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## PLHAs in Kerala: An overview

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### Abstract

In India, the scenario of HIV infection has changed considerably since the first HIV/AIDS case was identified in Tamil Nadu in 1986. Various reports indicate that the prevalence of HIV in India has declined after a continuous increase till 2007. In general, most of the Indian states, including Kerala, showed a declining trend in HIV prevalence after 2007. At the end of 2017, HIV prevalence is higher among men than women, with 0.25% of men and 0.19% of women living with HIV. It is also reported that 79% of people living with HIV were aware of their status, of whom 71% were on antiretroviral treatment (ART). The main objectives of the study are

- Study the socio demographic characteristics of PLHAs
- Study the different routes of transmission of HIV
- Identify those who are at more risk
- Evaluate the services rendered by ICTCs
- Identify problems faced by the PLHAs, if any

Secondary data provided by KSACS, keeping all personal identities confidential have been taken for the analysis.

There were 1161 new cases reported in 2019-20. The district with highest diagnosed case of HIV positives during 2019-20 is Thiruvananthapuram with 208 cases, which comes to 18% to the total cases. Among the reported cases, 99.3% have diagnosed with HIV-I infection and only 0.70% have HIV-II infection. Most of the respondents received the infection through heterosexual-casual/non-commercial/non regular partners. Main route of transmission of HIV is heterosexual-casual/non-commercial, non-regular partners irrespective of nature of their occupation. Route of transmission of 63.13% of the female PLHAs is heterosexual contact from regular partners/spouses but the route of transmission of 45% of male PLHAs is Heterosexual contact from Casual/non-commercial/non-regular partners.

HIV counselling and testing services are a key entry point for the prevention of HIV infection, and to treatment and care of people who are infected with HIV. There are 150 ICTC Centres in Kerala which are attached mainly to Government Health Facilities. Among 1161 cases, 49.20% of the references to ICTCs are from Government Health Facilities. It is understood that 14.4% of the PLHAs are in a critical stage with AIDS i.e. in Stage IV. It must be noted that responsibility of ICTC centres are very high in preventing/ controlling the spread of HIV infection. Cases are very few in some centres and in some ICTCs it is on the higher side. It is observed that activities of ICTC centres need to be fine tuned to attain its objective in a best possible manner. This study has evaluated these aspects also and has given some suggestion to improve its effectiveness.

**Keywords:** Antiretroviral treatment (ART), Heterosexual, Homosexual, PLHAs, Intergrated Counselling and Testing Centres (ICTC), HIV, AIDS

### Introduction

Acquired Immunodeficiency Syndrome (AIDS) is a medical condition caused by the human immunodeficiency virus (HIV). HIV infection is a threat, which can easily be termed as a curse upon the human race. The scientific community first noticed and recognized the presence of AIDS as an actual disease following an increase in the incidence of very rare opportunistic infections and cancers among humans. HIV makes human body vulnerable to other infections and diseases. (Adnan Bashir Bhatti, etal 2016) <sup>[2]</sup>. AIDS is the late stage of HIV infection that occurs when the body's immune system is badly damaged, if the virus is not treated properly. HIV/AIDS has a large impact on society, both in the form of as an illness and as a reason of discrimination. Situation is really panic in western countries because chances are high in sexual relationships or sharing needles with someone who has HIV.

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rituals have been contributing to the Indian culture. Now system has been changing when people started adopting western culture.

Initially HIV prevalence produced great fear and panic in the population. Absence of effective treatments and baseless thoughts due to lack of proper awareness were the basis of attitudes towards HIV patients. Now, with the advent of Antiretroviral Therapy (ART), it is possible to manage HIV. Adherence to ART helps to keep the viral load under control and prolong the time of progression to AIDS, resulting in near normal life expectancy. However, prevalence of HIV has increased across the world even after the invention of ART. This could be either the decreasing fear or lack of proper observance adopted for ART.

The earliest known case of infection with HIV-1 in a human has been reported to be detected in a blood sample collected in 1959 from a man in Kinshasa, Democratic Republic of the Congo even though source of the disease was not known. After many decades the virus slowly developed and started affecting the normal life of human beings.

Till 2014, there were approximately five million infected individuals reported from Asia and the Pacific. Of which 3,40,000 were new cases reported during 2014 itself of which 78% were from China, Indonesia, and India. Till that time number of deaths reported in Asia and the Pacific were about 240,000. HIV infection has varied evidently between the developed and developing countries, depending on the socio-cultural characteristics and behavioural patterns.

