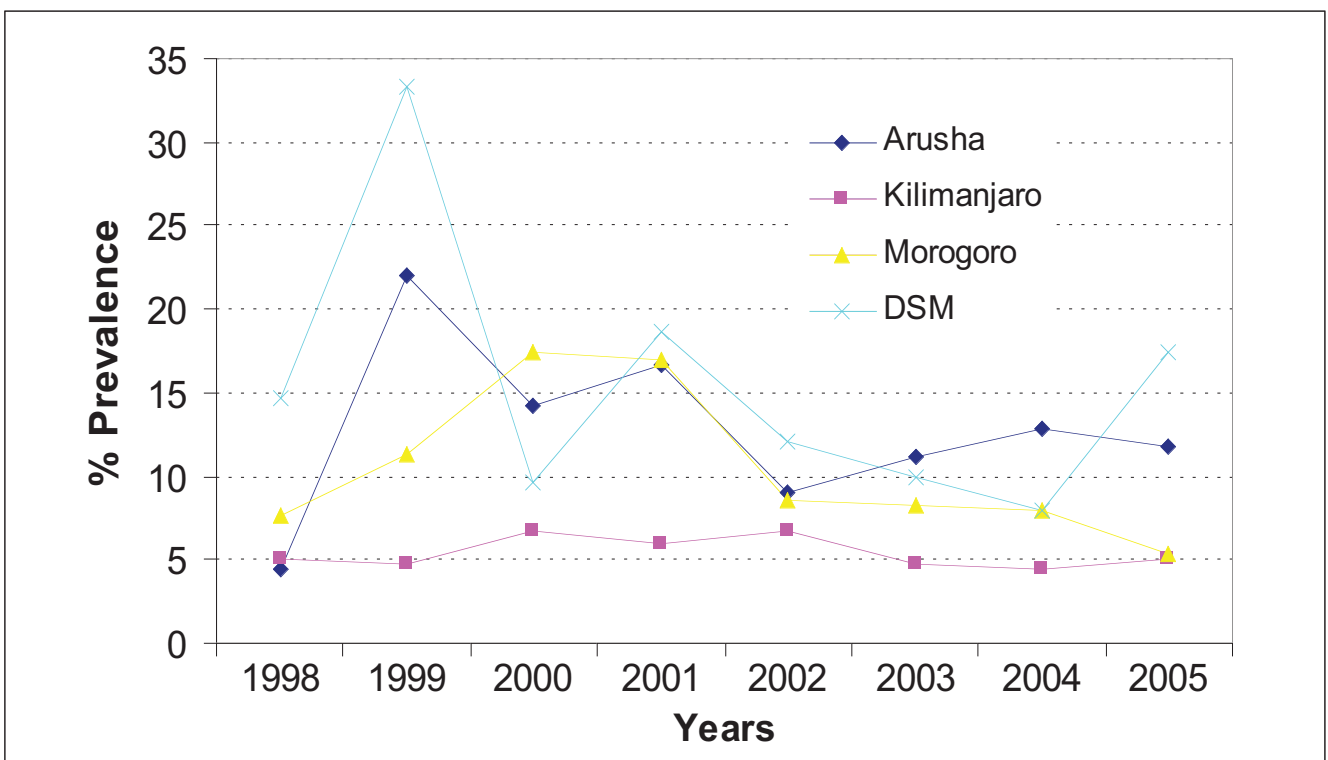


Fig 3.8c: Region specific trends of HIV prevalence among blood donors, Tanzania, 1998- 2005



SURVEILLANCE POPULATION: BLOOD DONORS

Fig 3.8d: Region specific trends of HIV prevalence among blood donors, Tanzania, 1998- 2005

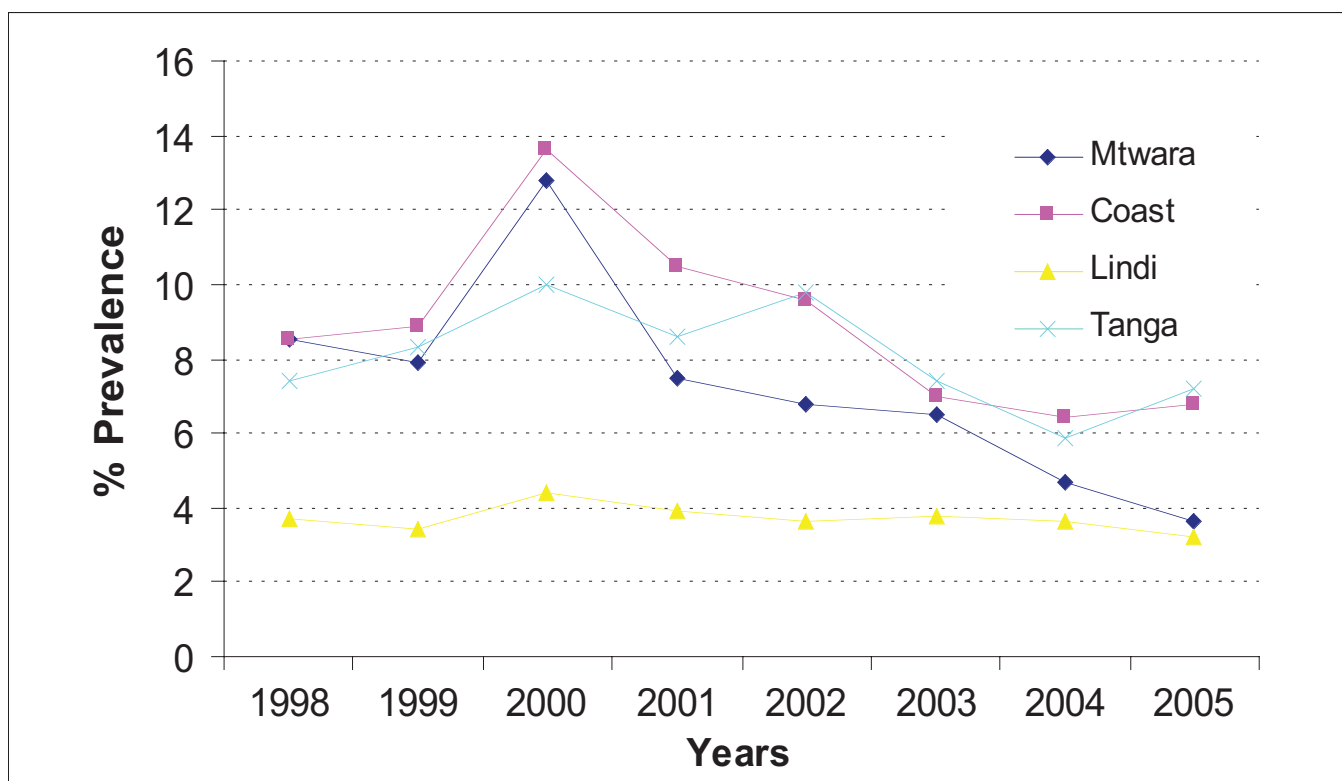
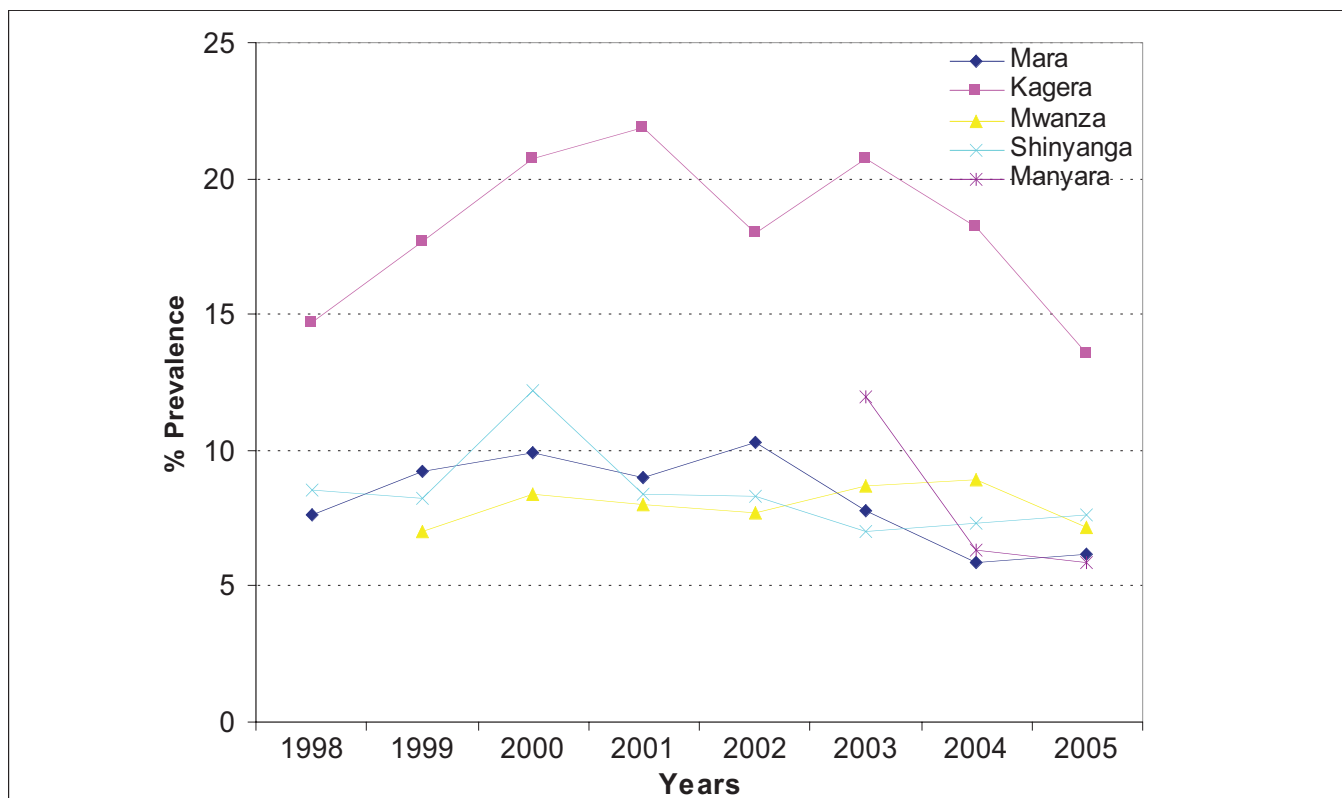


Fig 3.8e: Region specific trends of HIV prevalence among blood donors in the five Zones of Tanzania, 1998- 2005



SURVEILLANCE POPULATION: BLOOD DONORS

Table 3.4: Prevalence of HIV infection among male blood donors by region, Tanzania 1992 – 2005

Region	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Arusha	2.6	2.6	2.7	6.1	3	2.8	4.2	21.3	13.4	17.2	8.7	9.4	11.7	11.6
Coast	4.1	5.9	6.6	5.5	9.4	8.2	7.7	7.5	10.1	8	8.3	5.9	5.7	5.0
Dodoma	2.8	1.7	0	0	4.9	7.9	4.9	5	3.7	7.8	7.6	6.9	5.7	7.9
DSM	8.5	-	-	4.9	17.2	19.8	12.5	23.8	8.3	18.2	11.2	9.5	7.5	15.5
Iringa	11.1	13.2	7.7	13	14.2	14.2	14.8	14.7	13.7	17.9	14.1	14.9	11.8	14.4
Kagera	10.9	5.8	7.9	10.8	8	8.6	14.8	17.3	19.5	22.3	18.6	21.0	18.5	14.1
Kigoma	1.9	7	3.4	4.9	5.6	2.8	3.8	6.3	3.9	4.8	3.2	4.3	3.0	4.3
Kilimanjaro	2.4	3.4	1.5	10.7	4.1	4.1	4.8	4.7	6.2	5.8	6.9	4.1	4.1	4.9
Lindi	3.7	2.5	-	3	3.7	3	3.3	3.3	3.9	3.2	3	3.1	3.3	2.7
Manyara											17.5	10.6	5.2	5.0
Mara	6.9	5	3.7	5.8	7.6	8	7.6	8.6	8.7	7.8	8.7	7.4	4.9	5.0
Mbeya	15.1	0	-	9	11.1	12.6	13	13.6	15.4	14.4	11.6	13.5	11.1	13.3
Morogoro	4.6	5.7	-	-	4.1	5.5	7.4	10.3	15.2	16.2	8.2	7.6	7.8	5.0
Mtwara	5.2	9.5	15.2	10.1	9.7	4.5	8	7	7.3	7.2	6.5	5.8	4.7	3.5
Mwanza	5.1	4	2.9	12.5	7.6	9.5	6.9	6.2	7.2	7.7	7.2	8.3	8.2	7.0
Rukwa	6.7	-	-	-	8	7.9	-	-	11.5	11	9.7	17.8	20.0	7.4
Ruvuma	6.2	7.3	2	3.3	8.1	7.7	7.4	9.8	9.5	10.3	10.3	9.9	7.3	9.3
Shinyanga	6.1	6.4	14.7	11.7	8.5	8.5	8	7.7	9	8	7.9	6.6	7.0	7.3
Singida	2.7	2.8	0	-	5.6	3.6	6.2	7.7	7.5	11.6	11.1	7.0	4.9	4.5
Tabora	2.8	4.4	2.5	6.2	3.2	6.1	5.9	6.8	6.8	7.3	6.2	7.6	5.8	6.4
Tanga	7.1	4.4	-	10.4	5.5	8	7.3	7.9	8.7	8.6	9.8	7.2	6.5	7.0
Total	5.3	5.9	6.9	7.8	6.8	7.6	8.5	8.7	9.2	10.4	9.1	8.2	7.2	7.3

Table 3.5: Prevalence of HIV infection among female blood donors by region, Tanzania 1992 - 2005

Region	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Arusha	2.2	3.9	-	15.6	4.4	6	7.6	25.2	15.1	20.4	10.2	18.1	17.1	12.2
Coast	5	10.2	11.8	9.2	-	8	13.1	15.8	25.1	21.2	17	11.9	10.0	16.0
Dodoma	4.8	-	-	0	-	9.2	6.2	6.7	5.3	8.7	7.8	7.8	6.1	10.9
DSM	7.7	-	-	6.7	-	40.6	32.1	55	14.9	31.4	18.9	14.8	17.4	27.0
Iringa	8.1	17.6	20	7.8	12.4	16.4	15.1	14.4	20.8	21.4	18.4	18.2	14.1	15.4
Kagera	11	8.6	8.3	14.3	7.4	11.3	14.3	19	19.5	20.5	15.9	19.2	16.6	12.2
Kigoma	4.1	5.8	5.1	0	6.1	2.6	2.6	6.6	3.6	5.1	3.4	6.5	4.1	5.3
Kilimanjaro	2.2	1.8	2.9	0	5.9	8.1	8.1	6.6	11.4	6.9	6.7	12.0	10.7	9.2
Lindi	2.3	1.9	-	1.6	3.6	4.9	5.2	4.3	5.8	6.7	7.1	8.3	5.3	6.0
Manyara											19.8	18.0	12.7	10.7
Mara	8.2	2.9	10	9.4	10.1	13.1	7.7	10.2	10.7	11.1	13.3	8.7	8.0	8.7
Mbeya	20.3	-	-	11.4	13.8	14.4	15.1	19.3	20.9	21	15.5	18.0	18.8	19.7
Morogoro	5.7	10.8	-	-	6	9.1	8.8	16	24.2	22.3	10.8	12.7	9.6	7.7
Mtwara	10.5	5.7	0	5.6	10.5	-	23	21.3	25.2	14.9	13.2	20.4	7.3	4.8
Mwanza	5.7	8	5	0	8.5	11.8	9.5	10.6	9.5	9.3	9.4	10.3	11.6	8.0
Rukwa	0	-	-	-	8.8	-	-	-	16	8.8	11.1	19.1	16.9	6.5
Ruvuma	6.4	6.7	2.1	6.1	10.5	12.7	12.2	11.8	12.7	14.1	13.1	11.6	10.8	12.1
Shinyanga	10	21.6	33.3	0	14.9	14.9	14.6	12.9	13.6	11.8	11.6	9.5	9.7	10.9
Singida	4.5	4.6	0	-	5.8	5.2	7	9.4	10.4	12.1	14.9	10.3	9.4	10.3
Tabora	2.7	5.8	0	12.9	3.2	7.7	9.5	8.8	9.3	8.9	7.9	11.8	10.7	12.5
Tanga	7	5.9	-	20.8	7	13.6	11.9	14	11.2	8.6	8	10.7	11.2	13.7
Total	5.9	6.2	4.8	9.4	8.2	11.6	11.8	12.6	13.3	13.7	12.3	11.9	10.7	10.8

SURVEILLANCE POPULATION: BLOOD DONORS

The regions with the highest prevalence of HIV infection among males in descending order were Dar es Salaam 15.5%, Iringa 14.4%, Kagera 14.1%, Mbeya 13.3% and Arusha 11.6%. All the mentioned regions showed an increase in prevalence compared to the previous year except Kagera region.

Prevalence among females was highest in Dar es Salaam 27.0%, followed by Mbeya region at 19.7%, Coast 16.0%, Iringa 15.4% and Tanga 13.7% in this descending order. The magnitude of infection rose in Dar es Salaam from 17.4% in 2004 to 27.0% in 2005. The rest of the mentioned regions had stable or increasing prevalence.

3.2.2 HIV infection trends among the youth aged 15-24 years by region

As reiterated earlier, HIV infection among the youth is recently acquired and therefore prevalence estimates in this population approximate new infections. New infections or incident HIV infections closely reflect the true trend of the epidemic. To assess whether there have been any changes in the magnitude of infection among the youth by geographical distribution, data was analysed by ten year age groups for each region.

