

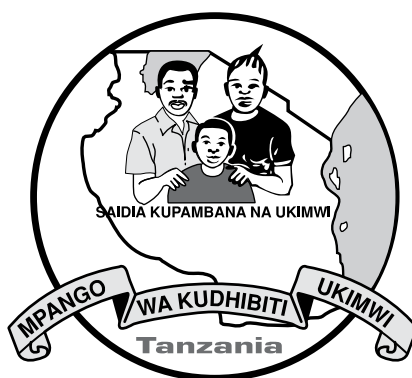
THE UNITED REPUBLIC OF TANZANIA



Tanzania Mainland

MINISTRY OF HEALTH AND SOCIAL WELFARE

National AIDS Control Programme



HIV/AIDS/STI Surveillance Report Report Number 21

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Table of contents

Page

Table of Contents.....	ii
Acknowledgements.....	iii
Abbreviations and acronyms	iv
Executive summary	v
<i>1</i> SURVEILLANCE OF HIV INFECTION	1
<i>2</i> HIV Care and Treatment Services	13
<i>3</i> Prevention of Mothers to Child Transmission of HIV	25
<i>4</i> HIV Counseling and Testing Services	29
<i>5</i> Surveillance of other STIs	39
<i>6</i> Monitoring and reporting of the health sector response to HIV/AIDS.....	55
<i>7</i> Highlights of research publications in Tanzania	57
<i>8</i> Discussion	69

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Final compilation of the report was done by:

- | | |
|---------------------------|----------------------------------------------------|
| 1. Dr. R.O Swai | Programme Manager, NACP |
| 2. Dr. Geoffrey. Somi | NACP- Epidemiology |
| 3. Dr. Robert Josiah | NACP- Care and Treatment |
| 4. Prof. Mattee | Muhimbili University of Health and Allied Science |
| 5. Dr. E. Kwesi | Ministry of Health and Social Welfare, HQ |
| 6. Mr. Joel Ndayongeje | NACP, Epidemiology Unit |
| 7. Mr. Joseph Nondi | NACP, Epidemiology Unit |
| 8. Mr. Vveryeh Sambu | NACP- Epidemiology Unit |
| 9. Dr. Michael Msangi | Prevention of Mother to Child Transmission PMTCT, |
| 10. Dr. Bonita Kilama | NACP, Epidemiology Unit |
| 11. Dr. Khadija Y. Malima | Muhimbili University of Health and Allied Science |
| 12. Dr. Debora Kajoka | NACP, Sexually Transmitted Infection Unit |
| 13. Dr. Hiltruda Temba | NACP, Sexually Transmitted Infection Unit |
| 14. Ms. Grace Mlingi | National Blood Transfusion Services |
| 15. Mr. Valentine Mvnga | National Blood Transfusion Services |
| 16. Dr. Azima Simba | Field Epidemiology Resident |
| 17. Ms. Peris Urrassa | NACP, Counseling and Social Support unit |
| 18. Ms. Lina Lengaki | NACP, Information Education and Communication |
| 19. Ms. Nancy Musobi | Free lance |
| 20. Ms. Joyce Ikingura | National Institute for Medical Research |
| 21. Dr. May Bukuku | NACP, Information Education and Communication unit |
| 22. Mr. Enock Mpezwa | Commission for Sciences and Technology |
| 23. Mrs. Adeline Lyaluu | Commission for Science and Technology |

Abbreviations/Acronyms

AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Clinics
ARV	Antiretroviral Autiretro Virus
CDC	Centers for Disease Control and Prevention
CI	Confidence Interval
DBS	Dried blood spot filter paper cards
ELISA	Enzyme Linked Immunosorbent Assay
EPTB	Extra pulmonary tuberculosis
EU	European Union
FBOs	Faith Based Organizations
EZBTC	Eastern Zone Blood Transfusion Centre
GDS	Genital Discharge Syndrome
GUD	Genital Ulcer Disease
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HIV	Human Immunodeficiency Virus
IDC	Infectious Diseases Clinic
MOHSW	Ministry of Health of Health and Social
MUHAS	Muhimbili University of Health Sciences
NACP	National AIDS Control Programme
NBTS	National Blood Transfusion Services
NGO	Non Governmental Organisations
NIMR	National Institute for Medical Research
PID	Pelvic Inflammatory Diseases
PYAR	Person-years at risk
QA	Quality Assurance
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

Executive Summary

Since the first cases of Acquired Immunodeficiency Syndrome (AIDS) in Tanzania were reported in 1983, the epidemic has evolved from being a rare and new disease to a common household problem, which has affected most Tanzania families. The mainland Tanzania faces a generalized human immunodeficiency virus (HIV) and AIDS epidemic, with an estimated 6.5% of the mainland population infected with HIV (7.7% of adult women and 6.3% of adult men). Overall, 1.4 million Tanzanians (1,300,000 adults and 110,000 children) are living with HIV infection, in a total population of 41 million. The social, economic, and environmental impact of the pandemic is sorely felt as an estimated 140,000 Tanzanians have perished, leaving behind as estimated 2.5 million orphans and vulnerable children, representing approximately 10-12% of all Tanzanian children. As elsewhere in sub-Saharan African, the underlying factors of poverty, migration, marginalization, lack of information and skills, disempowerment, and poor access to services raise the risk of HIV and have an impact on the course and spread of the pandemic. Close to 85% of HIV transmission in Tanzania occurs through heterosexual contact, less than 6% through mother-to-child transmission, and less than 1% through blood transfusion. There continues to be a significant difference in the prevalence among urban (10.9%) and rural (5.3%) areas of the country.

The National AIDS Control Programme (NACP) of Tanzania was founded in 1987 to champion the health sector response to the HIV epidemic. The primary objectives of the program were to reduce spread of HIV infection, screen blood supplies, enhance clinical services for HIV/AIDS patients and improve STI treatment, prevention of mother-to-child transmission (PMTCT), advocate behavioral change and conduct epidemiologic surveillance and other research. The program phases started with a two-year phase called Short Term Plan (1985-1986). Subsequent phases were termed Medium Term Plans lasting for five-year periods.

Through these program phases successful national responses have been identified, the most effective ones being those touching on the major determinants of the epidemic and addressing priority areas that make people vulnerable to HIV infection. These include the following;

- Since early eighties great efforts have been made to reduce spread of HIV infection through screening of donor blood, advocating behavioral change, condom promotion and improvement of STI treatment. In addition a number of epidemiologic surveillance have been conducted to monitor the trend of HIV infection among different subpopulations e.g. blood donors and pregnant women attending antenatal clinics.
- In 2004, the National Blood Transfusions Services (NBTS), which is a centralized system of coordinated blood transfusion services, was established. The NBTS is responsible for collection, processing, storage and distribution of safe blood and blood products to health facilities. At the moment NBTS coordinates eight zonal blood transfusion centers, namely Lake Zone-(LZBTC) in Mwanza region, Western-(WZBTC) in Tabora, Northern (NZBTC) in Kilimanjaro region, Eastern (EZBTC) in Dar es Salaam, Southern highlands (SHZBTC) in Mbeya, Southern (SZBTC) in Mtwara and Zanzibar and a military zone –Tanzania People's Defence Force (TPDF). Since the establishment of NBTS, donated blood in the eight zones is systematically screened for HIV, hepatitis B virus (HBV), hepatitis C virus (HCV) and syphilis.
- The National HIV Care and Treatment Plan (NCTP) was launched in October 2004, with the main focus of a rapid scaling up of HIV care and treatment services, aimed at having more than 400,000 patients on care and treatment by the end of 2008 and, at the same time, follow up disease progression in 1.2 million HIV+ persons who are not eligible for antiretroviral therapy (ART).
- Prevention of Mother to Child Transmission of HIV (PMTCT) services were established in 2002 , providing a package of services that include: counseling and testing for pregnant women; short-course preventive ARV regimens to prevent mother-to-child transmission; counseling and support for safe infant feeding practices; family planning counseling or referral; and referral for long-term ART for the child.

This report which covers the NACP activities through December 2008 has been arranged in five chapters and is intended for various stakeholders, primarily those working within the health sector.



Chapter One

SURVEILLANCE OF HIV INFECTION

Surveillance Population: Blood Donors

1.1 Introduction:

The demand for blood transfusion services in Tanzania is high due to endemicity of infections causing anemia, malnutrition, surgical and obstetrical emergencies which are associated with blood loss. However, for a long time blood safety remained an issue of major concern in transfusion medicine in Tanzania due to the fact that national blood transfusion services and policies, appropriate infrastructure, trained personnel and financial resources were inadequate.

Indeed, although screening of donor blood for HIV infection started in 1987, these services were predominantly hospital-based, reliant on replacement family donations, and were limited to regional and referral hospitals. In addition, there was no systematic screening of donated blood for transfusion-transmissible agents other than HIV.

Taking the above situation into consideration, in 2004, the Ministry of Health and Social Welfare (MOHSW), in collaboration with CDC and other partners established the National Blood Transfusions Services (NBTS) that encompasses a centralized system of coordinated blood transfusion services. The NBTS is responsible for collection, processing, storage and distribution of safe blood and blood products to health facilities. The activities of the NBTS were centralized in 2005 following the World Health Assembly Resolution WHA 28.72 (1972) that called for member states to establish comprehensive and well coordinated blood transfusion services. At the moment NBTS coordinates eight zonal blood transfusion centers, namely Lake Zone-(LZBTC) in Mwanza region, Western-(WZBTC) in Tabora, Northern (NZBTC) in Kilimanjaro region, Eastern (EZBTC) in Dar es Salaam, Southern highlands (SHZBTC) in Mbeya, Southern (SZBTC) in Mtwara and Zanzibar and a military zone –Tanzania People’s Defense Force (TPDF).

NBTS, is responsible for implementing blood transfusion activities according to the national blood transfusion policy guideline. The guideline emphasize voluntary, non-remunerated repeat donations from low risk and well informed donors and provide a roadmap for standardized, efficient and sustainable ways of recruiting and retaining safe blood donors.

Since the establishment of NBTS, donated blood is strictly screened for HIV, hepatitis B virus (HBV), hepatitis C virus (HCV) and syphilis. It should be noted however that to date, the EZBTC is partially covering all the 61 hospitals in the zone. These facilities require 78,168 units of blood per annum. However, the capacity of the centre is only 24,000 units, representing only 30% of the requirement. Consequently, hospitals continue to collect blood from replacement donors to cover for the shortage.

This report provides hospital-based data of replacement donors in all regions from 1996 till 2007 and data of voluntary donors who donated blood at facilities located in Eastern zone between 2006 and 2008.

1.2 Methods

1.2.1 Replacement family donors

In Tanzania, the system of obtaining blood from replacement family donors started in 1987 and records are available as of 1991. This system which initially involved a few facilities expanded with time to cover health care facilities distributed throughout the 21 regions of Tanzania mainland. Screening for HIV infection is done by using rapid tests in almost all health care facilities except in regional, referral and some missionary hospitals where ELISA testing strategy is used. Donor demographic information including age, sex, residence, type of donor; and HIV test results are filled in the blood donor HIV register forms that are made available to the health care facilities from the NACP through the office of the Regional Medical Officer. Dully filled forms are returned to the NACP for data entry, cleaning, analysis and reporting.

1.2.2 Voluntary non-remunerated repeat blood donors

NBTS is established in line with World Health Resolution WHA 28.72 (1975) which requires all member states to start blood safety programme whose main objective is to collect blood from low risk population of voluntary non-remunerated blood donors (VNRBD). The traditional system of collecting blood from replacement/family blood donor is associated with high prevalence of Transfusion Transmitted Infections (TTI) i.e HIV, HBV, HCV and Syphilis. Blood donors from this system during this transition period will be encouraged to become voluntary blood donors by undergoing through NBTS recruitment system. The recruitment of blood donors by blood safety involves the use of WHO adopted structured medical questionnaire (appendix 1) which defers the high risk blood donors from donating blood.

Data for voluntary non-remunerated repeat blood donors from the Eastern Zone Blood Transfusion Centre (EZBTC) for the period June 2006 to December 2008 were available for inclusion in this report. The EZBTC include voluntary blood donors from Dar es Salaam, Morogoro, Dodoma and Coast Regions. All donated blood was screened for selected infections using NBTS testing algorithms that are based on the National Specific Blood Transfusion Practice Guidelines (MoHSW, 1st Edition June, 2006). HIV was screened using Vironostika HIV Uni-Form II Ag/Ab and reactive samples were retested using Enzygnost anti-HIV1/2 Plus (SP2). GENEDIA HBsAg ELISA 3.0 and GENEDIA HCV ELISA 3.0 were used to screen for HBV and HCV respectively. Reactive samples were retested by repeating the same tests in duplicates. Screening for syphilis was done by Omega IMMUTREP RPR and positive samples were confirmed by Determine Syphilis TP. For all discordant results the blood donors were asked to come for repeat tests after three months. Blood donor demographic information including age, sex, place of donation and type of community are collected on the donation site using blood donation register book. Test results are recorded in the laboratory register book. Filled registers are regularly entered in the computer system.

1.3 Results

1.3.1 Characteristics of replacement blood donors

As shown in Table 1.1, a total of 830,111 replacement donors donated blood between 2001 and 2007. Of them 691,430 (83.3%) were males and 138,681 (16.7%) were females, bringing a M:F ratio of 5:1. Notably, the number of replacement donors started to decrease in 2006, most probably due to NBTS which started during that year.

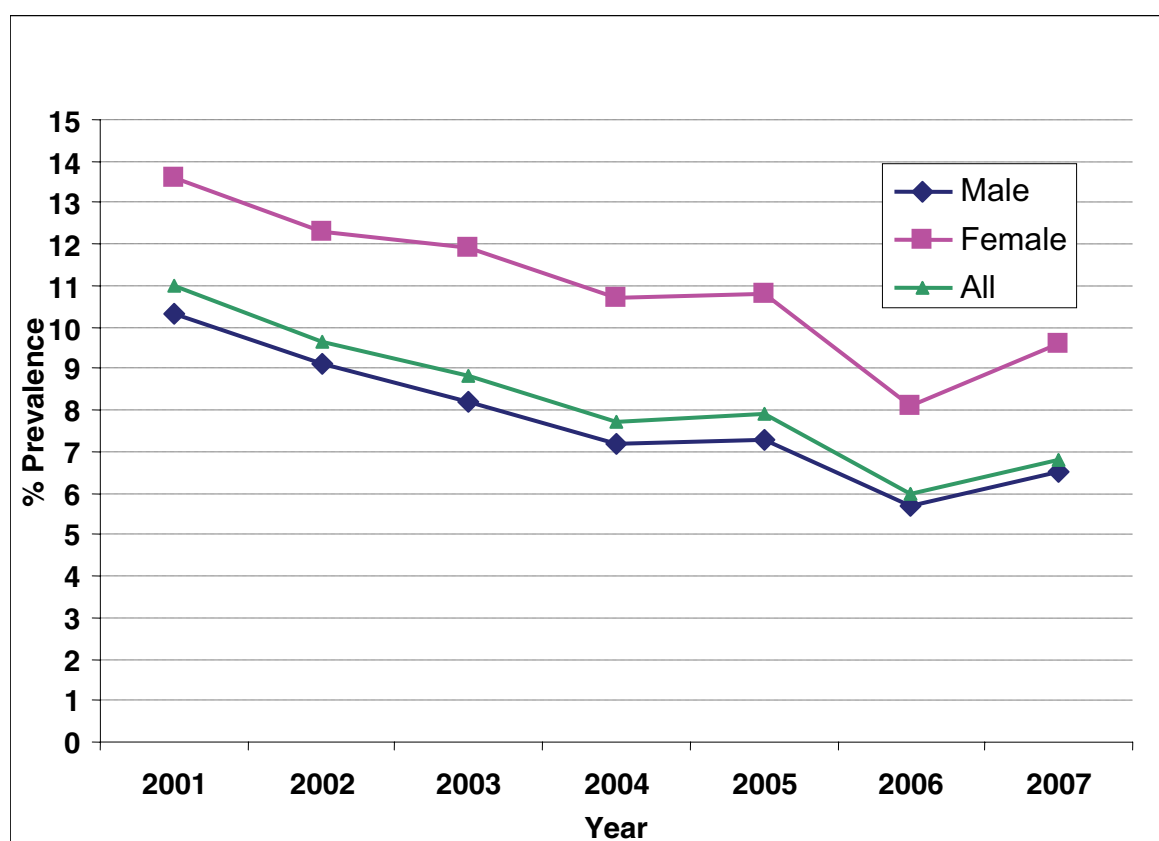
Table 1.1: Distribution of replacement blood donors for the period 2001 to 2007 by Sex;

<i>Year</i>	<i>Male</i>	<i>% male</i>	<i>Female</i>	<i>% female</i>	<i>Total</i>
2001	126,309	81.4	28,867	18.6	155,176
2002	120,807	82.1	26,350	17.9	147,157
2003	121,767	82.6	25,610	17.4	147,377
2004	128,969	83.7	25,076	16.3	154,045
2005	107,057	82.9	22,146	17.1	129,203
2006	41,952	88.7	5,365	11.3	47,317
2007	44,569	89.4	5,267	10.6	49,836
Total	691,430	83.3	138,681	16.7	830,111

1.3.2 Trends of HIV infection among replacement blood donors

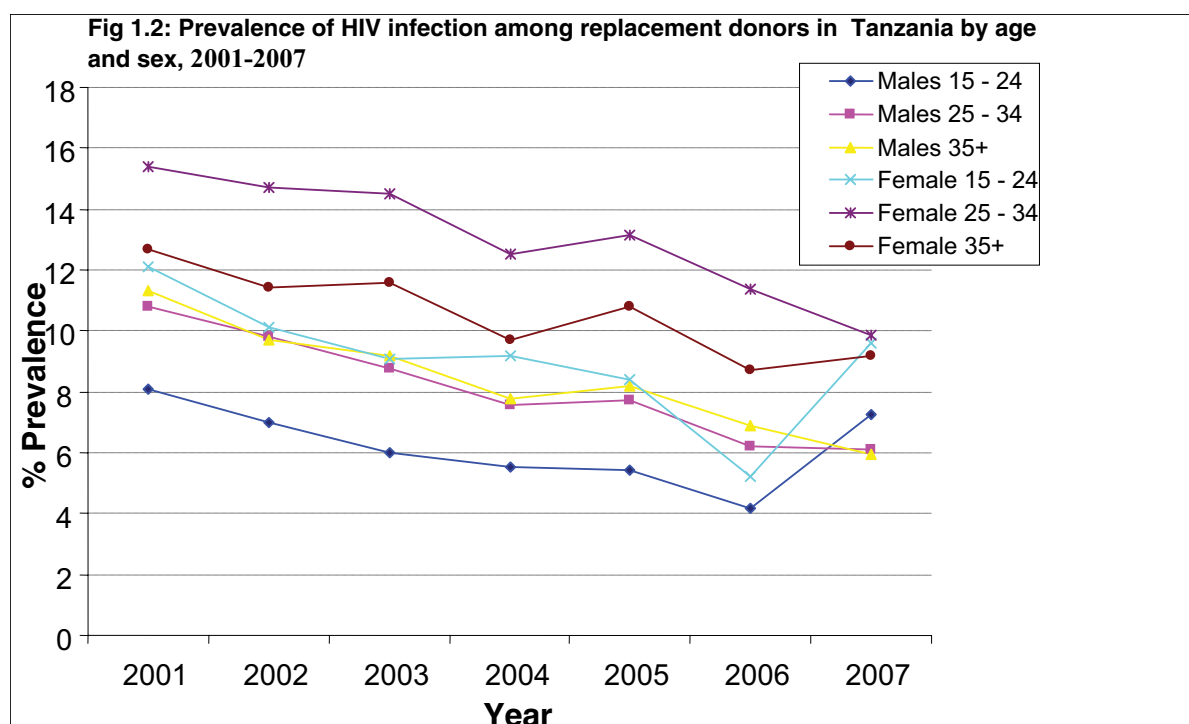
Figure 1.1 below details the trends of HIV infection among replacement blood donors over a seven year period (2001-2007). The overall HIV infection decreased from 11% in 2001 to 6.0% in 2006, followed by a rise to 6.8% in 2007. Throughout the seven year period the prevalence of HIV infection among female donors was significantly higher than that of male donors.

Fig.1.1 Trend of HIV Infection among replacement blood donors in Tanzania by sex, 2001- 2007



1.3.3 Trends of HIV infection among replacement blood donors by age and sex, 2001-2007

Fig 1.2 illustrates trends in the age and sex specific prevalence of HIV infection among the blood donor population from 2001 till 2007



Between 2001 and 2006, prevalence of HIV infection in all age groups showed a decreasing trend. Further downward trend is noted among males and females age 25-34 years and among males age 35+ to the year 2007. Nevertheless, a sudden change in trend is observed among young females and male age 15-24 whose prevalence showed a sudden increase between year 2006 and 2007. A similar pattern is observed among females aged over 35 years. The reasons for a sudden upward change in trend of prevalence among young males and females age 15-24 between the year 2006 and 2007 and females of age ≥ 35 years need to be established so as to address the situation.

Tables 1.2 and 1.3 shown below summarize the prevalence of HIV infection among male and female replacement blood donors between 1997 and 2007. For both sexes, the prevalence of HIV infection increased from 1997 till 2001, and thereafter decreased until 2006. For both groups, HIV prevalence increased between 2006 and 2007. The highest HIV prevalence among male replacement donors was between 25 and 44 years, while for female the most affected were those aged between 20 and 44 years.

Table 1.2: Prevalence of HIV infection among male replacement blood donors in Tanzania by age, 1997 – 2007

Age	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
15 – 19	4.5	5.2	5.4	6.0	5.9	4.9	4.8	4.7	4.5	3.7	5.7
20 – 24	4.9	6.8	7.0	7.2	8.5	7.5	6.3	5.7	5.7	4.5	8.6
25 – 29	7.2	8.5	8.8	9.6	10.4	9.1	8.2	7.0	7.2	5.5	6.4
30 – 34	7.3	10.1	10.0	10.4	11.2	10.5	9.5	8.2	8.3	7.0	5.8
35 – 39	7.4	9.8	9.9	10.9	12.3	10.4	9.9	8.5	8.5	7.3	6.0
40 – 44	6.6	9.1	9.9	9.2	11.2	9.9	9.3	8.0	8.2	6.8	5.5
45 – 49	5.8	8.4	8.5	9.3	10.6	9.2	8.6	6.9	7.9	6.5	5.8
50 – 54	4.8	7.1	7.7	9.1	9.3	7.9	7.2	6.1	7.2	5.6	4.9
55+	5.9	8.2	5.5	6.8	7.6	6.3	6.7	6.8	7.3	7.6	9.7
Total	6.0	8.5	8.7	9.2	10.3	9.1	8.2	7.2	7.3	5.7	6.5

Table 1.3: Prevalence of HIV infection among female replacement blood Donors in Tanzania by age and sex, 1997 – 2007

Age	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
15 – 19	6.7	8.8	7.8	8.2	9.2	7.9	6.2	7.6	6.0	3.7	8.8
20 – 24	10.2	11.3	12.2	11.9	13.3	10.9	10.3	9.7	9.9	7.1	10.8
25 – 29	11.0	13	14.5	16.8	15.7	14.9	14.3	13.0	12.7	10.6	10.3
30 – 34	11.0	13.2	14.2	13.6	15.0	14.4	14.4	12.0	13.7	12.1	9.3
35 – 39	12.1	12.5	14.9	15.2	13.2	13.0	13.1	11.0	12.2	9.6	8.9
40 – 44	9.6	10.3	10.0	11.1	12.9	11.6	11.4	9.0	10.0	8.0	9.0
45 – 49	8.2	9.8	10.2	13.6	12.0	9.7	9.0	10.1	9.0	5.7	6.5
50 – 54	11.2	8.8	7.0	9.5	11.3	6.9	10.3	6.5	7.6	7.1	9.1
55+	7.6	7.8	8.8	9.7	10.3	5.2	9.1	3.3	7.6	20.0	24.4
Total	9.7	11.8	12.6	13.3	13.6	12.3	11.9	10.7	10.8	8.1	9.6

Unexpectedly, highest prevalence of HIV infection for both female (24.4%) and male (9.7%) is observed among replacement donors aged 55 years and above.