According to UNAIDS, in 2018, 379 lakhs people were living with HIV in the world of which 17 lakhs were children less than age 15 and till then 7.70 lakhs people died due to HIV related illness. During the period, there were 21 lakhs people in India with HIV, which includes pregnant women and children. By the time, according to Global information and education on HIV and AIDS, India had become the third largest HIV epidemic country in the world, with 2.1 million people living with HIV.

In India, the scenario of HIV infection has changed considerably since the first HIV/AIDS case was identified in Tamil Nadu in 1986. Various reports indicate that the prevalence of HIV in India has declined after a continuous increase till 2007. In general, most of the Indian states, including Kerala, showed a declining trend in HIV prevalence after 2007. At the end of 2017, it is reported that 79% of people living with HIV were aware of their status, of which 71% were on Antiretroviral Treatment (ART). It is reported that India's epidemic is concentrated among key affected populations, including sex workers and men who have sex with men. The National AIDS Control Programme has made particular efforts to reach these two high-risk groups with HIV interventions. (<https://www.avert.org/professionals/hiv-around-world/asia-pacific/India>)

HIV infection, a very complex pathogenesis, varies substantially in different patients. Therefore, it can easily be considered as a very host-specific infection. The specificity of pathogenesis often complicates treatment options that are currently available for HIV infection. Effective management of HIV infection is possible using different combinations of available drugs. This method of treatment is collectively known as ART. Standard ART is comprised of a combination of at least three medicines termed as "Highly Active Antiretroviral Therapy" or HAART. Effective ART

often control the multiplication of HIV in infected patients and increases the count of CD4 cells, thus, prolonging the asymptomatic phase of infection, slowing the progression of the disease, and also helps in reducing the risk of transmission. (Adnan Bashir Bhatti, *et al.*, 2016) [2]

Several studies conducted in developed countries have failed to show a significant adverse effect of maternal HIV infection on pregnancy. It is reported that maternal HIV infection may result in transmission of HIV to her child as well as other adverse pregnancy outcomes such as stillbirth, low birth weight (LBW), prematurity and intrauterine growth retardation (IUGR), which is known risk factors for perinatal and neonatal mortality and morbidity, regardless of the transmission of HIV itself to the foetus/child. However, larger observational studies in Africa have advocated an association between maternal HIV infection and adverse pregnancy outcome. (Leroy *et al.* 1998) [6].

This study carries its own importance when Covid-19 become pandemic pulling down the entire life of whole world into a biological war front threatening the life to all specifically to those who are vulnerable to any kind of epidemics. People, who have low immunity, are always at risk in the absence of a remedy or preventive vaccine. Hence, utmost care needs to be given for HIV patients in strengthening their immunity power to keep away from any kind of life threatening diseases. When spread of Covid-19 has reached in 3<sup>rd</sup> stage, only government support would not be sufficing enough to support people in all segments. Fear and worry in the absence of medicine will make people panic and inhumane. No support can be expected even from nearby relatives. In this situation, how the support of a society can be expected, especially to a segment that otherwise faces discrimination due to its mode of transmission and the outcome. Therefore, prevailing setup instituted for HIV infected patients need to be functioned more effectively to support them to overcome the present unhealthy environment.

Although world has developed a lot in the area of creating awareness, providing medication and services etc., discrimination on HIV patients still exists in the society. But people always think that the disease is spreading through meeting or touching the infected people and this make them to keep away the infected people from the society. HIV related stigma refers to the negative beliefs, feelings, and attitudes, while discrimination is the unfair and unjust treatment of People Living with HIV/AIDS (PLHA). Discrimination can also affect families and friends, and those who care for people with HIV Stigma. Government missionaries were also put lot of efforts through visual aids to create awareness among the people to *get all* support for HIV infected people from the society. However, support of the society is very much required for backing-up HIV infected, when the pandemic is spreading across the country very quickly.

National AIDS Control Organization (NACO) was setup in India in 1992 with an object to mould India in a way that every person living with HIV/AIDS has access to quality care and is treated with dignity. Consequently, National AIDS Control Programme (NACP), launched in 1992 for prevention and control of HIV/AIDS in India. Over the time, the focus has shifted from raising awareness to behaviour change, from a national response to a more decentralized response and to increasing involvement of

NGOs and networks of PLHIV. In Kerala, Kerala State AIDS Control Society (KSACS), setup under the ambit of NACO, plays a pivotal role in combating the HIV/AIDS epidemic through implementing the National AIDS Control Programme (NACP) in the state.