The five regions with the highest HIV infection prevalence in the age group 15 – 24 years in descending order were: Dar es Salaam 12.4% Arusha 11.3%, Mbeya 10.9% Kagera 9.9% and Iringa 9.3%. Prevalence in Dar es Salaam rose not only on the total population but also in this specific age group where the prevalence has tripled (from 4.3% year 2004 to 12.4% in year 2005). Another notable decrease in HIV prevalence for this age group was in Kagera region (15.7% to 9.9%).

When prevalence among ages group 15-24 years was grouped into five percent categories, the following was obtained:

- Seven regions namely, Kigoma, Kilimanjaro, Lindi, Mara, Morogoro, Mtwara, and Singida had prevalence between 0 - 5 %.
- Eleven regions namely Coast, Dodoma, Iringa, Kagera, Manyara, Mwanza, Rukwa, Ruvuma, Shinyanga, Tabora and Tanga had a prevalence ranging between 5.1 to 10%.
- Three regions , Dar es Salaam, Arusha and Mbeya had prevalence ranging between 10.1-15%

SURVEILLANCE POPULATION: BLOOD DONORS

Table 3.6 Age specific HIV prevalence among blood donors by region, Tanzania 1999-2005

Region	Age group	Year 1999		Year 2000		Year 2001		Year 2002		Year 2003		Year 2004		Year 2005	
		Total donors	% Prevalence	Total donors	% Prevalence	Total donors	% Prevalence	Total donors	% Prevalence	Total donors	% Prevalence	Total donors	% Prevalence	Total donors	% Prevalence
Arusha	15-24	3030	22	7223	13.8	6827	17.8	1705	9	2,095	11.1	2072	12.9	1618	11.7
	25-34	853	20.5	1834	11.3	1659	15.2	215	13	490	9.2	528	13.8	346	11.3
	35+	1288	23.8	3365	14.7	3178	18.3	990	8.7	1,047	12.1	1013	13.6	784	11.7
Coast	15-24	889	20.7	2024	14.3	1990	19.2	500	8	558	10.9	531	10.7	488	12.1
	25-34	3510	8.9	3160	12.5	3240	10.4	4470	9.6	4,688	7	3351	6.4	1705	6.8
	35+	941	7.8	606	8.2	829	7.2	1072	7.1	1,171	4.8	982	4.7	413	5.8
Dar es Salaam	15-24	1477	10	1305	13.1	1343	11.4	1964	10.8	2,044	6.7	1378	7	730	6.7
	25-34	1092	8.5	1249	13.9	1059	11.6	1434	9.8	1,473	9.2	991	7.3	562	7.7
	35+	694	33.1	1739	8.6	1956	18.8	3547	12	4,923	10	4390	5.7	3297	17.4
Dodoma	15-24	129	29.5	264	6.4	472	14.8	919	7.3	1,374	8.4	832	4.3	853	12.4
	25-34	267	37.5	460	10.2	987	18.7	1676	12.9	2,226	11.1	1961	6.4	1450	17.7
	35+	298	31	1015	8.4	495	22.4	952	14.7	1,323	9.7	1597	5.6	994	21.3
Iringa	15-24	2269	5.1	3001	3.9	8984	7.9	4351	7.6	3,933	7	2,572	7.9	5510	8.3
	25-34	522	4	642	2	2026	6.6	833	7.7	926	7.3	715	4.5	973	5.9
	35+	960	5.8	1275	4.3	3856	8.2	1882	8.2	1,616	7.2	1241	9.2	2454	8.8
Kagera	15-24	787	4.8	1084	6.4	3083	8.4	1636	6.9	1,391	6.4	616	9.3	2083	8.8
	25-34	4258	14.7	2393	14.6	5104	18.7	3450	14.8	2,115	15.4	2163	12.1	3053	14.6
	35+	1207	13.2	687	11.4	1324	15.9	976	12.6	551	12.2	709	7.1	1115	9.3
Kigoma	15-24	1809	17.1	1003	16.8	2170	21.3	1386	17.7	882	18.6	824	15.7	1144	18.4
	25-34	1242	12.7	703	14.6	1608	17.4	1088	13.1	682	13.9	630	13.2	794	16.4
	35+	4572	17.7	3827	19.5	5753	22	5965	18	4,699	20.7	6060	18.2	6936	13.6
Morogoro	15-24	1435	12.1	1045	15.1	1601	18.2	1724	15.1	1,261	19.4	1768	15.7	2322	9.9
	25-34	1926	19.4	1694	21.2	2542	21.7	2513	18.5	2,082	20.5	2648	17.7	2827	14.2
	35+	1211	21.6	1088	21.1	1583	26.5	1728	20.2	1,356	22.1	1644	21.5	1787	17.6
Shinyanga	15-24	6860	6.4	6772	3.8	7412	4.9	3935	3.2	8,124	4.8	9049	3.1	9380	4.5
	25-34	1537	4.8	1346	2.1	1811	3.9	942	2.7	1,876	3.3	2050	2	2264	3
	35+	2964	6.4	2959	4.3	3093	5.6	1601	3.2	3,509	5.4	3862	3.4	3975	4.8
Tanga	15-24	2359	7.4	2467	4.3	2494	4.7	1392	3.5	2,739	5	3137	3.6	3141	5.2

SURVEILLANCE POPULATION: BLOOD DONORS

Region	Age group	Year 1999		Year 2000		Year 2001		Year 2002		Year 2003		Year 2004		Year 2005	
		Total donors	% Prevalence	Total donors	% Prevalence	Total donors	% Prevalence	Total donors	% Prevalence	Total donors	% Prevalence	Total donors	% Prevalence	Total donors	% Prevalence
Kilimanjaro	15-24	5218	4.8	4435	6.8	4823	5.9	4125	6.8	3,334	4.8	3,499	4.5	1615	5.1
	25-34	1438	2.8	1189	3.8	1266	4.2	1084	4.4	883	2.9	969	3.7	455	1.8
	35+	2374	5.2	1938	7.4	2103	6.1	1750	7.3	1,418	5.4	1500	4.5	626	5.3
Lindi	15-24	1406	6.3	1308	8.6	1448	6.8	1291	8.3	1,033	5.6	1030	5.3	534	7.7
	25-34	7083	3.4	5092	4.2	6046	3.8	5856	3.6	5,308	3.8	5645	3.6	3637	3.2
	35+	1905	3	1208	1.2	1484	2.1	1388	2.2	1,187	3.4	1308	3	730	3
Manyara	15-24	3110	3.2	2088	4.4	2657	3.8	2622	4.6	2,308	4.4	2455	4.3	1585	3.4
	25-34	2068	4.3	1796	5.4	1841	4.3	1846	3.4	1,813	3.4	1882	3.2	1322	3.1
	35+			0		0		6093	17.9	4,780	12	4450	6.3	3818	5.9
Mara	15-24			0		0		1634	15.4	1,349	9.8	1266	6.3	976	5.7
	25-34			0		0		2575	19.1	2,013	11.5	1851	6.8	1610	5.8
	35+			0		0		1887	18.5	1,418	14.9	1333	5.6	1232	6.2
Mbeya	15-24	5151	9.2	10676	9.4	9277	9	10709	10.3	8,108	7.8	11732	5.9	7761	6.2
	25-34	1870	7.9	3274	6.6	2928	7.8	3497	8.2	2,694	5.9	4030	4.4	2428	4.7
	35+	2028	11.4	4261	10.8	4002	9.6	4440	11.1	3,390	8.6	4837	6.7	3121	7.2
Morogoro	15-24	1253	7.5	3141	10.3	2308	9.3	2772	11.7	2,024	9.1	2865	6.4	2212	6.3
	25-34	6691	15.2	7338	17	10618	16.4	7462	12.7	7,957	14.8	7144	13.3	4143	15.2
	35+	1922	10.8	2102	12.2	3118	12.7	2117	9.4	2,568	8.5	1998	10	1003	10.9
Mtwara	15-24	2767	18.5	3051	20.1	4359	19	3054	15.3	3,028	18	3055	15.9	1763	17.2
	25-34	2002	15	2185	17.3	3105	16.3	2291	12.4	2,361	17.4	2091	12.5	1377	15.7
	35+	12389	11.3	7606	16.6	12755	17.2	9764	8.6	10,140	8.3	12387	8	9052	5.4
Mwanza	15-24	2980	10.2	1676	16.6	2881	16.7	2206	8.9	2,386	8.5	2736	6.9	1888	4.6
	25-34	5602	11.2	3430	16.2	5675	17.3	4270	8.7	4,556	8.2	5674	8.3	4106	5.7
	35+	3807	12.4	2500	17	4068	16.9	3288	8.1	3,198	8.3	3977	8.4	3058	5.4
Zanzibar	15-24	3030	7.8	8665	8.2	5767	7.5	6476	6.8	4,833	6.5	3541	4.7	3948	3.6
	25-34	752	6.8	2084	7	1460	6	1583	5.5	1,090	5.5	854	3.3	873	3.3
	35+	1409	8.4	3827	8.8	2589	7.4	3016	6.9	2,202	6.7	1667	5.2	1910	3.6
Dar es Salaam	15-24	869	7.8	2754	8.2	1706	8.8	1877	7.8	1,541	6.9	1020	5.2	1165	3.8
	25-34	10273	7	9858	7.6	12515	8	16672	7.7	15,235	8.7	11,151	8.9	14745	7.2
	35+	3081	5.6	2627	5.4	3783	5.6	4902	5.1	4,962	5.1	2933	6.9	6268	5.4
Tanzania	15-24	4190	8.3	4059	8.5	5068	9.3	6777	9.1	6,110	10.3	4756	9.8	4754	8.6
	25-34	3102	6.8	3172	8.4	3643	8.8	4993	8.2	4,163	10.6	3462	9.4	3723	8.5
	35+														

SURVEILLANCE POPULATION: BLOOD DONORS

Region	Age group	Year 1999		Year 2000		Year 2001		Year 2002		Year 2003		Year 2004		Year 2005	
		Total donors	% Prevalence	Total donors	% Prevalence	Total donors	% Prevalence	Total donors	% Prevalence	Total donors	% Prevalence	Total donors	% Prevalence	Total donors	% Prevalence
Rukwa	15-24			3277	11.8	531	10.7	1829	9.8	1,749	17.9	3281	19.5	1118	7.3
	25-34			968	7.8	134	10.4	567	7.2	559	14.8	1029	19	343	8.7
	35+			1321	14.5	215	9.8	776	11.3	726	19.3	1380	19	477	5.2
Ruvuma	15-24	8301	9.8	9813	10.2	12187	11.2	14965	10.9	12,318	10.3	13127	8.1	13191	10
	25-34	2240	10	2688	8.4	3391	10.5	4232	8.1	3,569	8	3571	6.1	3522	6.9
	35+	3689	10.6	4277	10.8	5342	11.5	6755	12.3	5,385	11.5	5839	8.8	5645	11.3
Shinyanga	15-24	2372	8.3	2848	11.1	3327	11.5	3978	11.5	3,364	10.6	3717	8.8	4024	10.7
	25-34	8654	8.2	9332	9.4	12305	8.4	15603	8.3	19,748	7	19267	7.3	12973	7.6
	35+	2167	6.6	2170	7.5	2759	6.4	3595	6.8	5,015	4.7	4586	5.5	2743	6
Singida	15-24	3987	8.6	4217	10	5950	9.1	7439	8.8	8,999	7.9	9169	8	6078	8.4
	25-34	2500	8.7	2945	10	3568	8.8	4569	8.7	5,734	7.7	5512	7.7	4152	7.5
	35+	4187	8.1	5326	8	6785	11.8	6209	11.9	4,962	7.6	5213	5.7	4482	5.4
Tabora	15-24	947	5.7	1195	7.7	1462	9.5	1394	10.6	1,027	4.4	1141	4.5	909	3.5
	25-34	1868	8.9	2266	8.4	3049	12.7	2691	13.9	2,074	8.4	2276	6.5	1946	6.1
	35+	1372	8.7	1865	7.9	2241	12.1	2124	10.1	1,861	8.5	1796	5.6	1627	5.5
Tanga	15-24	11335	7.1	9084	7.2	9628	7.6	7973	6.6	9,052	8.4	12314	6.5	7762	7.2
	25-34	2877	5.3	2187	4.8	2464	6	1826	5	2,195	5.6	3058	4.9	1691	6.2
	35+	5121	7.6	4084	7.4	4369	8.3	3692	7.2	4,151	9.7	5596	6.9	3675	6.9
Tanga	15-24	10967	8.3	9749	8.8	9583	7.2	6101	7.3	9,276	7.4	11637	5.9	9459	7.2
	25-34	2747	6.2	2383	8.7	2374	8.7	1,574	7.3	2,066	4.8	2575	5.1	1676	6.4
	35+	5122	8.6	4540	9	4436	9.5	2,836	10.5	4,481	8.2	5373	5.7	4538	7.4
		3098	9.8	2826	8.5	2745	7.1	1,691	10.9	2,729	8.1	3689	6.7	3245	7.4

SURVEILLANCE POPULATION: BLOOD DONORS

Table 3.7: Estimated HIV infection for the period 1980 - 2010, Tanzania, 2005/06

Year	National			Urban			Rural		
	HIV prevalence	Number HIV positive	Population 15 years and above	HIV prevalence	Number HIV positive	Population 15 years and above	HIV prevalence	Number HIV positive	Population 15 years and above
1980	0.0	0	12,346,938		0	2,997,454	-	0	9,349,484
1981	0.0	2,056	12,700,607	0.0	753	3,083,314	0.0	1,303	9,617,293
1982	0.0	4,465	13,066,532	0.1	1,869	3,172,148	0.0	2,596	9,894,384
1983	0.1	9,645	13,445,560	0.1	4,562	3,264,157	0.1	5,084	10,181,403
1984	0.2	20,931	13,837,759	0.3	11,029	3,359,345	0.1	9,902	10,478,414
1985	0.3	45,341	14,242,595	0.8	26,176	3,457,550	0.2	19,165	10,785,045
1986	0.7	96,457	14,660,257	1.7	59,707	3,558,733	0.3	36,749	11,101,523
1987	1.3	195,083	15,091,567	3.4	125,734	3,662,895	0.6	69,349	11,428,672
1988	2.3	358,152	15,535,989	6.1	230,855	3,769,467	1.1	127,297	11,766,522
1989	3.6	576,817	15,992,189	9.1	353,627	3,877,351	1.8	223,190	12,114,838
1990	5.0	820,505	16,457,953	11.4	455,518	3,985,003	2.9	364,987	12,472,950
1991	6.3	1,063,172	16,930,477	12.7	519,126	4,090,880	4.2	544,046	12,839,597
1992	7.4	1,282,312	17,406,812	13.2	551,462	4,193,893	5.5	730,851	13,212,919
1993	8.1	1,455,825	17,884,367	13.2	564,963	4,293,625	6.6	890,862	13,590,742
1994	8.6	1,574,004	18,361,451	13.0	568,711	4,390,340	7.2	1,005,293	13,971,111
1995	8.7	1,642,664	18,837,695	12.7	568,217	4,484,899	7.5	1,074,446	14,352,796
1996	8.7	1,675,047	19,313,294	12.4	566,788	4,578,380	7.5	1,108,259	14,734,914
1997	8.5	1,684,416	19,787,874	12.1	566,402	4,671,643	7.4	1,118,014	15,116,232
1998	8.3	1,681,590	20,264,914	11.9	568,308	4,766,279	7.2	1,113,282	15,498,635
1999	8.1	1,674,800	20,748,445	11.8	573,238	4,863,716	6.9	1,101,562	15,884,729
2000	7.9	1,670,129	21,244,115	11.7	581,489	4,965,392	6.7	1,088,640	16,278,723
2001	7.7	1,671,714	21,753,869	11.7	592,888	5,071,440	6.5	1,078,827	16,682,429
2002	7.6	1,682,003	22,280,202	11.7	606,876	5,181,665	6.3	1,075,127	17,098,537
2003	7.5	1,702,064	22,824,243	11.8	622,650	5,295,196	6.2	1,079,414	17,529,047
2004	7.4	1,731,823	23,386,053	11.8	639,328	5,411,056	6.1	1,092,495	17,974,997
2005	7.4	1,770,383	23,965,353	11.9	656,180	5,528,945	6.0	1,114,203	18,436,409
2006	7.4	1,816,326	24,561,812	11.9	672,778	5,649,217	6.1	1,143,548	18,912,595
2007	7.4	1,867,918	25,175,048	11.9	688,962	5,772,255	6.1	1,178,956	19,402,793
2008	7.5	1,923,315	25,804,857	12.0	704,740	5,898,178	6.1	1,218,576	19,906,679
2009	7.5	1,980,796	26,451,275	12.0	720,215	6,026,920	6.2	1,260,581	20,424,355
2010	7.5	2,038,949	27,114,399	11.9	735,544	6,158,376	6.2	1,303,405	20,956,023

4

PREVENTION OF MOTHER TO CHILD TRANSMISSION OF HIV

4.1 Introduction

Mother to Child transmission is by far the commonest means of HIV infection in children below 15 years of age. The chances of survival of the child who acquire HIV infection through vertical transmission are poor, adding significantly to the high overall infant mortality rate. Without any intervention 25- 40 % of the infected pregnant women will transmit HIV virus to their babies during pregnancy, labour and delivery and through breast feeding.

It is estimated that with a prevalence rate of HIV infection of 10% among pregnant women more than 72,000 babies will acquire infection through MTCT in Tanzania per annum. Strategies like counselling and testing during pregnancy, provision of ARV whether mono or triple therapy, modified obstetric care and safer infant feeding practices have shown to significantly reduce MTCT of HIV.