Tables 1.4 and 1.5 shown below summarize the prevalence of HIV infection among male and female replacement donors by region for the period starting from 1996 till 2007.

Table 1.4: Prevalence of HIV infection among male replacement blood donors in Tanzania by region, 1996 – 2007

Region	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Arusha	3	2.8	4.2	21.3	13.4	17.2	8.7	9.4	11.7	11.6	0.6	1.9
Coast	9.4	8.2	7.7	7.5	10.1	8	8.3	5.9	5.7	5.0		
Dodoma	4.9	7.9	4.9	5	3.7	7.8	7.6	6.9	5.7	7.9	6.5	2.4
DSM	17.2	19.8	12.5	23.8	8.3	18.2	11.2	9.5	7.5	15.5		
Iringa	14.2	14.2	14.8	14.7	13.7	17.9	14.1	14.9	11.8	14.4	12.6	6.0
Kagera	8	8.6	14.8	17.3	19.5	22.3	18.6	21.0	18.5	14.1	5.3	10.5
Kigoma	5.6	2.8	3.8	6.3	3.9	4.8	3.2	4.3	3.0	4.3	1.8	3.4
Kilimanjaro	4.1	4.1	4.8	4.7	6.2	5.8	6.9	4.1	4.1	4.9		
Lindi	3.7	3	3.3	3.3	3.9	3.2	3	3.1	3.3	2.7	2.1	1.5
Manyara							17.5	10.6	5.2	5.0	3.5	0.3
Mara	7.6	8	7.6	8.6	8.7	7.8	8.7	7.4	4.9	5.0	2.9	
Mbeya	11.1	12.6	13	13.6	15.4	14.4	11.6	13.5	11.1	13.3		
Morogoro	4.1	5.5	7.4	10.3	15.2	16.2	8.2	7.6	7.8	5.0	5.9	3.9
Mtwara	9.7	4.5	8	7	7.3	7.2	6.5	5.8	4.7	3.5	2.5	2.5
Mwanza	7.6	9.5	6.9	6.2	7.2	7.7	7.2	8.3	8.2	7.0	7.1	10.8
Rukwa	8	7.9	-	-	11.5	11	9.7	17.8	20.0	7.4		
Ruvuma	8.1	7.7	7.4	9.8	9.5	10.3	10.3	9.9	7.3	9.3	6.6	3.7
Shinyanga	8.5	8.5	8	7.7	9	8	7.9	6.6	7.0	7.3	6.0	4.3
Singida	5.6	3.6	6.2	7.7	7.5	11.6	11.1	7.0	4.9	4.5	5.3	2.2
Tabora	3.2	6.1	5.9	6.8	6.8	7.3	6.2	7.6	5.8	6.4	2.7	3.5
Tanga	5.5	8	7.3	7.9	8.7	8.6	9.8	7.2	6.5	7.0	6.7	2.6
Total	6.8	7.6	8.5	8.7	9.2	10.4	9.1	8.2	7.2	7.3	5.7	6.5

As shown in table 1.4 the prevalence of HIV infection among male replacement donors was relatively high in Dar es Salaam, Mbeya, Iringa, and Kagera. In Kagera the prevalence started to decline in 2005. Notably, for all regions the highest prevalence of HIV infection among male replacement donors occurred between 1998 and 2005.

Table 1.5: Prevalence of HIV infection among female replacement blood donors in Tanzania by region, 1992 - 2007

Region	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Arusha	4.4	6	7.6	25.2	15.1	20.4	10.2	18.1	17.1	12.2		
Coast	-	8	13.1	15.8	25.1	21.2	17	11.9	10.0	16.0		
Dodoma	-	9.2	6.2	6.7	5.3	8.7	7.8	7.8	6.1	10.9	8.4	3.5
DSM	-	40.6	32.1	55	14.9	31.4	18.9	14.8	17.4	27.0		
Iringa	12.4	16.4	15.1	14.4	20.8	21.4	18.4	18.2	14.1	15.4	18.2	13.4
Kagera	7.4	11.3	14.3	19	19.5	20.5	15.9	19.2	16.6	12.2	8.5	7.1
Kigoma	6.1	2.6	2.6	6.6	3.6	5.1	3.4	6.5	4.1	5.3	0.8	2.8
Kilimanjaro	5.9	8.1	8.1	6.6	11.4	6.9	6.7	12.0	10.7	9.2		
Lindi	3.6	4.9	5.2	4.3	5.8	6.7	7.1	8.3	5.3	6.0	4.4	5.8
Manyara							19.8	18.0	12.7	10.7	3.3	5.6
Mara	10.1	13.1	7.7	10.2	10.7	11.1	13.3	8.7	8.0	8.7	5.5	
Mbeya	13.8	14.4	15.1	19.3	20.9	21	15.5	18.0	18.8	19.7		
Morogoro	6	9.1	8.8	16	24.2	22.3	10.8	12.7	9.6	7.7	7.1	7.1
Mtwara	10.5	-	23	21.3	25.2	14.9	13.2	20.4	7.3	4.8	3.9	14.3
Mwanza	8.5	11.8	9.5	10.6	9.5	9.3	9.4	10.3	11.6	8.0	6.9	15.5
Rukwa	8.8	-	-	-	16	8.8	11.1	19.1	16.9	6.5		
Ruvuma	10.5	12.7	12.2	11.8	12.7	14.1	13.1	11.6	10.8	12.1	9.5	6.3
Shinyanga	14.9	14.9	14.6	12.9	13.6	11.8	11.6	9.5	9.7	10.9	13.6	7.9
Singida	5.8	5.2	7	9.4	10.4	12.1	14.9	10.3	9.4	10.3	6.9	4.3
Tabora	3.2	7.7	9.5	8.8	9.3	8.9	7.9	11.8	10.7	12.5	12.5	3.5
Tanga	7	13.6	11.9	14	11.2	8.6	8	10.7	11.2	13.7	19.1	2.8
Total	8.2	11.6	11.8	12.6	13.3	13.7	12.3	11.9	10.7	10.8	8.1	9.6

As shown in table 1.5 the prevalence of HIV among female replacement donors was relatively high in Dar es Salaam, Iringa, Mbeya, Coast, Arusha and Kagera. In all regions the highest prevalence of HIV infection among female replacement donors was recorded in the period between 1997 and 2005.

1.4: Voluntary blood donors

Between June 2006 and December 2008 a total of 29,737 persons, 20,177 (67.9%) males and 9,499 (31.9%) females donated blood voluntarily at EZBTC. For 61 (0.2%) donors, sex was not mentioned. Table 1.6 shows the distribution of the donors by age and sex. Notably, the number of donors increased steadily from 2,294 in 2006 to 12,640 in 2008. Most of the donors (75.1%) were aged between 18 and 24 years.

Table 1.6a: Age and sex distribution of voluntary blood donors, Eastern Zone- 2006 and 2008

	2006		2007		2008		Grand Total	
<i>Age group</i>	Males	Females	Males	Females	Males	Females		%
18 - 19	298	219	3372	2686	2995	2086	11656	39.3
20 - 24	588	218	3526	1294	2639	973	9238	31.1
25 - 29	212	59	1105	378	967	333	3054	10.3
30 - 34	155	31	695	192	639	231	1943	6.5
35 - 39	136	22	447	119	504	147	1375	4.6
40 -44	110	19	278	58	307	91	863	2.9
45+	204	23	474	102	511	209	1523	5.1
Not stated	0	0	11	6	5	3	25	0.1
Total	1,703	591	9,908	4,835	8,567	4,073	29,677	100

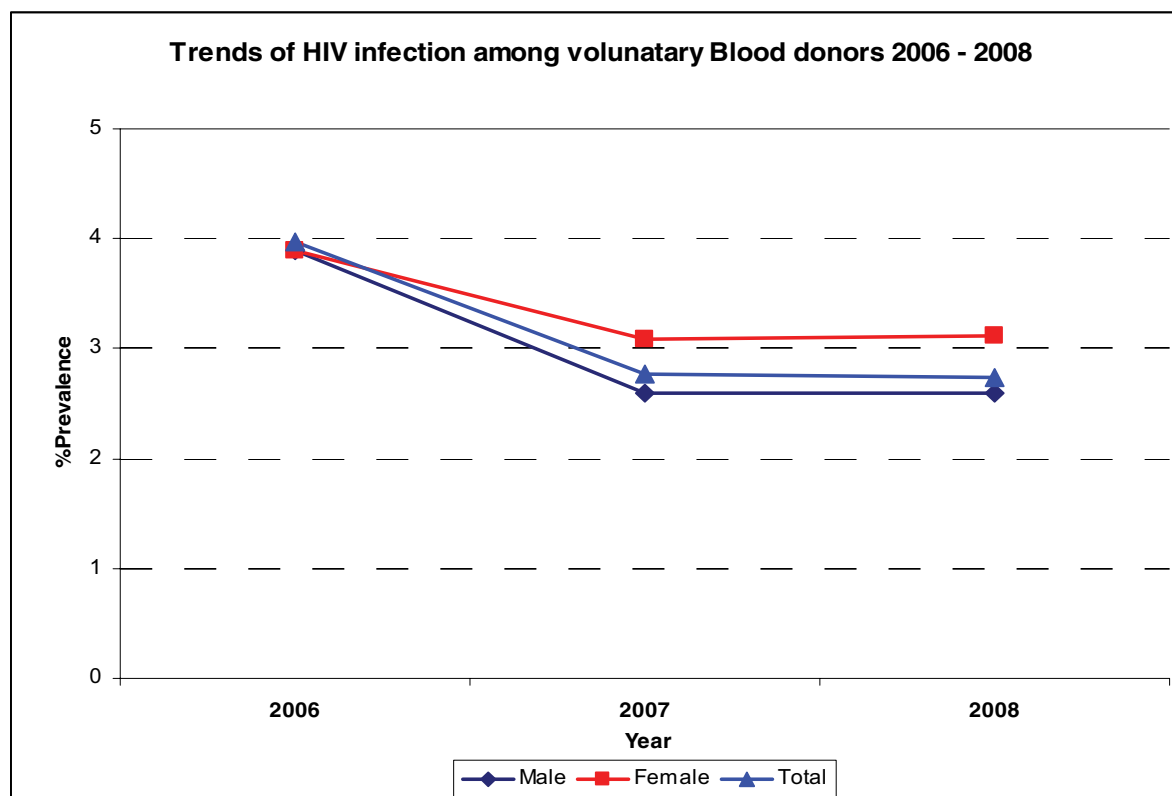
1.4.1 Trends of HIV infection among voluntary blood donors

As shown in Fig 1.3, the overall prevalence of HIV among the voluntary donors decreased from 4.0% in 2006 to 2.8% in 2007 and remained at 2.7% in 2008. Among women, the HIV prevalence remains at a relatively high level (3.2%) compared with 2.5% among male donors.

Table 1.6b Trends of HIV infection among voluntary blood donors 2006 – 2008.

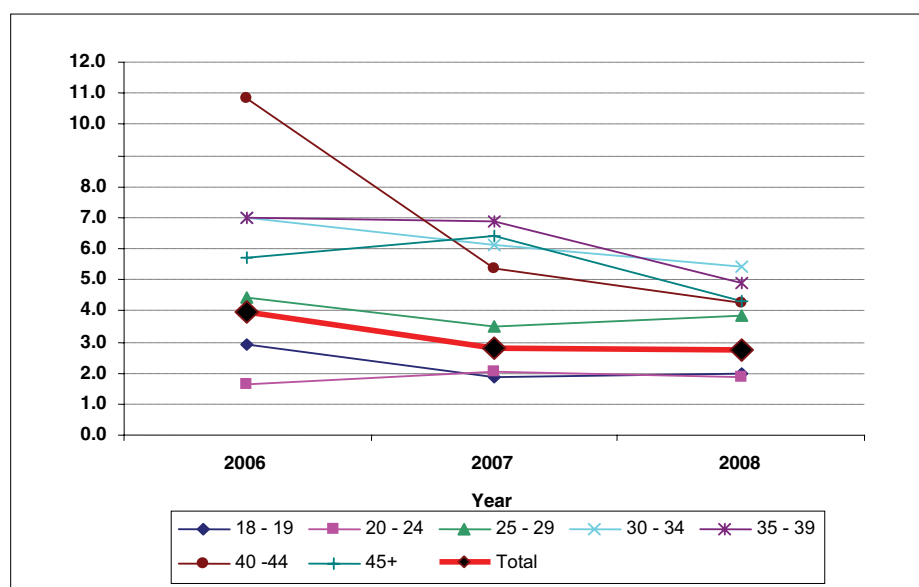
<i>Age group</i>	2006				2007				2008			
	Males		Females		Males		Females		Males		Females	
	N	%HIV	N	%HIV	N	%HIV	N	%HIV	N	%HIV	N	%HIV
18 - 19	298	2.7	219	2.7	3372	2.0	2686	1.6	2995	2.0	2086	2.0
20 - 24	588	1.2	218	2.8	3526	1.6	1294	3.0	2639	1.8	973	2.2
25 - 29	212	3.3	59	8.5	1105	2.8	378	5.6	967	3.2	333	5.7
30 - 34	155	7.1	31	6.5	695	5.0	192	9.9	639	3.6	231	10.4
35 - 39	136	5.9	22	13.6	447	5.4	119	12.6	504	4.6	147	1
40 -44	110	11.8	19	5.3	278	5.4	58	5.2	307	3.6	91	6.6
45+	204	6.4	23	-	474	5.9	102	8.8	511	4.9	209	2.9
Not stated	0	-	0	-	11	-	6	-	5	-	3	-
Total		3.9	591	3.9	9,908	2.6	4,835	3.1	8,567	2.6	4,073	3.1

Fig 1.3: Trends of HIV infection among voluntary blood donors 2006 – 2008.



As shown in Figure 1.4 most of the reduction in HIV prevalence among voluntary blood donors was in the 40-44 year age group, whereas the lower age groups remained relatively stable.

Fig 1.4: Trends of HIV infection among Voluntary Blood donor by age groups, Eastern Zone 2006 - 2008



As shown in table 1.7 below, the prevalence of Hepatitis B Virus (HBV) infection among voluntary blood donors who donated blood between 2006 and 2008 at facilities located in EZBTS was 7.1% in 2006, 6.5% in 2007 and 6.1% in 2008. No specific age pattern could be observed except for the fact that in 2006 the prevalence of HBV was very high among donors who were aged between 25 and 34 years.

Table 1.7: Prevalence of HBV infection among Voluntary blood donors by age, Eastern zone, 2006 – 2008

Age group	2006		2007		2008	
	N	% prevalence	N	% prevalence	N	% prevalence
18 - 19	517	6.6	6058	5.8	5081	5.2
20 - 24	806	6.3	4820	6.8	3613	7.6
25 - 29	271	10.0	1483	7.8	1300	6.5
30 - 34	186	9.7	887	6.5	870	7.8
35 - 39	158	7.6	566	8.1	651	4.6
40 -44	129	6.2	336	5.1	398	6.3
45+	227	5.3	576	5.6	720	4.2
Not stated	1	100.0	76	5.3	20	5.0
Total	2295	7.1	14,802	6.5	12,653	6.1

As shown in fig 1.5 the prevalence of HBV infection among male donors was significantly higher than that of female donors throughout the three year period. Trend wise, the prevalence of HBV infection among male donors decreased from 8% in 2006 to 7.2% in 2008. Among female donors HBV infection decreased from 4.5% in 2006 to 4.0% in 2008.

Fig 1.5: Trends of HBV infection among voluntary blood donors 2006- 2008.

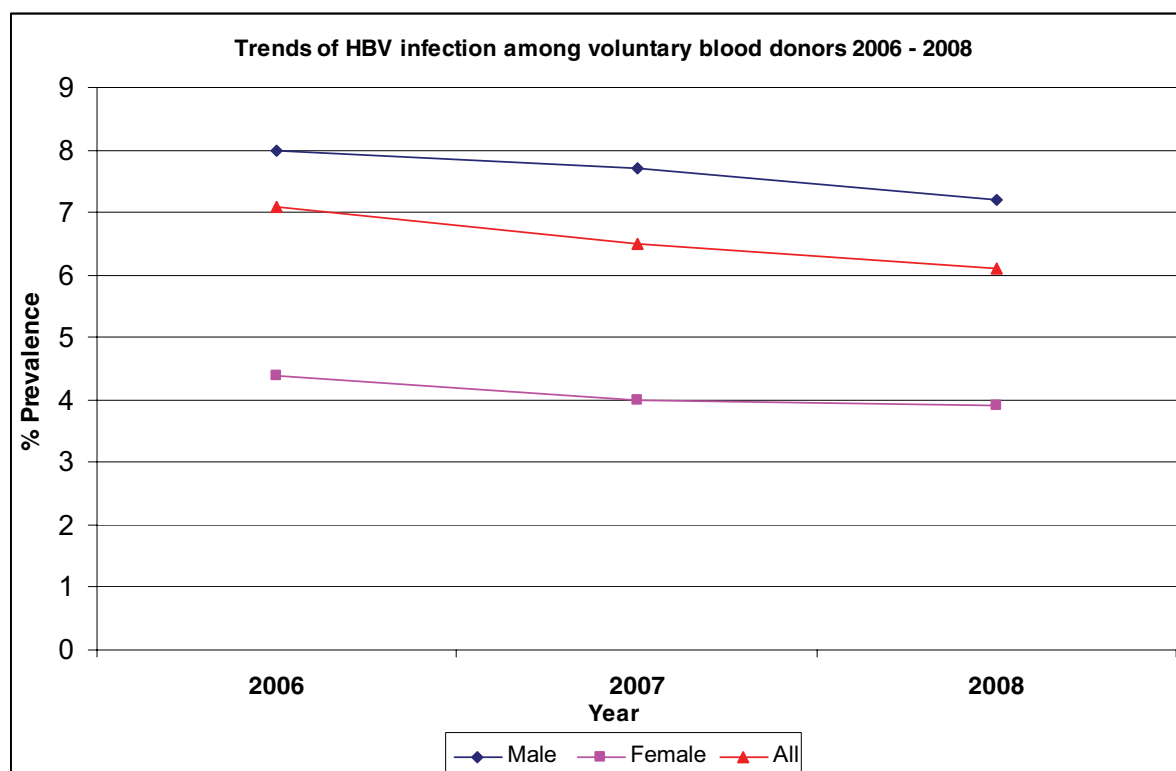


Table 1.8 shows the prevalence of Hepatitis C Virus (HCV) infection among voluntary blood donors to be 1.2% in 2006, 0.5% in 2007 and 1.3% in 2008. There was no recognizable age-related pattern. Notably a total of 97 donors, their age groups were not stated

Table 1.8: Prevalence of HCV infection among Voluntary blood donors in Eastern zone by age , 2006 – 2008

<i>Age group</i>	<i>2006</i>		<i>2007</i>		<i>2008</i>	
	<i>N</i>	<i>% prevalence</i>	<i>N</i>	<i>% prevalence</i>	<i>N</i>	<i>% prevalence</i>
18 - 19	517	1.4	6058	0.7	5081	1.2
20 - 24	806	0.5	4820	0.3	3613	1.4
25 - 29	271	0.7	1483	0.3	1300	1.6
30 - 34	186	0.5	887	0.3	870	1.4
35 - 39	158	1.9	566	0.2	651	0.6
40 -44	129	3.1	336	0.3	398	0.5
45+	227	2.6	576	0.7	720	1.9
Not stated	1	-	76	0.0	20	0.0
Total	2,295	1.2	14,802	0.5	12,653	1.3

As shown in the table 1.9 the prevalence of HCV infection among male donors was 1.0% in 2006, 0.5 in 2007 and 0.7% in 2008. Among the female donors HCV prevalence was 1.7% in 2006, 0.5% in 2007 and 1.6%. Notably, there were no sex differences in HCV prevalence among the voluntary donors.

Table1.9: Prevalence of HCV infection among voluntary blood donors of Eastern Zone by sex 2006 – 2008

<i>Sex</i>	<i>2006</i>		<i>2007</i>		<i>2008</i>	
	<i>N</i>	<i>percent</i>	<i>N</i>	<i>percent</i>	<i>N</i>	<i>Percent</i>
Male	1703	1	9907	0.5	8,568	0.7
Female	591	1.7	4835	0.5	4,073	1.6
All	2,294	1.2	14,742	0.5	12,641	1.3

Table1.10 show the prevalence of syphilis among voluntary donors in Eastern zone to have decreased from 1.3% to 0.3% in 2007 and 2008. The prevalence of syphilis infection by age group for the year 2008 varied between 0.1% and 0.6%, differences which are too small to be significant.

Table 1.10: Prevalence of syphilis among voluntary blood donors in the Eastern Zone by age group, 2006-2008

<i>Age group</i>	<i>2006</i>		<i>2007</i>		<i>2008</i>	
	<i>N</i>	<i>% prevalence</i>	<i>N</i>	<i>% prevalence</i>	<i>N</i>	<i>% prevalence</i>
18 – 19	517	0.6	6058	0.2	5081	0.1
20 – 24	806	0.9	4820	0.4	3613	0.3
25 – 29	271	0.7	1483	0.2	1300	0.2
30 – 34	186	1.1	887	0.7	870	0.6
35 – 39	158	3.2	566	0.5	651	0.5
40 -44	129	4.7	336	0.6	398	0.3
45+	227	1.8	576	0.2	720	0.6
Not stated	1	-	76	0.0	20	0.0
Total	2,295	1.3	14,802	0.3	12,653	0.3

Figure 1.6 below, which shows prevalence of syphilis by sex, depicts significantly higher prevalence of syphilis among males (1.5%) than females (0.5%) voluntary donors in 2006. However no sex differences could be seen after 2007.

