Journal of AIDS and HIV Infections
Volume 4 | Issue 1
ISSN: 2454-499X

Research Article Open Access

Analysis of Trends in Acquired Immune Deficiency Syndrome (AIDS) and AIDS Related Conditions in Masvingo Province 2004-2009

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Citation: Pomerai K W (2018) Analysis of trends in Acquired Immune Deficiency Syndrome (AIDS) and AIDS related conditions in Masvingo province 2004-2009. J Aids Hiv Infec 4(1): 103

Received Date: January 09, 2018 **Accepted Date:** May 28, 2018 **Published Date:** May 30, 2018

Abstract

Introduction: Globally 42 million adults and children are estimated to be living with HIV/AIDS of which 22 million of these cases are in Sub Sahara Africa. In Zimbabwe 1.6 million adults aged 15 years and above are living with HIV/ AIDS and in Masvingo Province HIV/AIDS is ranked 2nd on the top ten causes of OPD attendance.

Materials and methods: A descriptive study based on secondary data analysis was conducted in Masvingo Province for the period 2004-2009.

Results: Incidence of AIDS and AIDS related conditions in Masvingo Province has been rising. The lowest Incidence was in 2007. The burden of HIV/AIDS was higher in females than males. The most affected age group was the 30-49 years. Pneumonia was the leading opportunistic infection followed by TB and Kaposi sarcoma. The proportion of TB patients who were co infected with HIV was 81% in 2008.

Discussion: The increase in HIV/AIDS new cases might be attributed to the VCT and PITC programmes in the province or misdiagnosis by clinicians. The year 2008 had the least cases of AIDS may be because the public was not seeking medical attention due to lack of money, shortage of drugs and sundries. Females are more affected may be because of more contact with health facilities at ante and post natal care visits and also their better health seeking behaviour.

Keywords: AIDS; AIDS related condition; Trends; Masvingo province

Introduction

According to World Health Organisation(WHO) expanded case definition for AIDS surveillance, an AIDS patient is a adult or adolescent older than twelve years who tested positive to an HIV antibody test, and one or more of the following conditions are present; ≥% body weight loss or cachexia, with diarrhoea or fever or both, intermitted or constant, for at least one month not known to be due to a condition unrelated to HIV infection, cryptococcal meningitis, pulmonary or extra pulmonary tuberculosis, Kaposi sarcoma, neurological impairment that is sufficient to prevent daily activities, not known to be due to HIV infection(for example , trauma, or cerebrovascular accident), candidiasis of the oesophagus, (which may be presumptive diagnosis based on presence of oral candidiasis accompanied by dysphagia), clinically diagnosed life-threatening or recurrent episodes of pneumonia, with or without aetiological confirmation and invasive cervical cancer [1].

Globally 42 million adults and children are estimated to be living with HIV/AIDS [2]. In sub Saharan Africa 22 million adults and 12 million women, and 1.8million children were living with HIV/AIDS, in the year 2008. During the year 2008 1.4 million African died of IDS and around 14.1 million children lost one or both parents to AIDS and an estimated 1.8 million children are living with HIV [3,4]. In 2005 1.6 million adults aged 15 years and above were living with HIV/ AIDS in Zimbabwe of which 930 000 were women aged 14 years and above. Zimbabwe has a generalized HIV/AIDS epidemic with HIV transmitted primarily through heterosexual contact and mother-to-child transmission. High risk groups, including migrant labourers, people in prostitution, girls involved in intergenerational sexual relationships, discordant couples, and members of the uniformed services warrant special attention in the fight against HIV/AIDS. Young adults and women are hardest hit by the epidemic [5].