Tanzania is among many African countries that has prioritised PMTCT as a major area of HIV and AIDS intervention. This is reflected in the National Multisectoral Strategic framework on HIV and AIDS (2003-2007) as well as in Health Sector Strategy for HIV and AIDS (2003-2006).

Following a successful PMTCT piloting phase in 2002, the MoHSW committed to scale up PMTCT services to the whole country. The aim is to expand and integrate PMTCT services in routine Reproductive and Child health services in all regions in the country.

Strategic Objective: To reduce the risk of mothers to child transmission of HIV to their children, during pregnancy, birth and during breast feeding by increasing access of pregnant women to PMTCT services in all regions and selected districts by the end of the year 2006.

4.2 Methods:

Following the set of indicators that were developed and endorsed by the Ministry of Health and social welfare in 2003, specifically designed PMTCT data collection tools were distributed to all sites that provide PMTCT services. The forms collect quarterly aggregated information that includes number of new pregnant women that were counselled, number tested for HIV, HIV status and the number of HIV positive pregnant women that received ARV prophylaxis to prevent MTCT just to mention a few.

At the end of the quarter a monthly summary form is filled out to give the total number of pregnant women who were given various services in that facility. New PMTCT clients are defined as those being registered in the PMTCT services for the first time regardless of the previous visits to that facility.

4.3 Results:

In year 2005, a total of 255,913 new ANC attendees were registered in facilities implementing PMTCT out of them 87 percent (222,031) were pre-test counselled during ANC visits. Among those pre-test counselled, about 93 percent (206,721) accepted to have an HIV test. Among those who were tested 98 percent (202,909) were post test counselled and received the results. During that period 6.7 percent (13,878) of the women tested were identified HIV positive.

On the other hand, a total of 126,689 mothers came to deliver with unknown status, of those 15 percent (19,368) were counselled and tested for HIV and out of them 7.3 percent (1,406) tested positive. The initiative of counselling, testing and giving Nevirapine to HIV positive pregnant mothers during labour was practiced in some of the health facilities in the country.

PREVENTION OF MOTHER TO CHILD TRANSMISSION OF HIV

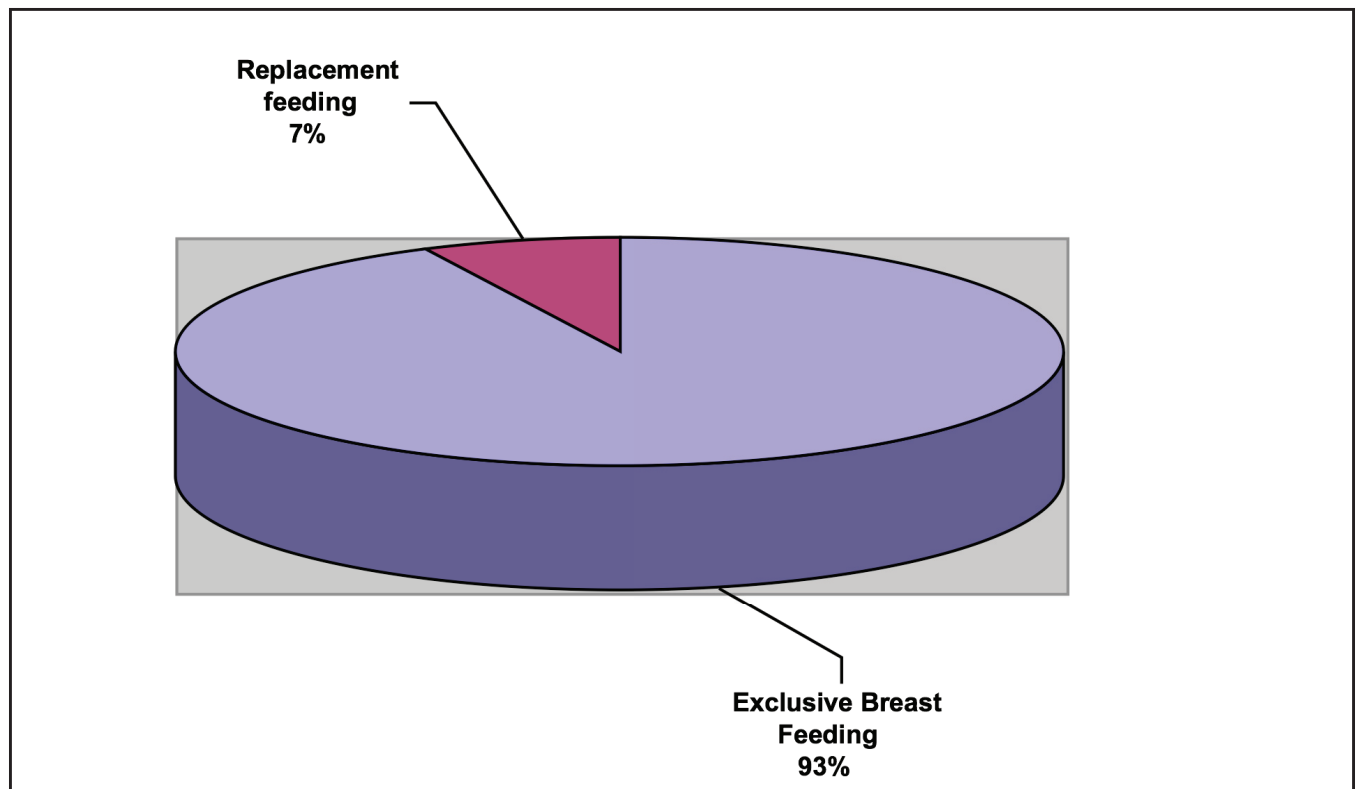
During the same period a total of 19,520 male partners attended reproductive and child health services where PMTCT services are being offered constituting 7.7 percent of male involvement. All male partners received PMTCT counselling and testing, of those 3.8 percent (746) were reported to be HIV positive.

A total of 227,771 women delivered in the above sites during this period, among them 34.3 per cent (78,184) knew their HIV sero - status from ANC services. This poses a major challenge of expanding counselling and testing services in labour and delivery wards.

A total number of 5,346 HIV positive mothers collected Niverapine at ANC and 6,748 swallowed Nevirapine in labour and delivery wards. It is also reported that a total number of 6,468 infants received Niverapine syrup within 72 hours after delivery. This low number of HIV positive women and their babies who received Niverapine could be due to the fact that still most deliveries do occur at home and health care providers have not emphasized enough on the importance of taking Niverapine to reduce MTCT.

Regarding the infant feeding options taken by HIV positive mothers, it was found that out of 7,131 HIV positive women, 92.7 percent (6,611) had an intention of breastfeeding their babies exclusively and only 7.3 percent (520) had an intention of giving replacement feeding to their babies.

4.1 Infant Feeding Option in PMTCT Program January – December 2005



Most of the facilities that had PMTCT and CTC made an effort to refer HIV positive women to CTC and it was found that 471 pregnant mothers who were referred to CTC were initiated Antiretroviral therapy (ART). In the existing data tools this indicator is not well captured, however the unit is planning to introduce appropriate tools in order to trace this indicator in the current review of data collection tools.

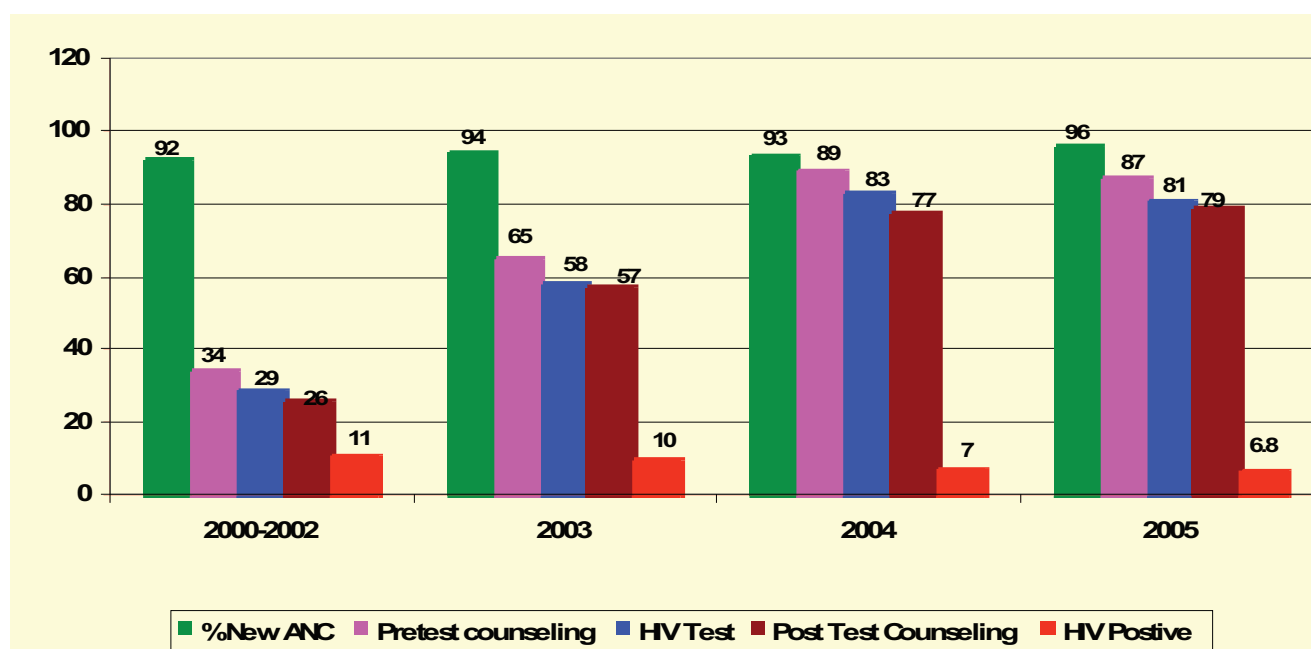
PREVENTION OF MOTHER TO CHILD TRANSMISSION OF HIV

Overall Trend of PMTCT Performance year 2000 to 2005

The graph below give description of data compiled at central level for the period of July 2000 to December 2005. It is indicated that there is high Antenatal visit to Reproductive and Child Health Services (RCHS) delivery points, a five year trend from 2000 to 2005 indicate that about 92 to 96 percent of pregnant mothers attended at least one ANC visit.

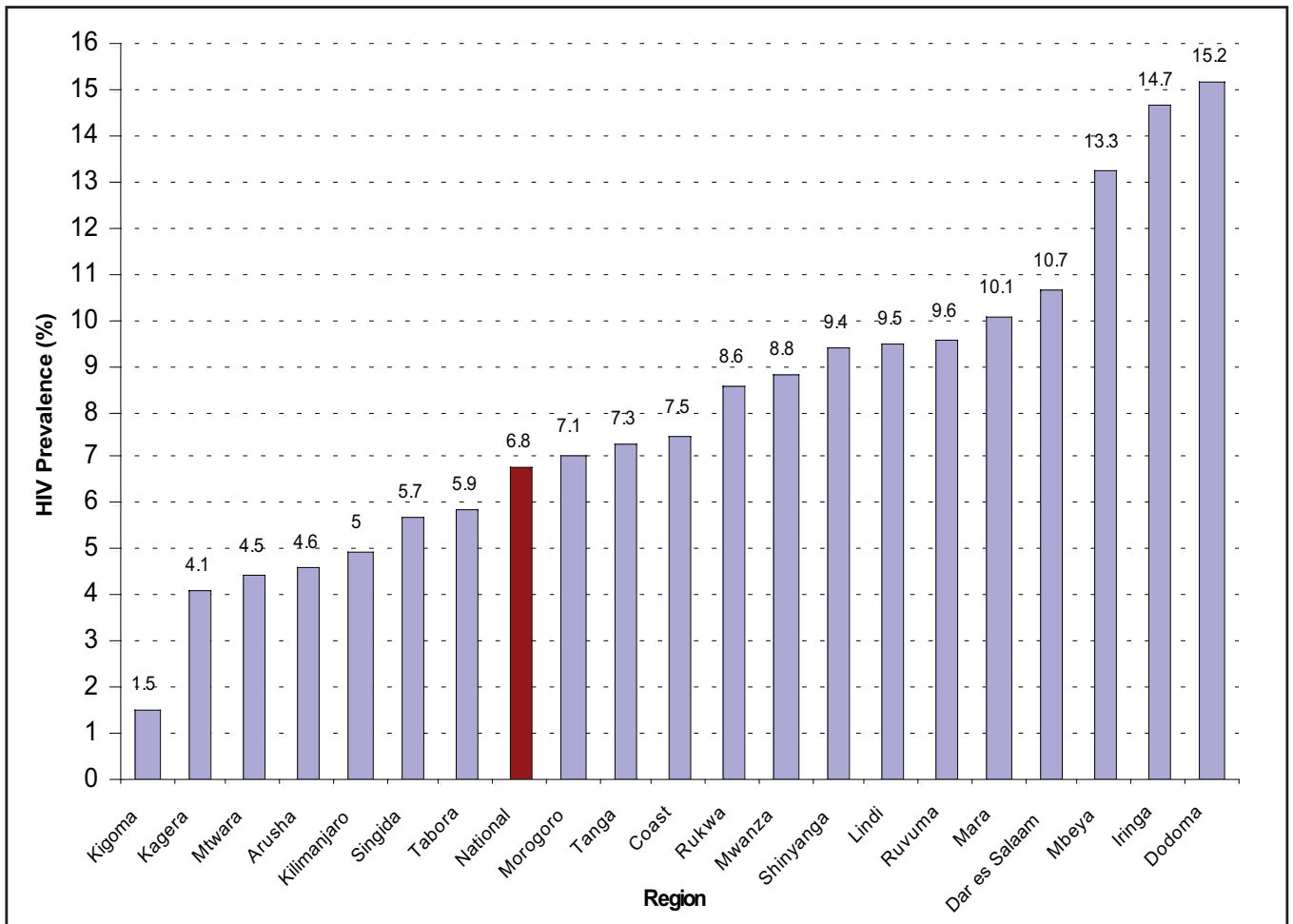
Counseling coverage for PMTCT was initially low (34%) in the year 2000 but has been increasing progressively as the programme was scale up to more health facilities (87%) in 2005. The trend for HIV prevalence has also been observed to have decreased over the five years from 11 percent during pilot (2000-2002), 10 percent in the year 2003, 7 percent in 2004 up to 6.7 percent in year 2005. This findings emphasizes on the need to expand the PMTCT services while giving special priorities to areas with high HIV prevalence rate

4.2 PMTCT Performance trend year 2000 - 2005



PREVENTION OF MOTHER TO CHILD TRANSMISSION OF HIV

Fig 4.5 : Prevalence of HIV among PMTCT attendees, 2005



5

CARE AND TREATMENT OF PEOPLE LIVING WITH HIV/AIDS

5.1 Introduction

As the number of people living with HIV/AIDS was increasing, National and International commitments were put in place. International commitments include Abuja Declaration, UNGASS, and WHO 3 by 5 and National commitments include Presidential declaration of HIV/AIDS as a disaster (1999), Formation of TACAIDS (2000), Development of HIV/AIDS Policy (2001), Development of National Multi-Sectoral Strategic Framework (2003-2007).