Fig 1.6: Trends of syphilis infection among Voluntary blood donors, 2006 -2008

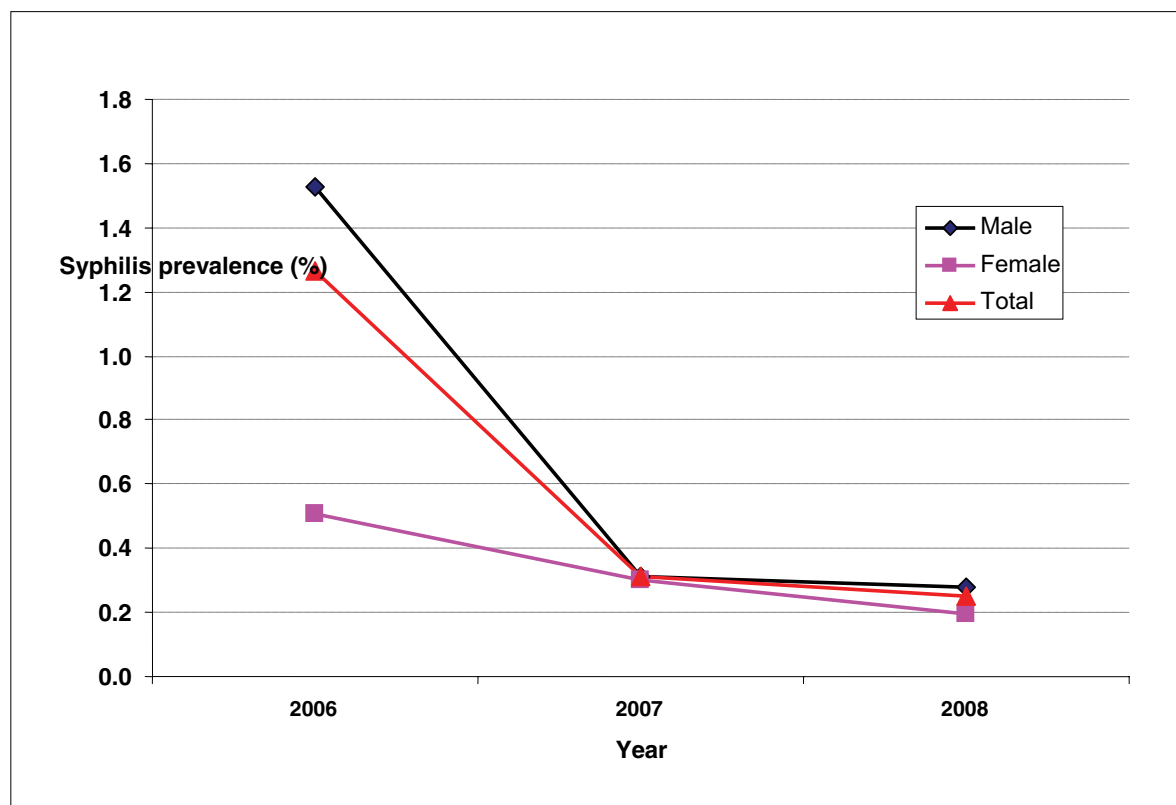


Table1.11: Co-infections among voluntary blood donors of the Eastern zone, 2006-2008

<i>Infectious agent(s)</i>	Number	Percents	<i>95% CI</i>	
HIV	849	2.8	2.8	3.0
HBV	1896	6.4	6.3	6.4
HCV	269	0.9	0.8	0.9
SYPHILIS	107	0.4	0.3	0.47
HIV & HBV	66	0.2	0.17	0.28
HBV &HCV	24	0.1	0.008	0.011
All other combinations	32	0.1	0.008	0.011
At least one	2997	10.0	9.6	10.3

As shown in the table1.11, the prevalence of HIV, HBV, HCV and syphilis among the voluntary blood donors of the Eastern Zone for the three year period (2006-2008) was 2.8%, 6.4%, 0.9% and 0.4%, respectively. The only co-infections that were noted were those of HIV and HBV (0.2%), HBV and HCV (0.1%). All other co-infections combined together occurred in only 0.1% of the donors. Of particular note is the fact that 10% of blood donated by the voluntary donors contained at least one of the screened TT pathogens.

Chapter Two

HIV Care and Treatment Services

The National Care and Treatment Plan for HIV and AIDS (NCTP) was developed in early 2003 and approved by the Government of Tanzania in October 2003. The main focus of the plan which started October 2004, now is in its fifth year, is scaling up of HIV care and treatment services aiming at having more than 440,000 patients on ART at the same time follow disease progression for 1.2 million HIV positive who are not eligible for ART. Second goal is to strengthening the health care infrastructure through the expansion of the human resources, facilities and equipment and comprehensive training in the care and treatment of PLHIV. The third goal is to foster information, education and communication efforts focusing on increasing public understanding care and treatment, reducing stigma and supporting on going prevention campaign. The last goal is strengthening social support for care and treatment of PLHAs in Tanzania, through home-based care, local support groups, and treatment partners.

The National AIDS Control Programme coordinates the scale up of quality HIV care and treatment services which started from referral, regional, district hospitals and now to primary health facilities through various activities. First, through development and use of key programme tools such as National Guidelines for Management of HIV and AIDS, training curricular for different health cadres, Monitoring systems (Patients, Drugs/other supplies and Epidemic), supportive supervision and clinical mentoring guide. Also in collaboration with Regional and Council Health Management teams conduct assessment of the selected health facilities where identified weaknesses and gaps are corrected by incorporating in their plans. In addition it conducts supportive supervision and clinical mentoring to all health facilities providing HIV care and treatment services. Lastly, in collaboration with stakeholders coordinate forecasting and quantification of HIV related commodities including ARVs. Medical Stores Department(MSD) is responsible for procurement, storage and distribution of HIV related commodities.

HIV care and treatment services in Tanzania are integrated in the existing health care system, including without creating a parallel system in public, private (FBOs) and private for profit health facilities.

2.2 Methods:

Provision of HIV care and treatment services started together with its routine recording and reporting system in October 2004. The recording and reporting system focuses on patient monitoring at facility level and consists of eight tools; five recording and three reporting tools. The recording tools include Care and Treatment Cards (CTC) that are of two types and coded as CTC1 and CTC 2. The remaining recording registers are Pre ART, ART and cohort analysis registers. The reporting tools are the monthly and quarterly cross sectional report forms, and a cohort analysis report forms.

The two recording cards (CTC 1) and (CTC 2) have individual information of the clients attending Care and Treatment Clinic (CTC) and feed information to Pre ART or ART register depending on whether the client has started ART or not. The Pre ART register is used to record information from clients who have not yet started ART and is used to compile cross-sectional information. Once patients are started on ART they are transferred to the ART register, which is used to track patients on ART for up to 72 months and provide longitudinal information for feeding the cohort analysis report form.

Reporting tools are of two types namely cross sectional and cohort. The cross sectional report has two parts, the monthly report that provides information on cumulative numbers in care and on ART and the quarterly report that provide information on current on care and on ARV and drug use. The cohort analysis report provides information on treatment outcome of clients on ART.

Person in charge of HIV Care and Treatment Clinic summarizes information from the registers monthly and quarterly to produce facility reports. These reports are shared at the facility level for improving and managing

service provision. All health facilities in the district send a copy of monthly and quarterly summaries to the office of the district medical officer (DMO). At the district level, facility reports are aggregated to form a district report for use at this level, and a copy of the report is sent to the regional level where aggregation is done to form a regional report. Copies of all regional reports are sent to NACP where information is entered into the national-level database and analyzed. The information gathered since the onset of the NCTP has been analysed.

2.3 Results

The results provides information on health facilities providing HIV care and treatment services, patient monitoring information and treatment outcomes as assessed by a set of national monitoring indicators

Table: 2.1: Population statistics, number of care and treatment facilities, HIV prevalence, estimated HIV population and number of clients enrolled in HIV care and those in ART treatment by region up to March 2009.

1	2	3	4	5	6	7	8	9	10
Region	Population 2009	Number of facilities with CTC	HIV Prevalence (THMIS)	Estimated PLHIV (2*4)/100	Estimated ART eligible patients (5*20%)	Clients enrolled in HIV care	% estimated PLHIV enrolled in HIV care	Patients on ART	% estimated ART eligible on ART (9/6*100)
Arusha	1,701,464	34	1.4	23,820	4,764	17,297	72.6	9,911	208.0
Dar es salaam	3,354,070	44	8.9	298,512	59,702	87,580	29.3	49,990	83.7
Dodoma	1,992,149	8	3.3	65,741	13,148	11,976	18.2	7,439	56.6
Iringa	1,659,588	39	14.7	243,959	48,792	46,491	19.1	23,257	47.7
Kagera	2,518,475	47	3.4	85,628	17,126	18,275	21.3	9,399	54.9
Kigoma	2,331,352	28	0.9	20,982	4,196	4,920	23.4	2,314	55.1
Kilimanjaro	1,543,464	41	1.9	29,326	5,865	21,634	73.8	11,753	200.4
Lindi	872,188	34	3.9	34,015	6,803	8,394	24.7	3,648	53.6
Manyara	1,350,850	17	1.7	22,964	4,593	4,603	20.0	2,437	53.1
Mara	1,626,838	23	5.3	86,222	17,244	13,848	16.1	6,234	36.2
Mbeya	2,443,879	17	7.9	193,066	38,613	49,401	25.6	24,801	64.2
Morogoro	2,106,188	21	4.2	88,460	17,692	15,654	17.7	8,826	49.9
Mtwara	1,269,864	26	3	38,096	7,619	11,917	31.3	5,649	74.1
Mwanza	3,667,941	34	5	183,397	36,679	37,486	20.4	16,068	43.8
Pwani	1,049,728	20	5.3	55,636	11,127	14,913	26.8	6,455	58.0
Rukwa	1,462,469	11	4.5	65,811	13,162	8,052	12.2	3,640	27.7
Ruvuma	1,327,959	9	5.4	71,710	14,342	15,613	21.8	8,776	61.2
Shinyanga	3,521,477	44	7.6	267,632	53,526	23,654	8.8	11,807	22.1
Singida	1,278,963	6	2.6	33,253	6,651	5,383	16.2	3,739	56.2
Tabora	2,200,484	33	6.1	134,230	26,846	19,450	14.5	7,616	28.4
Tanga	1,860,422	27	3.8	70,696	14,139	20,773	29.4	11,333	80.2
TOTAL	41,139,813	563	5.7	2,113,158	422,632	457,314	21.6	235,092	55.6

By March 2009, the number of health facilities providing HIV care and treatment services was 563. During the same period, the cumulative number of clients enrolled in HIV care was 457,314. The number of clients enrolled represents 21.6 % of the 2,113,158 estimated number of people living with HIV.

Significant regional variations regarding the number of clients enrolled in HIV care existed, varying from 4,920 in Kigoma to 87,580 in Dar es Salaam. The number of patients on ART by the end of March 2009 was 235,092 representing 55.6% of the 422,632 estimated number of ART eligible, and 51.4% of 457,314 patients enrolled into HIV care and treatment services.

Significant regional variations were seen in the percentage of ART eligible patients who are on ART, ranging from 22% in Shinyanga to >200 % in Kilimanjaro and Arusha.

The surprisingly higher percentage figures of estimated AIDS patients on ART reported in Arusha and Kilimanjaro are most probably due to under estimation of HIV prevalence in these regions by the THMIS (2007/8) and consequent underestimation of clients expected on HIV care and those on ART. According to THMIS, in Arusha HIV prevalence was 5.3% in 2003/4 and 1.4% in 2007/8, while in Kilimanjaro the HIV prevalence was 7.3% in 2003/4 and 1.9% in 2007/8.

2.3 Clients enrolled in HIV care and treatment and those on ART.

Table 2.2 shows the cumulative number of clients enrolled in HIV care and treatment and those on ART as of December 2006, December 2007 and December 2008. The cumulative number of patients enrolled in HIV care and treatment increased from 125,139 in 2006 to 263,700 in 2007 and 403,378 in 2008. Of these figures the number of children enrolled was 12,563 in 2006, 22, 231 in 2007 and 33,422 in 2008.

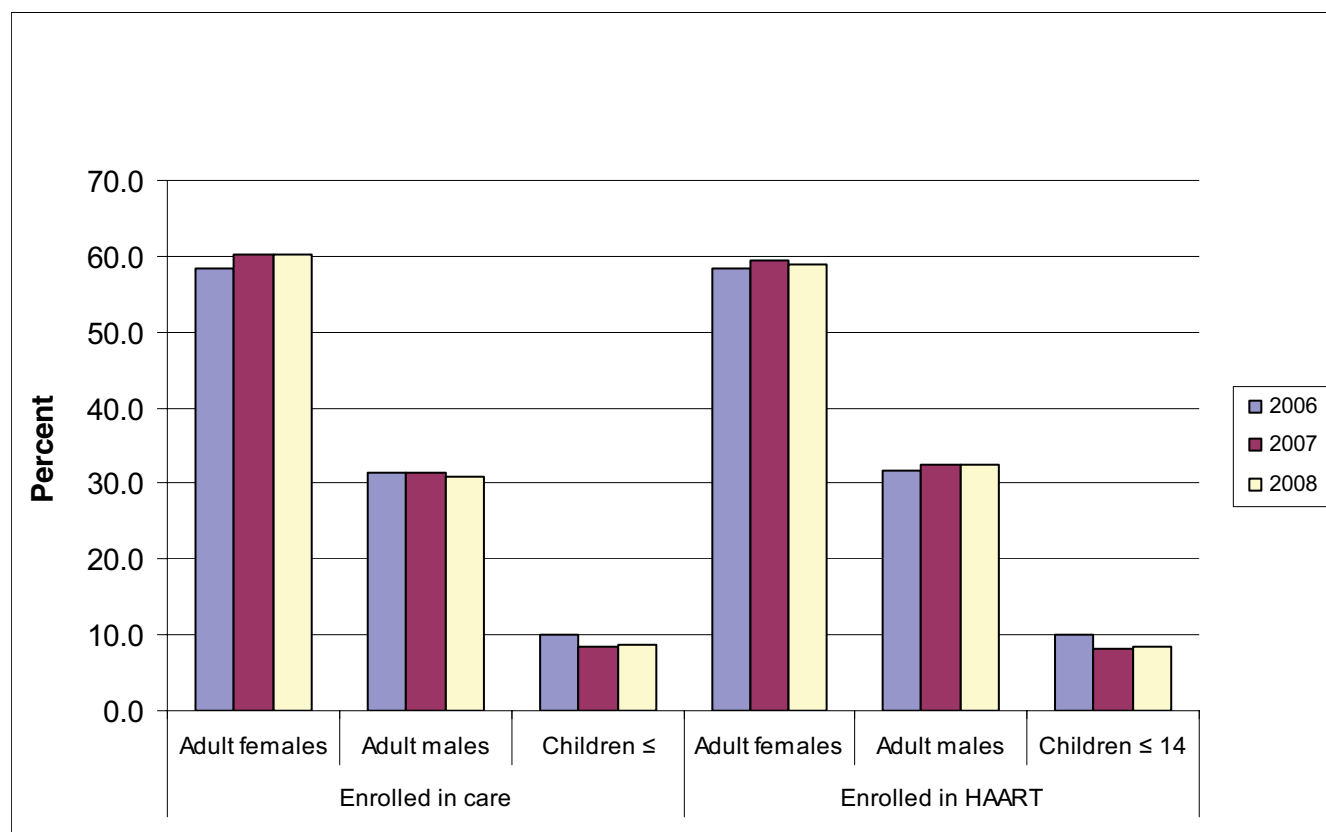
The cumulative number of patients on ART increased from 60,341 in 2006 to 135,529 in 2007 and 202,181 in 2008. Of these figures the number of children on ART was 5,985 in 2006, 11,007 in 2007 and 15,672 in 2008.

Table2.2: Cumulative number of clients enrolled in HIV care and treatment and those on ART as of December 2006, December 2007 and December 2008

Region	Dec-06				Dec-07				Dec-08			
	Enrolled in HIV care		ON ART		Enrolled in HIV care		ON ART		Enrolled in HIV care		ON ART	
	Adults	Children	Adults	Children	Adult	Children	Adults	Children	Adult	Children	Adults	Children
Arusha	5,167	586	3,080	597	9,349	1,135	5,214	682	13325	1,592	7858	820
Coast	2,449	255	1,380	106	3,594	606	1,946	151	11240	975	5048	446
Dodoma	6,131	592	1,954	226	6,688	982	4,792	403	9396	1,157	5953	559
DSM	32,367	4,156	15,977	2,237	52,337	5,615	31,473	3,297	75098	6,930	43338	4085
Iringa	10,117	1,045	4,742	415	22,423	2,179	10,598	954	37960	3,820	19157	1,940
Kagera	3,391	223	1,726	107	10,004	624	4,771	405	15272	1,099	7419	512
Kigoma	740	71	470	47	1,994	179	1,089	77	3642	288	1827	124
Kilimanjaro	6,409	1,137	3,182	456	13,724	2,052	6,117	879	14999	3,361	7186	1,073
Lindi	1,684	101	839	35	3,803	263	1,805	113	6753	510	3024	206
Manyara	1,397	127	736	78	1,427	135	876	101	3342	298	1844	178
Mara	2,797	117	1,418	48	7,410	368	3,077	190	12976	709	5978	246
Mbeya	9,506	1,532	4,141	418	26,598	1,842	12,863	851	41842	2,710	19829	1,233
Morogoro	2,779	283	1,749	144	7,568	601	3,851	352	8856	728	4557	379
Mtwara	2,629	190	1,613	111	8,049	577	4,215	277	10014	716	4763	338
Mwanza	7,475	548	3,238	221	23,088	1,668	9,924	589	32477	2,363	13844	884
Rukwa	871	75	406	26	4,072	261	1,832	94	5667	342	2721	120
Ruvuma	3,208	257	1,664	124	7,633	526	5,068	322	12877	987	7525	573
Shinyanga	2,792	159	1,443	84	8,630	614	4,200	234	17739	1,246	7615	421
Singida	1,481	79	857	42	3,171	165	2,315	102	4146	341	3050	195
Tabora	3,030	284	1,233	108	8,701	887	3,182	332	15401	1,392	5683	491
Tanga	6,156	746	2,508	355	11,206	952	5,314	602	16934	1,858	8290	849
Total	112,576	12,563	54,356	5,985	241,469	22,231	124,522	11,007	369,956	33,422	186,509	15,672
TOTAL	125,139			60,341	263,700			135,529	403,378			202,181

During the period, significant regional variations existed, with Dar es Salaam having the highest number of clients, while Kigoma region had the lowest figure. Throughout this period (2006-2008) the percentage distribution of females, males and children for both clients enrolled to HIV care and those on ART was 60%, 30% and 10%, respectively (Fig2.1).

Fig. 2.1: Proportion of cumulative patients enrolled in HIV care and in treatment by age and sex over the period 2006 – 2008.



During the period 2006 through 2008, of the patient enrolled in HIV care, 60 % were females, 30% males and 10% children 14 years and below. The proportions are same for patients enrolled in HAART.

Table 2.3 Show the distribution of the reasons for starting ART. Nearly half 32,045 (46.4 %) of the patients were started on ART due to low CD4 count (<200). Among adults, 10,704(15.5 %) were in WHO stage IV category while, 1,155(1.7 %) were children in WHO stage III category. Reason(s) for starting ART for 18,399 (26.7 %) of patients were not recorded.

Table.2.3: Reasons for starting ART

Reasons	Number of patients	Percent
Adult CD4 < 200	32,045	46.4
No reason recorded	18,399	26.7
Adult WHO Stage IV	10,704	15.5
Adult WHO Stage III, if CD4 < 350	5,362	7.8
Children Pediatric WHO Stage III	1,155	1.7
Children > 18 months, CD4% < 15%	617	0.9
Other reason to start	432	0.6
Pregnant women for PMCT (plus)	199	0.3
Infants < 18 months CD4% < 20%	102	0.1
Total	69,015	100.0

Reasons for not starting ART are shown in Table 2.4. Among them, not fulfilling criteria according to National Guidelines for the Management of HIV and AIDS was the commonest reason accounting for 59,357 (48.4 %), followed by ongoing counseling 35,663 (29.1%). Other reasons included; awaiting laboratory results 6,003 (4.9 %), patient on TB treatment 1,573 (1.3%) or not yet willing to start 188 (0.2%).

Table 2.4 Reasons for not starting ART

Reason for not starting	Number of Patients	Percents
Patient does not fulfill criteria	59,357	48.4
Patient fulfils criteria, but counseling for ARVs adherence is ongoing	35,663	29.1
No reason recorded	18,098	14.8
Patient fulfils criteria, but awaits lab results	6,003	4.9
Patient fulfils criteria, but is on TB treatment	1,573	1.3
Patient fulfils criteria but does not start for other reason	1356	1.3
Patient fulfils criteria, but no ARVs available	407	0.3
Patient fulfils criteria, but is not willing to start	188	0.2
Total	122,645	100

Table 2.5 show reasons for stopping ART. According to the table; patient deaths accounted for 38.5 % of all the reasons for stopping ART. This was followed by lost to follow up (17.2%) and transferred out (9%), which collectively accounted for about a quarter (26.2%). It is noted that poor adherence accounted for 7.9% and patient's decision up to 1.8%. All other reasons accounted for 3.6%, while 11.3% had no reasons indicated.

Table 2.5: Reason for stopping ART

Reasons	Number of patients	Percent
Patient died	1,278	38.5
Lost to follow-up	571	17.2
No reason recorded	376	11.3
Transferred out, specify where	297	9.0
Poor adherence	262	7.9
Other reason	121	3.6
Skin rash	87	2.6
Patient decision	60	1.8
Other adverse event	38	1.1
Nausea / vomiting	36	1.1
Start TB treatment	34	1.0
Hepatitis	26	0.8
End of PMTCT (plus)	23	0.7
Peripheral neuropathy	19	0.6
Jaundice	19	0.6
Anemia	18	0.5
Pancreatitis	12	0.4
CNS adverse event	12	0.4
Treatment failure, immunological	7	0.2
Fever	6	0.2
Diarrhea	5	0.2
Pregnancy	4	0.1
Dementia	3	0.1
Treatment failure, clinical	2	0.1
Stock-out	1	0.0
Total	3,317	100

Table 2.6 shows treatment regimens prescribed to patients starting ART. Most of the patients (89.1 %) were on first line regimen; however, there were several drug combinations and dosages within first ART regimen. Table show that 4,615 (5.0 %) of patients were on a second line ART regimen consisting mainly of ABC, ddl, LPV/r, 1.4% were on other regimens, while 4.5% had no ARV records.

Table 2.6: ART regimens prescribed to patients starting ARVs for the period 01-Jan-05 to 31-Dec-08

ART regimens	Treatment line	Number of patients	Percent
Triomune 30, loading dose one pill Triomune 30 (d4T, 3TC, NVP) plus one time d4T (30mg) + 3TC	First line	33,739.00	36.7
Triomune 30 d4T, 3TC, NVP	First line	20,444.00	22.2
ZDV, 3TC, NVP	First line	7,656.00	8.3
Triomune 40 d4T, 3TC, NVP	First line	7,268.00	7.9
Triomune 40, loading dose one pill Triomune 40 (d4T, 3TC, NVP) plus one time d4T (40mg) + 3TC	First line	6,613	7.2
ZDV, 3TC, EFV	First line	3,557.00	3.9
d4T, 3TC, EFV	First line	2,285.00	2.5
d4T, 3TC, NVP (paediatric dose)	First line	367.00	0.4
d4T (40), 3TC, EFV	First line	47.00	0.1
ABC, ddl, LPV/r	Second line	4,615	5.0
Other Combinations	Other	1,283.00	1.4
No regimen recorded		4,115.00	4.5
Total		91,989.00	100

A total of 8,167 patients on treatment had their initial ART regimen changed due to either patient developing peripheral neuropathy 1153(14.1%), starting anti TB medication 685 (8.4 %) or severe skin rashes 519 (6.4 %). Other reasons such as anaemia, treatment failure, nausea and vomiting accounted for 34.6 % of all patients who changed. Remarkably, there was no recorded reason(s) for changing initial regimen in 2,982 (36.5 %) of patients (Table 2.7).