The study on PLHAs is based on the detailed information collected from KSACS.

### Objectives

It is reported by various sources that the vulnerability of people with HIV getting infected is high among people with a low CD4 cell count, and people not on HIV treatment (Antiretroviral Therapy or ART). People with HIV are prone to COVID-19 viral infections based on their conditions and hence the need for making the system more effective is essential, when it is reported by various sources that Covid-19 will have a long term impact on the health system and economy. In this background, the objectives of this study are set as the following.

- Study the socio demographic characteristics of PLHAs
- Study the different routes of transmission of HIV
- Identify those who are at more risk
- Evaluate the services rendered by ICTCs
- Identify problems faced by the PLHAs, if any

### Data and Methodology

The infected people are collectively known as PLHAs ie People Living with HIV/ AIDS. Kerala State AIDS Control Society (KSACS), which is an organization setup under National AIDS Control Programme (NACP), Department of Health and Family Welfare, Government of India is the only source for information about the PLHAs. It is reported that around 91% of the cases are normally reported through 150 Stand Alone ICTC centres setup across Kerala. References to ICTC are done by Government hospitals namely PHCs, CHCs, DH, TH, private health facilities, Medical Colleges, TI NGOs, etc. Details of these PLHAs are available with KSACS. From the remaining 9%, some of them will be migrants and some will be lost to follow up and some will just disappear to avoid disclosure of their identity. Consequently the centres will lose contacts for further follow-up. According to KSACS, PLHAs detected in Kerala from 2002 to March 2019 comes to 34748. Meanwhile, in 2017, KSACS has designed a system for taking information about their PLHAs through PLHIV –ART Linkage System (PALS). However, complete details are available with KSACS about the PLHAs identified in 2019-20, which they have shared for the analysis. Hence, detailed analysis is being done on people referred to ICTC during 2019-20 with HIV/AIDS and therefore data used for the analysis are secondary in nature.

KSACS plays a pivotal role in the state's strategy in combating the HIV/AIDS epidemic. This autonomous society is registered under the Charitable Societies Act, with its executive members drawn from key government departments to ensure greater flexibility and for ensuring effective implementation of various programmes announced by Central and State Governments.

During 2019-20, 1161 PLHAs were detected in ICTCs and the available data covers the demographic characteristics of the clients and the actions initiated by the ICTC centres. Once they are detected in ICTC, these clients will undergo various tests and finally will be referred to ART centres for Anti-Retroviral Therapy/ treatment.

In this study efforts are put in to analyze the information qualitatively from the details received from KSACS and tried to know how these people got affected and to explore the actions initiated by the ICTC centres to support them to form part of this society reducing stigma and discriminations to the maximum possible.

### Analysis

In Kerala, HIV prevalence rate in the general population is 0.26 % in spite of the fact that it is surrounded by four high prevalent states. As per the statistics, the estimated number of people infected with HIV in Kerala is 55167. The route of HIV transmission in Kerala is heterosexual 82%, homosexual 2%, through injecting drug use 7.85%, mother to child 7%, through blood /blood products 1% and unspecified 5.5%. The adult HIV prevalence rate is 0.26%. The male to female ratio is 1.65: 1. The age of majority of infected individuals (84%) is between 25 to 49 yrs. So far, 24781 Persons Living with HIV/AIDS (PLHA) have been registered at ART centres and 20002 have been started on Antiretroviral Therapy (ART).

The HIV epidemic in Kerala is a concentrated epidemic with more than 7.6% of Injecting Drug Users (IDUs) infected and only 0.96% of Men having Sex with Men (MSM) and 0.87% Female Sex Workers (FSWs) being infected. Although HIV prevalence among SWs and MSM are under 1%, the prevalence among IDUs is more than 7% and in fact alarming. Current data suggest that the HIV epidemic in the state is largely confined to individuals with high-risk behavior and their sexual partners. (<http://ksacs.kerala.gov.in/index.php/events/28-programs-activities/ksacs-and-you/66-fact-figures>)

The total number of PLHAs reported in ICTC centres in Kerala is in a decreasing trend. Over all statistics also shows similar trend. Hence the cases reported through ICTCs can be considered as a sample size of total PLHA cases. Every year cases are decreased at an average rate of 5%. During 2015-16 the total PLHAs was 1446. This has come down to 1161 in 2019-20. The district with highest diagnosed case is Thiruvananthapuram with 208 cases, which comes to 18% to the total cases. Thrissur has also reported more cases compared to other districts. During 2017-18 and 2018-19, more cases were reported to ICTC centres in this District only.

