Status of HIV/AIDS Over Ten Years in Iraq (2010-2019)

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Abstract

Despite advances, HIV/AIDS remains one of the world's most significant health and socio-economic problems. To highlight the status situation of the HIV/AIDS in Iraq for the last ten years (2010-2019).A retrospective study of available data on new HIV cases records covering the period from 2010 to 2019. This study was conducted in Iraq from July 2018 to December 2019. We collected these data from HIV/AIDS Center in Baghdad. All the cases are diagnosed through case history, clinical examination and laboratory investigations. The cumulative annual number of new HIV cases covering the period from 2010 to 2019 was 539 cases. The trend of annual number of the cases increased with time (2010-2019). All cases are adults. The majority of new HIV cases are males (83.5%) and alive (90.2%). Sexual activity contributed the main mode of HIV transmission (74.6%) especially heterosexuals.

Keywords: *HIV/AIDS, Toxicity; Status, Trend, Iraq.*

Introduction

Despite advances, HIV/AIDS remains one of the world's most significant health and socio-economic problems, particularly in low and middle-income countries including Iraq.[1]

WHO estimated that in 2018, there were about thirty eight million people living with HIV in the world. Of these two millions new HIV infections, one million AIDS-related deaths, twenty three million people were accessing antiretroviral therapy (ART), there were 36 million adults (18 million women and 16 million men) and 2 million children. Globally, in 2018, new HIV infections have been reduced by 16% since 2010 and HIV-related deaths decreased by 45% due to ART and the great efforts of national HIV/AIDS programme.[2-4] In 2014, the United Nations on HIV/AIDS (UNAIDS) declared for achieving "95-95-95" targets for ending HIV/AIDS epidemic at the end of 2030.[5-6]

In Middle East region, although the overall HIV prevalence is still low (<0.1%), but increasing in the annual number of newly identified HIV cases by 28% from 2010-2018, put this region at the top among the different regions of WHO in growing of HIV epidemic and this may be attributed to variation of socio-economic and health system.[1,7-8]

Since the detection of the first case of HIV in 1980s, Iraq is considered a country with a low HIV prevalence in general population (<0.1%) and of a low epidemic level of HIV/AIDS. In 2014, WHO and MOH/Iraq declared that our country will be free from the illness (zero) when new HIV cases were identified in 2012,[9-10]but with time we noticed many new HIV cases were detected which not correspond to the efforts of the MOH in co-ordination and corporation with WHO.

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All data regarding HIV/AIDS are under strict of governmental restriction. There is no published research studying the epidemiology of HIV/AIDS in Iraq except one covering the period from 1986-2005. [11]However, epidemiologic data are essential to plan intervention strategies and make them more successful. Therefore such data are needed to highlight the general epidemiological status and trend of the newly identified HIV/AIDS cases in Iraq for the last ten years (2010-2019).

Materials and Method

A retrospective study of available data on newly identified Iraqi HIV cases records covering the period from 2010-2019. This study was conducted in Iraq from the period of July 2018 to December 2019. An annual number of newly identified HIV cases had been registered at the Iraqi National AIDS Program Center (INAPC) for the last ten years (2010- 2019). All cases were identified according to WHO Case definition of HIV infections through comprehensive medical history, physical examination and laboratory investigations including virologic and serologic testing represented by anti-HIV antibodies which is essential to support the clinical assessment in identification of HIV. Physical examination was used as a tool for classifying the different stages of HIV infections into asymptomatic, mild symptoms, advanced and severe symptoms.[12-13]

Testing for HIV infection is available in all governmental and non-governmental hospitals and incertain private clinics and labs. HIV infection was diagnosed initially by using ELISA test as screening test, if the test is positive twice time, it should be send to Western blot for confirmation, if it is also positive, it should be send for Polymerase Chain Reaction (PCR) for viral load. Flow-cytometry CD4 count is used to complete follow up of the cases with ART which is free of charge, but it is not available in some Iraqi governorates, and then follow up is recommended by PCR every six months. All these tests are available in Central Health Laboratory in Baghdad/Iraq and also free of charge. All confirmed positive cases are registered and notified to governmental health authorities and through regional HIV/AIDS coordinators to the National HIV/ AIDS Program Center.