Table 2.7: Reasons for changing initial ARV regimen

Reasons	Number of patients	Percent
No reason recorded	2982	36.5
Peripheral neuropathy	1153	14.1
Other reason, specify	947	11.6
Start TB treatment	685	8.4
Stock-out	560	6.9
Skin rash	519	6.4
Other adverse event, specify	292	3.6
Anaemia	198	2.4
Treatment failure, immunological	135	1.7
Nausea / vomiting	96	1.2
Pregnancy	64	0.8
CNS adverse event	62	0.8
Treatment failure, clinical	59	0.7
Hepatitis	58	0.7
Transferred out, specify where	48	0.6
Patient decision	45	0.6
Poor adherence	44	0.5
Fever	43	0.5
Diarrhoea	39	0.5
Headache	32	0.4
Pancreatitis	29	0.4
Jaundice	22	0.3
Lost to follow-up	17	0.2
Patient died	16	0.2
End of PMTCT (plus)	13	0.2
Dementia	9	0.1
Total	8167	100.0

As of March 2009, a total of 96,924 female clients were followed up for pregnancies for the facilities that were submitting data to NACP electronically. Overall 3,844 (4.0%) were found to be pregnant, 2,696 (2.7%) on enrollment, 497 (0.5%) while on HIV care and 751 (0.8%) were on ARV. Most (74.2%) of the pregnancies occurred among clients aged between 25 and 30 years.

Table 2.8: Number of pregnancies on enrolment, on care and on ART 2008

Age group	Number of female patients visiting during period	Pregnant on enrollment	Got pregnant in care not on ARVs	Got pregnant On ARVs	Total women who were pregnant	% distribution of pregnancies
15-19	1564	58	7	8	73	1.9
20-24	4488	439	63	38	540	14.0
25-29	12387	747	123	140	1010	26.3
30-34	20720	720	153	242	1115	29.0
35-39	19963	446	86	194	726	18.9
40-44	15678	125	32	77	234	6.1
45-49	10184	41	15	29	85	2.2
Unknown	11940	20	18	23	61	1.6
Total	96,924	2,596 (2.7%)	497(0.5%)	751(0.8%)	3,844 (4.0%)	100



Chapter Three

Prevention of Mothers to Child Transmission of HIV

1.1 Introduction

Prevention of Mother to Child Transmission of HIV (PMTCT) has become a crucial intervention in the global fight against the HIV epidemic. In Tanzania about 1.4 million women become pregnant each year. Data from the 2005 sentinel surveillance showed the prevalence of HIV infection among pregnant women to be 8.2%, implying that about 122,000 pregnant women are infected with HIV annually; and more than 48,800 babies acquire HIV infection through MTCT per annum. Moreover, about 90% of the HIV infection in children below 15 years of age is due to MTCT.

When effectively and appropriately implemented, PMTCT services have the potential to prevent infection in babies who would otherwise be born with HIV-infection or contract the infection during delivery and breast feeding.

Prevention of mother-to-child transmission of HIV core interventions include:

- Information, testing and counseling on preventing HIV transmission (Primary prevention)
- Access to family planning services for women living with HIV infection and their partners (Prevention of unintended pregnancies)
- Use of antiretroviral drugs (ARVs) to prevent HIV transmission from mother to child
- Access to HIV care, treatment and support for infected mothers, infants and other family members

Tanzania is among many African countries that has prioritized PMTCT as a major area of HIV intervention. This commitment is reflected in the Global and National agreements as follows :

United Nations General Assembly Special Session on HIV/AIDS (UNGASS)

The target for 2010 is a 50% reduction in the proportion of infants newly infected with HIV

Millennium Development Goals (MDGs):

- MDG 4: Reduction of child mortality rates by 2/3 by 2015.
- MDG 5: Reduction of maternal mortality rates by ¾ by 2015.
- MDG 6: Combating HIV/AIDS, Malaria, TB and other preventable diseases.

National Strategy for acceleration of Growth and Reduction of Poverty (MKUKUTA)whereby Cluster 2: 1. calls for Improved Quality of life and Social well being, with particular focus on the poorest and most vulnerable groups by promoting equitable, sustainable and cost effective access to all affected households to ARVs, with emphasis on ARV education, prevention of mother-to-child transmission (PMTCT+) and support for the mother after delivery

The Health Sector Strategy on HIV and AIDS (HSHS-II 2008-2012):

Targeting to reduce the transmission of HIV from mothers to their children, during pregnancy, birth and breast-feeding and ensure entry into care and treatment for mother and baby and increase the percentage of HIV positive pregnant women who receive ARVs prophylaxis from 34% in 2007 to 80% in 2012.

1.2 Methods

Following the review of the National PMTCT Guidelines, the National PMTCT Training Package and PMTCT recording and reporting tools were also revised in line with National and International Standards. At the end of each month, information from the facility is summarized according to the list of indicators contained in the monthly summary form. The summary information is utilized at the health facility for planning and management purposes and a copy is sent to the office of the District Medical Officer by the 7th day of the following month. At a district level, reports from various facilities are aggregated to make a district report which is used at that level and a copy is sent to the office of the Regional Medical Officer by 14th day of the same. Regional level aggregates district reports to make a regional summary for use at that level and a copy is sent to the PMTCT National offices at MoHSW by 21st day of the same. Information collected includes comprehensive PMTCT services given to pregnant women as well as information for their partners and children.

3.3 Results

Gradual scaling of PMTCT services, which started in 2003, has led to the coverage of 3029 out of 4647(65%) of health facilities offering RCH services in the country as of December 2008. These include 255 hospitals, 508 health centers and 2266 dispensaries. Currently 288 (9.5%) sites among 3,029 PMTCT sites, provides more efficacious regimen. Moreover 228 sites provide HIV Early Infant Diagnosis through collection of Dry Blood Spot samples.

Performance of the PMTCT programme from 2005-2008 is summarized in Table 3.1 and Figure 3.1. Over the years there has been an increase in the number of clients reached by PMTCT services at ANC facilities from 255,913 in 2005 to 958,103 in 2008 as well as an increase in the number of pregnant women tested for HIV infection at (ANC + LD) from 206,721 in 2005 to 919,377 in 2008. The number of women who received post test counseling at ANC rose from 202,909 in 2005 to 749,823 in 2008. Between 2005 and 2008, there was an increase in the proportion of HIV infected pregnant women reached by PMTCT services from 11%, to 80%, respectively.

The number of HIV infected pregnant women received ARV prophylaxis for PMTCT of HIV rose from 11,435 in 2005 to 70,944 in 2008, showing a progressive increase in access to ARV prophylaxis. This also became evident when considering the proportions of HIV infected pregnant women tested at ANC and LD against the estimated number of HIV infected women in the total population. The trends were 9%, 12%, 34%, and 55%, for year 2005, 2006, 2007 and 2008 respectively.

Likewise in the year 2008, a total of 578,976 pregnant women (37% of the estimated number of annual deliveries) delivered at the health facilities that are providing PMTCT services. Of them, 151,229 (26%) had un-known HIV status, out of which 78,772 (52%) were counseled and tested for HIV. Seven percent (5,189) of them were found to have HIV infection from which 4,448 (86%) of eventually received ARVs for prophylaxis to prevent MTCT.

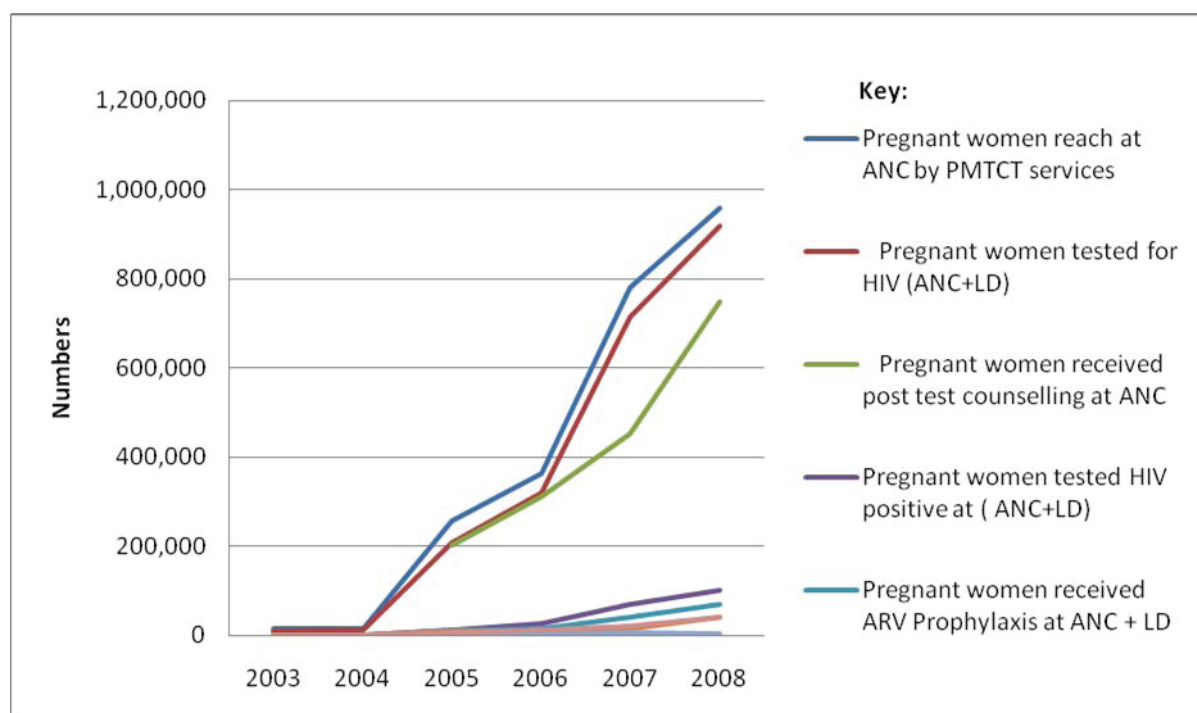
Number of HIV infected pregnant women who received counseling for infant feeding, rose from 8,645 in 2005 to 43,222 in 2008. Throughout this period, the proportion of women who opted for exclusive breastfeeding ranged between 89% and 96%, while those who opted for exclusive replacement feeding ranged between 4% and 11%.

The success of the programme since its inception in 2003 to date is attributable to a number of factors. These include competent and devoted coordination by the MoHSW, deliberate efforts of PMTCT regionalized and development partners in scaling up PMTCT services in the country, increased number of sites providing PMTCT services coupled with devoted health care workers who have HIV testing and counseling skills, and deliberate actions to address stigma related to HIV and AIDS. Other reasons include increased awareness among pregnant women on the importance of HIV testing to prevent MTCT and on the availability of services in the country.

Table 3.1: Summary of PMTCT programme performance 2005 to 2008

	2005	2006	2007	2008
Estimated number of pregnant women annually (Projection from 2002 census)	1,444,000	1,383,164	1,509,000	1,560,000
HIV prevalence among pregnant women attending ANC (Surveillance Report 2005)	8.7	8.7	8.2	8.2
Estimated HIV + Pregnant women in the population	122,000	120,335	123,738	127,920
Pregnant women reached at ANC by PMTCT services	255,913	363,516	778,619	958,103
Pregnant women tested for HIV (ANC+LD)	206,721	319,017	713,506	919,377
Pregnant women received post test counseling at ANC	202,909	312,850	454,692	749,823
Number and percent of pregnant women who tested positive for HIV infection at (ANC+LD)	11 % (13,873)	23% (28,043)	57% (70,710)	80% (102,213)
Pregnant women received ARV Prophylaxis at ANC + LD	11,435	14,758	42,595	70,944
Number of HIV infected pregnant women counseled for infant feeding	8,645	8,576	22,325	43,222
Pregnant women who opted for Exclusive Breast Feeding	7689(88.9)	8081(94.2)	16176(72.5)	41347(95.7)
Pregnant women who opted for Replacement Feeding	956(11.1)	495(5.8)	6149(27.5)	1875(4.3)
Infant who received ARV Prophylaxis	7,424	10,435	21,358	41,347
Proportion of pregnant women who tested HIV+ at ANC + LD who received ARV Prophylaxis in the programme	82 % (11,435 / 13,873)	53 % (14,758 / 28,043)	60 % (42,595/70,710)	69 % (70,944/102,213)
Proportion of HIV+ pregnant women received ARV Prophylaxis VS estimated HIV + pregnant women in the population	9 % (11,435 /122,000)	12 % (14,758 / 120,335)	34 % (42,595 / 123,738)	55 % (70944 / 127920)
Proportion of women reached at ANC vs total estimated pregnant women in the population	18 % (255,913 / 1,444,000)	26 % (363,516 / 1,383,164)	52 % (778,619 / 1,509,000)	61 % (958103 / 1560,000)
Total number of PMTCT implementing sites.	544	659	1347	3029

Figure 3.1: Overall Trend of PMTCT Performance year 2003- Dec 2008



Chapter Four

HIV COUNSELING AND TESTING SERVICES

4.1 Background

Provision of HIV/AIDS-related counseling services in Tanzania started in 1989. Initially these services were being provided mainly by Faith Based Organizations (FBOs) and Non-Governmental Organizations (NGOs). The joint Tanzanian-Norwegian AIDS Project (MUTAN) established Voluntary Counseling and Testing (VCT) services in the public sector in Arusha and Kilimanjaro regions. Later on in 1995 an improved, pilot project covering four regions (Dar-es-Salaam, Morogoro, Coast and Dodoma) was initiated. Since then VCT services have expanded to cover all regions. Currently VCT services are being provided by the public sector, NGOs and FBOs through health care facilities, standalone sites as well as mobile and outreach services. To date there are more than 1,643 established VCT sites being served by more than 2,700 trained counselors country wide. Between 1988 and May 2007, the total 2,200,000 clients were counseled and tested country wide. In July 2007 a National HIV Testing Campaign was launched by the Honorable President of the United Republic of Tanzania. After a year of campaign over four million people were tested.

Currently there is a global emphasis to accelerate universal access to HIV prevention, treatment, care and support services for People Living with HIV (PLHIV). In order to achieve this goal, access to HIV testing and counseling services have expanded through strengthening and scaling up of the existing client-initiated voluntary counseling and testing (VCT) as well as introducing other approaches for HIV testing and counseling.

Scaling up of HIV care and treatment services, including highly active antiretroviral therapy (HAART), has created the need for introducing Provider-Initiated Testing and Counseling (PITC) in the clinical settings to target all individuals attending healthcare facilities. This approach complements the efforts of the client initiated VCT services.

Under PITC HIV testing and counseling is recommended by health care providers to all persons attending health care facilities as a standard component of medical care, even to clients who have no obvious HIV-related symptoms or signs. National operational guidelines have been developed and disseminated to all Regional Health Management Teams (RHMTs). The guidelines emphasize principles of informed Consent, Counseling, and Confidentiality. Persons retain the right to decline the HIV test without being denied any services to which they are entitled to at the health facility.

4.2 Barriers and Challenges in the provision of HIV Testing and Counseling services

A number of challenges are experienced by providers of HIV testing and counseling services in the country. The major ones are listed below:

Limited recognition of the benefits of Counseling and Testing (CT) among the general population

Non-recognition of VCT services as priority intervention needing resource allocation in the Comprehensive Council Health Plans (CCHP).

Lack of skills to provide services to special groups such as the deaf, blind, disabled and children

Limited infrastructure and weak referral systems.

Lack of effective support mechanisms, e.g. A functional post-test support system Stigma

4.3 Methods

The national counseling and testing recording and reporting system consists of counseling and testing register; and facility, district and regional monthly summary forms. Counselors fill predetermined information in the register routinely during service provision. At the end of the month, information on the register is summarized according to the list of indicators contained in the site monthly summary form. The monthly summary information is disseminated in the facility for use to improve service provision and a copy is sent to reach the office of the District Medical Officer by the 7th day of the following month. At a district level, reports from various facilities are aggregated to make a district report which is used at that level and a copy is sent to reach the office of the Regional Medical Officer by 14th day of the following month. Regional level aggregates district reports to make a regional summary for use at that level and a copy is sent to reach the NACP by 21st day of the following month. Facility, district or regional level may handle data manually or by using computers depending on the available capacity. At a national level, the NACP aggregates regional summaries electronically to make an annual national report that is disseminated widely for use and becomes a source of national and international reporting.

4.4 Results:

As shown in Table 4.1 in 2007, a total of 1,082,973 clients were counseled for HIV testing. Of these 587,466 (54.2%) were females and 495,567 (45.8%) were males. Majority (70.7%) of the counseled clients were from only five regions namely Dar es Salaam (23.7%), Iringa (16%), Mtwara (11%), Lindi (10.2%) and Singida (9.8%), while Coast and Kilimanjaro regions did not submit reports. Of the counseled clients, 971,876 (89.7%) were new and the remaining were repeat/follow up. As shown in table Y, most [943,859 (87.2%)] of the new clients, agreed to test for HIV and 923,144 (97.8%) received their test results. In all regions, new clients were predominantly women except in Mara (59%) and Shinyanga (51%) where male clients predominated. The situation was different in Dar es Salaam (50%) and Mwanza (50%) regions, where number of females and males clients was equal. Utilization of counseling services was slightly different in 2008 when new clients in all regions were predominantly women except Rukwa, Coast and Kigoma where women accounted for 49%, 48% and 47%, respectively. In 2008, a total of 717,917 clients were counseled for HIV testing, of whom 426,422 (59.5%) were females and 290,494 (40.5%) were males (Table 4.1). Among them 556,937 were new clients, of whom 549,381 (77%) agreed to be tested and HIV prevalence was found to be 8.7%. Significant sex differences were found in terms of the number of clients tested, of whom 332,658 (46.4%) were females and 216,723 (30.2%) were males. Another sex difference was found among those who received post test counseling females being 286,725 (40%) and males being 209,712 (29.2%). An additional sex difference was found in HIV prevalence being 5.5% among females and 3.2% among males.

Table 4.2 Total number of client agreed and tested for HIV and number of new client post tested and given HIV results region, 2007 - 2008

REGION	NUMBER OF NEW CLIENTS AGREED AND TESTED FOR HIV						NUMBER OF NEW CLIENTS POST-TEST COUNSELLED AND GIVEN HIV TEST RESULTS					
	2007			2008			2007			2008		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Arusha	2,098	3,032	5,130	6,914	9,539	16,453	3,098	2,933	6,031	6,914	9,539	16,453
Coast	0	0	0	3,109	2,905	6,014	0	0	0	3,109	2,905	6,014
Dar es Salaam	97,679	92,294	189,973	35,373	53,442	88,815	88,790	87,418	176,208	35,326	53,337	88,663
Dodoma	0	0	0	4,441	10,890	15,331	0	0	0	3,880	9,940	13,820
Iringa	47,835	60,263	108,098	22,352	32,826	55,178	47,674	60,938	108,612	22,342	32,820	55,162
Kagera	4,797	6,227	11,024	16,111	27,289	43,400	4,790	6,214	11,004	16,111	27,249	43,360
Kigoma	193	602	795	64	57	121	193	902	1,095	4,00	8,00	12
Kilimanjaro	0	0	0	224	233	457	0	0	0	119	124	243
Lindi	50,357	58,170	108,527	8,292	18,278	26,570	50,357	58,170	108,527	8,289	18,280	26,569
Mara	16,392.00	11,551	27,943	528	1,153	1,681	16,592.00	11,551.00	28,143	528.00	1,153.00	1,681
Mbeya	43,056	55,800.00	98,856	22,744	24,868	47,612	43,056	55,800	98,856	22,744	26,568	49,312
Morogoro	10057	12429	22,486	14,949	21,633	36,582	10063	12404	22,467	14,949	21,523	36,472
Mtwara	52,090	58,851	110,941	9,191	15,382	24,573	52,083	58,772	110,855	9,191	15,322	24,513
Mwanza	9,843	9,864	19,707	2,176	3,571	5,747	9,357	9,715	19,072	2,176	3,571	5,747
Rukwa	21,453	23,873	45,326	6,853	6,434	13,287	15,955	16,040	31,995	603	554	1,157
Ruvuma	38,906	40,953	79,859	11,923	16,840	28,763	38,906	46,926	85,832	11,923	17,578	29,501
Shinyanga	22.00	21.00	43	1,831	1,999	3,830	22.00	21.00	43	1,807	2,000	3,807
Singida	39,145	60,550	99,695	21,920	42,568	64,488	39,649	59,498	99,147	21,978	2,000	23,978
Tanga	6931	7139	14,070	27,728	42,751	70,479	6931	7140	14,071	27,728	42,254	69,982
Tabora	625	761	1,386	0	0	0	625	561	1,186	0	0	0
TOTAL	441,479	502,380	943,859	216,723	332,658	549,381	428,141	495,003	923,144	209,721	286,725	496,446

In 2007, the overall HIV prevalence among the clients who tested for HIV was 8.1%, ranging from 2.3% in Lindi to 27.9% in Shinyanga (Table 4.3). Significant sex differences were found in terms of the number of clients tested, of whom 502,380 (46.4%) were females and 441,479 (40.8%) were males. An additional sex difference was found in HIV prevalence being 4.6% among females and 3.5% among males. In 2008, the overall prevalence of HIV infection was 11.4%, ranging from 3% in Tanga to 24.6% in Iringa. The prevalence of HIV among male was 10.6% while for female was 12%.

Table Table 4.3: Number of new clients HIV positive by region 2007 - 2008

REGION	2007						2008					
	Male			Female			Male			Female		
	n	% positive		n	% positive	Total	N	% positive		n	% positive	Total
Arusha	35	1.7		91	3.0	126	298	4.3		521	5	819
Coast							188	6.0		282	10	470
Dar es Salaam	12,479	12.8		9,055	9.8	21,534	4,695	13.3		10,206	19	14,901
Dodoma							319	7.2		382	4	701
Iringa	7,606	15.9		11,383	18.9	18,989	5,427	24.3		8,159	25	13,586
Kagera	169	3.5		285	4.6	454	813	5.0		1,339	5	2,152
Kigoma												
Kilimanjaro							20	8.9		14	6	34
Lindi	891	1.8		1,573	2.7	2,464	939	11.3		1,871	10	2,810
Mara	365.00	2.2		663.00	5.7	1,028	28.00	5.3		80.00	7	108
Mbeya	4,361	10.1		6,820	12.2	11,181	3,661	16.1		5,765	23	9,426
Morogoro	433	4.3		1,906	15.3	2,339	584	3.9		647	3	1,231
Mtwara	1,551	3.0		2,500	4.2	4,051	777	8.5		1,454	9	2,231
Mwanza	644	6.5		768	7.8	1,412	474	21.8		779	22	1,253
Rukwa	1,331	6.2		1,599	6.7	2,930	466	6.8		515	8	981
Ruvuma	1,923	4.9		3,077	7.5	5,000	980	8.2		1,556	9	2,536
Shinyanga	4.00	18.2		8.00	38.1	12	307	16.8		402	20	709
Singida	1,124	2.9		2,379	3.9	3,503	651	3.0		1,291	3	1,942
Tanga	445	6.4		942	13.2	1,387	2,369	8.5		4,460	10	6,829
Tabora	62	9.9		93	12.2	155						
TOTAL	33,423	7.6		43,142	8.6	76,565	22,996	10.6		39,723	12	62,719
												11.4

Table Table 4.3: Number of new clients HIV positive by region 2007 - 2008

REGION	2007						2008					
	Male		Female		Total		Male		Female		Total	
	n	% positive	n	% positive	n	% positive	N	% positive	n	% positive	n	% positive
Arusha	35	1.7	91	3.0	126	2.5	298	4.3	521	5	819	5.0
Coast							188	6.0	282	10	470	7.8
Dar es Salaam	12,479	12.8	9,055	9.8	21,534	11.3	4,695	13.3	10,206	19	14,901	16.8
Dodoma							319	7.2	382	4	701	4.6
Iringa	7,606	15.9	11,383	18.9	18,989	17.6	5,427	24.3	8,159	25	13,586	24.6
Kagera	169	3.5	285	4.6	454	4.1	813	5.0	1,339	5	2,152	5.0
Kigoma												
Kilimanjaro							20	8.9	14	6	34	7.4
Lindi	891	1.8	1,573	2.7	2,464	2.3	939	11.3	1,871	10	2,810	10.6
Mara	365.00	2.2	663.00	5.7	1,028	3.7	28.00	5.3	80.00	7	108	6.4
Mbeya	4,361	10.1	6,820	12.2	11,181	11.3	3,661	16.1	5,765	23	9,426	19.8
Morogoro	433	4.3	1906	15.3	2,339	10.4	584	3.9	647	3	1,231	3.4
Mtwara	1,551	3.0	2,500	4.2	4,051	3.7	777	8.5	1,454	9	2,231	9.1
Mwanza	644	6.5	768	7.8	1,412	7.2	474	21.8	779	22	1,253	21.8
Rukwa	1,331	6.2	1,599	6.7	2,930	6.5	466	6.8	515	8	981	7.4
Ruvuma	1,923	4.9	3,077	7.5	5,000	6.3	980	8.2	1,556	9	2,536	8.8
Shinyanga	4.00	18.2	8.00	38.1	12	27.9	307	16.8	402	20	709	18.5
Singida	1,124	2.9	2,379	3.9	3,503	3.5	651	3.0	1,291	3	1,942	3.0
Tanga	445	6.4	942	13.2	1,387	9.9	2,369	8.5	4,460	10	6,829	9.7
Tabora	62	9.9	93	12.2	155	11.2						
TOTAL	33,423	7.6	43,142	8.6	76,565	8.1	22,996	10.6	39,723	12	62,719	11.4

4.5 Sources of clients to VCT services

In 2007 a total of 896,120 clients, 416,827(46.5%) males and 479,293(53.5%) females were referred to VCT services from different services (Table 4.4). Of these referrals (96% 860,690) were self referred, 6316(0.7%) were from Tuberculosis clinics, 1038(0.1%) were from STI clinics, 20,213(2.3%) were from Out Patient Department (OPD), 3212(0.4%) were in patients, 325 (0.04%) from Blood Donor Transfusion Services (BTS) and 4326(0.5%) were from home based care.