The National Multisectoral Strategic Framework (2003-2007), resulted in Development of Health Sector Strategy on HIV/AIDS (2003-2006) which included three thematic areas namely Prevention, Care and Treatment, Cross Cutting Issues. Based on the Care and Treatment thematic area of the HSS on HIV/AIDS, The National Care and Treatment Plan (NCTP) was developed and approved in 2003

Goals of the National Care and Treatment Plan (NCTP)

Four goals were identified in this plan. The Goals are:

- To provide quality, continuing care and treatment to as many HIV+ residents of the United Republic of Tanzania as possible, building on the careful planning already completed by the Ministry of Health and the Tanzania Commission for AIDS, Secon
- To contribute to strengthening the health care structure of Tanzania, through expansion of health care personnel, facilities and equipment and comprehensive training in the care and treatment of PLWHA
- To foster information, education and communication efforts focused on increasing public understanding of care and treatment alternatives, reducing the stigma associated with HIV/AIDS, and supporting ongoing prevention campaigns, and
- To contribute in strengthening social support for care and treatment of PLWHA in Tanzania, such as home-based care, local support groups, and treatment partners

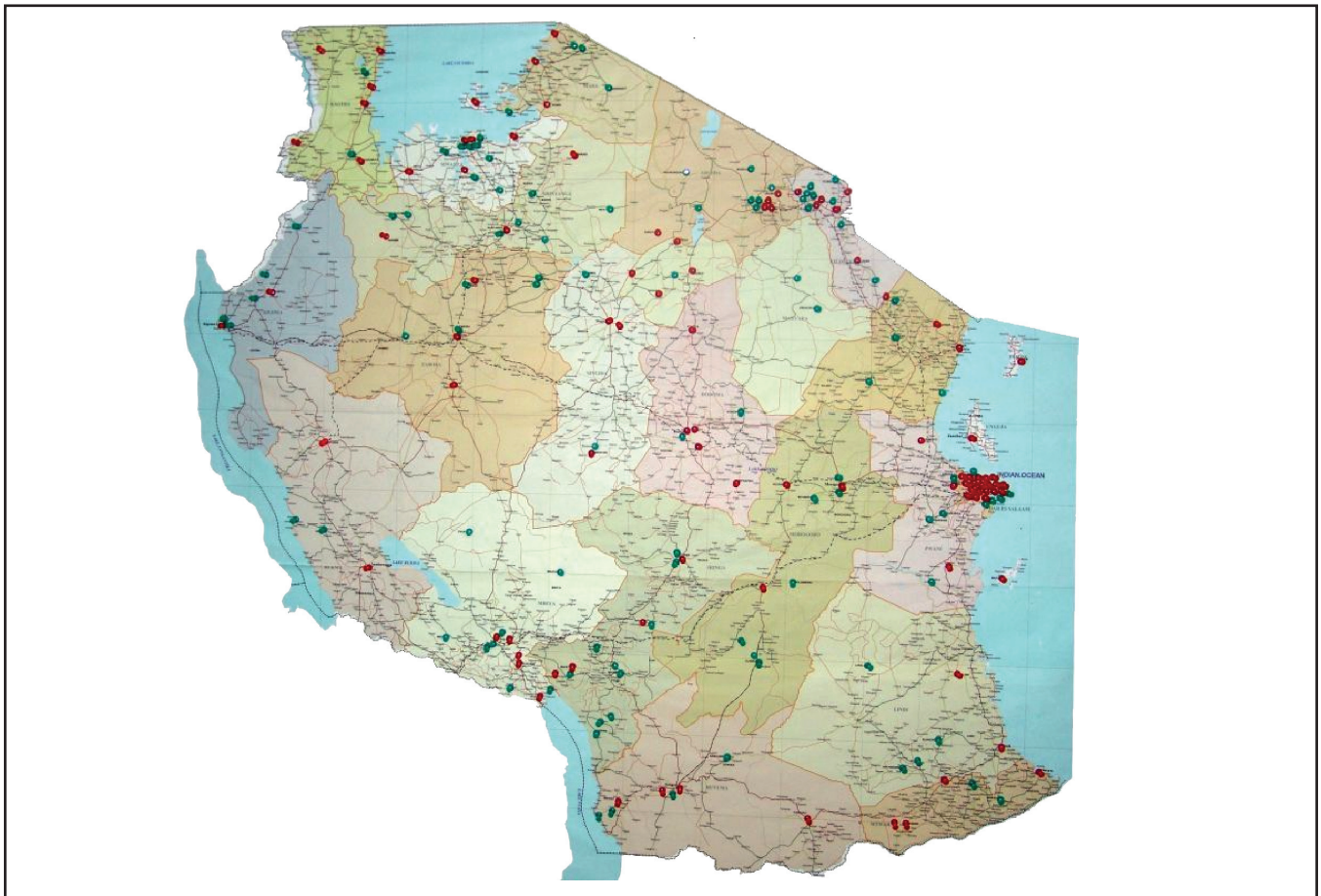
The effective implementation of the Health Sector Strategy on HIV/AIDS (2003-2006) started on October 2004 by initiation of Care and Treatment (CTCs). Data from CTC started to flow to NACP in November 2004.

4.2 Methods

In order to monitor the progress of implementation of the Care and Treatment plan various method of data collections have been employed. The method include fortnight reports where by each CTC is required to report twice in a month i.e. every fortnight to the Ministry of Health National AIDS Control Programme (NACP). This information is compiled and used for day to day monitoring of the Programme.

Another monitoring that is done is the Compressive Patient Monitoring that CTC, are reporting to NACP through Districts, Region and finally to NACP. Data are being collected using CTC2 cards and reported to NACP using CTC3 forms. There are electronic versions of the two ie CTC2 and CTC3 whereby from the CTC2 database data can be exported and imported to CTC3 database located at NACP. Due to the revision of the tools for data collection/recording and reporting now the report from the CTC3 forms has changed and is being replaced by the cross sectional reports (monthly and quarterly) and cohort reporting forms. The CTC2 has remained as the base for data collection. The CTC returns dully filled CTC3 report form and CTC3 export files.

Map 1: Distribution of Care and Treatment sites, Tanzania 2006



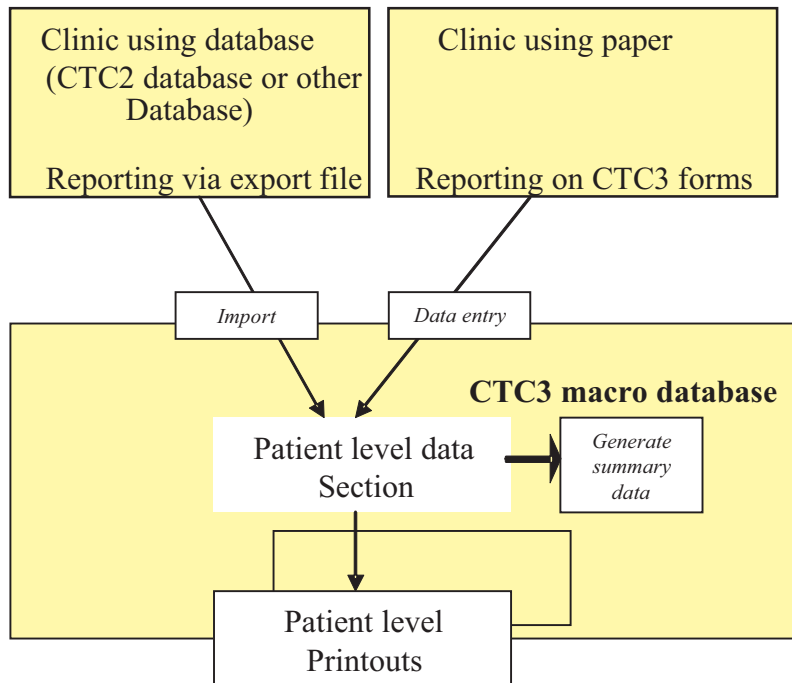
- 96 sites – Facilities started in the year 2004 - 2005
- 104 sites – Facilities started in the year 2005 - 2006

5.3 Data collection tools and flow

A data set of 91,000 patients enrolled in HIV Care (ART and non ART) from October 2004 to December 2006 obtained from NACP database were used in this analysis.

The data was collected by using the standard CTC2 cards and reported to NACP using a standard reporting form called CTC3 and CTC3 database export files. For the facilities that are using electronic system, the data is entered from the CTC2 cards at the facilities and reported to NACP using export files, where by the contents resembles to the CTC3 reporting forms then are being keyed at NACP. Another card, which is patient held card that helps patients themselves to remember the appointment, dates and the regimens they are using, this is CTC1.

Fig 5.1: Data flow from Facilities to NACP



5.4 Analysis plan

The data was analyzed by using cross-sectional and cohort analysis. The cross-sectional analysis was carried out using data from patient on HIV care (ART and non ART). The analysis was done on patient enrollment per quarter stratified by year of enrollment, geographical distribution of the patients, distribution of patients by gender and age groups, distribution of children by gender and age group and patient status (attending clinic, lost to follow up (LTF), died etc) during their recent visit

Data from four cohorts of patients who started treatment in 2005 were studied. These cohorts are of group of patients who started treatment in January to March 2005 (cohort of Q1 2005), group of patients who started treatment in April to June 2005 (cohort of Q2 2005), group of patients who started treatment in July to September 2005 (cohort of Q3 2005) and group of patients who started treatment in October to September 2005 (cohort of Q4 2005). The patients in these cohorts were followed up separately to determine their ART status (on ARV, Stopped ARV), weight change, lost to follow-up and deaths 6, 12 months after initiation of treatment. The analyses were done basing on the National indicators framework.

CARE AND TREATMENT OF PEOPLE LIVING WITH HIV

Table 5.1: Distribution of patients' enrolled in CTC by Age and sex; December 2006

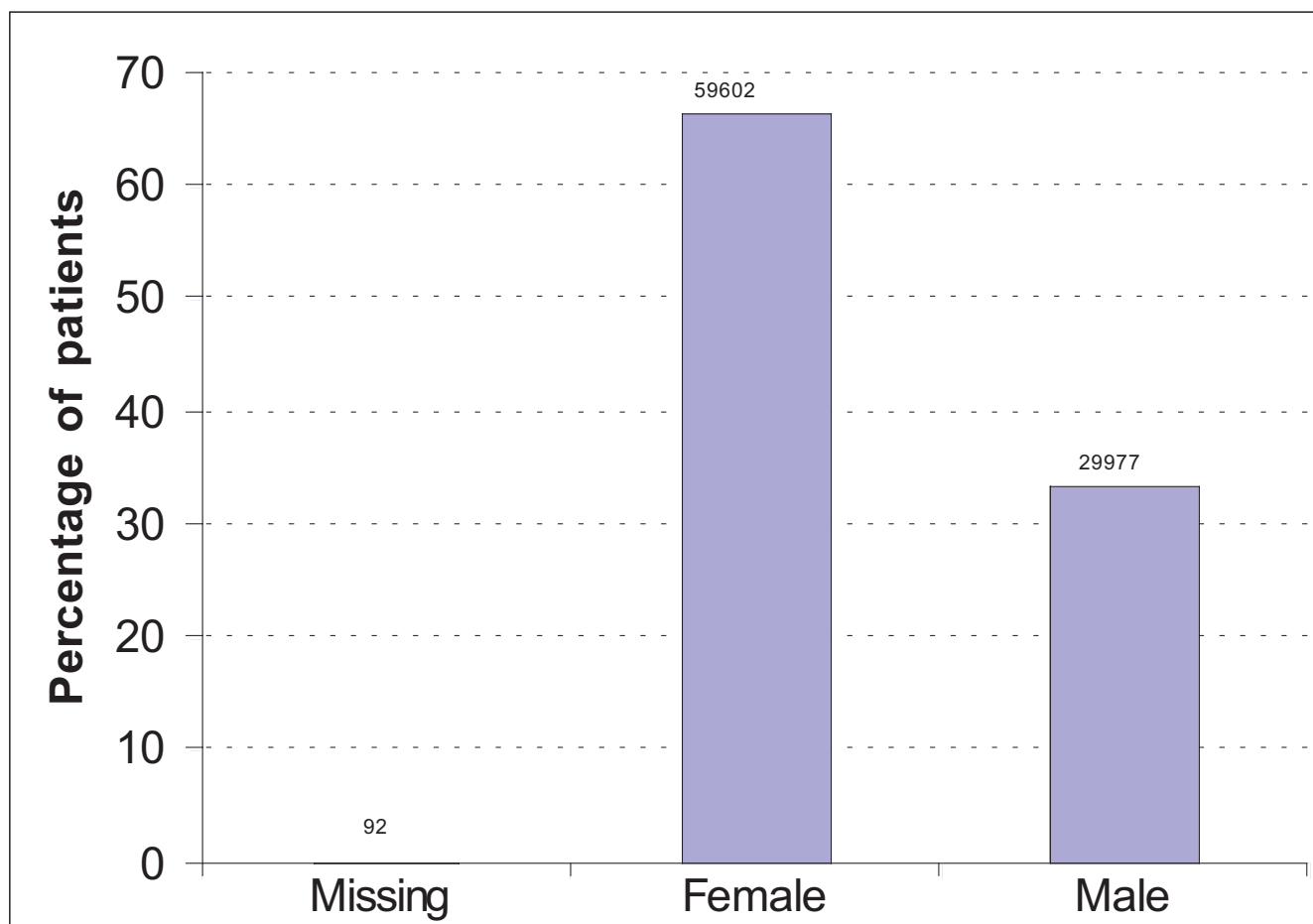
Region	Adult Enrolled in CTC			Children Enrolled in CTC	Total Adults & Children Enrolled in CTC	Adult on ARVs			Children on ARV	Total Adults & Children on ARV
	Male	Female	Total			Male	Female	Total		
Arusha	1,728	3,439	5,167	586	5,753	1,042	2,038	3,080	597	3,677
Coast	829	1,620	2,449	255	2,704	522	858	1,380	106	1,486
Dodoma	3,726	2,405	6,131	592	6,723	647	1,307	1,954	226	2,180
Dsm	9,664	22,703	32,367	4,156	36,523	5,335	10,642	15,977	2,237	18,214
Iringa	3,658	6,459	10,117	1,045	11,162	1,916	2,826	4,742	415	5,157
Kagera	1,112	2,279	3,391	223	3,614	583	1,143	1,726	107	1,833
Kigoma	234	506	740	71	811	153	317	470	47	517
Kilimanjaro	2,119	4,290	6,409	1,137	7,546	1,065	2,117	3,182	456	3,638
Lindi	588	1,096	1,684	101	1,785	286	553	839	35	874
Manyara	446	951	1,397	127	1,524	214	522	736	78	814
Mara	1,017	1,780	2,797	117	2,914	519	899	1,418	48	1466
Mbeya	3,353	6,153	9,506	1,532	11,038	1,779	2,362	4,141	418	4,559
Morogoro	1,114	1,665	2,779	283	3,062	588	1,161	1,749	144	1,893
Mtwara	907	1,722	2,629	190	2,819	524	1,089	1,613	111	1,724
Mwanza	2,853	4,622	7,475	548	8,023	1,165	2,073	3,238	221	3,459
Rukwa	366	505	871	75	946	168	238	406	26	432
Ruvuma	1,109	2,099	3,208	257	3,465	544	1,120	1,664	124	1,788
Shinyanga	1,056	1,736	2,792	159	2,951	516	927	1,443	84	1,527
Singida	576	905	1,481	79	1,560	353	504	857	42	899
Tabora	1,135	1,895	3,030	284	3,314	502	731	1,233	108	1,341
Tanga	1,899	4,257	6,156	746	6,902	728	1,780	2,508	355	2,863
Total	39,489	73,087	112,576	12,563	125,139	19,149	35,207	54,356	5,985	60,341

Fig 5.2: Distribution of CTC Enrolled cases per quarter categorized by year from CTC3 database.

Age group	Female	Male	All Sexes	Percents
0 - 4	500	478	978	1.5
5 - 9	1,187	1,131	2,318	3.7
10 -14	1,014	819	1,833	2.9
15 - 19	481	273	754	1.2
20 - 24	1,438	215	1,653	2.6
25 - 29	4,462	848	5,310	8.4
30 - 39	17,202	6,725	23,927	37.8
40 - 49	10,699	6,822	17,521	27.7
50 - 59	3,458	3,069	6,527	10.3
60 +	1,129	1,294	2,423	3.8
Total	41,570	21,674	63,244	100.0

When detailed information about patients was analyzed, it was found that 86.2% of those enrolled in CTC were still attending the clinic where they were registered, 3.2 % had died and 8.4% were lost to follow up.

Fig 5.2: Distribution of enrolled patients by sex (source CTC3 database).



CARE AND TREATMENT OF PEOPLE LIVING WITH HIV

Fig 5.3: Distribution of enrolled patients by sex (source is fortnight report).