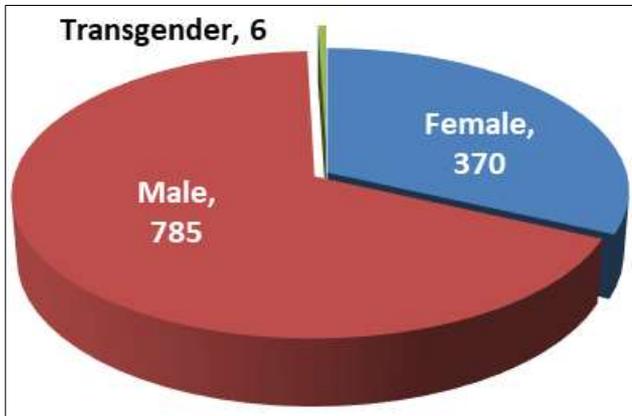
**Table 1:** Trends in number of PLHAs in Kerala during 2015-16 to 2019-20

District	2015-16	2016-17	2017-18	2018-19	2019-20
Thiruvananthapuram	285	227	193	194	208
Kollam	54	58	56	69	63
Pathanamthitta	27	43	31	32	34
Alappuzha	58	67	62	57	49
Kottayam	109	95	92	96	95
Idukki	21	33	31	19	28
Ernakulam	116	129	114	121	138
Thrissur	246	216	204	206	143
Palakkad	133	149	115	116	139
Malappuram	30	34	23	35	35
Kozhikode	212	191	168	146	117
Wayanad	14	21	8	15	10
Kannur	88	64	72	76	63
Kasaragod	53	48	55	32	39
Total	1446	1375	1224	1214	1161

**Demographic profile of HIV cases during 2019-20**

Among 1161 cases were reported through ICTC centres in Kerala during 2019-20, 67.6% (785 nos) are males, 31.9% (370 nos) are females and 6 transgenders.

Age wise distribution shows that 32.3% falls in the age group of 40-50 years and 27.2% belongs to 30-40 years and 19% belongs to the age group of 50-60 years. Only a negligible proportion (1.6%) belongs to the age group of upto 18 years. Two persons are of age above 80 years.



**Graph 1**

**Table 2: Sex and age wise classification**

Age	Gender			Total	
	Females	Males	Transgender	Nos	%
Upto 18	8	10	0	18	1.60
19-30	28	119	3	150	12.90
30-40	93	222	1	316	27.20
40-50	134	239	2	375	32.30
50-60	79	142	0	221	19.00
60-70	27	40	0	67	5.80
70-80	1	11	0	12	1.00
80+	0	2	0	2	0.20
Total	370	785	6	1161	100.00

**Table 3: Percentage distribution of respondents with respect to marital status**

Marital status	Nos	Percent
Married	693	59.7
Un-Married	228	19.6
Separated	93	8.0
Widowed	128	11.0
Divorced	19	1.6
Total	1161	100.0

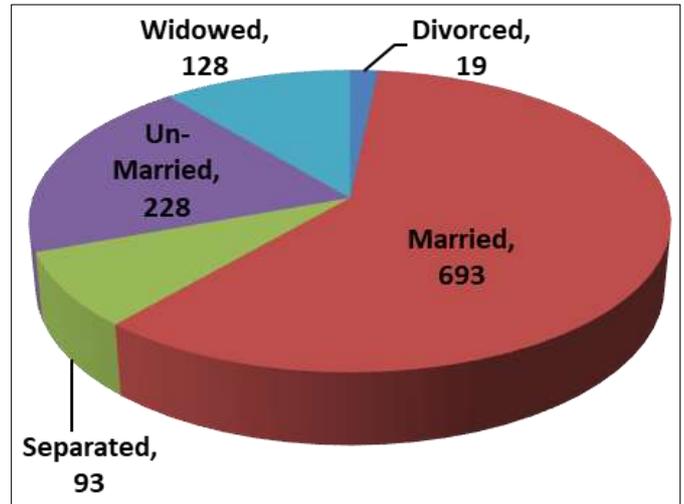
**Table 5: Percentage distribution of respondents with respect to Occupation**

Sl. No	Occupation	PHLAs	Percent
1	Non-Agricultural Labourer	297	25.60
2	Housewife	173	14.90
3	Service (Govt./Pvt.)	129	11.10
4	Unemployed / Retired	109	9.40
5	Skilled worker	87	7.50
6	Others	64	5.50
7	Semi-skilled worker	58	5.00
8	Petty business / Large business / Small shop / Self employed	53	4.60
9	Agricultural labourers	46	4.00
10	Local transport workers (auto driver, taxi driver, handcraft pullers)	40	3.40
11	Domestic servant	33	2.80

It may be noted that most of the infected persons are married and it comes to 59.7% of the total reported cases and 19.6% are unmarried. There are 93 separated participants in this study. Of the total sample population 11% are widowed and 1.6% is divorced.