For a substantial number of clients 186,853 (17.3%) among 1,082,973 clients the reason for their referral was not indicated.

In 2008 a total of 550,074 clients, 217,839(39.6%) males and 332,235(60.4%) females were referred to VCT services from different services (Table 4.4). Of these referrals, (437,494) 96%, were self referred, 8,188 (1.5%) from TB clinic,, 637(0.7%) were from Sexually Transmitted Infections (STI) clinics 24,304(4.4%) were from OPD 10,330(1.8%) were as from In patients 1860 (0.3%), BTS and 64,261(11.7%) were from Home Based Care. For a substantial number of clients 166,842 (23.3%) among 716,916 clients, the reason for their referral was not indicated.

Table 4.4: Source of referrals of clients attending VCT services Tanzania 2007 - 2008

REGION	2007							2008								
	TB clinic	STI clinic	OPD	IPD	BTS	HBC	self	Total	TB clinic	STI clinic	OPD	IPD	BTS	HBC	self	Total
Arusha	9	4	244	12	20	2	5,132	5,423	2	75	191	10	106	10	1,837	2,231
Coast	0	0	0	0	0	0	0	0	4	9	47	29	-	-	6,603	6,692
Dar es Salaam	5,560	782	8,429	1,475	4	3,503	145,241	164,994	3,219	1,425	4,118	1,903	60	3,921	88,766	103,412
Dodoma	0	0	0	0	0	0	0	0	94	69	152	66	101	24	10,752	11,258
Iringa	220	60	2,370	488	71	366	102,682	106,257	924	209	4,767	2,145	207	1,320	53,727	63,299
Kagera	8	8	61	117	20	22	9,877	10,113	119	57	947	804	176	28	45,151	47,282
Kigoma	0	0	0	0	0	0	808	808	-	-	-	-	-	116	-	116
Kilimanjaro	0	0	0	0	0	0	0	0	-	2	4	-	-	257	362	625
Lindi	49	24	313	283	0	11	116,261	116,941	264	167	524	506	238	146	31,173	33,018
Mara	0	0	0	0	0	0	40,478	40,478	-	-	-	-	-	-	3,308	3,308
Mbeya	89	48	4,410	447	3	196	103,641	108,834	140	149	5,642	1,019	-	404	30,269	37,623
Morogoro	38	1	2,116	6	0	0	20,289	22,450	301	214	584	103	729	30,906	2,306	35,143
Mtwara	35	28	410	111	9	13	101,179	101,785	227	491	1,073	585	19	13,755	25,423	41,573
Mwanza	40	51	41	29	32	190	10,496	10,879	81	106	353	232	20	84	4,562	5,438
Rukwa	0	0	0	0	0	0	0	0	-	8	16	11	-	19	1,286	1,340
Ruvuma	78	11	20	48	21	0	93,247	93,425	210	11	20	241	99	101	28,664	29,346
Shinyanga	0	0	0	0	0	0	62	62	33	-	2	4	1	878	2,431	3,349
Singida	70	20	1,714	89	141	19	91,294	93,347	82	106	1,124	232	102	11,024	31,444	44,114
Tanga	117	1	61	97	4	2	19,881	20,163	2,488	539	4,740	2,440	2	1,268	69,430	80,907
Tabora	3	0	24	10	0	2	122	161	-	-	-	-	-	-	-	0
Manyara	0	0	0	0	0	0	0	0	-	-	-	-	-	-	-	0
TOTAL	6,316	1,038	20,213	3,212	325	4,326	860,690	896,120	8,188	3,637	24,304	10,330	1,860	64,261	437,494	550,074

4.6 Referrals of VCT clients to other services

During the year 2007, a total of 73371 were referred from VCT services to various clinics. Of these referrals, 65,780 (90%) clients were referred to HIV care, 4017(5%) to PMTCT, 1091(1.4%) to TB clinics and 2,483 (3.3%) to other services e.g. legal support and post-test clubs. (Table 4.5)

The same table shows that in the year 2008, a total of 71,023 were referred from VCT services to various clinics. Of these referrals 56,423 (79%) clients were referred to HIV care, 5,932 (8%), to PMTCT, 2,321 (3%) to TB clinics and 6,347 (3.4%) to other services. Comparing the number of referrals in 2008 with those of 2007, the following can be noted; a decrease in number of referrals from 73,371 to 71,023 and an increase in referrals to PMTCT from 4,017 to 5,932, referrals to TB clinics increased from 1,091 to 2,321, while referrals to other services increased from 2,483 to 6,347.

Table 4.5: Number of VCT client referred to different Services, Tanzania 2007 - 2008

Region	CARE AND TREATMENT CENTRE		PMTCT CENTRE		TB CLINIC		OTHER SERVICES	
	2007	2008	2007	2008	2007	2008	2007	2008
Arusha	126	84	84	46	0	0	0	8
Coast	0	533	0	1	0	0	0	1
Dar es Salaam	14,860	12736	1,560	1156	671	1224	286	279
Dodoma	0	3215	0	20	0	1	0	842
Iringa	17,779	11766	616	1103	87	603	118	1438
Kagera	1,024	1985	135	661	8	71	10	303
Kigoma	0	12	0	0	0	0	0	0
Kilimanjaro	0	49	0	0	0	0	0	0
Lindi	2,523	2553	0	276	16	7	34	7
Mara	1,522	131	2	0	0	0	0	0
Mbeya	8,492	7196	288	315	187	121	575	49
Morogoro	1,085	1151	29	109	19	75	13	52
Mtwara	3,460	1653	180	713	12	53	172	2769
Mwanza	1,200	1097	91	23	21	32	1,273	0
Rukwa	2,930	860	0	8	0	0	0	0
Ruvuma	6,419	2067	64	325	55	68	0	14
Shinyanga	11	564	0	1	0	0	0	21
Singida	2,615	1512	868	775	14	62	2	550
Tanga	1,567	7259	98	400	1	4	0	14
Tabora	167	0	2	0	0	0	0	0
Manyara	0	0	0	0	0	0	0	0
TOTAL	65,780	56,423	4,017	5932	1091	2321	2,483	6347



SAIDIA KUPAMBANA NA UKIMWI

MPANGO

WA KUDHIBITI

UKIMWI

Tanzania

Chapter Five

SURVEILLANCE OF OTHER STIs

5.1 Introduction

Sexually Transmitted Infections (STIs) facilitate the transmission of HIV infection and does have significant impact on health intervention (morbidity and mortality), social and the economy. Thus, prevention and control of STIs will have enormous impact on the quality of life.

5.2 Progress

To date improved STI case management is available in all public hospitals, health centers and 70% of dispensaries. The national target is to reach 85% of the latter by 2012. The coverage of STI services in the facilities owned by the private sector remain low, however, more efforts are directed on improving it. According to the Tanzania Demographic Health Survey (DHS) 2004-2005, about (2,352,105(11%) of the sexually active population contract STIs annually, of whom only 1,411,263 (60%) of them utilize the existing STIs services.

There has been a decline in the overall prevalence of syphilis in ANC attendees from 8.2% in 2002 to 6.9% in 2005 (NACP Surveillance of HIV and syphilis infections 2006). The Tanzania HIV and Malaria Indicators Survey (THMIS) 2007-2008 revealed a prevalence of HIV of 5.7% compared to 7% reported in the previous study (THIS 2003-04).

Condom programming has been promoted as another key strategy for prevention of sexual transmission of HIV. According to the *THMIS 2007-2008* survey, 46% of women and 49% of men aged 15 -24 years used a condom at last higher-risk sexual intercourse, representing a slight increase compared to the *THIS 2003-2004* findings showing 42% of women and 47% of men aged 15-24 using condoms.

Furthermore, in 2006 the World Health Organization (WHO) released a Global Strategy for the prevention and control of Sexually Transmitted Infections (STIs) 2006 – 2015, leading to the MOHSW developing national guidelines for the management of STIs and Reproductive Track Infection (RTIs). These guidelines are in use all over the country. Subsequently, STI monitoring tools were revised and disseminated to all regions.

5.3 Challenges

Despite these notable achievements, there have been some challenges that hinder the progress of the Sexually Transmitted Infection programme. First, partner notification has been a problem in the country as less than 30% of the index partners who turn up for treatment. Partners have been characterized by self medication, denial of the infection, which lead to re-infection and increase the spread of STIs in the community.

Secondly, poor data management has been observed in various health facilities throughout the country. This has been contributed by several factors including shortage of staff by number and skills, heavy work load (many forms to fill), irregular supportive supervision, poor motivation and low commitment for responsible health staff. In order to have a successful STI surveillance system, Regional AIDS Control Coordinators through their Regional Medical Officers are strongly advised to submit to NACP complete and accurate data at the specified intervals.

5.4 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. By 7th day of every month dully filled STI reports is submitted to the District Medical Officer (DMO). The District Medical Officer consolidates the reports and submits to the Regional Medical(RMO) Officer b y 14th day of the same month. There after the RMO compiles the STI regional report and submit to the National AIDS Control Programme. Analys, utilization and record keeping is recommended at all levels. The National AIDS Control Programme aggregates all the reports countrywide to form a surveillance report.

5.5 Results

5.5.1 Surveillance of other STIs for the year 2006

During the year 2006, a total of 234,510 episodes were reported by health facilities throughout the country. Of these episodes, 105,676 (45.1%) were genital discharge syndromes, 43,162 (18.4%) were genital ulcer diseases, 53,562 (22.8%) were pelvic inflammatory diseases and the rest 32,110 (13.7%) were reported as other syndromes (Table 5.1).

The regional distribution of these new episodes by age groups, sex and syndromes is shown in Table 5.2. Overall, regions reporting the highest number of episodes included Mbeya (30,086), Tanga (28,707), Kilimanjaro (23,164), Dar-es-Salaam (18,690), Mwanza (17, 828) and Shinyanga (16,704), in decreasing order. The smallest number of episodes was reported from Coast region (911), Rukwa (1,783) and Tabora (2,002), as shown in Table 5.3.

Figure 5.1 show the distribution of all reported episodes of STIs by age group and sex, whereby, consistently with the trend in previous years, the highest number of STI syndromes was reported in the age group of 20-29 years among females. Figures 5.1 to 5.5 summarize the pattern of age and sex distribution of STI syndromes. Among reported STI episodes, 26,269 (11.2%) underwent re-treatment (Table 4.3), possibly due to drug resistance, re-infection, non-compliance and treatment interruption for various reasons. Assuming that each case had one contact, altogether about 22.7% of the contacts (**53,288** cases) were traced and treated. This proportion is slightly lower than that reported in 2005, emphasizing the need for strengthening of contact tracing strategies in the country.

Figure 5.1: Reported new STI episodes by age groups and sex, Tanzania Jan-Dec 2006

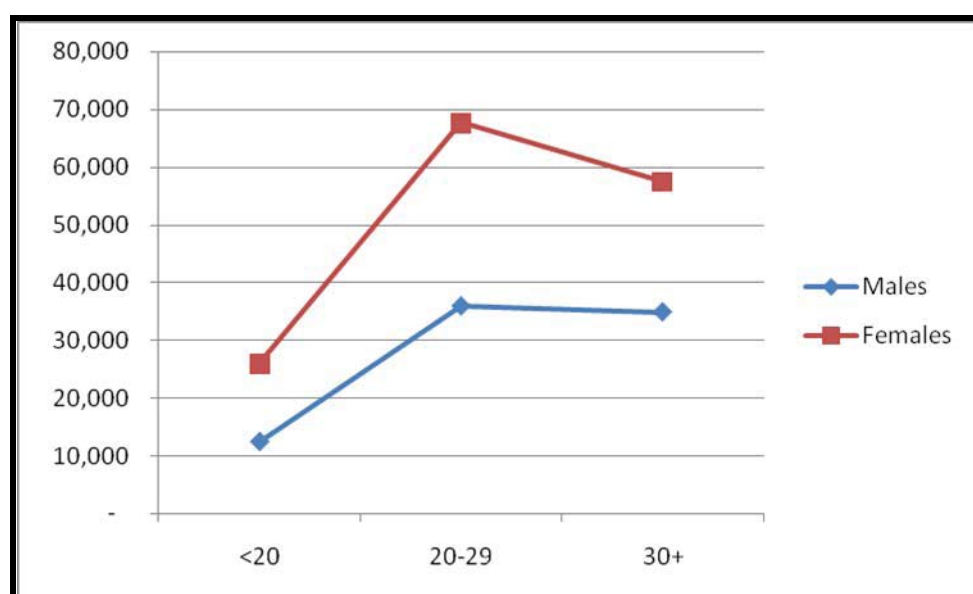


Figure 5.2: Distribution of New Genital Discharge Syndromes by age groups and sex, Tanzania 2006

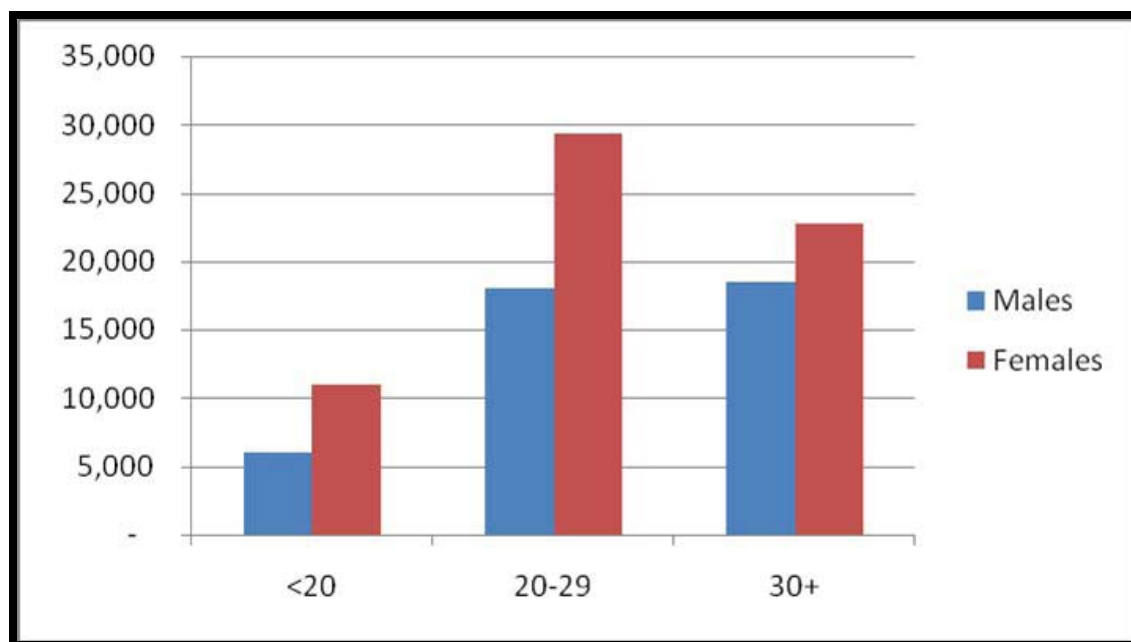


Figure 5.3: Distribution of New Genital Ulcer Disease by Age groups and Sex, Tanzania 2006

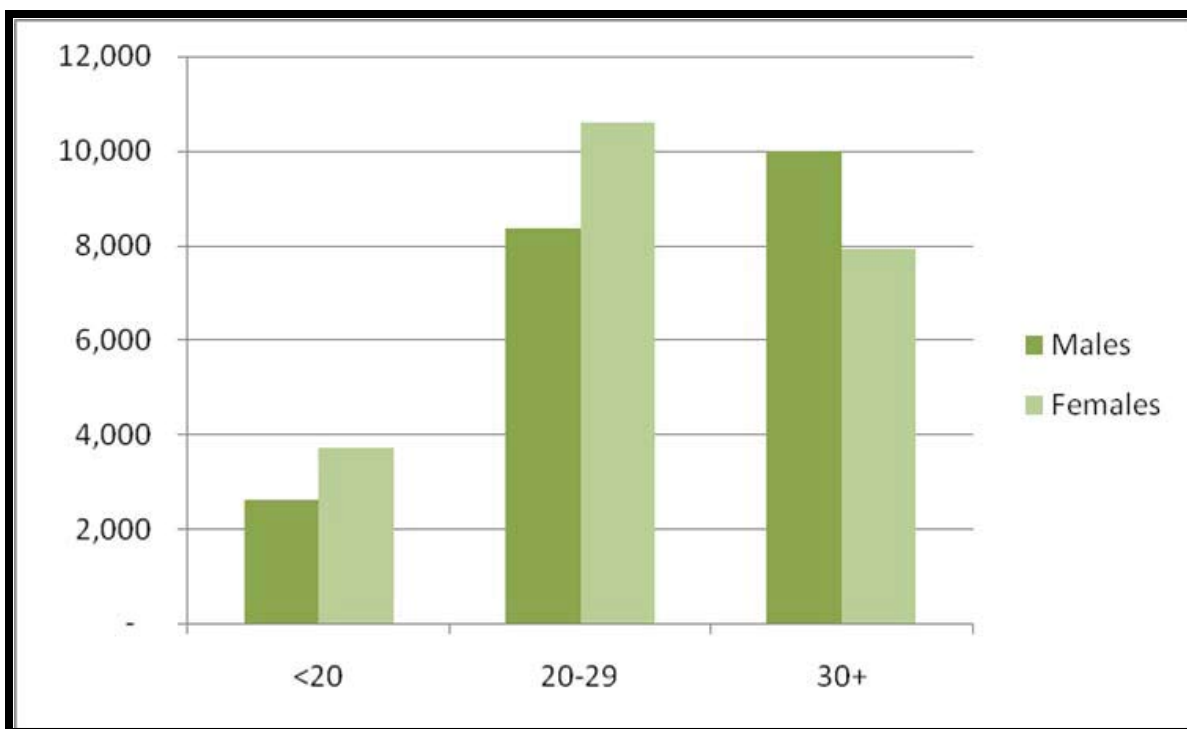


Figure 5.4: Distribution of New Cases of Pelvic Inflammatory Diseases by Age Group among Females, Tanzania 2006

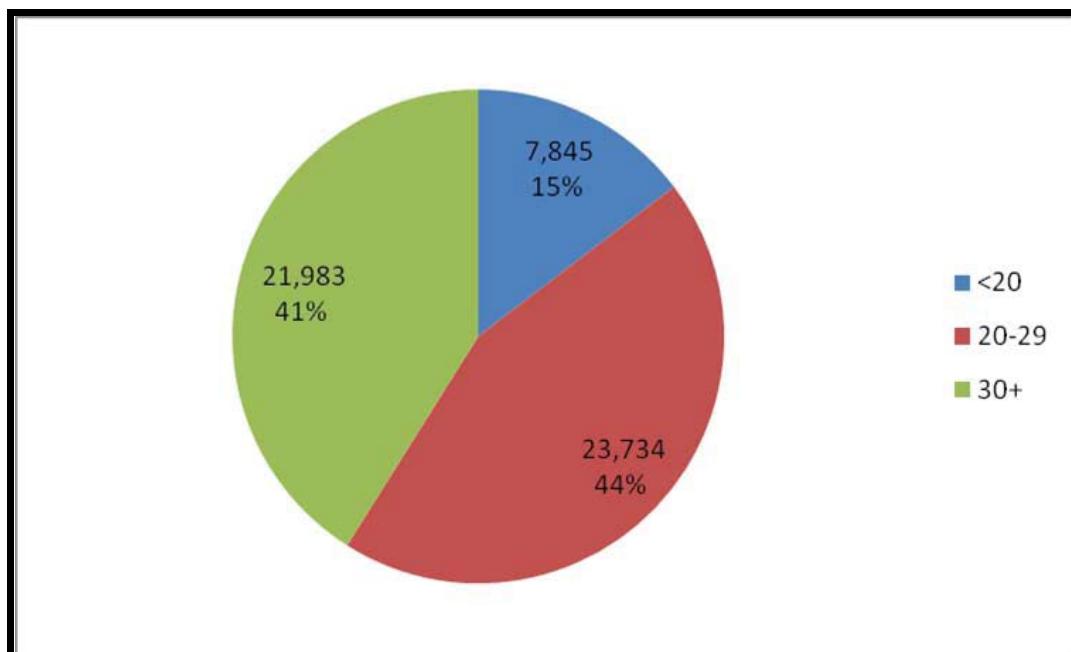


Figure 5.5: Distribution of New Other STIs by Age Groups and Sex, Tanzania 2006

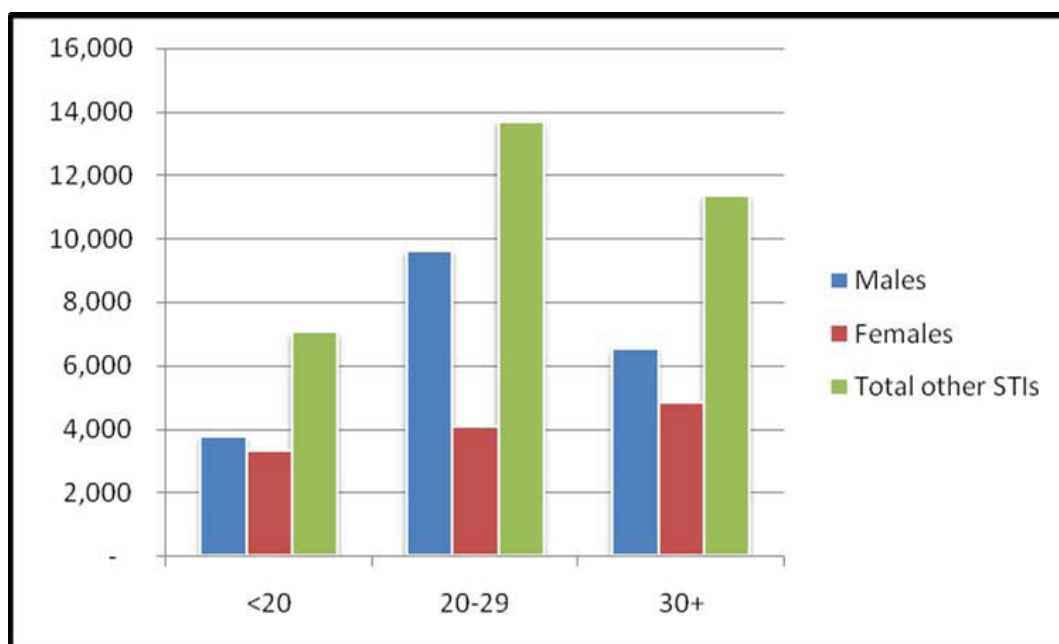


Table 5.1 Distribution of new STI episodes by age groups, sex and syndromes, Tanzania, 2006