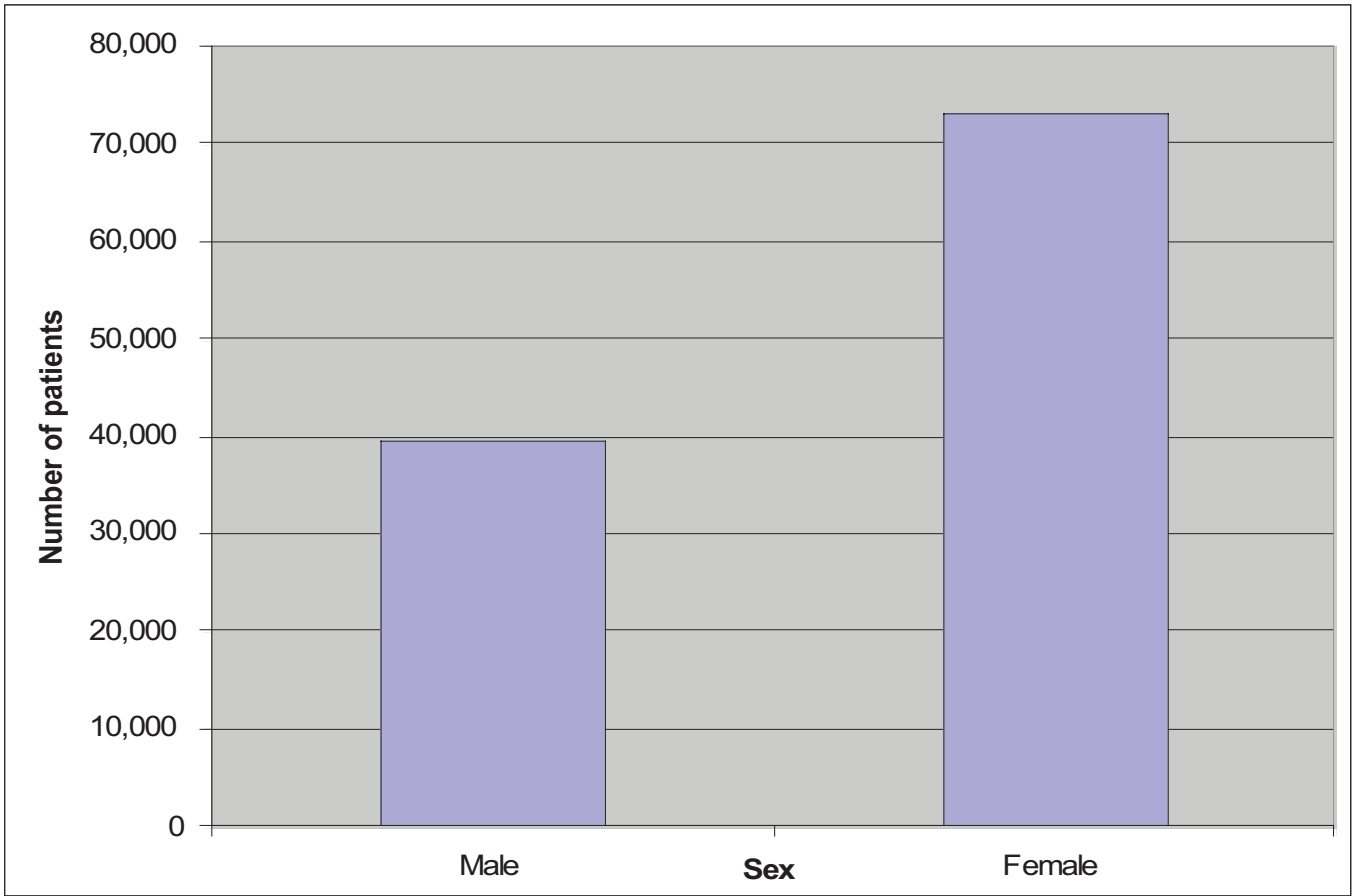
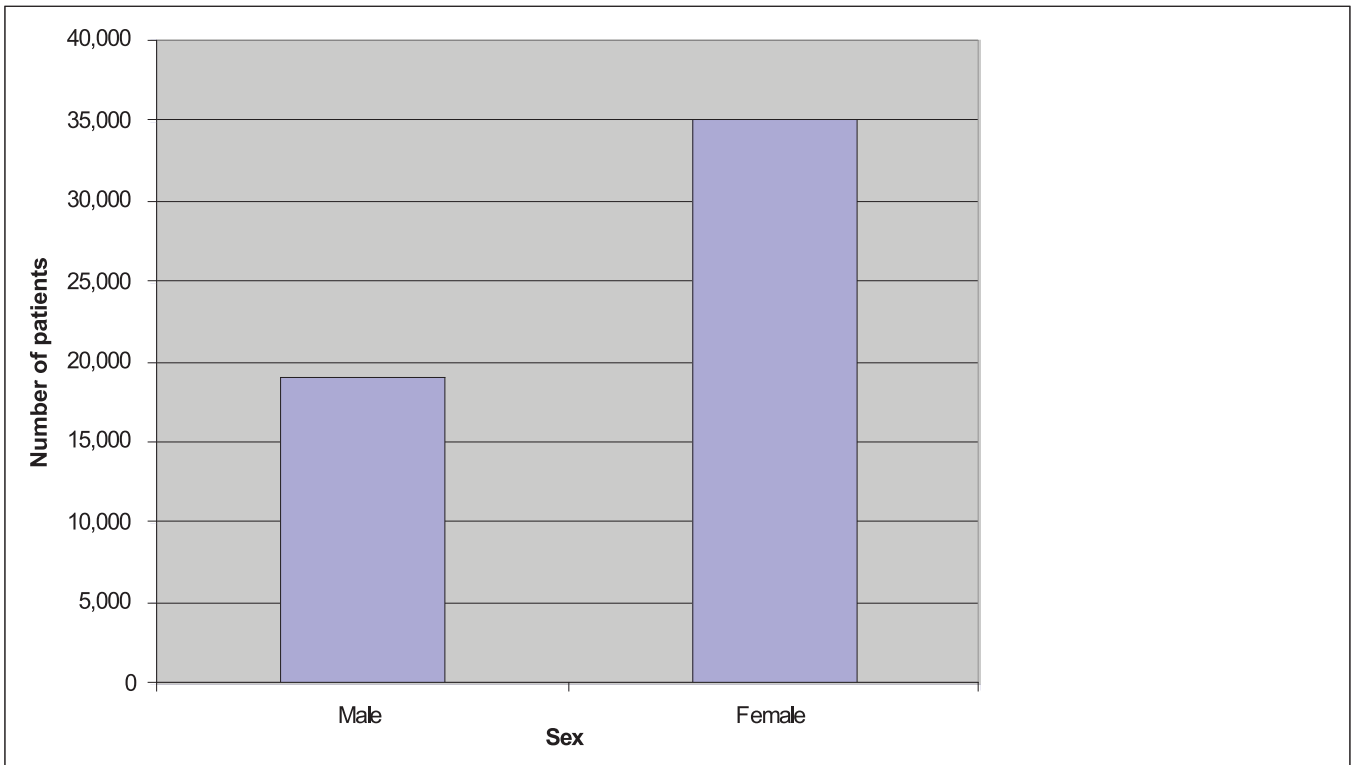


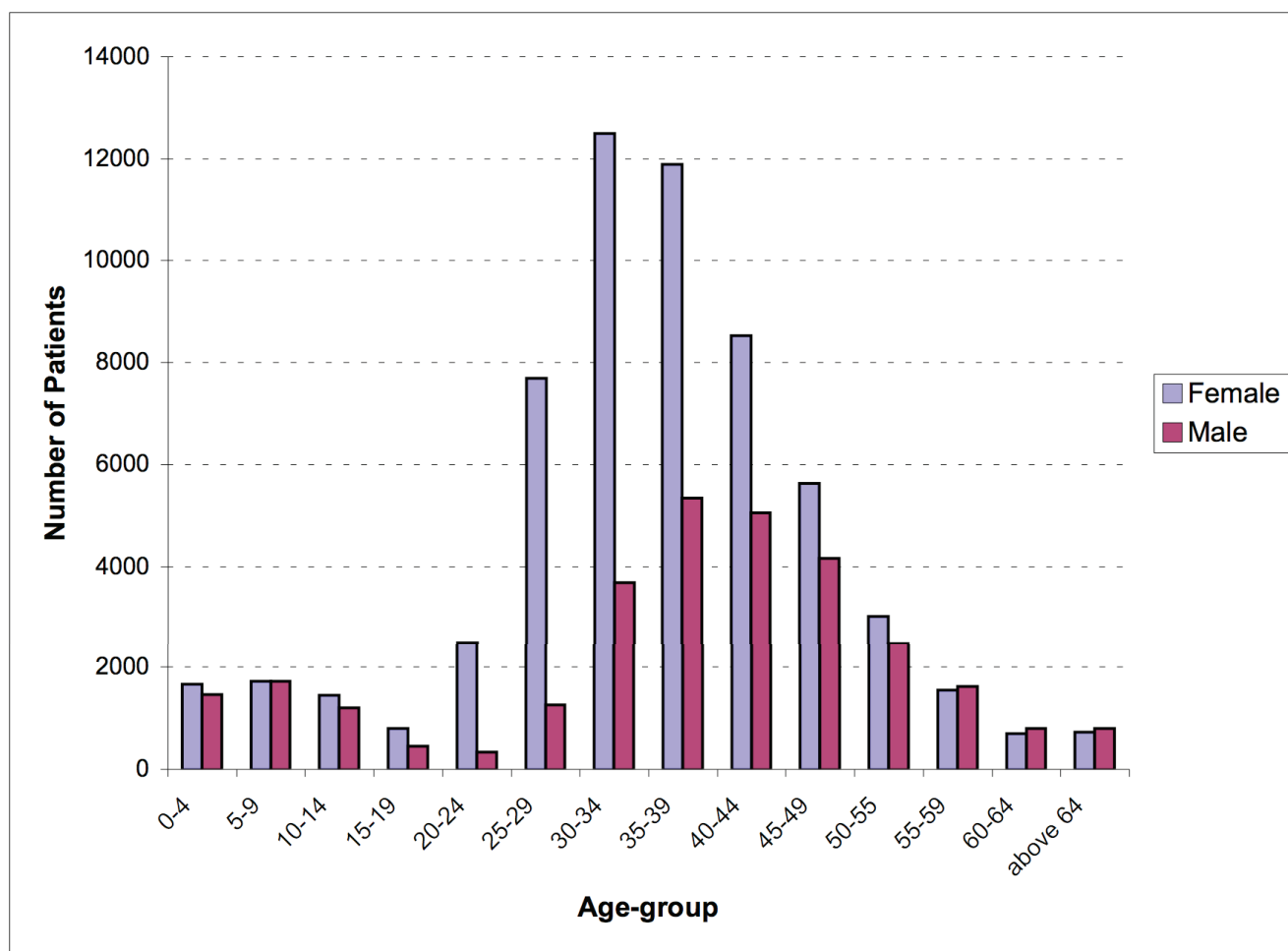
Fig5.4: Distribution of patients on ARVs by sex (source is fortnight report).



Age and sex Distribution of enrolled patients in CTC

Figure 5.3 shows age and sex distribution of people enrolled in CTC. From the figure it is seen that most of the people on ART are in the age group 25 to 49 for female with the peak at 30 - 34 while for male it was between the overall mean age for the registered patient is 35.8 years and that for male is 37.3 while for female is 35.1 years.

Fig 5.5: Distribution of patients enrolled by age groups and sex.



6

SURVEILLANCE OF OTHER STIS

6.1 Introduction

Sexually transmitted infections (STIs) are a major public health problem, which cause acute illness, infertility, long-term disability and death, with severe social, economic, psychological and health consequences for millions of people. STIs are a marker of sexual networking and may provide clues on the extent of unprotected sex in a community. STIs are also known to facilitate sexual transmission and spread of HIV infection. While control of STIs has been recognized as one of the key strategies in the control and prevention of HIV infection, effective STI management is also an important cornerstone of STI control. The latter prevents the development of complications, decreases the spread of these infections in the community and provides opportunity for provision of health education about HIV prevention. Consequently, systematic surveillance for STIs through a national programme may provide the needed environment for their eventual control.

6.2 History of STI control

STI control in Tanzania started as a pilot in 22 urban-based facilities in a few districts during late 1980s, followed by 12 regions under the support of the European Union (EU). The EU supported regions included Arusha, Dar es Salaam, Dodoma, Iringa, Kigoma, Lindi, Mara, Mbeya, Morogoro, Mwanza, Shinyanga and Tanga. Subsequently, the programme was expanded to more regions and by the end of 2004, all regions of the country had been covered by the programme. Despite these developments, irregular supply of STI drugs, lack of laboratory reagents and short supply of other medical supplies have hampered the control of STIs in many clinics. Also there is inadequate work force of well-trained personnel to provide STI services. Since heterosexual HIV transmission is closely related to that of other STIs, management and control of the latter in the community can greatly reduce the rate of HIV infections. Consequently, it is important for programme managers to know whether or not these other STIs are well managed or controlled to enable them to assess the impact of their STI management and control activities on HIV transmission.

The aim of monitoring is therefore to keep track of the various STI management and control activities and assess progress towards control of HIV/AIDS/STIs. The following section deals with methods used in the monitoring of the other STIs nationally.

6.3 Methods

Sites for STI surveillance include hospitals, health centres and dispensaries that provide comprehensive STI care in Tanzania. Methods of surveillance have involved the development of a special data collection form that is distributed to surveillance sites to collect the needed information. The forms are used to collect aggregate information, which includes, number of new episodes of STI syndromes, number of treated cases by type and location of facility, type of STI by gender and by age group (<20, 20-29 and 30+years). The data collection form also records information about re-treatment and number of contacts traced. This aggregated information is recorded by age-groups, which limits further analysis at a national level. The aggregated information is reported at quarterly intervals by submitting the fully-filled forms to NACP through the respective District and Regional Medical Officers for data processing and compilation of a report at the end of each year. On receiving the forms, computer data entry clerks routinely process the data using the EPIINFO and dBase IV software before they are finally converted to the STATA Version 8 software for analysis to produce the required tables and figures.

6.4 Results

During the year 2005, a total of 325,998 STI episodes were reported by STI clinics of the different health facilities throughout the country. Of these episodes, 143,616 (44.1%) were reported as genital discharge syndromes, 69,074 (21.2%) were reported as genital ulcer diseases, 76,039 (23.3%) were reported as pelvic inflammatory diseases, and the rest 37,269 (11.4%) were reported as other syndromes (Table 6.1).

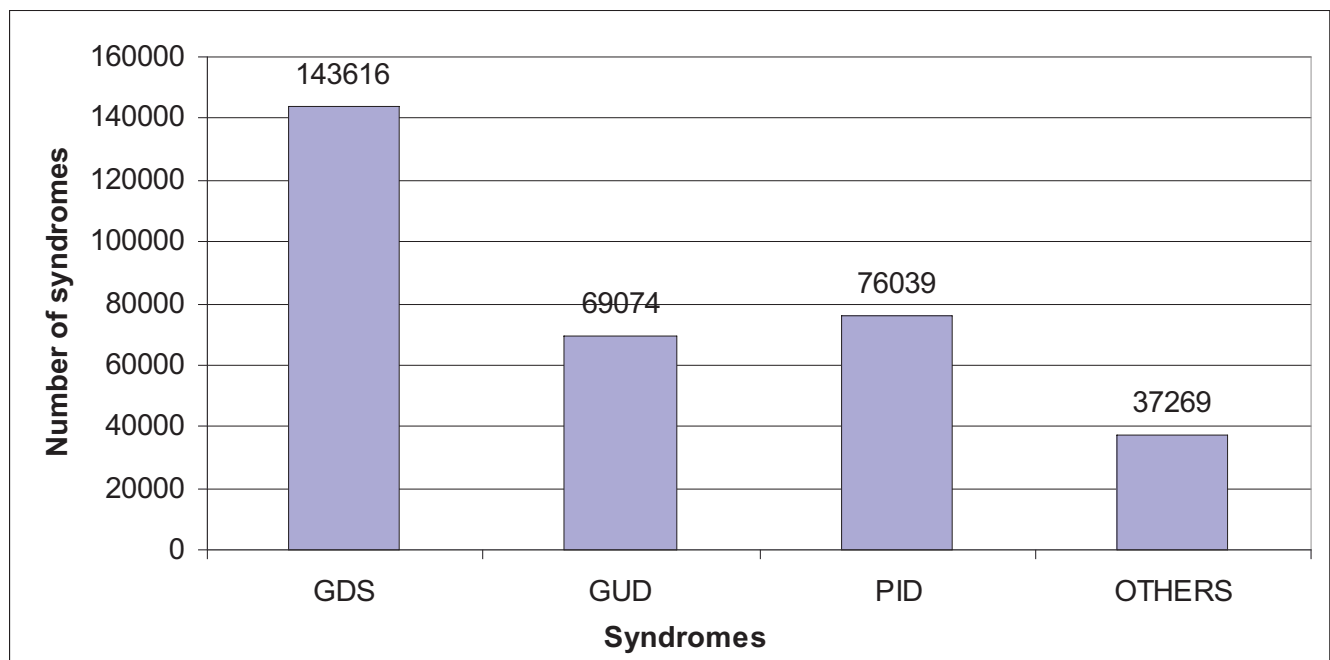
Overall, regions reporting the highest number of episodes include, Mbeya (43,421), Dar es Salaam (30,556), Mara (30,362), Tanga (26,028) Mwanza (24,942), Dodoma (24,107) and Kilimanjaro (22,245) in decreasing order. The smallest number of episodes was reported from Lindi (558), Singida (1630) and Kagera (1,999)(See Table 6.2). The highest number of STI syndromes was reported in the age group 20-29 years among females, followed by the age

SURVEILLANCE OF OTHER STIs

group 30 years and above among males. Figures 4.3-4.6 summarize the pattern of age and sex distribution of STI syndromes.

Among the cases, which reported STI episodes, 42,761 (13.1%) underwent re-treatment, possibly due to drug resistance, re-infection, non-compliance and treatment interruption for various reasons. Assuming that each case had one contact, altogether about 26.1% of the contacts (85,003 cases) were traced and treated. This proportion is the same as that in 2004 and possibly reflects a low yield. This low yield emphasizes the need for strengthening of contact tracing strategies in the country.