**Educational background of the PLHAs**

It is observed that 37.3% PLHAs have completed secondary school level education and 29.9% have completed primary school education. Only 5.6% are illiterate and 15% have an educational qualification of college and above. This shows that education has no significance in line with HIV transmission.



**Graph 2**

**Table 4: Percentage distribution of respondents with respect to education**

Education	Female	Male	Trans-gender	Frequency	Percent
College and Above	39	134	1	174	15.0
Higher Secondary	37	104	1	142	12.2
Non Literate	36	29	-	65	5.6
Primary School	125	221	1	347	29.9
Secondary School	133	297	3	433	37.3
Total	370	785	6	1161	100.0

**Occupation wise distribution**

Sixteen types of occupations are reported. Among this, most of the PLHAs are non-agricultural labours and this comes to 25.6% of the total PLHAs, 14.9% are house wives and 11.1% are government or private employees. It is noted that 2.2% of PLHAs are students.

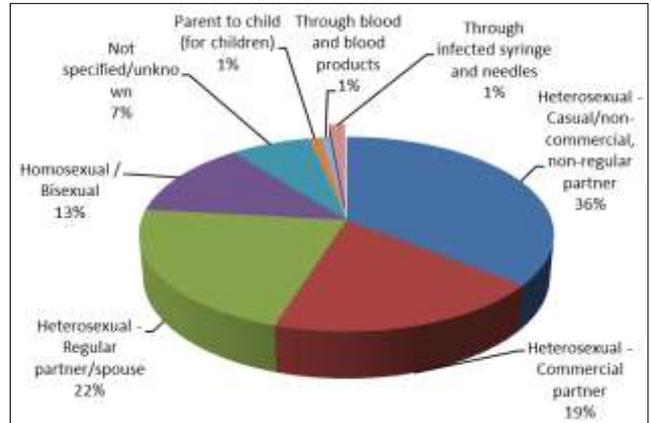
12	Student	25	2.20
13	Hotel staff	24	2.10
14	Truck Driver / Helper	18	1.60
15	Agricultural cultivator /landholder	4	0.30
16	House Husband	1	0.10
Total		1161	100.00

**Evaluation on type of HIV**

The human immunodeficiency virus is classified into two main types: HIV-I and HIV-II. HIV-I was discovered first and is more prevalent worldwide, while HIV-2 is less pathogenic and is mostly confined to West Africa. Among the reported cases 99.3% are diagnosed with HIV-I infection and only 0.7% have HIV-II infection.

**Table 6:** Percentage distribution of respondents with respect to Type of HIV

Sl. No	Type of HIV	Nos	Percent
1	HIV I	1153	99.3
2	HIV II	8	0.7
Total		1161	100.0



**Graph 3**

**Distribution on Route of Transmission**

It is observed that 35.7% of the PLHAs got infection through heterosexual contact from casual/non-commercial/non regular partners, 19.1% through heterosexual contact from commercial partners and 21.9% infected through heterosexual contact from regular partners. A small proportion of the respondents, i.e. children up to 18 years of age, received the infection from their parents.

**Table 7:** Percentage distribution of respondents with respect to Route of transmission

Sl. No	Route of transmission	Frequency	Percent
1	Heterosexual - Casual/non-commercial, non-regular partner	415	35.7
2	Heterosexual - Commercial partner	222	19.1
3	Heterosexual - Regular partner/spouse	254	21.9
4	Homosexual / Bisexual	148	12.7
5	Parent to child (for children)	12	1.0
6	Through blood and blood products	10	0.9
7	Through infected syringe and needles	17	1.5
8	Not specified/unknown	83	7.1
Total		1161	100.0

**Analysis on route of transmission based on occupation**

Mainly the route of transmission of HIV is through heterosexual-casual/non-commercial, non-regular partners irrespective of the nature of their occupation. Only the difference is seen among housewives. Among housewives the transmission is mainly through their regular partners/spouses only. Among students, which come to only 2.2% of the total cases, 24% got infected from their parents. The matter of concern is that 64% of them got infection through sexual contact. Various researches demonstrate that long distance truck drivers are at a higher risk of contracting HIV than the general population. However, here it is observed that out of the total cases only 1.60% are truck drivers and they got HIV infection through heterosexual-casual/non-commercial, non-regular partners and heterosexual /commercial partners. Since they travel long distance regularly they may get affected through sexual relation with unknown partners. This can be seen in these cases also, as most of the truck drivers got infection through sexual relation with non-commercial, non-regular partner. Details are in the table given below.