STI/Age group	Males				Females				All			
	<20	20-29	30+	TOTAL	<20	20-29	30+	TOTAL	<20	20-29	30+	TOTAL
GDS	6,060	18,039	18,488	42,587	11,022	29,299	22,768	63,089	17,082	47,338	41,256	105,676
GUD	2,600	8,357	9,981	20,938	3,725	10,584	7,915	22,224	6,325	18,941	17,896	43,162
PID	-	-	-	-	7,845	23,734	21,983	53,562	7,845	23,734	21,983	53,562
OTHERS	3,747	9,631	6,518	19,896	3,318	4,063	4,833	12,214	7,065	13,694	11,351	32,110
TOTAL EPISODES	12,407	36,027	34,987	83,421	25,910	67,680	57,499	151,089	38,317	103,707	92,486	234,510

Figure 5.6: Distribution of New STIs by Age Group and Sex, in Mbeya region, Tanzania 2006

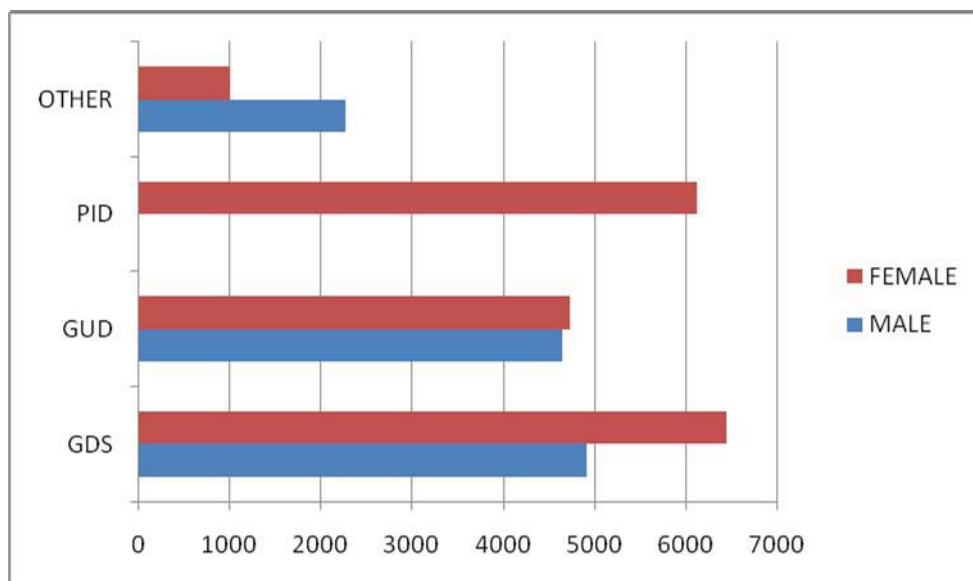


Figure 5.7: shows the pattern in Mbeya, the region which reported the highest number of episodes of new STIs. Genital Discharge Syndrome reported among females was the most reported episode of STI syndromes (6,442 episodes among all 18,283 STIs among females).

Table 5.2: Distribution of reported new sti episodes by age groups, sex, syndromes and regions, Tanzania 2006

REGION	SEX	GDS				GUD				PID				OTHERS			
	AGEROUP	<20	20-29	30+	TOTAL	<20	20-29	30+	TOTAL	<20	20-29	30+	TOTAL	<20	20-29	30+	TOTAL
ARUSHA	Male																
	Female	155	375	411	941	20	91	102	213					104	210	119	433
COAST	Male	246	780	453	1479	35	132	80	247	249	699	476	1424	35	60	85	180
	Female	37	65	64	166	26	35	47	108					8	21	18	47
DODOMA	Male	32	109	75	216	23	38	18	79	89	92	92	273	11	10	1	22
	Female	320	780	778	1878	135	355	421	911					133	346	256	735
DAR-ES-SALAAM	Male	418	962	844	2224	191	540	446	1177	426	1087	933	2446	145	153	165	463
	Female																
IRINGA	Male	510	1377	1052	2939	289	824	581	1694					272	653	469	1394
	Female	1114	2588	1524	5226	345	858	509	1712	978	2066	1559	4603	336	369	417	1122
KAGERA	Male	276	889	827	1992	104	539	665	1308					253	965	425	1643
	Female	407	1014	801	2222	207	769	527	1503	393	1388	1404	3185	193	609	642	1444
KIGOMA	Male	205	473	474	1152	99	241	240	580					56	211	85	352
	Female	315	751	541	1607	112	267	247	626	144	425	380	949	48	62	83	193
KILIMANJARO	Male	188	561	744	1493	49	190	282	521					104	289	211	604
	Female	565	1360	925	2850	100	281	330	711	228	932	837	1997	124	76	95	295
LINDI	Male	378	1202	1826	3406	125	296	333	754					132	223	174	529
	Female	1440	3900	4248	9588	133	350	330	813	684	2544	2816	6044	670	663	697	2030
MANYARA	Male	78	287	293	658	88	276	238	602					50	161	105	316
	Female	99	309	253	661	79	216	173	468	99	267	319	685	36	61	98	195
MARA	Male	237	1144	1827	3208	41	195	348	584					116	380	356	852
	Female	564	2165	2169	4898	46	334	341	721	249	996	1202	2447	162	268	298	728
MBEYA	Male	54	207	255	516	17	53	50	120					74	84	64	222
	Female	152	386	425	963	20	87	48	155	158	396	394	948	62	35	29	126
	Male	488	2056	2362	4906	421	1932	2281	4634					391	1161	711	2263
	Female	1081	3313	2048	6442	808	2350	1563	4721	868	2863	2389	6120	292	312	396	1000

Table 5.3: Distribution of new syndromes, re-treatments and contacts by sex and regions, Tanzania, January-December 2006

REGION	SEX	GDS	GUD	PID	OTHER	TOTAL		RETREATED	CONTACTS TREATED
						BY SEX	REGION		
ARUSHA	Male	941	213		433	1587	4,917	102	555
	Female	1479	247	1424	180	3330		160	848
COAST	Male	166	108		47	321	911	22	78
	Female	216	79	273	22	590		41	85
DODOMA	Male	1878	911		735	3524	9,834	742	1604
	Female	2224	1177	2446	463	6310		928	2156
DAR-ES-SALAAM	Male	2939	1694		1394	6027	18,690	2256	1102
	Female	5226	1712	4603	1122	12663		2268	1054
IRINGA	Male	1992	1308		1643	4943	13,297	510	1406
	Female	2222	1503	3185	1444	8354		870	1800
KAGERA	Male	1152	580		352	2084	5,459	209	578
	Female	1607	626	949	193	3375		330	674
KIGOMA	Male	1493	521		604	2618	8,471	369	1161
	Female	2850	711	1997	295	5853		678	939
KILIMANJARO	Male	3406	754		529	4689	23,164	727	1628
	Female	9588	813	6044	2030	18475		1516	1234
LINDI	Male	658	602		316	1576	3,585	131	283
	Female	661	468	685	195	2009		150	318
MANYARA	Male	3208	584		852	4644	13,438	715	1562
	Female	4898	721	2447	728	8794		997	1378
MARA	Male	516	120		222	858	3,050	137	385
	Female	963	155	948	126	2192		266	293
MBEYA	Male	4906	4634		2263	11803	30,086	1125	3834
	Female	6442	4721	6120	1000	18283		1667	3867
MOROGORO	Male	1156	706		1566	3428	8,153	250	1390
	Female	1408	723	2188	406	4725		524	1204
MTWARA	Male	2457	1129		509	4095	8,831	261	1467
	Female	2433	1033	1011	259	4736		437	974
MWANZA	Male	4288	1233		2978	8499	17,828	567	3027
	Female	3615	1269	3516	929	9329		869	1769
RUKWA	Male	262	207		166	635	1,783	110	364
	Female	321	258	440	129	1148		226	268
RUVUMA	Male	1885	1263		1065	4213	10,696	354	1169
	Female	2792	1417	1840	434	6483		427	1374
SINGIDA	Male	793	336		733	1862	4,904	416	522
	Female	1162	426	1175	279	3042		500	718
SHINYANGA	Male	3031	2004		1289	6324	16,704	702	2081
	Female	4018	1858	3994	510	10380		727	1944
TABORA	Male	297	157		551	1005	2,002	297	245
	Female	293	165	399	140	997		462	223
TANGA	Male	5163	1874		1649	8686	28,707	853	2877
	Female	8671	2142	7878	1330	20021		1371	2850
TOTAL		105,676	43,162	53,562	32,110	234,510	234,510	26,269	53,288

5.5. 2. Surveillance of other STIs for the year 2007

During the year 2007, a total of **105,932** episodes were reported by STI clinics throughout the country. Of these episodes, **45,719** (43.1%) were genital discharge syndromes, **23,071** (21.8 %) were genital ulcer diseases, **25,182** (23.8%) were pelvic inflammatory diseases and the rest **11,960** (11.3%) were reported as other syndromes (Table 5.4).

The regional distribution of these new episodes by age groups, sex, syndromes is shown in Table 5.5. Overall, regions reporting the highest number of episodes included Mbeya (19,189), Tanga (10,522), Ruvuma (8,465), Mwanza (9,191) and Shinyanga (7,720), in decreasing order. The smallest number of episodes was reported from Singida (258). No report was available from Rukwa region (Table 5.5).

Figure 5.8 shows the distribution of all reported episodes of STIs by syndrome, age groups and sex, whereby, it is consistent with the trend in previous years, the highest number of STI syndromes was reported in the age group of 20-29 years among females. Figures 5.9 to 5.13 summarizes the pattern of age and sex distribution of STI syndromes in 2007.

Table 5.4: Distribution of new STI episodes by age group, sex and syndromes, Tanzania, 2007

STI/Age group	Males				Females				All			
	<20	20-29	30+	TOTAL	<20	20-29	30+	TOTAL	<20	20-29	30+	TOTAL
GDS	2,207	7,231	8,325	17,763	4,741	12,772	10,443	27,956	6,948	20,003	18,768	45,719
GUD	1,438	4,350	5,199	10,987	1,921	5,515	4,648	12,084	3,359	9,865	9,847	23,071
PID	-	-	-	-	3,990	11,061	10,131	25,182	3,990	11,061	10,131	25,182
OTHERS	1247	1870	2110	5227	1647	2946	2140	6733	2,894	4,816	4,250	11,960
TOTAL EPISODES	4,892	13,451	15,634	33,977	12,299	32,294	27,362	71,955	17,191	45,745	42,996	105,932

Figure 5.8: New STI episodes by age group and sex, Tanzania Jan-Dec 2007

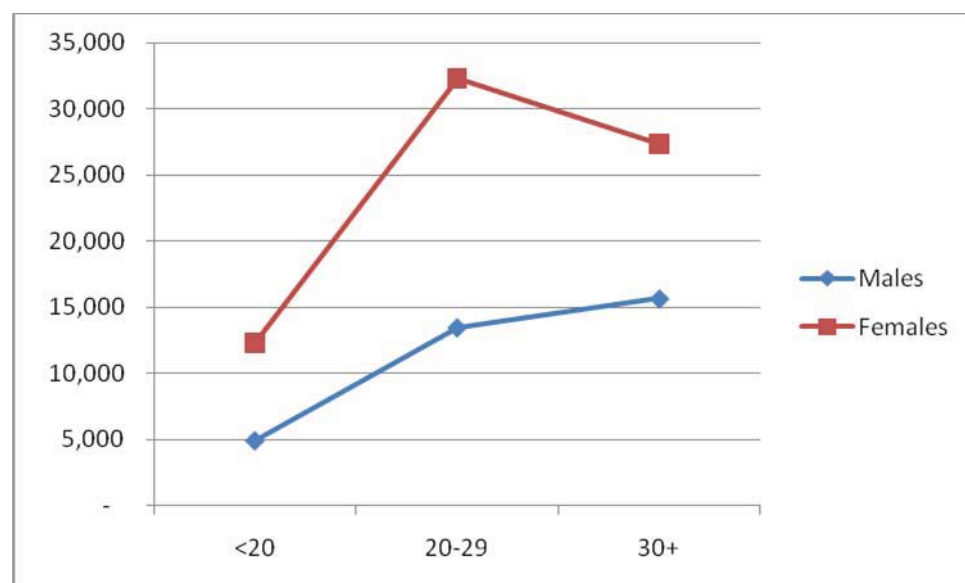


Figure 5.9: Distribution of New Genital Discharge Syndromes by age group and sex, Tanzania 2007

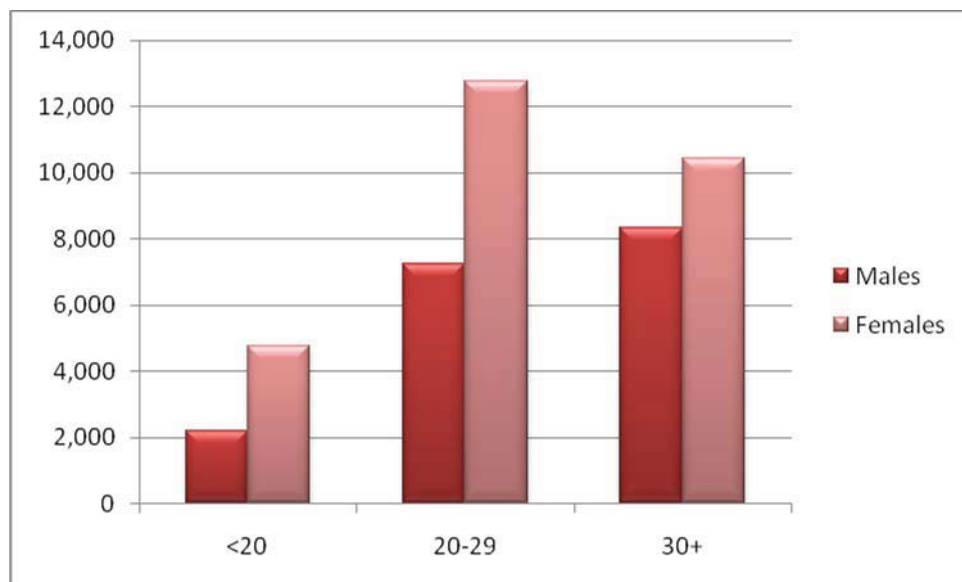


Figure 5.10: Distribution of New Genital Ulcer Disease by Age group and Sex, Tanzania 2007

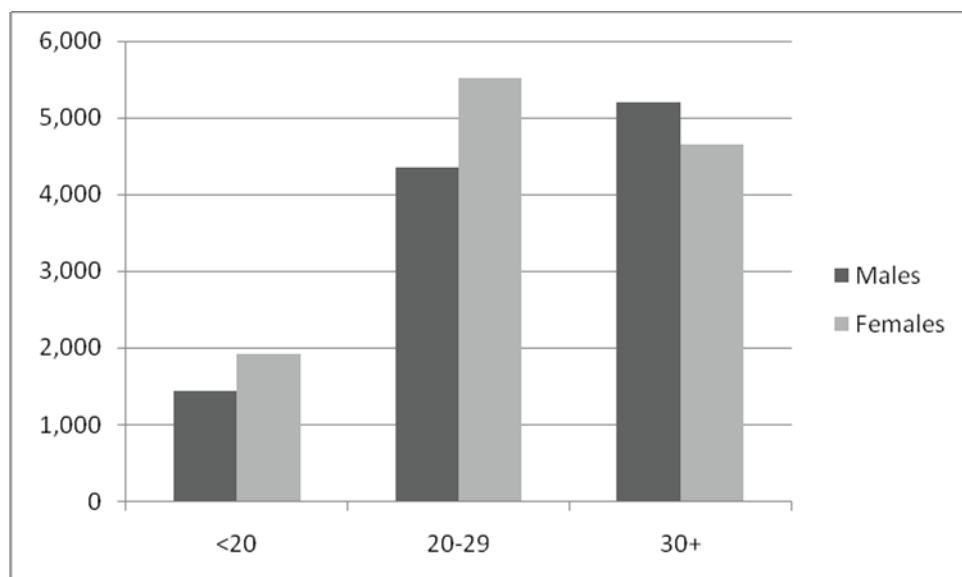


Figure 5.11: Distribution of New Cases of Pelvic Inflammatory Diseases by Age Group among Females, Tanzania 2007

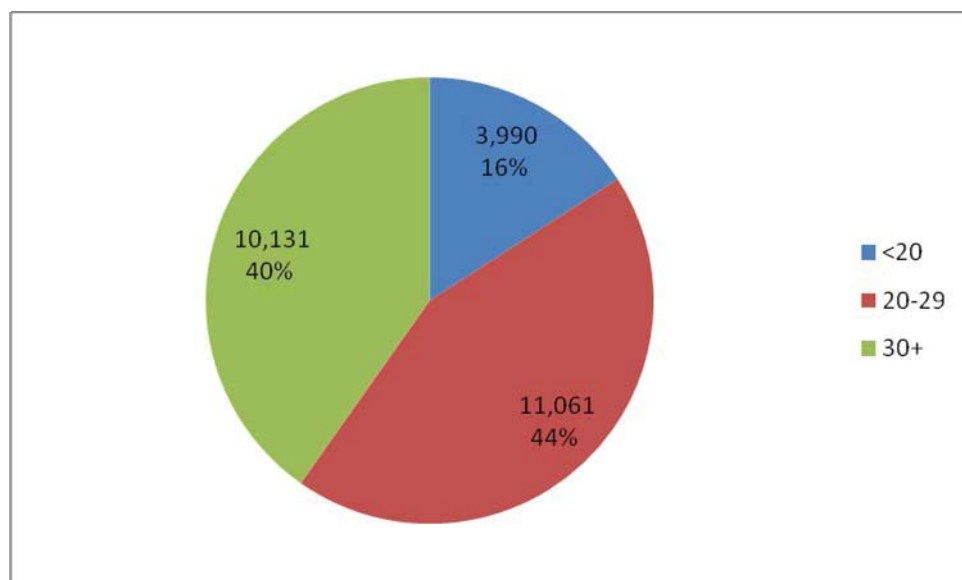


Figure 5.12: Distribution of New Other STIs by Age Group and Sex, Tanzania 2007

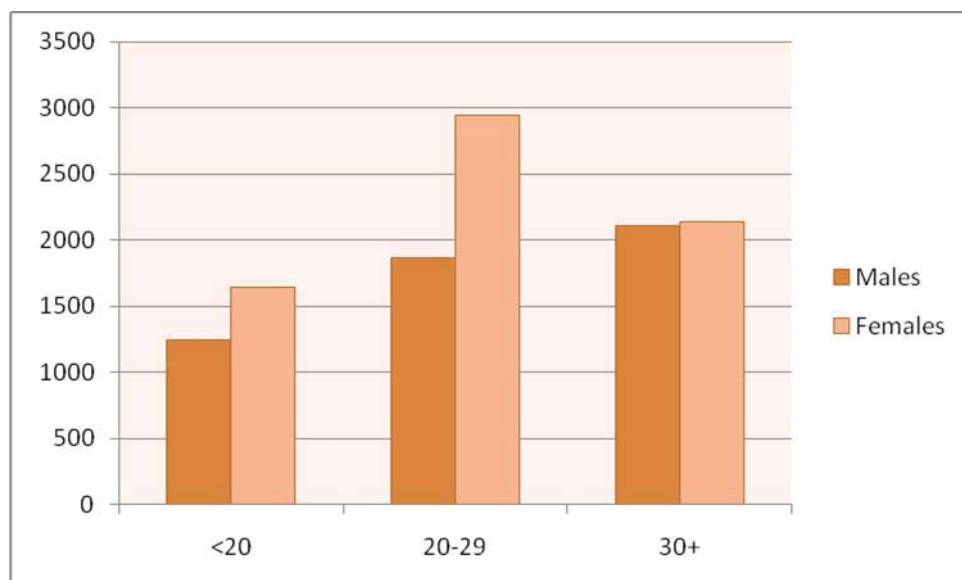


Figure 5.13: Distribution of New STIs by Age Groups and Sex, Mbeya region, Tanzania 2007

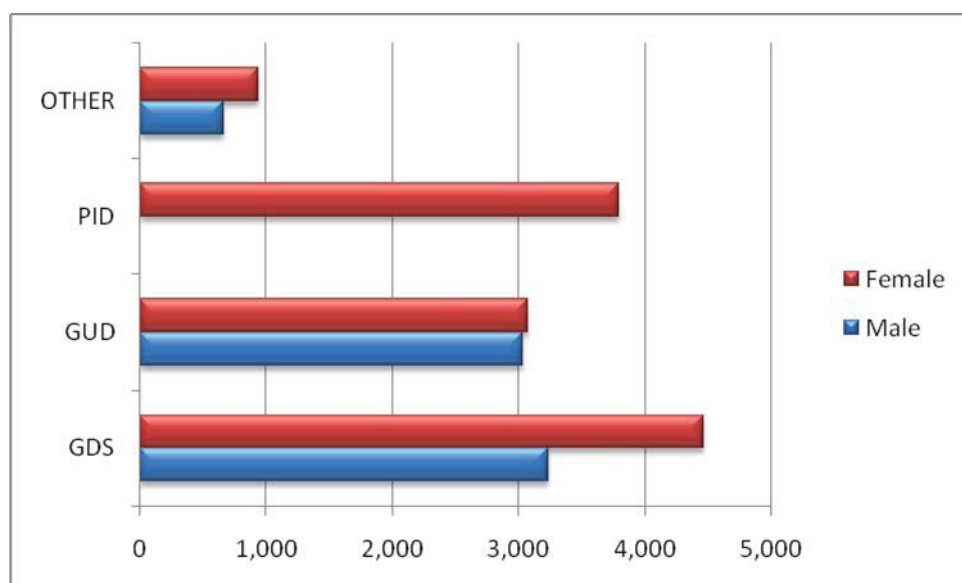


Table 5.5: Distribution of new sti episodes by age group, sex, syndromes and regions, tanzania 2007