Females are more at risk of contracting HIV than males. In 1997, women accounted for 41% of people living with HIV worldwide. This figure had risen to almost 50% by 2002. This gender-bias is especially apparent in sub-Saharan Africa, where the majority of those infected are women and girls. Widespread wars and regional conflicts in Africa escalate, by orders of magnitude, the risk of rape of women and girls. The low social status of women, risky sexual practices, and endemic poverty in Africa contribute to the spread of the disease. The impact on women is less marked in Asia (where 28% of those infected are women), although women's low socio-economic status renders them more susceptible to infection. Women's increased vulnerability to HIV infection is not confined to developing countries. Between 2001 and 2003, the percentage of HIV-infected who are women increased in North America from 20% to 25%, and in Oceania from 17% to 19%, suggesting that gender inequalities underpin the transmission of HIV [4]. The impact of HIV mortality is greatest on people in their 20's and 30's; this severely distorts the shape of the population pyramid in affected societies. Projections indicate that mortality rates will increase: The UN predicts that, in seven selected countries in sub-Saharan Africa, 14 million AIDS-related deaths will occur between 1995 and 2025 UNAIDS projections indicate that, unless the AIDS response is greatly increased, populations in 38 African countries will decrease by 14% by 2025 [4] .

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People suffering from AIDS have low immunity against infection and are prone to various infections called opportunistic infection, for example TB, Pneumonia, and Kaposi sarcoma(KS) and cryptococcal meningitis(CM) [1]. In AIDS patients, Kaposi's sarcoma is considered an opportunistic infection, a disease that is able to gain a foothold in the body because the immune system has been weakened. With the rise of HIV/AIDS in Africa were KSHV is widespread, KS has become the most frequently reported cancer in some countries, such as Zimbabwe [7]. Globally as of 1993 the WHO declared TB a global emergency in recognition of the growing importance of TB as a public health problem. About one third of the world's population is infected with M. Tuberculosis. About 1 million cases of TB were reported in 2004 and 1.5 million died of TB in the same year which accounts to 25% of all avoidable deaths in developing countries. WHO African region has 11% of the world's population but contributed a quarter of the total notified TB cases in the world More than 34 African countries have TB prevalence of at least 300 cases per 100 000 of the population as compared to less than15 per 10 000 of the population in developed countries. Ninety five percent of TB cases and 98% of TB deaths occur in developing countries. In 2003 Zimbabwe recorded 57117 cases of TB, an incidence of 413 cases per 100 000 of the population compared to 97/100 000 in 1990. This overwhelming resurgence of TB is attributed to the onset of AIDS pandemic which has been devastating in Zimbabwe and other Sub Sahara African countries [8]. In Masvingo province AIDS is 3rd top cause of morbidity [9].

In Zimbabwe AIDS surveillance is done through the T5 system where all patients who were tested for HIV are recorded at clinic level (paper based) and then sent to district level were the data is consolidated in to a district T5(computer based) by the health information assistant which will then be sent to the provincial office were all district T5s are consolidated in a single computer bases T5 report that is sent to head office electronically at the end of each month.

AIDS related conditions are 2nd top cause of morbidity in Masvingo province. AIDS is a major public health problem in Africa and many lives and suffering has been experienced. Zimbabwe's HIV prevalence if dropping and currently is at 13.6 %. The objectives ofthe study were; to describe the demographic characteristic of patients by person, place and time from 2004-2009, to quantify the burden of AIDS and AIDS related condition in Masvingo province from 2004-2009, to analyse trends in AIDS and AIDS related conditions by year in Masvingo province 2004-2009, to asses co infection of TB and HIV from 2004-2009

Materials and Methodology

A descriptive cross sectional study was carried out based on secondary data analysis at Masvingo Provincial Medical Directorate's (PMD) Office.

Data Collection

Review of secondary data from the computer based T5 programme was done from the PMD office to gather data on AIDS, TB, KS, and pneumonia.

Data analysis

Microsoft excel was used to generate, frequencies, tables and graphs.