**Table 8:** Analysis on Route of transmission based on occupation

Occupation	Heterosexual - Casual/non-commercial, non-regular partner	Heterosexual - Commercial partner	Heterosexual - Regular partner/spouse	Homosexual / Bisexual	Parent to child	Through blood and blood products	Through infected syringe and needles	Not specified/unknown	Total
Non-Agricultural Labourer	111	87	31	39	-	3	5	21	297
Housewife	17	12	133	-	-	-	-	11	173
Service (Govt./Pvt.)	59	11	18	23	-	2	4	12	129
Unemployed / Retired	48	18	23	5	1	1	2	11	109
Skilled worker	42	11	7	19	-	1	2	5	87
Others	20	18	6	4	5	-	1	10	64
Semi-skilled worker	21	10	9	14	-	-	-	4	58
Petty business / Large business / Small shop / Self employed	21	15	3	12	-	1	-	1	53

Agricultural labourers	21	14	6	2	-	1	-	2	46
Local transport workers	25	7	-	6	-	1	1	-	40
Domestic servant	10	4	16	3	-	-	-	-	33
Student	1	2	-	13	6	-	1	2	25
Hotel staff	6	5	2	8	-	-	1	2	24
Truck Driver / Helper	11	7	-	-	-	-	-	-	18
Agricultural cultivator /landholder	2	1	-	-	-	-	-	1	4
House Husband	-	-	-	-	-	-	-	1	1
Total	415	222	254	148	12	10	17	83	1,161

### Analysis on Route of transmission based on age group

Route of transmission through heterosexual contact with non-regular partners was seen higher in almost all age groups except up to 18 years and above 80 years. It is a matter of concern that 22% of the children got infected through homosexual / bisexual and heterosexual contact with non-regular partners. Among PHLAs who were infected through Heterosexual - Casual/non-commercial, non-regular partner 84% falls under the age group of 31-60

years. Among those who were affected through Homosexual / Bisexual sexual contact 84% falls under the age group of 19-50 years. Among those who were affected through Heterosexual - Commercial partner, 60% are in the age group of 41-50 years. All these analysis shows that most of the cases are reported in the age group of 41-50 years. The occupation of PLHAs in the 41-50 age group may be seen in the table given below.

**Table 9:** Analysis on Route of transmission based on age group

Age Group (years)	Heterosexual - Casual/non-commercial, non-regular partner	Heterosexual - Commercial partner	Heterosexual - Regular partner/spouse	Homosexual / Bisexual	Parent to child	Through blood and blood products	Through infected syringe and needles	Not specified/unknown	Total
Up to 18	1	0	0	3	12	0	1	1	18
19-30	42	22	23	50	0	1	4	8	150
31-40	116	62	71	44	0	3	5	15	316
41-50	149	73	93	30	0	2	4	24	375
51-60	84	47	50	16	0	1	3	20	221
61-70	20	14	15	3	0	2	0	13	67
71-80	3	4	2	1	0	1	0	1	12
Above 80	0	0	0	1	0	0	0	1	2
Total	415	222	254	148	12	10	17	79	1161

The group need to be given more focus are Non-agricultural Labour, where non Keralites are also form part, in the age group of 31 – 50 for reducing the transmission of HIV.

**Table 10:** Analysis on Occupation based on age group

Age Group	up to 18	19-30	31-40	41-50	51-60	61-70	71-80	Above 80	Total
Agricultural cultivator /landholder	0	0	1	1	1	1	0	0	4
Agricultural labourers	0	0	13	20	9	4	0	0	46
Domestic servant	0	0	11	15	5	2	0	0	33
Hotel staff	1	2	8	6	6	1	0	0	24
House Husband	0	0	0	1	0	0	0	0	1
Housewife	0	8	45	61	44	10	0	0	173
Local transport workers (auto driver, taxidriver, handcraft pullers)	0	2	13	14	7	1	0	0	40
Non-Agricultural Labourer	1	10	100	103	49	14	0	2	297
Others	5	2	15	15	11	6	1	0	64
Petty business / Large business / Small shop / Self employed	0	4	17	17	14	0	0	0	53
Semi-skilled worker	0	8	12	23	8	1	0	0	58
Service (Govt./Pvt.)	0	6	32	40	24	4	1	0	129
Skilled worker	1	6	30	23	10	3	0	0	87
Student	9	26	0	0	0	0	0	0	25
Truck Driver / Helper	0	0	6	7	4	0	0	0	18
Unemployed / Retired	1	8	13	29	29	20	10	0	109
Total	18	82	316	375	221	67	12	2	1161