Data collection was obtained from the records of new HIV case including age, sex, occupation, residence and province, social behavior, educational level, socio-economic status, history of possible routes of HIV transmission regarding type of sexual activity, intravenous drug injection, frequent blood transfusions, surgeries, dental operations, history of prisons, nature of sexual partners, history of condom using and history of ART.

Identification of HIV infections is based on taking mandatory HIV testing for certain groups: suspected HIV patients, contacts of sero-positive persons, blood and organ donation, imprisonment, couples who are planning to marry before marriage, travelers, staff in certain occupations, voluntary testers, illegal drug users, as well as people who have been discovered accidentally when subjected to HIV testing before undergoing surgery or performing major dental operations.

Ethical approval and permission to conduct this work was obtained from Ethical Approval Committee of Al-Anbar University in 23/February/2018, NO.24.

Statistical analysis of available data was performed using Statistical Package for Social Sciences (SPPS) Version 22. For case description; frequencies and percentages were represented in the form of tables and figures. Significance of association between various epidemiological variables was assessed using Chi-square test or Yate's Corrected test. A P-value ≤ 0.05 level of significance was used as the criterion for determining statistical significance.

Results

A total of 539 new HIV Iraqi cases were recorded at the INAPC during the period from 2010 to 2019, of which, 486 cases are alive and the rest were dead. Their ages ranged from 16-68 years with a mean age 36.8 years. The bulk of the new HIV cases are males (83.5%). There is significant difference between both sexes ($P<0.0021$) (Figure 1 and table 1).

The current results show increasing in the trend of annual number of new HIV Iraqi cases (total and alive) year by year from 2010 to 2019. The distribution of the cases was ten (1.8%) in 2010, 29 (5.4%) in 2015, reaching to 157 cases (29.1%) in 2019, giving an annual HIV infection growth rate of 14.7%. The difference in the distribution of annual number of new HIV cases was statistically significant ($P<0.0001$) (Table 1 and Figure 2).

The distribution of HIV cases has upward trend among both sexes across the last ten years of diagnosis. (Table 1). This difference was also statistically of significance (P< 0.0021).Figure 2 shows the annual AIDS-related deaths in Iraq during the period 2010-2019. The trend of the annual number of HIV-related deaths has been static (stable) for the last ten years and the annual HIV-related deaths grow at an average of 5.3%.

Table (2) shows that sexuality represents the commonest route of HIV transmission among the new HIV Iraqi cases (74.6%).Blood donation and illegal drug using accounted for 5.2%, and 0.2%, respectively; while none specify accounted 20%, this difference was also of significance (P<0.0001). The bulk of the new HIV cases reported heterosexuals in 85.1%, while 12.2% and 2.7% of the cases reported bisexuals and homosexuals, respectively, with statistically of significant (P<0.0001). (Table 2).

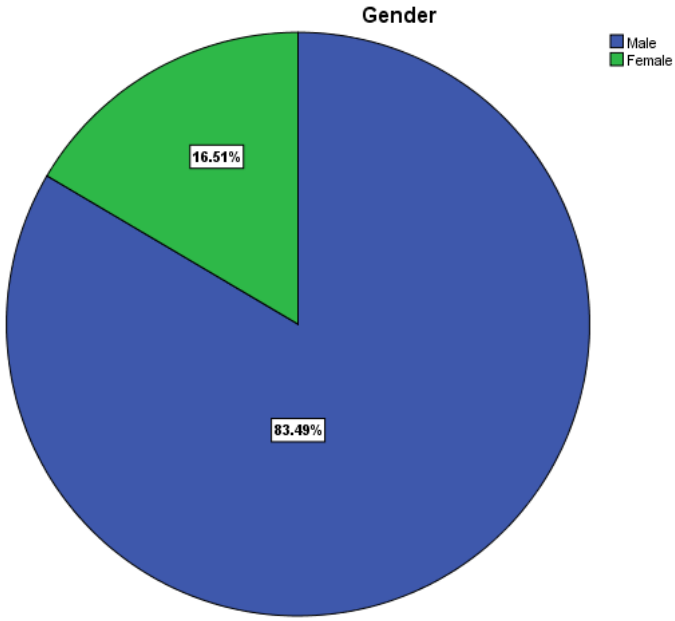

Figure 1: Distribution of annual number of new HIV Iraqi cases from 2010 - 2019, according to gender.