Figure 6.1: Number of reported New STI syndromes, Tanzania, 2005



SURVEILLANCE OF OTHER STIs

Table 6.1: Distribution of reported new STI episodes by age groups, sex, syndromes and regions, Tanzania, January – December 2005

Region	Sex	GDS				GUD				PID				Others				
		Age Grp	<20	20-29	30+	Total	<20	20-29	30+	Total	<20	20-29	30+	Total	<20	20-29	30+	Total
Arusha	Male		470	1,055	1,091	2,616	70	246	327	643					36	108	100	244
	Female		607	1,468	1,298	3,373	104	328	342	774	355	900	785	2,040	46	128	118	292
Coast	Male		199	512	587	1,298	106	277	320	703					59	116	112	287
	Female		367	955	682	2,004	127	305	205	637	415	811	882	2,108	68	119	81	268
Dodoma	Male		754	2,260	2,071	5,085	305	913	1,030	2,248					359	407	320	1,086
	Female		965	2,371	2,195	5,531	516	1,297	1,259	3,072	968	2,552	2,446	5,966	416	329	374	1,119
Dar es Salaam	Male		760	2,370	1,838	4,968	471	1,332	973	2,776					491	648	940	2,079
	Female		1,684	4,280	2,462	8,426	607	1,241	831	2,679	1,442	3,152	2,435	7,029	627	939	1,033	2,599
Iringa	Male		259	523	562	1,344	142	409	412	963					43	92	122	257
	Female		287	570	600	1,457	186	451	434	1,071	238	701	765	1,704	65	141	147	353
Kagera	Male		73	147	170	390	36	74	81	191					68	31	37	136
	Female		113	228	176	517	63	97	67	227	86	197	138	421	33	41	40	114
Kigoma	Male		227	731	886	1,844	63	261	338	662					138	111	155	404
	Female		645	1,908	1,388	3,941	138	342	348	828	212	913	776	1,901	143	157	123	423
Kilimanjaro	Male		432	1,158	1,647	3,237	152	336	470	958					547	401	413	1,361
	Female		1,457	3,433	3,233	8,123	170	472	449	1,091	791	2,333	2,092	5,216	681	825	753	2,259
Lindi	Male		1	51	46	98	1	20	26	47					7	12	9	28
	Female		8	60	88	156	6	23	19	48	20	64	74	158	2	8	13	23
Manyara	Male		316	1,541	2,088	3,945	28	144	210	382					124	171	257	552
	Female		596	2,720	2,522	5,838	50	194	251	495	283	1,049	1,169	2,501	188	482	486	1,156
Mara	Male		631	1,316	1,673	3,620	620	1,871	1,879	4,370					695	864	779	2,338
	Female		1,006	1,843	2,650	5,499	1,741	1,587	1,206	4,534	1,270	2,935	2,349	6,554	951	1,338	1,158	3,447
Mbeya	Male		788	3,474	3,235	7,497	724	3,059	3,129	6,912					523	629	581	1,733
	Female		1,857	5,115	2,892	9,864	1,091	3,462	2,337	6,890	1,261	3,954	3,327	8,542	726	755	502	1,983
Morogoro	Male		120	523	546	1,189	57	230	260	547					106	156	159	421
	Female		232	703	532	1,467	77	279	216	572	345	1,009	822	2,176	116	174	167	457
Mtwara	Male		214	671	682	1,567	191	592	440	1,223					67	137	100	304
	Female		326	865	660	1,851	161	510	401	1,072	147	1,037	904	2,088	80	129	176	385
Mwanza	Male		561	1,336	1,511	3,408	412	955	1,041	2,408					368	470	492	1,330
	Female		1,213	3,248	2,182	6,643	516	1,184	930	2,630	1,219	2,932	2,617	6,768	495	696	564	1,755
Rukwa	Male		639	1,123	847	2,609	468	857	833	2,158					356	437	516	1,309
	Female		874	1,441	1,248	3,563	547	1,016	986	2,549	783	1,256	1,440	3,479	345	504	666	1,515
Ruvuma	Male		301	938	1,011	2,250	221	611	723	1,555					173	144	224	541
	Female		744	1,668	1,103	3,515	308	801	630	1,739	348	1,131	932	2,411	154	204	133	491
Singida	Male		26	101	155	282	5	32	70	107					10	6	9	25
	Female		62	173	177	412	15	70	47	132	63	254	320	637	11	19	5	35
Shinyanga	Male		305	1,303	1,498	3,106	148	752	980	1,880					179	157	204	540
	Female		820	2,194	1,455	4,469	333	908	674	1,915	879	2,366	2,237	5,482	220	238	169	627
Tabora	Male		151	518	502	1,171	94	354	357	805					176	160	122	458
	Female		338	770	641	1,749	221	436	321	978	311	773	757	1,841	385	190	246	821
Tanga	Male		613	2,049	2,823	5,485	154	699	934	1,787					281	273	292	846
	Female		1,426	3,766	3,017	8,209	247	893	676	1,816	1,145	3,054	2,818	7,017	273	345	250	868
Total			23,467	63,479	56,670	143,616	11,692	29,920	27,462	69,074	12,581	33,373	30,085	76,039	10,831	13,291	13,147	37,269

SURVEILLANCE OF OTHER STIs

Table 6.2 Distribution of new syndromes, re-treatments and contacts by sex and regions, Tanzania, Jan-Dec 2005

Region	Sex	GDS	GUD	PID	OTHERS	TOTAL	Re-Treated	Contacts
Arusha	Male	2616	643	0	244	3503	165	2525
	Female	3373	774	2040	292	6479	249	4623
Coast	Male	1298	703	0	287	2288	205	799
	Female	2004	637	2108	268	5017	326	783
Dodoma	Male	5085	2248	0	1086	8419	1374	2519
	Female	5531	3072	5966	1119	15688	1800	3411
Dar es Salaam	Male	4968	2776	0	2079	9823	2877	1393
	Female	8426	2679	7029	2599	20733	3485	1114
Iringa	Male	1344	963	0	257	2564	280	667
	Female	1457	1071	1704	353	4585	364	691
Kagera	Male	390	191	0	136	717	92	183
	Female	517	227	421	114	1279	106	250
Kigoma	Male	1844	662	0	404	2910	363	1568
	Female	3941	828	1901	423	7093	737	1274
Kilimanjaro	Male	3237	958	0	1361	5556	637	1899
	Female	8123	1091	5216	2259	16689	1471	1316
Lindi	Male	98	47	0	28	173	14	32
	Female	156	48	158	23	385	15	34
Manyara	Male	3945	382	0	552	4879	672	1311
	Female	5838	495	2501	1156	9990	1157	1063
Mara	Male	3620	4370	0	2338	10328	689	1726
	Female	5499	4534	6554	3447	20034	971	1385
Mbeya	Male	7497	6912	0	1733	16142	1634	5260
	Female	9864	6890	8542	1983	27279	2406	9189
Morogoro	Male	1189	547	0	421	2157	243	1218
	Female	1467	572	2176	457	4672	501	788
Mtwara	Male	1567	1223	0	304	3094	355	1408
	Female	1851	1072	2088	385	5396	423	1041
Mwanza	Male	3408	2408	0	1330	7146	978	4475
	Female	6643	2630	6768	1755	17796	1695	3916
Rukwa	Male	2609	2158	0	1309	6076	738	1733
	Female	3563	2549	3479	1515	11106	991	2985
Ruvuma	Male	2250	1555	0	541	4346	502	1702
	Female	3515	1739	2411	491	8156	731	1661
Singida	Male	282	107	0	25	414	110	106
	Female	412	132	637	35	1216	142	134
Shinyanga	Male	3106	1880	0	540	5526	6037	5981
	Female	4469	1915	5482	627	12493	4169	5498
Tabora	Male	1171	805	0	458	2434	226	908
	Female	1749	978	1841	821	5389	586	741
Tanga	Male	5485	1787	0	846	8118	772	3135
	Female	8209	1816	7017	868	17910	1473	2558
Total		143616	69074	76039	37269	325998	42761	85003

SURVEILLANCE OF OTHER STIs

Figure 6.2: Distribution of New Genital Discharge Syndromes by age and sex, Tanzania, 2005

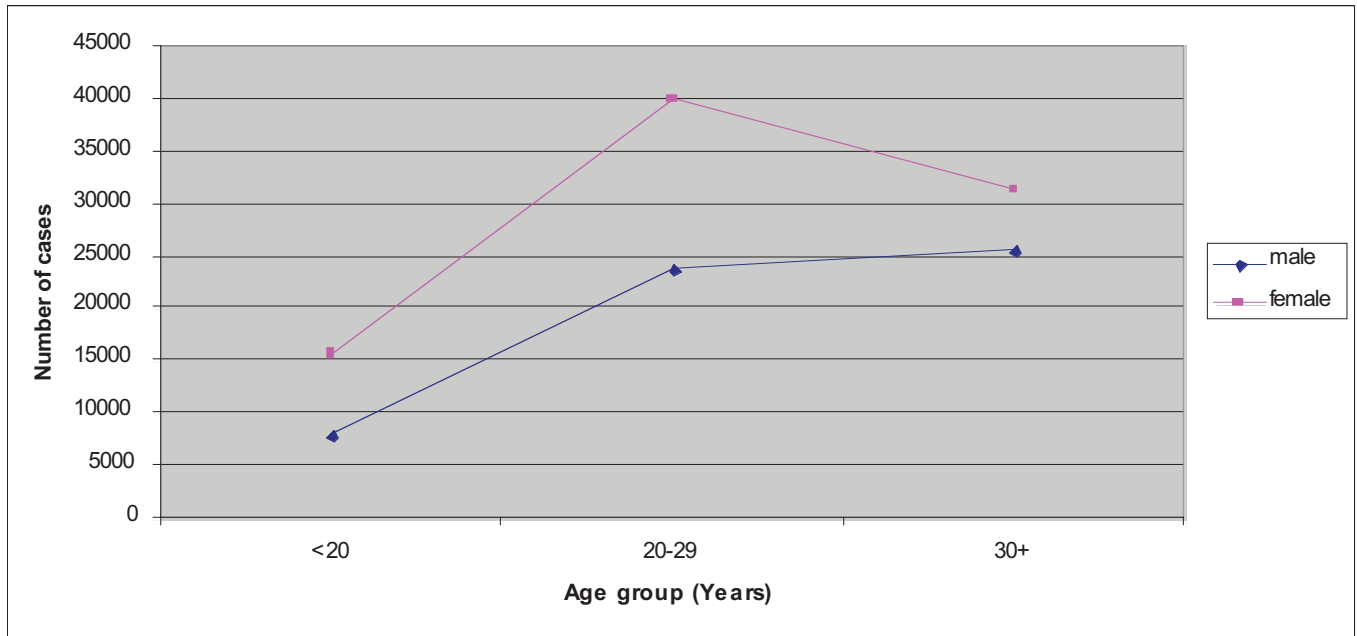
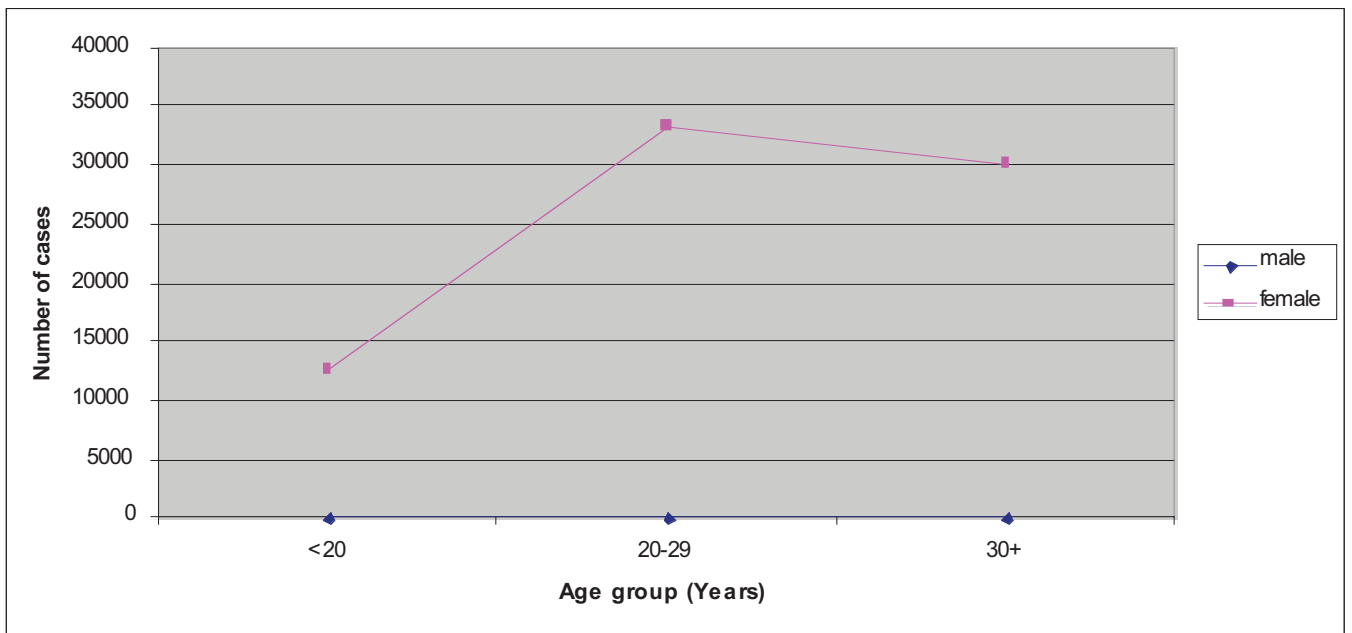


Figure 6.3: Distribution of New Genital Ulcer Disease by age and sex, Tanzania, 2004



SURVEILLANCE OF OTHER STIs

Figure 6.4: Distribution of New PID cases by age, Tanzania, 2005

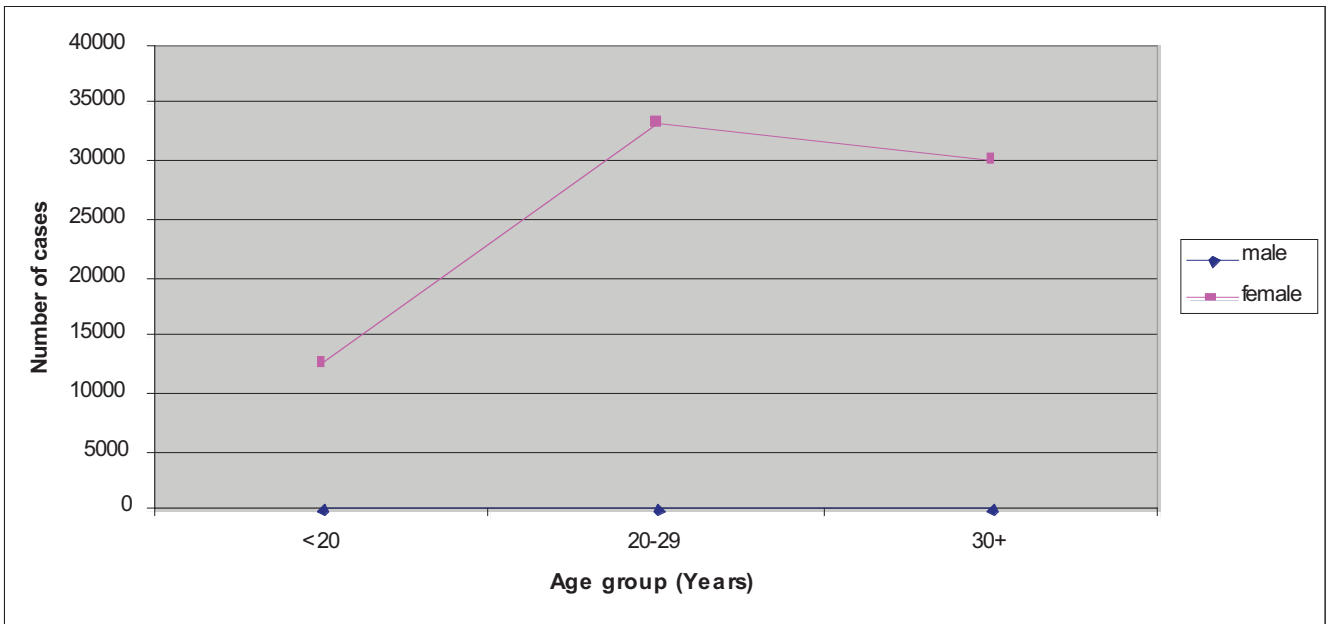
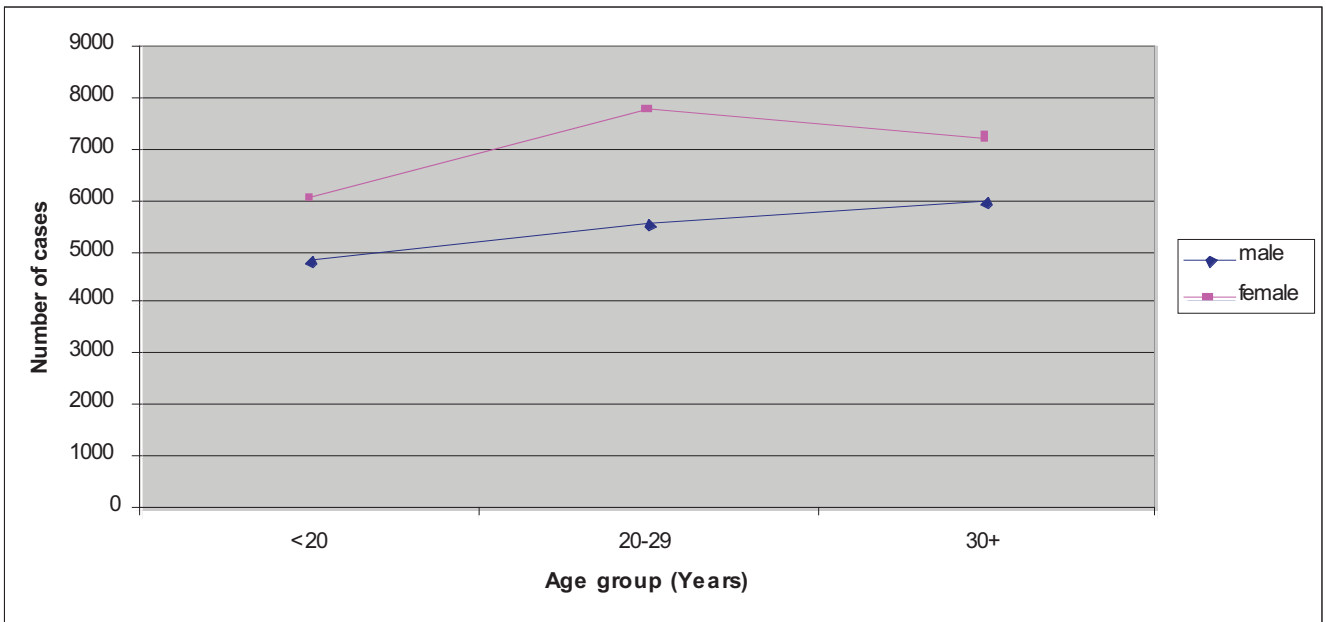


Figure 6.5: Distribution of new Other STI cases by age and sex, Tanzania, 2005



VOLUNTARY COUNSELING AND HIV TESTING SERVICES

7.1 Introduction

In 1995 the Ministry of Health, initiated an improved VCT pilot programme in four regions (Dar es Salaam, Morogoro, Coast and Dodoma). Gradually the programme expanded to provide comprehensive VCT services to the general public and by 1997, a total of 59 sites had been established in 19 regions. In 2006 there were sites that are managed by public and faith-based organizations and 45 sites that are managed by African Medical Research Foundation (AMREF) through Angaza Project.