**Route of transmission based on gender**

The route of transmission of 63.13% of the female PLHAs is through heterosexual contact from their regular partners/spouses but the route of transmission of 45% of male PLHAs is through heterosexual contact from Casual/non-commercial/non-regular partners. All the 6 transgender got infected through homosexual/bisexual contact. Among 16.7% of the females the transmission is

through heterosexual contact from Casual/non-commercial/non-regular partners. A negligible proportion of both females and males (1.88% & 0.64%) and (0.27% & 1.15%) got infection from parent to child transmission and through blood and blood products. It is reported that 1.34% of females and 1.53% of males got infection through infected syringes and needles.

**Table 11:** Analysis on Route of transmission based on gender

Route of transmission	Female		Male		Transgender		Total	
	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
Heterosexual - Casual/non-commercial, non-regular partner	62	16.66%	353	44.97%	-	-	415	35.75%
	14.94%		85.06%				100.00%	
Heterosexual - Commercial partner	34	9.13%	188	23.95%	-	-	222	19.12%
	15.32%		84.68%				100.00%	
Heterosexual - Regular partner/spouse	235	63.13%	19	2.42%	-	-	254	21.88%
	92.52%		7.48%				100.00%	
Homosexual / Bisexual	0	0.00%	142	18.09%	6	100.00%	148	12.75%
			95.95%		4.05%		100.00%	
Not specified/unknown	26	6.99%	57	7.26%	-	-	83	7.15%
	31.33%		68.67%				100.00%	
Parent to child (for children)	7	1.88%	5	0.64%	-	-	12	1.03%
	58.33%		41.67%				100.00%	
Through blood and blood products	1	0.27%	9	1.15%	-	-	10	0.86%
	10.00%		90.00%				100.00%	
Through infected syringe and needles	5	1.34%	12	1.53%	-	-	17	1.46%
	29.41%		70.59%				100.00%	
Total	370	100.00%	785	100.00%	6	100.00%	1,161	100.00%
	31.87%		67.61%		0.52%		100.00%	

**Marital status and route of transmission of HIV**

As explained above, out of 1161 cases 693 cases are married. Among the married case, 274 cases (39.53%) are reported to be infected through heterosexual contact from casual/non-commercial, non-regular partners. Among these

91% are males. This has been followed by cases infected through heterosexual contact from regular partner/spouse, where in 90% are females. These figures indicating the probability that majority of females have got infection from their spouse, whom were infected from outside.

**Table 12:** Marital status and route of transmission of HIV

	Married		Un-Married			Separated		Widowed		Divorced	
	F	M	F	M	T	F	M	F	M	F	M
Heterosexual - Casual/non-commercial, non-regular partner	274		75			34		24		8	
	9%	91%	8%	92%	-	-	100%	-	100%	-	100%
Heterosexual - Commercial partner	137		37			30		11		7	
	12%	88%	5%	95%	-	43%	57%	18%	82%	-	100%
Heterosexual - Regular partner/spouse	153		1			15		82		3	
	90%	10%	-	100%	-	93%	7%	100%	-	33%	67%
Homosexual/Bisexual	66		77			5					
	-	100%	0%	92%	8%	-	100%				
Parent to child			12								
			58%	42%	-						
Through blood and blood products	7		1					2			
	-	100%	0%	100%	-			50%	50%		
Through infected syringe and needles	7		8			2					
	14%	86%	38%	63%	-	50%	50%				
Not specified/unknown	49		17			7		9		1	
	24%	76%	18%	82%	-	-	100%	-	100%	-	100%

**Age and sex-wise distribution on mode of transmission**

Heterosexual - Casual/non-commercial, Non-regular Partner : It may be noted that majority of the PLHAs falls under age group of 31-60 years irrespective of their marital status. Among which the highest percentage falls specifically under the age group of 41-50. The highest distribution is 103 married cases under the age group of 41-50. But among

widowed category more number of cases reported than males and they are also falls under the age group of 31-60. One case reported is under the age group less than 18, which is legally minor. This is a matter of concern and which clearly indicate the demand for creating awareness on the health aspects and social status of HIV patients from the school level itself.