REGION	SEX/ AGROUP	GDS				GUD				PID				OTHERS			
		<20	20-29	30+	TOTAL	<20	20-29	30+	TOTAL	<20	20-29	30+	TOTAL	<20	20-29	30+	TOTAL
ARUSHA	Male	32	267	315	614	22	64	85	171					32	40	41	113
	Female	159	684	379	1,222	12	87	46	145	134	512	318	964	37	56	47	140
COAST	Male	101	401	505	1,007	79	117	167	363					48	32	52	132
	Female	60	265	188	513	61	168	147	376	123	375	389	887	36	65	53	154
DODOMA	Male	35	155	186	376	14	64	95	173					3	9	20	32
	Female	60	265	188	513	25	161	78	264	80	226	182	488	10	34	15	59
DAR-ES-SALAAM	Male	145	484	391	1,020	85	241	198	524					166	186	251	603
	Female	293	883	764	1,940	106	232	148	486	401	816	736	1,953	217	386	333	936
IRINGA	Male	114	343	281	738	74	232	241	547					52	104	112	268
	Female	108	332	258	698	66	293	910	1,269	159	642	566	1,367	73	119	105	297
KAGERA	Male	26	159	183	368	11	87	122	220					18	27	23	68
	Female	84	289	228	601	21	135	113	269	58	173	100	331	22	26	17	65
KIGOMA	Male	122	277	361	760	36	94	126	256					57	171	208	436
	Female	250	722	564	1,536	82	182	163	427	76	251	306	633	144	466	319	929
KILIMANJARO	Male	60	290	497	847	17	81	107	205					62	61	64	187
	Female	479	1,293	1,126	2,898	33	89	78	200	125	411	387	923	81	105	96	282
LINDI	Male	108	215	225	548	136	289	219	644					79	104	106	289
	Female	116	237	212	565	102	204	194	500	105	238	271	614	63	97	80	240
MANYARA	Male	51	258	352	661	5	17	36	58					36	69	87	192
	Female	107	392	320	819	13	26	16	55	46	137	129	312	39	144	81	264
MARA	Male	31	124	137	292	14	86	121	221					54	100	98	252
	Female	114	281	186	581	60	118	120	298	158	465	470	1,093	18	8	3	29
MBEYA	Male	314	1,357	1,567	3,238	258	1,224	1,546	3,028					191	221	248	660

	Female	768	2,242	1,455	4,465	446	1,643	979	3,068	568	1,860	1,365	3,793	247	429	261	937
MOROGORO	Male	124	340	440	904	65	255	258	578					62	187	135	384
	Female	220	686	528	1,434	66	298	193	557	343	810	679	1,832	124	257	150	531
MTWARA	Male	37	106	86	229	61	127	93	281					14	16	23	53
	Female	33	102	80	215	50	112	90	252	88	184	166	438	13	37	16	66
MWANZA	Male	295	588	589	1,472	183	393	496	1,072					79	152	186	417
	Female	441	681	1,442	2,564	290	536	379	1,205	287	810	780	1,877	180	200	204	584
RUKWA	Male																-
	Female				-				-								-
RUVUMA	Male	162	576	719	1,457	191	450	607	1,248					79	149	192	420
	Female	315	1,071	734	2,120	213	575	488	1,276	246	721	595	1,562	84	178	120	382
SINGIDA	Male	1	1	5	7	-	1	1	2					-	2	2	4
	Female	1	2	-	3	1	3	-	4	15	68	142	225	1	9	3	13
SHINYANGA	Male	177	629	618	1,424	95	249	297	641					30	76	77	183
	Female	535	984	725	2,244	151	296	238	685	372	931	986	2,289	55	82	117	254
TABORA	Male	2	33	43	78	2	10	24	36					22	4	19	45
	Female	5	33	18	56	4	19	22	45	18	89	59	166	17	43	27	87
TANGA	Male	270	628	825	1,723	90	269	360	719					163	160	166	489
	Female	593	1,328	1,048	2,969	119	338	246	703	588	1,342	1,505	3,435	186	205	93	484
Total		6,948	20,003	18,768	45,719	3,359	9,865	9,847	23,071	3,990	11,061	10,131	25,182	2,894	4,816	4,250	11,960

Table 5.6: Distribution of new syndromes, re-treatments and contacts by sex and regions, Tanzania, January-December 2007

REGION	SEX	GDS	GUD	PID	OTHER	TOTAL	Re-treated	Contacts
ARUSHA	Male	614	171		113	898	137	706
	Female	1,222	145	964	140	2,471	276	1061
COAST	Male	1,007	363		132	1,502	181	418
	Female	513	376	887	154	1,930	166	255
DODOMA	Male	376	173		32	581	87	255
	Female	513	264	488	59	1,324	126	425
DAR-ES-SALAAM	Male	1,020	524		603	2,147	612	337
	Female	1,940	486	1,953	936	5,315	1124	435
IRINGA	Male	738	547		268	1,553	169	334
	Female	698	1,269	1,367	297	3,631	239	427
KAGERA	Male	368	220		68	656	112	219
	Female	601	269	331	65	1,266	146	333
KIGOMA	Male	760	256		436	1,452	217	728
	Female	1,536	427	633	929	3,525	402	650
KILIMANJARO	Male	847	205		187	1,239	197	1297
	Female	2,898	200	923	282	4,303	241	215
LINDI	Male	548	644		289	1,481	85	213
	Female	565	500	614	240	1,919	116	254
MANYARA	Male	661	58		192	911	68	220
	Female	819	55	312	264	1,450	79	112
MARA	Male	292	221		252	765	122	428
	Female	581	298	1,093	29	2,001	205	389
MBEYA	Male	3,238	3,028		660	6,926	961	2209
	Female	4,465	3,068	3,793	937	12,263	1290	2753
MOROGORO	Male	904	578		384	1,866	278	1114
	Female	1,434	557	1,832	531	4,354	400	810
MTWARA	Male	229	281		53	563	181	239
	Female	215	252	438	66	971	283	223
MWANZA	Male	1,472	1,072		417	2,961	379	1926
	Female	2,564	1,205	1,877	584	6,230	635	988
RUKWA	Male	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0
RUVUMA	Male	1,457	1,248		420	3,125	278	1823
	Female	2,120	1,276	1,562	382	5,340	272	1166
SINGIDA	Male	7	2		4	13	2	7
	Female	3	4	225	13	245	23	40
SHINYANGA	Male	1,424	641		183	2,248	187	873
	Female	2,244	685	2,289	254	5,472	369	1094
TABORA	Male	78	36		45	159	21	28
	Female	56	45	166	87	354	43	62
TANGA	Male	1,723	719		489	2,931	434	1388
	Female	2,969	703	3,435	484	7,591	662	1053
Total		45,719	23,071	25,182	11,960	105,932	11,810	27,511

Fig. 5.14: Trend of STI episodes in five highest reporting regions of Tanzania 2005-2007

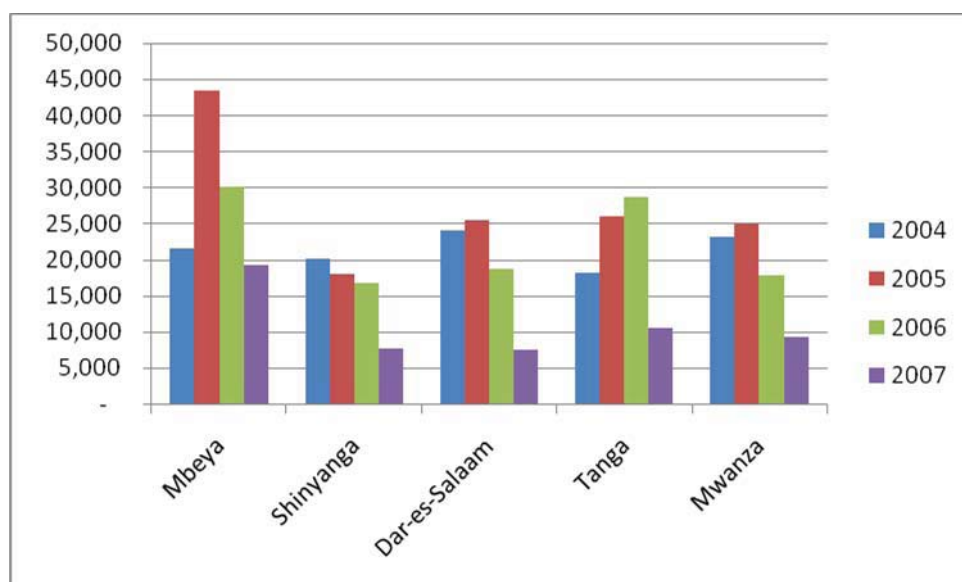
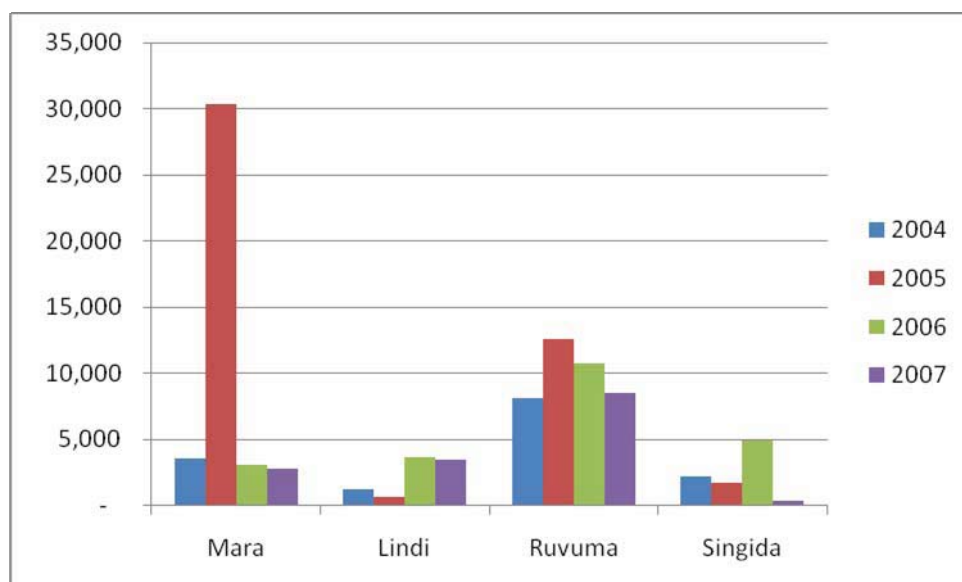


Fig.5.15: Trend of reported STI episodes in 4 lowest reporting regions of Tanzania 2005-2007



Figures 5.14 and 5.15 show the trend of STI episodes among the lowest and highest reporting regions respectively. Lindi region has continued to report the lowest number of STI episodes since 2004, whilst Mbeya has consistently remained among the highest reporting regions. Noticeably, there was a remarkable drop of number of episodes reported from Mara region in 2006 (3,050 episodes) compared to the previous year (30,362 episodes), whereas Lindi reported 3,585 episodes in 2006 which is about five times more episodes compared to the previous year (558 episodes in 2005). The fluctuation observed in the number of reported cases might be explained by a number of factors such as real reduction of STI prevalence or inadequate reporting by health care facilities or both.

Chapter Six

Monitoring and reporting of the health sector response to HIV/AIDS

6.1 Introduction

In the year 2008, Tanzania reported on a standard set of indicators that aimed at monitoring and reporting on progress in the health sector response to HIV and AIDS towards Universal Access, and the UNGASS Declaration of Commitments on HIV/AIDS. This section provides the values and reporting period for each indicator. It is intended to serve as a baseline for assessing progress made over time as well as reference material for subsequent reporting.

6.2 Methods

Sources of information for the indicators consisted of national programme implementation reports and population-based surveys. Denominators for some indicators were estimated through modeling or application of sample estimates to specific population groups. Data were collected through review of national publications, consultation with managers and programmers of various interventions. After compilation, indicator values were presented for validation in a stakeholders meeting and the feedback was used to improve the report.

6.3 Results

Table 6.1 provides a list of indicators with values and reporting period for each.

Table 6.1 List National and international HIV/AIDS Monitoring indicators

Sno.	Indicator	Indicator Value	Reporting Period
	General country information		
	Number of administrative units in the country	133	as of Dec. 2008
	number of health facilities	5,800	as of Dec. 2008
	number of health facilities that offer ART	563	as of Mar.. 2009
A	Testing and counseling		
1	Percentage of health facility that provide HIV testing and counseling services	29	as of Dec. 2008
2	Number of individuals aged 15 and over who received HIV testing and counseling	1,584,287	Jan - Dec 2008
3	Percentage of women and men aged 15 - 49 who received an HIV test in the last 12 months and who know their result	19	2007- 08
4	Proportional of sexually active young women and men aged 15 - 24 who received an HIV test in the last 12 months and who know their results	17	2007 - 08
6	Percentage of people 15 - 49 years who know their HIV status	33	2007 - 08
B	Prevention in health care settings		
1	Percentage of health facilities where all therapeutic injections are given with new disposable single use injection equipments	5	as of Dec. 2008
F	Sexually transmitted infections		
2	Proportion of women accessing antenatal care (ANC) services who are tested for syphilis in the last 12 months	37%	as of dec. 2006
4	prevalence of syphilis among antenatal care attendees	7	2005 - 2006
G	Antiretroviral therapy		
1	Percentage of health care facilities that offer ART	10	as of Dec. 2008
2	Percentage of adult and children with advanced HIV infection receiving antiretroviral therapy		

Sno.	Indicator	Indicator Value	Reporting Period
3	Parentage of adults and children with HIV known to be on treatment 12 months after initiation of antiretroviral therapy	65	as of May 2008
4	Parentage of adults and children with HIV known to be on treatment 24 months after initiation of antiretroviral therapy	54	as of May 2008
5	Parentage of adults and children with HIV known to be on treatment 36 months after initiation of antiretroviral therapy		
6	Parentage of adults and children with HIV known to be on treatment 48 months after initiation of antiretroviral therapy		
7	Percentage of patients initiating antiretroviral therapy at the site during a selected period who are taking an appropriate first line regimen 12 months later	99	Jan - Dec 2008
H	Health systems		
1	Percentage of health facilities dispensing ARVs which have experienced a stock out of at least one required ARV in the last 12 months	0	as of Dec 2008
2	Percentage of facilities providing ART using CD4 monitoring in line with national guidelines/policies, on site or through referral	100	as of Dec 2009
I	Women and children		
1	Number of ANC attendees	1516432	as of Dec 2008
2	Number of facilities providing ANC services	4647	as of Dec 2009
3	Number of facilities providing ANC services which also provide CD4 testing on site, or have a system for collecting and transporting blood samples for CD4 testing for pregnant women	552	as of Dec 2009
4	Number of facilities providing ANC services that also provide HIV testing and counseling for pregnant women	2474	as of Dec 2009
5	Percentage of health facilities providing ANC services that offer both HIV testing and antiretroviral for prevention of mother-to-child transmission on site	53	as of Dec 2009
6	Percentage of health facilities that offer pediatric ARTs (i.e prescribe and/or provide clinical follow-up)	100	as of Dec 2009
7	Percentage of health facilities that provide biological testing services (e.g. PCR) for infant diagnosis on site or through referral	5	as of Dec 2009
8	Percentage of pregnant women who were tested for HIV and received their result -during pregnancy, during labour, and delivery, and during the post-partum period	48	as of Dec 2009
9	Percentage of male partners of pregnant women attending ANC who know their HIV status.	8	as of Dec 2009
10	Percentage of HIV-infected pregnant women who received antiretroviral to reduce the risk of PMTCT	55	as of Dec 2009
11	Percentage of HIV-infected pregnant women assessed for ART eligibility through either clinical staging or CD4 testing		as of Dec 2009
12	Percentage of HIV-infected pregnant women receiving ART for their own health	25	as of Dec 2009
13	Percentage of infants born to HIV-infected women receiving any ARV prophylaxis for PMTCT	32	as of Dec 2009
14	Percentage of infants born to HIV-infected women started on cotrimoxazole (CTX) prophylaxis within two months of birth		as of Dec 2009
15	Percentage of infants born to HIV-infected women who received an HIV test within 12 months	5	as of Dec 2009

Chapter Seven

Highlights of research publications in Tanzania

Title:

Hepatitis A, B and C viral co-infections among HIV-infected adults presenting for care and treatment at Muhimbili National Hospital in Dar es Salaam, Tanzania

Authors:

Nagu TJ, Bakari M, Matee M

Source:

BMC Public Health 2008 Dec 19;8:416

Objective:

To determine the prevalence and predictors of viral hepatitis co-infection among HIV-infected individuals presenting at the HIV care and treatment clinic of the Muhimbili National Hospital

Methodology:

A cross-sectional study conducted between April and September 2006 enrolled 260 HIV-1 infected, HAART naïve patients aged > or = 18 years presenting at the HIV care and treatment clinic (CTC) of the Muhimbili National Hospital (MNH). The evaluation included clinical assessment and determination of CD4+ T-lymphocyte count, serum transaminases and serology for Hepatitis A, B and C markers by ELISA.

Results:

The prevalence of anti HAV IgM, HBsAg, anti-HBc IgM and anti-HCV IgG antibodies were 3.1%, 17.3%, 2.3% and 18.1%, respectively. Dual co-infection with HBV and HCV occurred in 10 individuals (3.9%), while that of HAV and HBV was detected in two subjects (0.8%). None of the patients had all the three hepatitis viruses. Most patients (81.1%) with hepatitis co-infection neither had specific clinical features nor raised serum transaminases. History of blood transfusion and jaundice were independent predictors for HBsAg and anti-HBc IgM positivity, respectively.

Conclusion:

There is high prevalence of markers for hepatitis B and C infections among HIV infected patients seeking care and treatment at MNH. Clinical features and a raise in serum alanine aminotransferase were of limited predictive values for the viral co-infections. Efforts to scale up HAART should also address co-infections with Hepatitis B and C viruses.

Title:

Surveillance of transmitted of HIV drug resistance among women attending antenatal clinics in Dar es Salaam, Tanzania

Authors:

Lyamuya EF, Aboud S, Urassa WK, Sufi J, Mbwana J, Ndugulile F, Massambu C.

Source:

Antivir Ther 2008;13 Suppl 2:77-82.

Objective:

Using the WHO HIVDR threshold survey method we assessed transmitted HIVDR in Dar es Salaam where ART was introduced in 1995 and where approximately 11,000 people are currently on ART.

Methodology:

From November 2005 to February 2006, dried blood spot (DBS) specimens were made from remnant specimens collected during the national HIV serosurvey from 60 primagravidas <25 years old attending six antenatal clinics for routine syphilis testing. Genotyping was performed at the Centers for Disease Control and Prevention, Atlanta, Georgia, USA. Protease and reverse transcriptase drug resistance mutations were identified using the Stanford University HIV drug resistance database. We used the National Institutes of Health genotyping tool for HIV-1 subtyping. HIVDR prevalence categorization was based on the WHO threshold survey binomial sequential sampling method.

Results:

Among the 60 eligible specimens collected, 50 DBS were successfully amplified using RT-PCR. Sequencing was performed on the first 39 specimens: 13 (33.3%) were subtype A1, 13 (33.3%) subtype C, and 4 (10.3%) subtype D, the remainder differed in the closest subtype based on protease versus reverse transcriptase. No resistance mutations were seen; HIVDR to all drug classes was categorized as <5%.

Conclusion:

Our survey indicates that prevalence of transmitted HIVDR among recently infected pregnant women in Dar es Salaam is low (<5%). The survey should be repeated during the next HIV sentinel survey in Dar es Salaam and extended to other regions where ART is being scaled up.

Title:

Evaluation of simple rapid HIV assays and development of national rapid HIV test algorithms in Dar es Salaam, Tanzania

Authors

Lyamuya EF, Aboud S, Urassa WK, Sufi J, Mbwana J, Ndugulile F, Massambu C.

Source:**Objectives:**

The aims of this study were to evaluate the performance of five simple rapid HIV assays using whole blood samples from HIV-infected patients, pregnant women, voluntary counseling and testing attendees and blood donors, and to formulate an alternative confirmatory strategy based on rapid HIV testing algorithms suitable for use in Tanzania.

Methods:

Five rapid HIV assays: Determine HIV-1/2 (Inverness Medical), SD Bioline HIV 1/2 3.0 (Standard Diagnostics Inc.), First Response HIV Card 1-2.0 (PMC Medical India Pvt Ltd), HIV1/2 Stat-Pak Dipstick (Chembio Diagnostic System, Inc) and Uni-Gold HIV-1/2 (Trinity Biotech) were evaluated between June and September 2006 using 1433 whole blood samples from hospital patients, pregnant women, voluntary counseling and testing attendees and blood donors. All samples that were reactive on all or any of the five rapid assays and 10% of non-reactive samples were tested on a confirmatory Inno-Lia HIV I/II immunoblot assay (Immunogenetics).

Results:

Three hundred and ninety samples were confirmed HIV-1 antibody positive, while 1043 were HIV negative. The sensitivity at initial testing of Determine, SD Bioline and Uni-Gold was 100% (95% CI; 99.1-100) while First Response and Stat-Pak had sensitivity of 99.5% (95% CI; 98.2-99.9) and 97.7% (95% CI; 95.7-98.9), respectively, which increased to 100% (95% CI; 99.1-100) on repeat testing. The initial specificity of the Uni-Gold assay was 100% (95% CI; 99.6-100) while specificities were 99.6% (95% CI; 99-99.9), 99.4% (95% CI; 98.8-99.7), 99.6% (95% CI; 99-99.9) and 99.8% (95% CI; 99.3-99.9) for Determine, SD Bioline, First Response and Stat-Pak assays, respectively. There was no any sample which was concordantly false positive in Uni-Gold, Determine and SD Bioline assays.

Conclusion:

An alternative confirmatory HIV testing strategy based on initial testing on either SD Bioline or Determine assays followed by testing of reactive samples on the Determine or SD Bioline gave 100% sensitivity (95% CI; 99.1-100) and 100% specificity (95% CI; 96-99.1) with Uni-Gold as tiebreaker for discordant results.

Title:

Prevention of mother-to-child transmission of HIV-1 through breast-feeding by treating infants prophylactically with lamivudine in Dar es Salaam, Tanzania: the Mitra study

Authors:

Kilewo C, Karlsson K, Massawe A, Lyamuya E, Swai A, Mhalu F, Biberfeld G; Mitra Study Team.

Collaborators (18)

Source:

J Acquir Immune Defic Syndr. 2008 Jul 1;48(3):315-23

Objective:

To investigate the possibility of reducing mother-to-child transmission (MTCT) of HIV-1 through breast-feeding by prophylactic antiretroviral (ARV) treatment of the infant during the breast-feeding period.

Methodology:

This was an open-label, nonrandomized, prospective cohort study in Tanzania (Mitra). HIV-1-infected pregnant women were treated according to regimen A of the Petra trial with zidovudine (ZDV) and lamivudine (3TC) from week 36 to 1 week postpartum. Infants were treated with ZDV and 3TC from birth to 1 week of age (Petra arm A) and then with 3TC alone during breast-feeding (maximum of 6 months). Counseling emphasized exclusive breast-feeding. HIV transmission was analyzed using the Kaplan-Meier survival technique. Cox regression was used for comparison with the breast-feeding population in arm A of the Petra trial, taking CD4 cell count and other possible confounders into consideration.

Results:

There were 398 infants included in the transmission analysis in the Mitra study. The estimated cumulative proportion of HIV-1-infected infants was 3.8% (95% confidence interval [CI]: 2.0 to 5.6) at week 6 after delivery and 4.9% (95% CI: 2.7 to 7.1) at month 6. The median time of breast-feeding was 18 weeks. High viral load and a low CD4 T-cell count at enrollment were associated with transmission. The Kaplan-Meier estimated risk of HIV-1 infection at 6 months in infants who were HIV-negative at 6 weeks was 1.2% (95% CI: 0.0 to 2.4). The cumulative HIV-1 infection or death rate at 6 months was 8.5% (95% CI: 5.7 to 11.4). No serious adverse events related to the ARV treatment of infants occurred. The HIV-1 transmission rate during breast-feeding in the Mitra study up to 6 months after delivery was more than 50% lower than in the breast-feeding population of Petra arm A (relative hazard=2.61; P=0.001; adjusted values). The difference in transmission up to 6 months was significant also in the subpopulation of mothers with CD4 counts ≥ 200 cells/microL.