Majority of VCT services are provided in established sites that are run by trained counselors. The Ministry of Health and Social Welfare (MOHSW) trains its counselors using the National VCT training guidelines and curricula, which are also distributed to other institutions for training their counselors. The recommended period for training of counselors is six continuous weeks and the training is usually conducted by a special national team of trainers of counselors. There are two types of counseling sites. Those located and managed by public health facilities (located within hospitals, health centers and dispensaries which may be government, faith based or private) and those managed by NGOs or private institutions as stand alone sites. Health facility-based sites are largely accessed by referred suspected HIV infected patients, while the stand alone sites are accessed largely by apparently healthy members of the general public who are curious about their sero-status for various reasons including pre-marital testing, testing as a requirement for traveling abroad for studies, etc. Government health facility-based sites provide free services while the stand alone sites provide services at nominal fees.

7.2 Methods of monitoring

Specially designed VCT data collection forms are distributed to all sites that provide VCT services to collect quarterly aggregated information which includes number of new clients counseled, number of clients tested for HIV and number of HIV positives. Dully-filled forms are sent to NACP for compilation. New VCT clients are defined as those who attended VCT sites for the first time and received pre-counseling services regardless of or no consent for HIV testing. Tested clients are defined as those who consent for and undergo HIV testing, including new clients as well as those who come back for a repeat HIV test three months after an initial negative test results. Percent positive is the proportion of clients whose initial HIV test results are positive.

7.3 Results

During the year 2005, a total of 217,116 new clients accessed VCT services in Tanzania mainland. This number was reported by counselors from 21 regions managed by the Ministry of health and excludes those managed by AMREF through the Angaza Project. In the same year 215,497 tested for HIV, of these who tested for HIV, 57,969 were found to be HIV positive making a prevalence of 26.9%. HIV prevalence among users of health facility-based VCT sites ranged from 5.3% in Manyara to 46.3% in Iringa region.

On the other hand HIV prevalence among clients tested in ANGAZA sites was 11.0%, implying that ANGAZA sites are largely stand alone and are accessed by clients from the general public who are interested with knowing their HIV status for reasons other than being suspects of HIV infection.

Data collected through the monitoring tool are available since 1997. Results of analysis of these data show that in 1999 the proportion of HIV positive clients was 76.0%. This dropped slightly to 59.5% in 2000, and significantly to 18.9% in 2002. The observed declining trend is probably due to increase in the number of stand-alone VCT sites relative to that of health facility-based sites. During 2005, there was a decrease in the proportion of HIV positive among HIV tested VCT clients (39.3% to 26.9%).

The proportion of new VCT clients in each region increased parallel to the increase in the number of VCT sites and community sensitization on the importance of using VCT services. Table 7.1 shows number of new VCT clients, those tested for HIV and proportion of HIV positives among HIV tested clients by regions for the five-year period from 2000 to 2005. Figure 5.2 shows an increasing trend in both number of clients who were new and those tested for HIV for the same period. In 2005, the increase was quite remarkable compared to the previous years.

VOLUNTARY COUNSELING AND HIV TESTING SERVICES

This increase may be due to various reasons including improved access to VCT services and introduction of ARV services in the country.

Fig 7.1: Trend in HIV prevalence among Health facility based VCT tested clients, Tanzania, 1999 - 2005

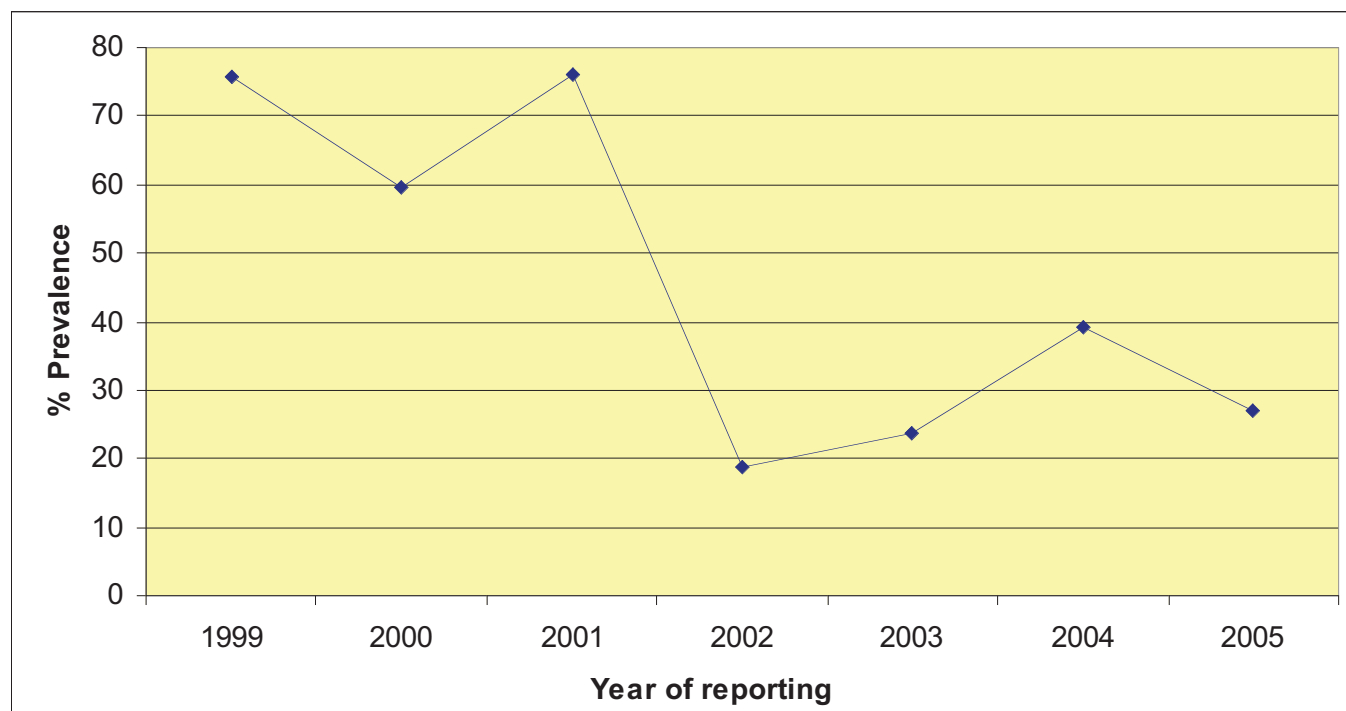
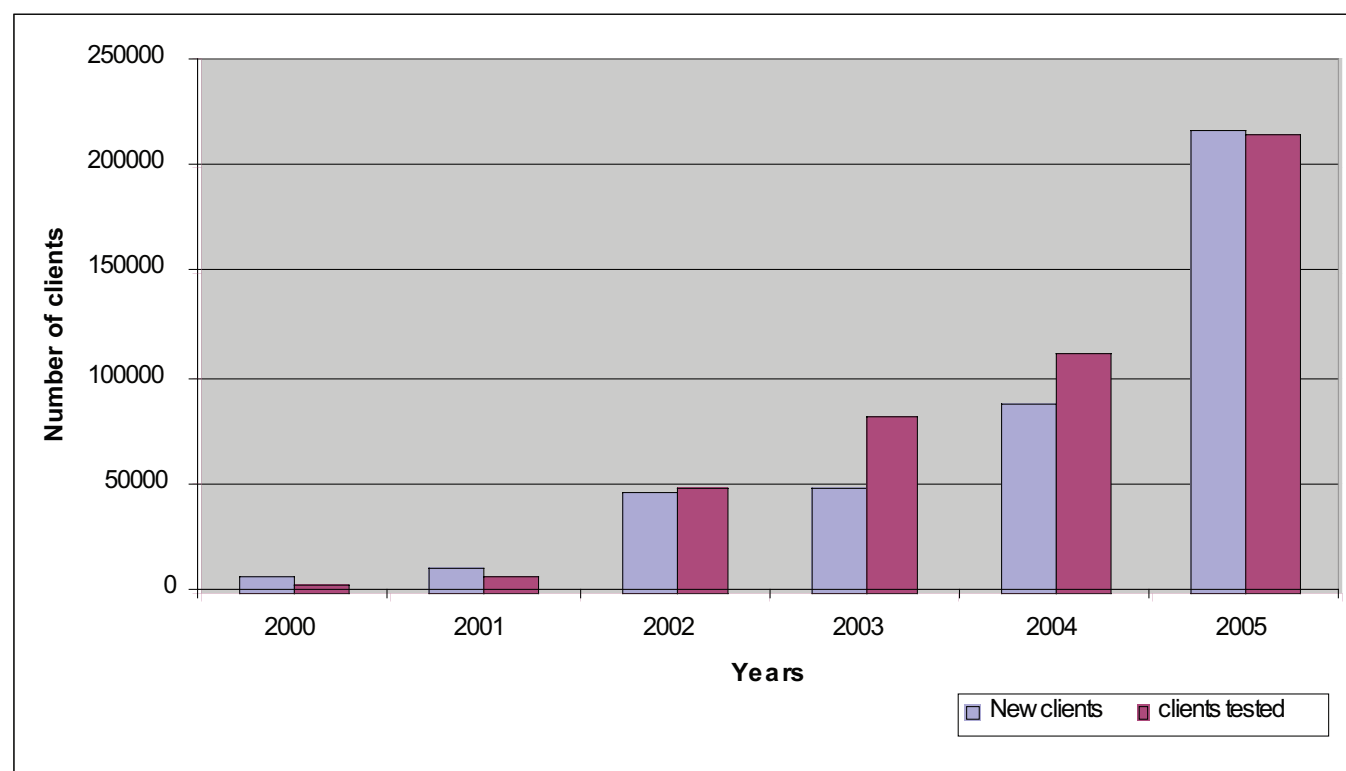


Fig 7.2: Number of new clients and clients tested for HIV at VCT sites, Tanzania 2000 - 2005



VOLUNTARY COUNSELING AND HIV TESTING SERVICES

Table 7.1 Voluntary Counseling and HIV Testing Services by region, Tanzania 2000-2005

Region	2000			2001			2002			2003			2004			2005		
	New clients	clients tested	% +Ve	New clients	clients tested	% +Ve	New clients	clients tested	% +Ve	New clients	clients tested	% +Ve	New clients	clients tested	% +Ve	New clients	clients tested	% +Ve
Arusha	34	20	30	717	272	51	1118	1031	42.8	1775	1,843	37.3	1950	1797	25.8	8499	8488	16.0
Coast	317	40	80	821	416	81	204	108	47.2	609	556	27.3	875	580	32.1	2887	2706	31.6
Dodoma	-	-	-	310	91	71	-	-	-	3699	3,716	21.1	1908	3876	24.1	4058	4076	21.4
DSM	3042	1799	58.8	3240	2989	89	33460	33696	11.7	11340	17,007	34.9	26484	46855	58.8	6931	6815	37.9
Iringa	857	412	61.9	1010	617	73	1635	1635	50.5	6501	6,894	32.8	6825	6679	41.7	18263	17902	46.3
Kagera	-	-	-	516	260	61	1058	731	36.1	594	617	33.2	76	51	29.4	6382	6198	26.7
Kigoma	227	170	59.4	468	332	62	781	737	23.6	2680	2,767	19.7	5924	5936	10.5	7913	7613	9.1
Kilimanjaro	-	-	-	461	301	64.4	916	666	22.3	1096	5,714	7.8	9753	9595	19.8	16339	15779	17.5
Lindi	153	71	56.3	301	214	54.9	542	646	48.7	481	485	38.1	5149	5214	26.4	4102	4039	26.4
Manyara	-	-	-	-	-	-	4	4	0	1168	1,552	9	2738	2893	6.9	2674	2507	5.3
Mara	478	310	53.9	724	432	57.6	-	-	-	2205	2,198	32.1	5564	5506	21.2	7828	7840	19.9
Mbeya	-	-	-	-	-	-	2637	2649	42	0	23,500	16.3	4342	4102	30.9	88121	87310	27.3
Morogoro	85	11	72.7	291	136	73	142	177	35.5	1041	1,076	25.5	2051	2224	42.8	428	375	31.7
Mtwara	152	-	-	192	91	81	524	329	32.8	2614	2,679	9	597	595	35.3	2602	2599	22.3
Mwanza	788	412	62.1	928	592	73	1688	1689	36.4	1478	1,523	32.6	246	1033	44.7	11488	11202	38.5
Rukwa	92	32	59.4	103	74	63	402	352	28.6	846	911	28.9	273	235	20	1228	1152	29.4
Ruvuma	76	17	88.2	132	101	89	2042	2709	22.5	2947	3,021	25.7	5546	5675	20.6	3305	3211	36.0
Singida	-	-	-	344	179	74	304	479	22.7	2677	2,691	12.7	253	228	31.1	9200	9287	13.4
Shinyanga	155	-	-	381	156	68	130	247	40.4	2279	1,816	24.9	2186	2172	24.2	3431	3548	24.4
Tanga	83	44	70.5	159	71	72	69	71	70.4	965	954	31.7	5598	5467	27	10092	10063	29.3
Tabora	-	-	-	403	149	56	-	-	-	1022	1,685	34.5	653	1514	51.4	1345	2787	26.2
Total	6539	3338	59.5	11501	7473	76	47656	47956	18.9	48017	83,205	23.6	88991	112227	39.3	217116	215,497	26.9
ANGAZA											56,767	10.7	90,395	91,164	10.6	112,360	110,825	11.0

VOLUNTARY COUNSELING AND HIV TESTING SERVICES

Table 7.2 Voluntary Counseling and HIV testing prevalence by age group in 2005

Region	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-55	55+
Arusha	9.4	10.7	14.3	21.1	21.7	20.9	15.7	16.7	12.4
Coast	18.2	17.8	31.9	39.9	41.7	45.7	32.8	32.3	25.2
Dodoma	12.0	10.9	18.8	29.7	27.4	25.0	35.4	19.1	20.2
DSM	13.4	20.9	34.4	43.4	50.4	53.0	48.0	46.8	36.3
Iringa	17.7	24.4	46.1	58.8	67.3	62.7	59.7	52.5	34.7
Kagera	9.6	11.2	20.0	31.7	41.6	39.0	46.6	44.1	26.7
Kigoma	5.6	7.2	7.8	12.0	16.2	13.9	13.1	15.4	22.6
Kilimanjaro	8.7	6.9	16.8	23.0	26.4	28.7	24.0	17.2	18.2
Lindi	16.3	14.0	21.4	32.9	33.3	41.8	40.4	31.6	21.5
Manyara	4.5	2.1	5.3	10.5	13.2	17.6	14.9	12.9	5.4
Mara	19.8	14.9	23.9	20.8	27.4	32.1	48.0	23.0	25.3
Mbeya	9.7	14.8	25.8	36.7	41.2	41.7	40.4	36.9	32.6
Morogoro	13.8	20.8	21.7	41.3	42.1	45.5	35.0	45.0	23.1
Mtwara	6.6	9.6	21.4	25.6	29.8	31.4	35.8	29.8	31.6
Mwanza	30.1	26.8	34.4	45.2	44.2	44.8	39.9	40.3	35.0
Rukwa	20.0	22.9	23.6	40.0	42.9	44.9	51.6	42.3	38.7
Ruvuma	23.2	16.0	32.8	48.4	50.1	45.8	47.4	40.8	39.0
Singida	6.0	7.3	12.4	20.8	21.2	20.9	17.1	19.5	10.3
Shinyanga	15.5	16.0	18.0	27.8	41.8	35.5	43.2	45.6	26.5
Tanga	21.3	17.5	28.5	34.8	35.1	45.0	36.9	33.4	31.3
Tabora	12.9	15.8	20.8	29.9	36.7	43.4	39.8	43.1	42.9

HIV prevalence among first time clients in ANGAZA sites

Table 5.2 below shows distribution of VCT clients who attended ANGAZA sites and their HIV sero-status by sex during the year 2005. A total of 112360 clients were tested for HIV, of these 59920 (53.3%) were males and the remaining 52440 (46.7%) were females. Overall, proportion of HIV positive clients was 11.0%. The prevalence was higher in females than in males, (15.8% versus 6.9%).

Table 7.3 Distribution of first time VCT clients and their HIV sero-status by sex and site, Tanzania, 2005.