Results

As shown in figure 1 attached, females were more affected by AIDS as compared to males except for 2004 when the cases were equal. The incidence of AIDS cases was below 10/1000 population from 2004 to 2007 but started rising sharply from 2007 to 2009. The most affected age group was the 30-49 years age group and the least affected was the 5-15 years age group throughout the review period as illustrated in figure 2 attached.

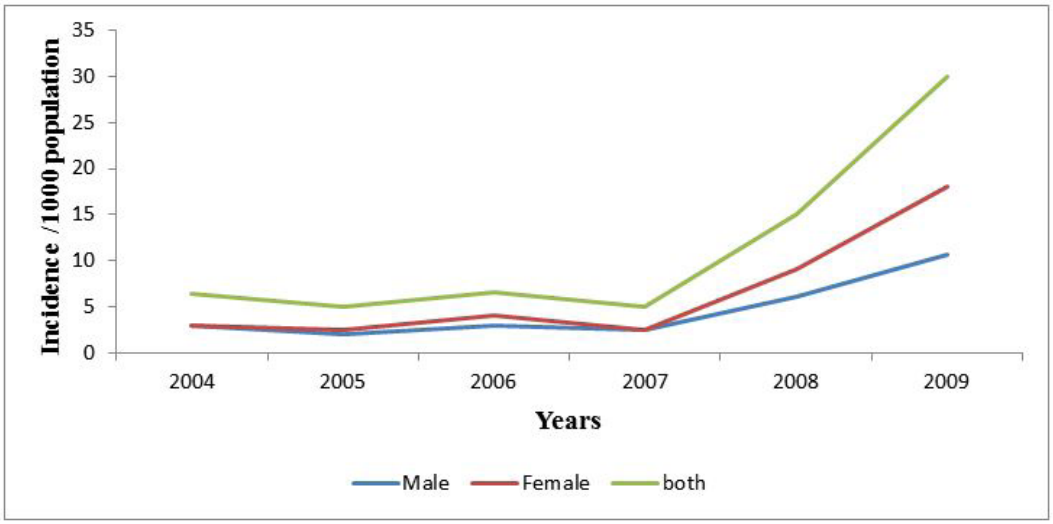

Figure 1: Incidence of AIDS cases by sex/1 000, Masvingo Province 2004-2009

Pneumonia was the most common presenting opportunistic infection in Masvingo Province followed by TB and Kaposi Sarcoma in the period 2004- 2009. The trend of incident pneumonia cases was almost constant and above 16000/100 000 population from 2004 to 2007 then fell sharply to below 2000/ 100 000 population in 2008 followed by a sharp increase in 2009. The trends of both Kaposi Sarcoma and TB incident cases remained constantly below 2000/100 000 population throughout the review period the trend is illustrated by figure 3 attached. As shown by figure 4 the district with the highest incidence of AIDS was Zaka and the lowest incidence was in Chivi.