Conclusions:

The rates of MTCT of HIV-1 in the Mitra study at 6 weeks and 6 months after delivery are among the lowest reported in a breast-feeding population in sub-Saharan Africa. Prophylactic 3TC treatment of infants to prevent MTCT of HIV during breast-feeding was well tolerated by the infants and could be a useful strategy to prevent breast milk transmission of HIV when mothers do not need ARV treatment for their own health.

Title:

Patterns and predictors of CD4 T-cell counts among children born to HIV-infected women in Tanzania

Authors:

Kupka R, Msamanga GI, Aboud S, Manji KP, Duggan C, Fawzi WW.

Source:

J Trop Pediatr 2009 Jan 21 [Epub ahead of print]

Objective:

We assessed age-specific CD4 T-cell counts and their determinants among Tanzanian children born to HIV-infected mothers to address a major research gap.

Methodology:

A total of 474 HIV-uninfected and 69 HIV-infected children were followed until age of 12 months. Maternal predictors were measured during pregnancy and child predictors at birth and throughout the follow up. Child CD4 T-cell counts were evaluated at the age of 3 months and subsequent 3-month intervals.

Results:

CD4 T cell counts decreased linearly among HIV-infected (beta = -8 cells per week; 95% CI -12 to -4; P = 0.0003) and increased linearly among HIV-uninfected children (beta = 4 cells/week; 95% CI 2-7; P = 0.0008). Decreased child counts were predicted by low child anthropometry, maternal HIV stage ≥ 2 , and maternal mid-upper arm circumference < 27 cm among HIV-infected children; and by weight-for-height < -2 z-score, maternal HIV stage ≥ 2 , maternal erythrocyte sedimentation rate < 81 mm/h and maternal haemoglobin < 8.5 g/dl among HIV-uninfected children.

Conclusion:

The maternal and child predictors described may serve as intervention targets among HIV-exposed children.

Title:

Effect of selenium supplements on hemoglobin concentration and morbidity among HIV-1-infected Tanzania women

Authors:

Kupka R, Mugusi F, Aboud S, Hertzmark E, Spiegelman D, Fawzi WW.

Source:

Clin Infect Dis. 2009 May 15;48(10):1475-8

Objective:

To investigate the effect of selenium supplements (200 microg of selenomethionine) on hemoglobin concentration and morbidity among 915 pregnant Tanzanian women.

Methodology:

Hemoglobin concentration was measured at baseline (at 12-27 weeks of gestation) weeks and 6 months postpartum, and morbidity data were collected during monthly visits to the clinic.

Results and conclusion:

Selenium supplements had no effect on hemoglobin concentrations during follow-up (mean difference, 0.05 g/dL; 95% confidence interval, -0.07 to 0.16 g/dL) but reduced diarrheal morbidity risk by 40% (relative risk, 0.60; 95% confidence interval, 0.42-0.84). There was no effect on the other morbidity end points.

Title:

Validation of self-report and hospital pill count using unannounced home pill count as methods for determination of adherence to antiretroviral therapy

Authors:

O.M.S. Minzi and A.S. Naazneen

Source:

Tanzania Journal of Health Research, 2008: 10(2): 84-88

Objectives:

To validate patient-self report (PSR) and hospital based pill count (HoPC) as adherence determination methods by using unannounced home visit pill count (HPC).

Methodology:

The study was carried out at Muhimbili National Hospital in Dar es Salaam, Tanzania and 215 patients were recruited. On refill day, the remaining pills were counted. They were also asked to report on the number of doses they missed during the past 28 days. They were later visited in their homes without appointment where the remaining pills were counted.

Results:

Ninety-eight percent and 93% reported to adhere to ART by PSR method and HoPC, respectively. However, only 58% of the same study patients were found to be adherent by >95% using HPC.

Conclusion:

PSR and HoPC do not always give reliable adherence data in patients undergoing ART.

Recommendation:

The ART programmes should adopt a set of adherence determination methods which complement each other and could consider establishing few centres for determination of ARV plasma concentrations where some samples from patients showing poor treatment outcomes could be tested.

Title:

Survival after IV infection in the pre-antiretroviral therapy era in a rural Tanzanian cohort

Authors:

Raphael Isingo, Basia Zaba, Milly Marston, Milalu Ndege, Julius Mngara, Wambura Mwita, Alison Wringe, David Beckles, John Chagalucha and Mark Urassa

Source: AIDS, 2007: 21(suppl.6): S5-S13

Objectives:

To determine survival patterns after HIV infection in Kisesa cohort study

Methodology:

The Kisesa open cohort study conducted four rounds of village –based HIV testing and 20 rounds of household based demographic surveillance between 1994 and 2006. Person –years lived post-infection were computed, allowing for left truncation and right censoring, and Kaplan- Meier survival functions were constructed, truncating the analysis at the start of 2005 when ART first became available in the community. Weibull models were fitted to estimate median survival time, and parametric regression methods were used to investigate the influence of sex and age at infection.

Results:

A total of 369 seroconverters were identified, providing 890 person-years of follow up during which 44 deaths were observed. The Kaplan- Meier function showed 67% surviving 9 years post-infection, and the overall predicted median survival was 11.5 years. Survival was strongly related to age of infection.

Conclusion:

The survival of HIV- infected individuals was comparable to that reported in developed country studies before the introduction of HAART. Survival patterns in Kisesa are marginally more favourable than those reported in cohort studies in Uganda.

Recommendation:

The analysis will form an important baseline against which will assist in judging the success of ART programme in prolonging the lives of HIV positive individuals in Kisesa, Mwanza.

Title:

Attitudes and perceived impact of antiretroviral therapy on sexual risk behaviour among young people in Kahe, Moshi Rural District, Tanzania.

Authors:

M. J. Ezekieli, A. Talle, J.M. Juma, K.S. Mnyika, and K-I. Klepp

Source:

Tanzania Journal of Health Research, October 2008:10(2): 203-212

Objective:

To explore young people's perception about the potential impact of ART on HIV related risk sexual behaviour in rural Tanzania.

Methodology:

Focus Group Discussion was conducted using selected sample of males and females aged 14-24 years.

Results:

Positive attitude towards ART were related to improved chances of survival and resumption of social roles among ARV users. ART was considered to empower infected persons to intentionally spread HIV to uninfected individuals in the community through deliberate unprotected sexual activities.. Antiretroviral drugs were thought to have potential to increase HIV spread due to reported reckless sexual behaviours among some ARV users.

Conclusion:

While ART may sustain the lives of people on medication, it may potentially lead to risk sexual behaviours and stigmatised people blamed for fuelling deliberate HIV transmission.

Recommendations:

Efforts to improve access to antiretroviral drugs should re-emphasize prevention counselling to minimize sexual transmission of HIV. Public information about the benefits and shortcomings of ART need to be re-emphasised in line with objectives of the national ART care and treatment plan. In order to promote attitude change and achieve social acceptability of antiretroviral drug therapy.

Title:

Manifestations and reduction strategies of stigma and discrimination on people living with HIV/AIDS in Tanzania.

Authors:

P. Mutalemwa, W. Kisoka, V. Nyigo, V. Barongo, M.N. Malecela and W.N. Kisinza

Source:

Tanzania Journal of Health Research, October 2008:10 (4): 220-225

Objective:

To determine the magnitude and factors influencing HIV/AIDS-related stigma and discrimination with a specific focus on manifestations and reduction interventions

Methodology:

In-depth interviews, exit interviews and Focus Group Discussions (FGDs) were conducted to collect data in Morogoro Urban, Kilombero, Dodoma, Mtwara, Masasi, Tanga City, Muheza, Mbeya City, Kyela, Mwanza City, Geita, Kinondoni, Temeke, Iringa, Mufindi, Kigoma and Kasulu. In-depth interviews were conducted to 8 health workers, 36 religious leaders and 18 traditional practitioners in each district. Exit interviews were conducted to people living with HIV and AIDS mainly those taking ARVs at the health facilities. Two FGDs involving combined groups of males and youths and males and females were also conducted in each district.

Results:

Effects of stigma and discrimination are from both health facilities and communities. Religious people isolate people living with HIV/AIDS (PLWHA) and consider them as promiscuous and health workers have strong negative attitude and feelings when attending PLWHAs. Stigma and discrimination make PLWHAs to receive inadequate treatment as such they decline to divulge their status to partners or change their behaviour and refrain from counselling and testing services.

Conclusion:

Combating the stigma and discrimination against PLWHA is as important as developing interventions that address and hence reduce HIV/AIDS related stigma and discrimination.

Recommendations:

- Adequate outreach services at both community and health facility levels should be established and lined up in the fight against stigma and discrimination.
- The reduction of stigma can only occur if religious leaders make conscious efforts to change their own behaviour and promote integrated care programmes for people living with HIV/AIDS.

Title:

Assessing of quality assurance in HIV testing in health facilities in Lake Victoria zone, Tanzania.

Authors:

F. M. Mashauri, J. E. Siza, M. M. Temu, J. T. Mngara, C. Kishamawe and J. M. Chagalucha

Source:

Tanzania Health Research Bulletin, May 2007: 9 (2): 110-114

Objective:

To assess quality assurance (QA) in HIV testing in health facilities in Lake Victoria zone

Methodology:

Cross-sectional quantitative descriptive study was conducted in four regions of Mwanza, Kagera, Shinyanga and Mara. A total of 89 health facilities including 29 hospitals, 34 health centres, 9 dispensaries and 17 VCT centres were surveyed. Laboratory personnel and counsellors were interviewed using a structured questionnaire

Results:

Only 3 (10.3%) health facilities reported performing Uniform II ELISA for HIV diagnosis. The rest reported to be using HIV rapid tests Capillus and Determine. Five (5.6%) of health facility laboratories performed CD4 counts. Internal Quality Control (IQC) were performed in 21 (63.6%) of the hospitals. Kits for HIV testing were reported to be readily available by 54 (60.7%) of the facilities. Only 16 (18%) of the health facilities had standard operating procedures in place. Systems of equipment calibration were reported by 13 (14.6%) of the health facilities. Counselling services were available in all health facilities and all counsellors had received a 6-week mandatory training course.

Conclusion:

Most of the health facilities in the Lake Victoria zone do not adhere to QA procedures in HIV testing which has lead to poor quality and unreliable HIV test results.

Recommendations:

- There is a need to establish a monitoring system for laboratories performing HIV testing for the purpose of ensuring QA procedures.
- Personnel doing HIV testing should be re-trained on the procedures of HIV testing and quality assurance.
- The government should provide CD4 machines to all the public healthcare facilities.

Title:

Barriers to accessing antiretroviral therapy in Kisesa, Tanzania: A qualitative study of early rural referrals to the National Program

Authors:

Gerry H. Mshana, Joyce Wamoyi, Joanna Busza, B Zaba, John Changalucha, Samuel Kaluvya and Mark Urassa

Source:

AIDS Patients Care and STDs 2006: 20(9): 649-657

Objective:

To explore the perceptions and experiences of barriers to accessing the national antiretroviral programme among self-identified HIV positive persons.

Methodology:

The study involved consultations with villagers and documented early referrals' progress through clinical evaluation and further training and drug procurement. Data collection consisted of 16 participatory group discussions with community members and 18 in-depth interviews with treatment seekers.

Results:

The study showed that although participants welcomed antiretroviral therapy, they feared that transportation and supplementary food costs, difficulties in sustaining long-term treatment would limit accessibility of ART. However, the study found out also that pervasive stigma remains the most formidable barrier.

Conclusion:

The study concluded that, the development of a feasible district based ART distribution system will need to address many of the concerns that currently discourage PLHA from seeking to access therapy.

Recommendation:

Encouraging successful referrals to share their positive experiences and contribute to nascent community mobilization could start to address this seemingly intractable problem. Subsidizing travel costs to hospitals seemed to remove logistical barriers.

Title:

Single-dose fluconazole versus standard 2 week therapy for oropharyngeal candidiasis in HIV- infected patients: A randomized, double-blind, double-dummy trial

Authors:

Omar J.M. Hamza, Mecky I.N Matee, Roger J.M. Bruggemann, Mainen J. Moshi, Elison N. M. Simon, Ferdinand Mugusi, Frans H.M Mikx, Henrich A.L. van der Lee, Paul E. Verweij and Andre J. A. M. van der Ven

Source:

Clinical Infectious Diseases, 2008;47: 1270-6

Objective:

To determine whether a single dose of 750 mg of fluconazole is effective as the standard 14-day course of 150 mg fluconazole for the treatment of oropharyngeal candidiasis in HIV- infected patients.

Methodology:

A total of 220 HIV- infected patients with clinical and mycological evidence of oropharyngeal candidiasis, were randomly assigned in a 1:1 ratio to receive either a 750-mg single dose of orally administered fluconazole (110 patients) or 150-mg of orally administered fluconazole once per day for 2 weeks (110). The study was a prospective, randomized double-blind, double-dummy trial. At baseline, a structured standard questionnaire was used to systematically collect demographic information, medical history, treatment history, concomitant illness(es) and current treatments. General and oral examinations were performed at baseline and at subsequent visits. Oral swab specimens were obtained at baseline for diagnosis, on day 14 for mycological evaluation, and on day 42 or earlier when there was evidence of a relapse of OPC. Blood samples were obtained at baseline for determination of basic hematology, for biochemical tests, and to assess CD4 and CD8 cell counts. The primary efficacy analysis was based on clinical and mycological responses at the end of treatment. Secondary parameters were safety and relapse rate.

Results

Single-dose fluconazole was equivalent to a 14 - day course of fluconazole in achieving clinical and mycological cure, with clinical cure rates of 94.5% and 95.5%, respectively.

Drug-related adverse events were uncommon and were not different between treatment groups.

Conclusion

A single dose of 750 mg of fluconazole was safe, well tolerated, and as effective as the standard 14-day fluconazole therapy in patients with HIV infection and acquired immunodeficiency syndrome who had oropharyngeal candidiasis co infection. The use of a single high dose of fluconazole for the treatment of OPC in patients with HIV infection and AIDS presents the advantages of simplicity and convenience, thus improving compliance and reducing the cost of therapy.

Recommendations

A dose of 750-mg tablet is less costly than 14-day course and, therefore could be used, especially in resource-limited settings like in sub-Saharan Africa. Administration of the single dose therapy can be observed directly by medical personnel, thereby assuring patient compliance.

Title:

Time from HIV seroconversion to death: a collaborative analysis of eight studies in six low and middle – income countries before highly active antiretroviral therapy.

Authors:

Jim Todd, Judith R. Glynn, Milly Marston, Tom Lutalo, Sam Biraro, Wambura Mwita, Vinai Suriyanon, Ram Rangsin, Kenrad E. Nelson, Pam Sonnenberg, Dan Fitzgerald, Etienne Karita and Basia Zaba

Source:

AIDS: 2007; 21(suppl. 6): S55-S63

Objectives:

To estimate survival patterns after HIV infection in adults in low and middle –income countries.

Methodology:

HIV seroconverters were included from eight studies (three population –based, two occupational, and three clinic cohorts) if they were at least 15 years of age and had no more than 4 years between the last HIV-negative and subsequent HIV-positive test. Four strata were defined: East African cohort; South African miners' cohort; Thai cohort; Haitian clinic cohort. Kaplan-Meier functions were used to model and extend survival patterns, and Weibull distributions were used to model and extend survival estimates. Analyses examined the effect of site, age, and sex on survival.

Results:

From 3623 eligible seroconverters, 1,079 deaths were observed in 19,671 person-years of follow up. Survival times varied by age and by study site. Adjusting to age 25-29 years at seroconversion, the median survival was longer in South African miners: 11.6 years, and East African cohorts: 11.1 years than in Haiti: 8.3 years and Thailand 7.5 years.

Conclusion:

Without antiretroviral therapy, overall survival after HIV infection in African cohorts was similar to survival in high income countries, with similar pattern of faster progression at older ages at seroconversion. Shorter survival times were seen in Thailand which may be the result of factors associated with the virus, population, or the study design.

Recommendation:

The differences need to be explored with further research, but the results are important for many people planning interventions to treat HIV infected individuals in low and middle –income countries.

Title:

Uptake of HIV voluntary counselling and testing services in rural Tanzania: Implications for effective HIV prevention and equitable access to treatment

Authors:

Alison Wringe, Raphael Isingo, Mark Urassa, Griter Maiseli, Rose Mayalla, John Changalucha, Julius Mngara, Samuel Kalluvya and Basia Zaba .

Source:

Tropical Medicine and International Health, March 2008;13(3):319-327

Objective:

To describe the association between socio-demographic, behavioural and clinical characteristic and the use of HIV voluntary counselling and testing (VCT) services among residents in a rural ward in Tanzania.

Methodology:

8,970 participants from a community based cohort were interviewed, tested for HIV and offered VCT. Univariate and multi variate logistic regression was used to identify socio-demographic clinical and behavioural factors associated with VCT use.

Results:

Although 31% (1246/3980) of men and 24 % (1195/4990) of women showed an interest in the service only 12% of men and 7 % of women subsequently completed VCT, socio-demographic factors like marital status, area of residence region and ethnicity influenced VCT completion among male and female in various ways. Self perceived risk of HIV prior knowledge of VCT and sex with high risk partner emerged as important predictors of VCT completion among both sexes. Among males those infected with HIV for 5 years or less tended to self select for VCT compared to HIV– negative this contributed to a higher proportion of HIV positive males knowing their status compared to HIV positive females.

Conclusion:

Disproportionate number of HIV positive women is failing to know their status which has implications for equitable access toward referral for care and treatment services.

Recommendation:

Interventions are required to improve knowledge about VCT with particular focus placed on promoting access to VCT among married women and rural residents. Further study on VCT uptake to assess the impact of VCT on behavioural change and HIV incidence is required.

Title:

Scaling up stigma, the effects of antiretroviral roll-out on stigma and HIV testing. Early evidence from rural Tanzania

Authors:

Maria Roura, Mark Urassa, Joanna Busza , Doris Mbata Alison Wringe and Basia Zaba.

Source:

STI Online, Nov 2008:1-14

Objective:

To investigate the interplay between antiretroviral therapy (ARV) scale-up, different types of stigma, and voluntary counselling and testing (VCT) uptake two years after the introduction of free ART in rural ward of Tanzania.

Methodology:

Qualitative study using in-depth interviews and groups activities with purposive sampling of 91 community leaders, 77 ART clients and 16 health providers. Data were analysed for recruitment using NVIVO -7 software.

Results:

The complex interplay between ART, stigma, and VCT in this setting is characterised by two powerful but opposing dynamics. The availability of effective treatment has transformed HIV into a manageable condition which is contributing to a reduction of self- stigma and stimulating VCT uptake.

Conclusion:

Where anticipated stigma prevails provision of antiretroviral drugs alone is unlikely to have sufficient impact on VCT uptake.

Recommendation:

Achieving widespread public health benefits of ART roll-out requires community - level interventions to ensure local acceptability of antiretroviral drugs.

Chapter Eight

Discussion

This report presents a summary of the activities of the Tanzania NACP of the MoHSW in dealing with the HIV pandemic as of December 2008. It includes analysis of the following; blood transfusion services, HIV care and treatment, counselling and testing for HIV infection, prevention of mother to child transmission of HIV infection (PMTCT) as well as M&E reports of the HIV care and treatment services in the country.

The main limitations of this report include inconsistency and incomplete recording and reporting by some of the facilities. Likewise the estimated prevalence and number of PLHIV and AIDS cases as well as the number of patients on care and treatment is likely to be underestimated.

Despite these drawbacks a number of achievements have been recorded. Notably the establishment of NBTS that coordinates eight zonal blood transfusion centers in systematic screening blood for HIV, hepatitis B virus (HBV), hepatitis C virus (HCV) and syphilis from voluntary donors. However, the capacity of the zonal centre cannot cater for blood requirements and hence hospitals continue to collect blood from replacement donors. For example, the capacity of the eastern zonal blood centre, for which data was available, was only 30% of the requirement.

Recruitment of blood donors by blood safety involves the use of WHO adopted structured medical questionnaire (appendix 1) which defers the high risk blood donors from donating blood. This explains why the prevalence for TTI from voluntary non remunerated blood donors is lower than replacement/family blood donors and general population.

On the other hand there has been increases in; i) the number of health facilities providing HIV care and treatment services from 32 in 2004 to 210 in 2007 and reaching 563 in March 2009, ii) geographical coverage of services has reached all 21 regions since 2007, iii) number of clients enrolled in care and treatment services from 1,842 in 2004 to 263,700 in 2007 before reaching 403,378 in 2008. Of these figures, the number of children enrolled was 12,563 in 2006, 22,231 in 2007 and 33,422 in 2008 and iv) number of patients who commenced ART from 488 in 2004 to 135,529 by end of 2007, reaching 202,181 in December 2008.

The scaling of PMTCT services, which started in 2003, has led to coverage of 3029 (65%) out of 4647 facilities offering RCHs services in the country, by December 2008. These include 255 hospitals, 508 health centers and 2266 dispensaries. Currently 288 (9.5%) sites among 3,029 PMTCT sites implementing clinics, do offer more efficacious regimen. Similarly the number of HIV+ pregnant women reached by PMTCT services at ANC facilities increased from 255,913 in 2005 to 958,103 in 2008, while the number of pregnant women tested for HIV infection at (ANC + LD) rose from 206,721 in 2005 to 919,377 in 2008.

Encouragingly, the number of women who received post test counseling at ANC rose from 202,909 in 2005 to 749,823 in 2008, while percent of HIV infected pregnant women received AVRs rose from 9% in 2005 to reach 55% (70,944/127,920) in 2008. Number of HIV infected pregnant women who received counselled for infant feeding rose from 8,645 in 2005 to 43,222 in 2008. Throughout this period, the proportion of women who opted for exclusive breastfeeding ranged between 88.9% and 95.7, while those who opted for exclusive bottle feeding ranged between 4.3% and 11.1%.

In 2007 a total of 1,082,973 clients, 495,507 (46.5%) males and 587,466 (53.5%) females were referred to VCT services from different services for pre-test counselling, dropping to 716,916 clients, 290,494 (39.6%) males and 426,422 (60.4%) females in 2008. Most of the clients were self referred and were new clients. The proportion of clients who agreed to be tested for HIV infection was 97.8% in 2007 and their corresponding HIV prevalence was 8.1%. In 2008, 90.4% of the clients agreed to be tested and their overall HIV prevalence was 11.4%.

Regarding STIs, management is available in all public hospitals, health centers and 70% of dispensaries. There has been a reduction in reported number of STI episodes from 234,510 in 2006 to 105,932 episodes in 2007. However contact tracing is still low, emphasizing the need for strengthening of contact tracing strategies in the country.

Finally, the performance of the health sector in dealing with the HIV pandemic is summarized in chapter. The indicators assess progress made over time as well as reference material for subsequent reporting.

Conclusion

Over the years the NACP has made remarkable achievements in responding to the HIV epidemic through various interventions e.g. improving blood safety, expansion of VCT and CTC services as well as management and prevention of STIs.

However despite these achievements, a number of challenges need to be addressed i) increasing the proportion of donor blood that is screened through the established NTBS ii) strengthening the recording and reporting system to ensure regular, complete and timely reports iii) strengthen the ARV supply chain iv) improve the services of Care and treatment, Voluntary Counselling and Testing and Sexually Transmitted Infections services to make them more user friendly v) improve co-ordination of various stakeholders vi) identifying training needs and retraining as well as recruit a substantial number of new staff vii) ensure regular supportive supervision at all levels and viii) conduct operational research aim at problem solving.