Table 1: Distribution of annual number of new HIV Iraqi cases from 2010–2019 according to gender.

Years of diagnosis	Gender				Total No. %	
	Male No. % Total cases (539)		Female No. % Total HIV cases (539)			
2010	8	1.5	2	0.4	10	1.8
2011	7	1.3	4	0.8	11	2.0
2012	12	2.2	1	0.2	13	2.4
2013	18	3.3	4	0.8	22	4.0
2014	16	2.9	6	1.1	22	4.0
2015	22	4.1	7	1.3	29	5.4
2016	48	8.9	7	1.3	55	10.4
2017	85	15.7	11	2.0	96	17.5
2018	102	18.9	22	4.1	124	33.4
2019	132	24.5	25	4.6	157	29.1
Total	450	83.5	89	16.5	539	100.0
Test used	$X^2 = 25.8693$ DF = 9 P- value = 0.0021				$X^2 = 471.482$ DF = 9 P-value = 0.0001	

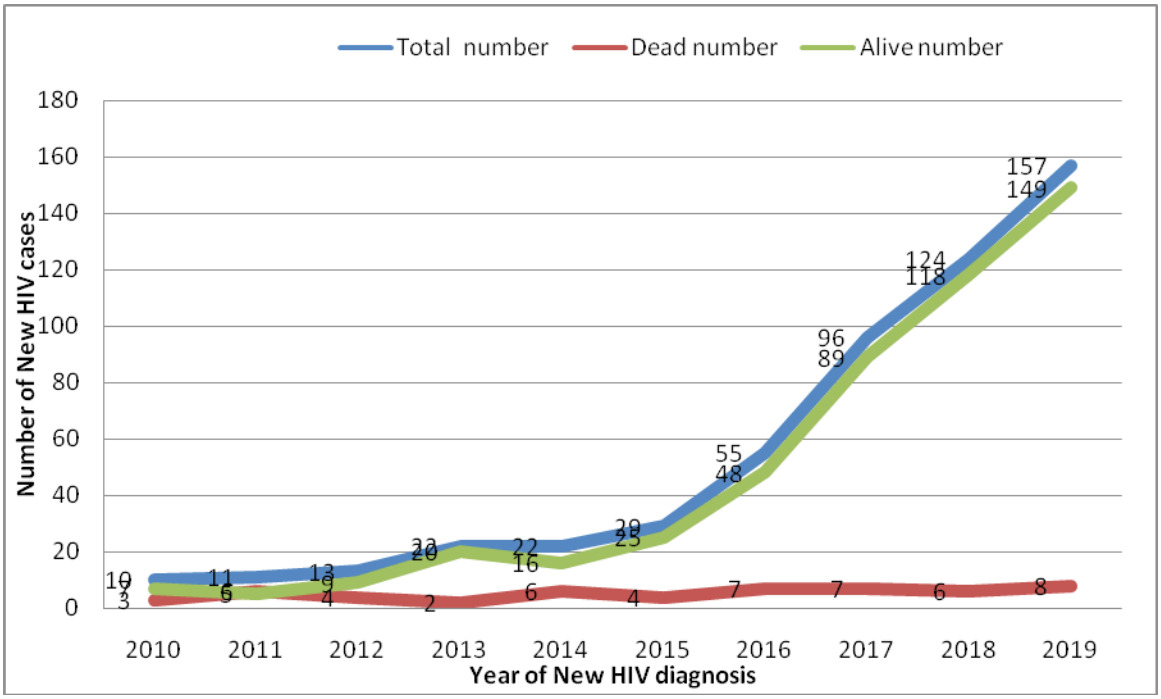

Figure 2: Distribution of annual number of new HIV Iraqi cases (total, alive and AIDS-related deaths) from 2010-2019.