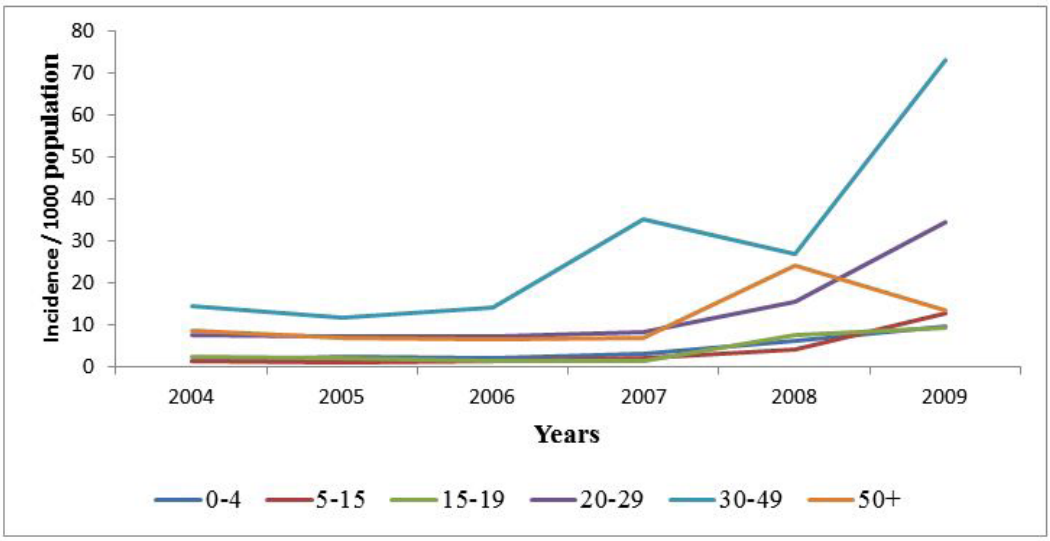

Figure 2 : Incidence of AIDS by age group, Masvingo Province, 2004-2009

In Bikita district pneumonia had the highest incidence followed by TB and KS throughout the review period. There was a sharp decline in incident Pneumonia cases in 2008 which was followed by a sharp increase in 2009. TB and Kaposi sarcoma incident cases remained constant and below 5000/100 000 in the district throughout this period. In Chiredzi Pneumonia had the highest incidence followed by TB and then lastly KS The incidence of pneumonia cases showed an undulating trend for the period under review with the lowest incidence being reported in 2006.

Pneumonia had the highest incidences in Chivi followed by TB and lastly KS throughout the review period. There was a decrease in the incidence of the all OIs in Chivi in 2008 followed by a sharp rise in 2009.In Masvingo district pneumonia had the highest incidence followed by TB and lastly KS. There was a sharp decrease in incidence of cases in 2008 and a sharp rise in 2009.In Mwenezi district pneumonia had the highest incidence followed by TB and lastly KS. There was a sharp decrease in incidence in 2008 and a sharp rise in 2009.

Eighty one percent of TB patients were HIV positive in 2008 which was the only year for which this data was available in the province. Zaka district had the highest burden constituting 29427(32%) of all AIDS cases and the least affected was Chivi with 1142(1.25%) cases. More females 101085 (59%) were affected than males 40999 (40.6%).

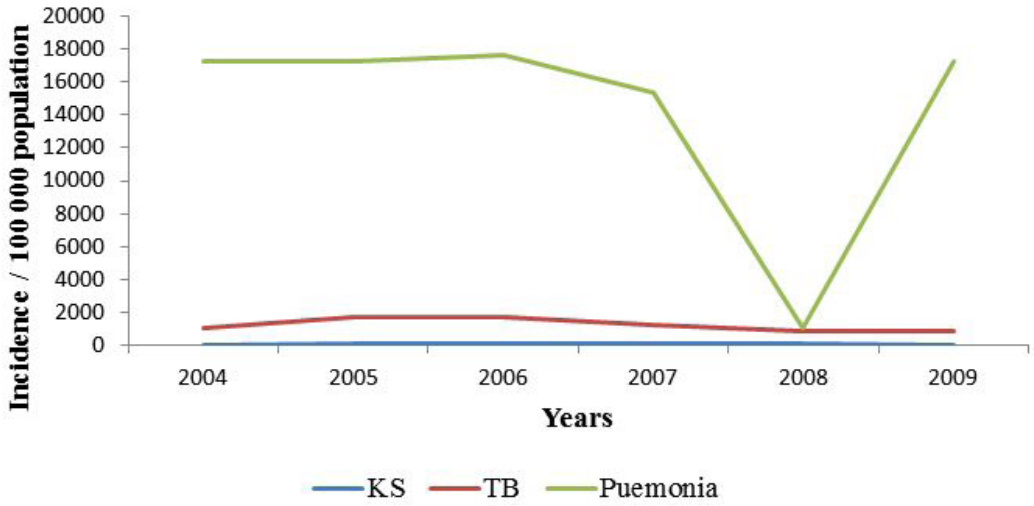

Figure 3: Graph 3: Trends of Opportunistic Infections incidences In Masvingo Province 2004-2009