VCT site	Region	District	Total new clients			New clients counseled, tested & results			HIV Positive clients				Total HIV
			Male	Female	Total	Male	Female	Total	% HIV+ Male	Female	% HIV+ Female	Total	
1	UZIMA Arusha	Arusha Urban	1736	2017	3753	1662	1822	3484	100	216	11.9	316	9.1
2	SDA Makao Mpya	Arusha Urban	1193	928	2121	1171	900	2071	52	106	11.8	158	7.6
3	Mobile Arusha	Arusha Rural	1073	1069	2142	1069	1058	2127	51	119	11.2	170	8.0
4	Minazi Mmoja HC	Ilala	2050	1896	3946	1986	1724	3710	208	432	25.1	640	17.
5	Muhimbili Health Information Centre	Ilala	2983	3512	6495	2954	3479	6433	384	783	22.5	1167	18.
6	AMREF Training Centre	Ilala	6651	6516	13167	6615	6442	13057	309	692	10.7	1001	7.7
7	Magomeni HC	Kinondoni	1924	2376	4300	1862	2230	4092	142	370	16.6	512	12.
8	Mwananyamala Youth Centre	Kinondoni	1386	1593	2979	1365	1545	2910	27	164	10.6	191	6.6
9	Mobile Dar es Salaam	Kinondoni	3998	3610	7608	3953	3600	7589	288	640	17.8	928	12.
10	Mc Kay Annex -Dodoma	Dodoma Urban	1620	1563	3183	1389	1195	2584	78	201	16.8	279	10.
11	UMATI Iringa	Iringa Urban	586	574	1160	558	525	1083	38	81	15.4	119	11.
12	Iringa Municipal Council	Iringa Urban	579	524	1103	551	481	1032	27	82	17.0	109	10.
13	Makambako	Njombe	809	589	1398	801	577	1378	57	89	15.4	146	10.
14	Njombe	Njombe	806	541	1347	805	539	1344	70	90	16.7	160	11.
15	Makete	Makete	94	63	157	539	403	942	17	13	3.2	30	3.2
16	Mafinga	Mufindi	501	342	843	492	329	821	45	84	25.5	129	15.
17	Bukoba	Bukoba Urban	1297	1080	2377	1279	1048	2327	66	71	6.8	137	5.9
18	Ngara	Ngara	662	590	1252	652	557	1209	21	30	5.4	51	4.2
19	Karagwe	Karagwe	956	670	1626	947	653	1600	33	72	11.0	105	6.6
20	Kigoma Town Council	Kigoma Urban	1309	1182	2491	1299	1143	2442	60	112	9.8	172	7.0
21	KCMC	Moshi Rural	1419	1365	2784	1366	1242	2608	71	143	11.5	214	8.2
22	Marangu Hospital	Moshi Rural	578	572	1150	544	518	1062	56	87	16.8	143	13.
23	Machame Hospital	Hai	540	501	1041	527	478	1005	27	47	9.8	74	7.4
24	Lindi Municipal Council	Lindi Urban	641	483	1124	577	391	968	32	54	13.8	86	8.9
25	Faraja Musoma	Musoma Urban	1378	954	2332	1367	915	2282	88	188	20.5	276	12.
26	Bunda DDH	Bunda	830	599	1429	827	588	1415	19	33	5.6	52	3.7
27	Shirati, Tarime	Tarime	582	262	844	574	259	833	27	54	20.8	81	9.7
28	UHAI Baptist Centre	Mbeya Urban	901	782	1683	864	734	1598	57	107	14.6	164	10.

Table 7.3 Distribution of first time VCT clients and their HIV sero-status by sex and site, Tanzania, 2005.

VCT site	Region	District	Total new clients			New clients counseled, tested & results			HIV Positive clients					
			Male	Female	Total	Male	Female	Total	% HIV+ Male	Female	Total	% HIV+ Total		
29	Mbeya	Tukuyu	486	338	824	471	330	801	61	89	150	13.0	27.0	18.7
30	Morogoro	Morogoro Urb	1274	1253	2527	1266	1228	2494	73	203	276	5.8	16.5	11.1
31	Morogoro	Morogoro rural	1946	1380	3326	1788	1228	3016	68	106	174	3.8	8.6	5.8
32	Mwanza	Mwanza urban	1792	1343	3135	1776	1313	3089	123	238	361	6.9	18.1	11.7
33	Mwanza	Mwanza urban	1906	1603	3509	1884	1568	3452	176	269	445	9.3	17.2	12.9
34	Mwanza	Mwanza urban	1504	1172	2676	1472	1120	2592	92	152	244	6.3	13.6	9.4
35	Mwanza	Mwanza rural	2652	1500	4152	2645	1480	4125	168	173	341	6.4	11.7	8.3
36	Rukwa	Sumbawanga Urb	1446	976	2422	1431	944	2375	135	217	352	9.4	23.0	14.8
37	Singida	Singida urban	753	672	1425	737	637	1374	22	100	122	3.0	15.7	8.9
38	Shinyanga	Shinyanga urban	1172	994	2166	1167	989	2156	133	230	363	11.4	23.3	16.8
39	Shinyanga	Shinyanga rural	385	258	643	383	254	637	33	60	93	8.6	23.6	14.6
40	Songea Municipal Council	Songea urban	1518	1158	2676	1483	1114	2597	122	246	368	8.2	22.1	14.2
41	Peramiho Hospital	Songea rural	707	635	1342	708	632	1340	29	54	83	4.1	8.5	6.2
42	Moravian Church Tabora	Urambo	1587	1241	2828	1555	1180	2735	119	223	342	7.7	18.9	12.5
43	Nzega	Nzega	545	416	961	539	403	942	61	112	173	11.3	27.8	18.4
44	Tumaini Korogwe	Korogwe	468	270	738	464	263	727	79	80	159	17.0	30.4	21.9
45	Chumbageni Tanga	Tanga urban	697	478	1175	697	462	1159	127	212	339	18.2	45.9	29.2
			59920	52440	112360	58613	50176	108825	4071	7924	11995	6.9	15.8	11.0

HIGHLIGHTS OF RESEARCH PUBLICATIONS IN TANZANIA

Nevirapine to prevent vertical Transmission of HIV in Northern Tanzania.

Authors: P. Urassa, R. Gosling, R. Pool, H, Reyburn.

Source: AIDS Care. 2005, 17(7):842-852

Objective

To identify risk factors for preferring to avoid HIV testing among women attending an antenatal clinic in Northern Tanzania in the context of hypothetical offer of Nevirapine and explore the issues raised in more detail in focus group discussion.

Methodology

Cross-sectional study was conducted using both quantitative and qualitative methodology. The quantitative one used a structured interview to 250 pregnant women at 34 weeks and above gestation attending three government antenatal clinics in Moshi municipality. Qualitative methodology used focus group discussions (FGDs) methods which included women aged 15-45 years living in Moshi. Two FGDs were conducted amongst women attending where quantitative study was conducted and other two FGDs were conducted amongst female food vendors in the market place. Three FGDs were conducted with men recruited among male market workers and one FGD from a mechanics yard.

Results

From April to May 2002, a total of 250 pregnant women, with a mean age of 26 years and length of gestation ranging from 34-40 weeks, participated in the study. Among them 121 (49%) expressed a preference for Nevirapine treatment with no testing (no test, just treat) and 128 (51%) preferred HIV testing before being offered Nevirapine (test first, then treat). Other factors associated with the preference for the no test, just treat option are increasing age, more than one sexual partner in the last three years, any history of STD in the respondent or partner, and increased self assessed risk of HIV infection. Factors for test first preference were having a partner living at home most of the time and also generally supportive who is likely to accept an HIV test if asked.

Conclusion

Major concern of women was for the reaction of their male partners to the possibility of positive HIV test and low confidence in the confidentiality of HIV testing. Those who avoid HIV testing were likely to be at higher risk of infection. In longer term, the success of such interventions will depend on addressing gender inequalities and stereotypes which lead to fear and a lack of openness between husband and wives in HIV related issues.

Recommendation

Further studies are needed to explore the various factors which are associated with lack of /limited cooperation of male partners in issues related to voluntary counseling and testing in the context of prevention of mother to child HIV transmission initiatives.

Title: Evidence of a Substantial Decline in Prevalence of HIV-1 Infection Among Pregnant Women: Data from 1995 to 2003 in Dar es Salaam Tanzania.

Authors: Willy Urassa, Sylvia Kaaya, Davis Mwakagile, Megan O'Brien, Gretchen Antelman, David Hunter, Wafaie Fawzi and Gernard Msamanga

Source: Scandinavian Journal of Public Health, 2006, 34:272-278

Objective

To determine the prevalence trends of HIV-1 infection among pregnant women seen between 1995 and 2003 at public antenatal clinics (ANC) in the city of Dar es Salaam

HIGHLIGHTS OF RESEARCH PUBLICATIONS IN TANZANIA

Methodology

Data were collected from 51,076 pregnant women at selected ANCs. Participating women were offered HIV testing as part of research and services programmes (vitamin and zinc studies) to prevent vertical transmission of HIV infection and improve pregnancy outcomes.

Results

In total, 62% of women attending the ANCs gave informed consent for HIV testing. From the findings, there was a 25% decline in the prevalence of HIV-1 infection from 14.2% in 1995 to 10.6% in 2003. The largest HIV prevalence decline was among pregnant women below 20 years of age.

Conclusion

There is a definite substantial decline of HIV-1 infection prevalence among pregnant women in Dar es Salaam which is probably due to several factors including HIV and AIDS preventive interventions.

Recommendation

It would be of interest to investigate the factors responsible for the observed decline in order to develop evidence-based interventions of proven efficacy.

Title: Molecular Characterization of Haemophilus ducreyi isolates from different geographical locations.

Authors: J.Mbwana, I.Bolin, E.Lyamuya, F.Mhalu, and T.Lagergard.

Source: Jof Cl Microb, 2006; 44(1): 132 – 137

Objective

To characterize the genetic strains of Haemophilus ducreyi from different countries in Africa, Europe, North America and Asia.

Methodology

Forty three (43) strains of Haemophilus ducreyi obtained from patients with chancroid from Africa (Tanzania and Senegal), Europe, North America and Asia (Thailand) were subjected to genetic typing using the random amplified polymorphic DNA (RAPD) method.

Results

There were limited genotypic and phenotypic variations among Haemophilus ducreyi strains from the different countries that could be distinguished by the RAPD method. Isolates from Thailand were more diverse compared to the rest.

Conclusion

RAPD method is a useful tool for distinguishing Haemophilus ducreyi strains in chancroid-endemic areas.

Recommendation

This method could be used to map out the Haemophilus ducreyi strains in different communities in Tanzania and in epidemiological surveillance of sexually transmitted infections.

Title: Surveillance of HIV and Syphilis infections among antenatal clinic attendees in Tanzania 2003/2004.

Authors: Roland O Swai, Geoffrey R Somi, Mecky N Matee, Japhet Killewo, Eligius Lyamuya, Gideon

HIGHLIGHTS OF RESEARCH PUBLICATIONS IN TANZANIA

Kwesigabo, Tuhuma Tulli, Titis K. Kabalimu, Lucy Ng'ang'a, Raphael Isingo, and Joel Ndayongeje.

Source: BMC Public Health, 2006; 60:91

Objective

To determine the prevalence of HIV and syphilis infection among female antenatal clinic (ANC) attendees in Tanzania in the 2003/2004 surveillance.

Methodology

The 2003/2004 surveillance covered 10 geographical regions. All together 57 ANCs were included from urban, semi-urban and rural strata. Women attending the selected clinics for the first time (17,813) during the surveillance period were interviewed and blood was drawn for HIV and syphilis testing. Syphilis test results were communicated back to clients but HIV testing was anonymous and unlinked.

Results

The seroprevalence of HIV and syphilis was 8.7% (1,545/17,813) and 7.3% (1,265/17,323), respectively. HIV prevalence was highest (11%) among the age group 25–34 years, it was also higher among single (9.7%) compared to married women (8.6%) and significantly increased with level of education.

Highest prevalence of syphilis was observed in the age group 35-49 years. Marital status did not have effect on syphilis prevalence, and unlike HIV, prevalence of syphilis was higher among women with no formal education than those with higher education. In this surveillance, 0.7% (130/17,813) women were found to have evidence of dual infection with HIV and syphilis.

Conclusion

Prevalence of HIV is high among ANC clinic attendees. Syphilis prevalence continues to be high in some regions in Tanzania.

Recommendations

Voluntary counseling and testing and prevention of mother to child HIV transmission initiatives should be scaled up. Syphilis screening during antenatal care should continue to be part of control of this STI.

Title: Estimating and projecting HIV prevalence and AIDS deaths in Tanzania using antenatal surveillance data.

Authors: Geoffrey R Somi, Mecky IN Matee, Roland O Swai, Eligius Lyamuya, Japhet Killewo, Gideon Kwesigabo, Tuhuma Tulli, Titus K. Kabalimu, Lucy Ng'ang'a, Raphael Isingo, and Joel Ndayongeje.

Source: BMC Public Health, 2006; 6:120

Objective

To determine estimates and projections of HIV prevalence, new cases of HIV infections and AIDS deaths in Tanzania between 2001 and 2010 using the Estimation Project Package (EPP 2005) and SPECTRUM soft-wares on antenatal clinic (ANC) data.

Methodology

Information included in this computer-based analysis included the 1985-2004 ANC surveillance data set, the 2005 UN population estimates for urban and rural adults in Tanzania based on the 2002 population census and results of the Tanzania HIV indicator survey conducted in 2003/2004. Analysis was independently done for the estimates for urban (40) and rural (35) ANC clinics.

Results

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The estimates depict urban and rural epidemic curves which show a rising HIV prevalence from 0 in 1981 to peak in 1992-1995, and a gradual decline to reach a plateau in 2003-2004. Overall, the prevalence increased from 0% in 1981, peaked at 8.1% in 1995, gradually decreased to 6.5% in 2004 and stabilized until 2010. A steady rise of new infections is noted resulting in 250,000 new cases in 2010 with more infections occurring in rural areas. A rise in AIDS deaths is projected to reach 120,000 in 2010 and more than half of them will occur among women.

Conclusion

In view of the projected increase in the number of new infections, more efforts should be directed to HIV/AIDS control and prevention strategies especially in rural areas.

Recommendation

Programmes that are involved in HIV/AIDS interventions should be aware of these projections and scale up their efforts to address the problem of new infections and deaths due to AIDS.

Title: Glycoprotein G Presents High Performance in Diagnosing Herpes Simplex Virus Type 2 infection in Sera of Different Tanzanian Cohorts.

Authors: Staffan Görander, Judica Mbwana, Eligius Lyamuya, Teresa Lågergård and Jan-Ake Liljeqvist.

Source: Clinical and Vaccine Immunology, 2006; 13(6): 633-639

Objectives

To compare the performance of two in-house ELISA tests and to estimate HSV-2 seroprevalence among blood donors and patients with sexually transmitted genital ulcers disease (GUD) in Tanzania.

Methodology

Two in-house ELISA tests for HSV-2 (sgG-2 ELISA and mgG-2 ELISA) were evaluated for their performance in the detection of HSV-2 infections in 194 sera from blood donors from Muhimbili National Hospital and 198 sera from patients with GUD from Mbeya and Dar es Salaam STD clinics. The reference method was a commercially available assay (FOCUS2) for HSV-2. Western blot was used to confirm discordant results.

Results

The two in-house ELISAs and the reference ELISA showed similar sensitivity and specificity values for the GUD samples. However, among the blood donor samples, the mgG-2 ELISA gave the highest performance characteristics with respect to sensitivity, specificity, positive and negative predictive values. The HSV-2 seroprevalence was 42% and 78% for blood donors and GUD patients, respectively.

Conclusion

The mgG-2 ELISA has a high accuracy for detection of HSV-2. Seroprevalence of HSV-2 infection is high among patients with GUD in Tanzania.

Recommendation:

Further evaluation of the in-house mgG-2 ELISA is needed using larger sample size and in different settings.

Title: Evaluation of HIV antibody and antigen/antibody combination ELISAs for use in an alternative confirmatory HIV testing strategy in Dar Es Salaam, Tanzania.

Authors: Said Aboud, Willy Urassa, Eligius Lyamuya, Fred Mhalu and Gunnel Biberfeld.

Source: J Virol Methods, 2006; 135: 192-196

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Objective

To evaluate the performance of two antibody ELISAs and two antigen/antibody combination ELISAs for the diagnosis of HIV infection in Dar Es Salaam, Tanzania.

Methodology

Two antibody ELISAs (Enzygnost anti-HIV $\frac{1}{2}$ Plus and Vironostika HIV Uni-form II plus O) and two antigen/antibody ELISA, (Murex HIV antigen/antibody and Vironostika Uni-form II antigen/antibody) were evaluated using 1380 blood samples from blood donors (508), pregnant women (511) and hospital patients (361). All samples that were positive were confirmed by a confirmatory test (Inno-Lia HIV I/II immunoblot). Samples with discordant results were tested for 24 antigen using Innostest.

Results

At initial testing all assays showed a sensitivity of 100% except Vironostika HIV Uni-form II plus O. Initial specificity ranged from 97.0% for Vironostika HIV Uni-Form II plus O to 99.8% for Enzygnost anti HIV- $\frac{1}{2}$ Plus. Any combination based on initial testing with any of the two antigen/antibody tests followed by testing of positive samples using Enzygnost anti-HIV $\frac{1}{2}$ Plus test gave acceptable performance characteristics for confirmation HIV infection.

Conclusion

A test combination based on screening of samples using any of the two antigen/antibody tests followed by testing positive samples with Enzygnost anti-HIV $\frac{1}{2}$ Plus is suitable for confirmation of HIV infection status in Tanzania.

Recommendation

The Ministry of Health should consider adopting the proposed algorithm based on these newer HIV ELISA tests.

Title: HIV epidemic among pregnant women within rural Northern Tanzania.

Authors: Khadija I Yahya Malima, Bjorg E. Olsen, Mecky I Matee, Knut Fylkeshes

Source: BMC Health, 2006; 6: 109

Objective

The study aimed at determining HIV prevalence rate and other factors associated with HIV infections among pregnant women using antenatal clinic (ANC) surveillance systems in rural Manyara and Singida.

Methodology

A total of 1377 pregnant women attending ANC for the first time on current pregnancy were, after consenting, enrolled and counseled anonymously for HIV testing.

Results

Of the 1377 pregnant women enrolled, 41% were from remote hard to reach areas and the rest from other rural areas. The overall prevalence of HIV was 2.0% (95%CI: 1.34 – 2.97). The highest HIV prevalence was among women aged between 15 – 19 years in both rural and remote rural populations. The study also showed more likelihood of acquiring HIV infection to women reporting to have more than one sexual partner, history of genital sores or foul smelling discharge and young age at first pregnancy.

Conclusion

It is important to scale up HIV prevention efforts in rural areas to prevent the high increase of HIV epidemic.

Recommendation

Research to capture a wider representation of the risk factors in the general population should be a priority in order to generate information that will help in developing more focused interventions.