Table 2: Possible routes of HIV transmission among new HIV Iraqi cases from 2010-2019.

Route of transmission	Total HIV cases (539) No. %	Test used
Sexual practice: Heterosexual Bisexual Homosexual	402 74.6 342 85.1 49 12.2 11 2.7	X^2 = 489.6864 DF = 2 P-value = 0.0001
Blood transfusion	28 5.2	
Illegal drug injection	1 0.2	
None specify	108 20.0	
Total	**539 100**	
	X^2 =752.673 DF = 3 P-value = 0.0001	

Discussion

Approximately,the Iraq population is 39,585,950 million, which ranks 36th in the world, with an annual population growth rate of >2%.[14] Iraq has previously been considered protective from HIV because of dominant conservative socio-cultural norms concerning behavior habits.[15]

In this study, a total number of new HIV Iraqi cases registered during the last ten years (2010-2019), is double than that reported in the same country from 1986 to 2005[11]. Thus, trend in the annual number of new HIV cases shows a progressive increasing with time and grew with an average rate of 14.7% per year. Our findings are consistent to other studies conducted in the MENA countries; meanwhile, globally, the rate was declined globally by 16% from 2010-2018.[16-19]

These findings indicate that HIV infection is endemic in Iraq and may lead to an epidemic if there is no implementation of proper and effective national plan on HIV infections. Our findings reflect a combination

of HIV patients seeking for ART which is free or from suspected HIV infection or through routinely HIV testing for certain groups and also reflects the effectiveness and activities in implementation of Iraqi National HIV/ AIDS Program through performing more routinely HIV testing, counselling services; and could be the result of more acceptability and voluntary seeking of testing among Iraqi people; the more liberal life of Iraqi people after 2010 may participate in the increasing the risk of HIV transmission.

Fortunately, although the number of new HIV illness is increasing with time in Iraq, the prevalence of HIV infections still remains low (<0.1%), and incidence below 3/100,000. This may be related to the religious factor that plays directly on the socio-cultural behaviors of the people living in MENA countries. However, Iraq like other countries in the MENA region that despite of low HIV prevalence, it is considered of increasing concern.[7,16]

In the present study, sexual practices become responsible for the majority of the new HIV Iraqi cases (74.6%), largely through heterosexuals (85.1%), while blood donation was declined to 5.2%, when it was the main route of HIV transmission in the same country during the period from 1986 to 2005 (84.6%).[11] These results are consistent to others.[8,16,22]. The introduction of blood screening for HBsAg and prohibition of drug abuse by public authorities in our country contributed for reducing the risk of HIV infections, but after 2010,increasing free liberal life,drug addicts and illegal sex outside the country through their travel, living abroad as refugees in many countries, all these factors collectively may increase risk of exposure to HIV.

There are some limitations in this study leading to underestimation of the true number of new HIV/ AID cases in Iraq. Registration of data obtained in Iraq are mainly dependent on the activity of National HIV Center which depends on the Central Health Laboratory in Baghdad and other Iraqi governorates, while there are many new HIV cases diagnosed and treated outside this center and/or outside the country while they are living in Iraq. Available data on recorded new HIV cases obtained by routine surveillance does not represent the actual situation. Data collection obtained concerning sexual behavior and illegal drug injections as routes of HIV transmission are more sensitive issues, because of social stigma, so many cases reported none specify (unknown causes) which lead to information bias. There are many HIV cases not recorded because of social stigma and discrimination for both sexes but mainly for women. Another limitation is unavailability of flow cytometry CD4 count in some governorates due to the political instability especially after 2014, which acts as a barrier for studying viral load during ART courses.

Conclusion

Iraq still remains an area of low HIV prevalence although the trend of cumulative annual number of new HIV cases increased with time and this may lead to an epidemic/endemic. The trend of annual number of HIV-related deaths has been static for the last ten years. Most of the cases are alive and youth. The epidemiology of HIV illness has been changed with time, sexual behavior, and marital statuses are common among the HIV cases). More work is needed for HIV testing as passive and active HIV surveillance and preventive measures for the people especially the high risk groups.

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