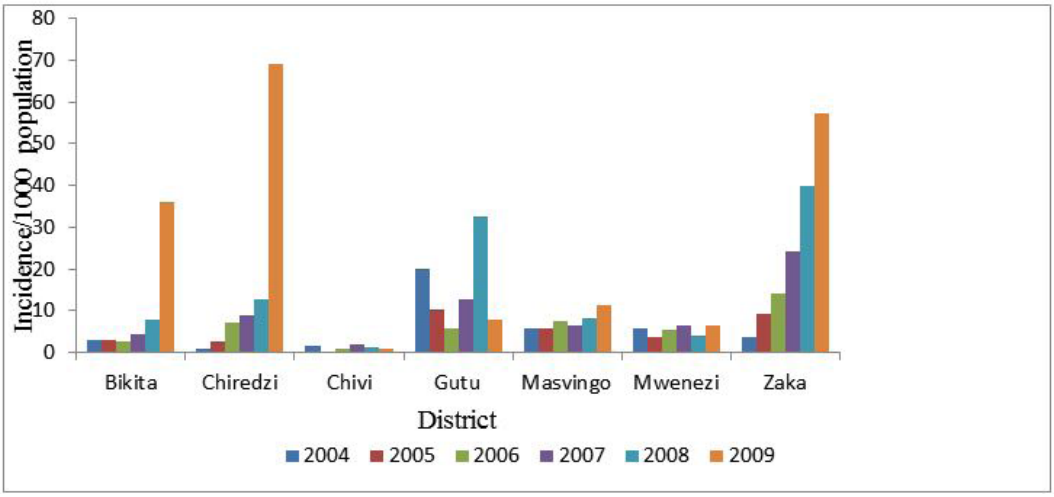

Figure 4: Incidence of AIDS by district, Masvingo Province, 2004-2009

Discussion

The incidence of AIDS in Masvingo province is on the rise with the highest incidence in 2009 of 30/ 1000 population. Similar findings were reported by Busumani et al in a study of trends in AIDS in Zimbabwe where they reported an increase in number of new AIDs cases in Zimbabwe [10]. This may be due to increase in uptake of voluntary counselling and testing (VCT) by people of Masvingo province since the home based care programme was offering food and drugs and building toilets for people living with HIV/AIDS. On the other hand this rise in AIDS cases maybe due to risky sexual behaviours [5]. In addition to those clinicians especially the newly trained nurses might not have adequate knowledge of diagnosing AIDs and may end up recording any HIV infected patients as HIV, this will then give a wrong picture of what is on the ground. More females (59%) were infected by HIV compared to 41% males. Similar findings were reported by Hoosen et al where they found out that more than 50% of AIDS patients in Africa were women [11]. This could be due to the fact that women are vulnerable and do not have power to negotiate for condom use with their partners or they may be forced to have sex with men for money, women have more contact with the health centre due to reproductive health programmes like antennal care clinic visits and post natal care visits as well their health seeking behaviour is better than males [4]. This means there should be intervention strategies that specifically target women as they are vulnerable and more affected by the AIDS pandemic. There is need for empowering women and health educating the women on safe sex and prevention of HIV infection, behaviour change strategies that are in place need to be strengthened in rural areas where most women are not educated and therefore more vulnerable.

The 30-49 years age group is the most affected by AIDS [4]. This maybe due to the fact that this is a time when most people are independent and may be using alcohol thereby loosing self control and indulging in risky sexual behaviour and may get infected. This age group is the economically productive age group and there is need for them to be healthy and be productive for the nation hence effective intervention strategies like behaviour change has to be strengthened if we are to save this age group. However children who are not yet sexually active were also infected with HIV as they may have been infected during pregnancy, labour

and breast feeding. These findings are also supported by UNAIDS [12,13]. There is therefore a need for intervention that is cross cutting for all ages as most interventions are targeting the 15 to 29 years age group.

Pneumonia was the opportunistic infection(OI) with the highest incidence in Masvingo province during the period under review [1]. This may be due to the fact that in most cases X ray machines are not working in the district hospitals or there is power cuts and no chest X rays are taken of patients and the clinicians rely on symptomatic diagnosis and this may lead to a false burden that might not be even existing . Pneumonia carries a high mortality rate in immune compromised patients [14,15]. Severe pneumonia caused by Pneumocystis Jiroveci is an early indicator of HIV/AIDS that prompts for HIV testing [16]. TB was the other second OI second to pneumonia with incidence rate of 700/ 100 000, such high incidence may be attributed to HIV/AIDS pandemic devastating Zimbabwe and the Sub Saharan continent [8]. The study also revealed that in 2008 81% of TB patients were HIV positive. These findings are supported by Wallace et al who reported that HIV/AIDs is the most important recognised risk factor for progression from latent to active TB [14]. KS was the third and it had the lowest incidence. These findings support the fact that KS is a significant OI [17]. This was the trend in all districts where we found out that pneumonia was the leading OI followed by TB and lastly KS. However in 2008 there was a sharp decline in incidence of AIDS and OIs this may be due to the difficulties the public health delivery system was facing such as industrial action, lack of staff [18] and stationery, drugs, and transport as well as consumables to test patients for HIV. The decrese in AIDS and OIs may be due to poor access of ART by patients in the province as less than 50% of deserving patients not being on ART and at times drug stock outs may lead to defaulting especially in 2008 when there was the peak of the economic hardships [9]. This decline suddenly ended in 2009 and there was a sharp rise in incidence of AIDS and OIs this may be attributed to availability of staff, stationery, consumables(rapid HIV test kits), improved VCT and ART outreach programmes.

Zaka was the most affected district by AIDS, this may be due to the fact that majority of the population are polygamists and prostitution is rampant. In addition there are two big hospitals in the small district and this high number of cases maybe due to their optimally performing VCT and outreach programme while Chivi was the least affected district in the province this could be due to the effect of the behaviour change intervention programme that they have in the district and also the fact that there is only one hospital in the district and patients may opt to go to the neighbouring districts Mwenezi and Neshuro.

The National Aids Council and the Ministry of Health have the condom distribution programme in which 26.5 million condoms have been distributed in the province between 2007 and 2009 and the health education and promotion programme on HIV/AIDs has done 87336 mobilisation sessions [9]. This shows that a lot of activities are being done on the ground and still more need to be done if we are to curb the HIV/AIDS pandemic. However private hospitals do not take part in the HIV/AIDS surveillance and most patients who have medical aid schemes get medical attention from these institutions, this will lead to under reporting of the true burden of AIDs in the province. In conclusion Incidence of HIV/AIDS and its related conditions are rising in Masvingo province, women are more infected by HIV/AIDS than males, the most affected age group was 30-49 years and Zaka is the most affected district while Chivi is the least affected district. The year 2008 had the lowest cases of AIDS [19]. Pneumonia is the OI with the highest incidence followed by TB and lastly KS. Private health care facilities do not take part in the T5 based HIV/AIDS surveillance system. And therefore recommend; Director AIDS and TB - To provide a data collection tool that will be used to collect data for Cryptococcal Meningitis, Provincial TB and Leprosy coordinator to ensure that data on TB HIV co infection is collected on the cohort analysis every year, PMD to encourage improvement of the PMTCT and VCT programmes, PMD to ensure involvement of private institutions in the HIV/AIDS surveillance system, PMD/PEDCO to improve access of ARVs to eligible patients.

Study limitations

Data on Cryptococcal meningitis was not available as well as data on TB/ HIV co infection for other years except 2008.

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