**Table 13:** Age / Marital classification - Heterosexual – Casual / Non-commercial, Non-regular Partner

Age Group	Married		Un-Married			Separated		Widowed		Divorced		Total			Overall
	F	M	F	M	T	F	M	F	M	F	M	F	M	T	
Up to 18				1									1		1
19-30	1	12	1	26		1	1					3	39		42
31-40	6	68	1	27		1	6	3	1	1	2	12	104		116
41-50	10	93	3	12		4	10	10	3		4	27	122		149
51-60	8	60	1	2		4	4	2	2	1		16	68		84
61-70		13		1		1	2	3				4	16		20
71-80		3											3		3
Total	25	249	6	69		11	23	18	6	2	6	62	353		415
Over-all	274		75			34		24		8		415			

**Heterosexual - Commercial partner:** More than 96% of the cases are reported under the age group of 31-60 years. Of which, majority are in the age group of 31-50. Here also more cases are reported among the married. PLHAs are seen in all age group under married cases. Similarly cases are

reported among unmarried cases also, even though the numbers are much less compared to married cases. This shows that premarital counselling needs to be made compulsory irrespective of caste, covering the consequences of such diseases.

**Table 14:** Age/Marital classification - Heterosexual – Commercial Partner

Age Group	Married		Un-Married			Separated		Widowed		Divorced		Total			Overall
	F	M	F	M	T	F	M	F	M	F	M	F	M	T	
19-30	1	6		12		3						4	18		22
31-40	2	33	1	13		5	3	1	1		3	9	53		62
41-50	10	38		7		2	9		4		3	12	61		73
51-60	4	33		2		3	2	1	1		1	8	39		47
61-70		9	1				1		3			1	13		14
71-80		1		1			2						4		4
Total	17	120	2	35		13	17	2	9		7	34	188		222
Over-all	137		37			30		11		7		222			

**Heterosexual - regular partner/spouse:** As explained earlier, more cases reported are married females. Cases fall under the age category from 19 to 60 itself. This need to be read with infection through Heterosexual - Casual/non-commercial, non-regular partner cases where male cases are

more. In both cases age wise distribution is more similar respectively under female and male category. Similarly cases reported under 'widowed' are also females under the age group to 31 to 60 years.

**Table 15:** Age/Marital classification - Heterosexual – Regular partner / Spouse

Age Group	Married		Un-Married			Separated		Widowed		Divorced		Total			Overall
	F	M	F	M	T	F	M	F	M	F	M	F	M	T	
19-30	18	3		1		1						19	4		23
31-40	49	4				4	1	13				66	5		71
41-50	47	5				4		35		1	1	87	6		93
51-60	21	2				3		24				48	2		50
61-70	3	1				2		9				14	1		15
71-80								1			1	1	1		2
Total	138	15		1		14	1	82		1	2	235	19		254
Over-all	153		1			15		82		3		254			

**Homosexual /Bisexual:** In this category three cases are reported under the age group less than 18. This needs to be

addressed properly to avoid such cases in future. All other cases are males in the age group of 31-50.

**Table 16:** Age / Marital classification - Homosexual / Bisexual

Age Group	Married		Un-Married			Separated		Widowed		Divorced		Total			Overall
	F	M	F	M	T	F	M	F	M	F	M	F	M	T	
Upto 18				3									3		3
19-30		6		41	3								47	3	50
31-40		21		21	1		1						43	1	44
41-50		21		5	2		2						28	2	30
51-60		13		1			2						16		16
61-70		3											3		3
71-80		1											1		1
>80		1											1		1
Total		66		71	6		5						142	6	148
Over-all	66		71			5						148			

**Parent to child:** All cases falls under the age group upto 18 years. They are suffering and forced to lead an unhealthy

life. Strong external support required for them to live happily.

**Table 17:** Age / Marital classification - Parent to child

Age Group	Married		Un-Married			Separated		Widowed		Divorced		Total			Overall
	F	M	F	M	T	F	M	F	M	F	M	F	M	T	
Upto 18			7	5								7	5		12
Over-all			12									12			

**Through infected syringe and needles:** Here also, cases are distributed across all age groups. There is no significance in marital status. However, this area needs a

detailed analysis as the current system has already been equipped properly to use disposable syringes / needles in order to avoid such situations.

**Table 18:** Age / Marital classification - Through infected syringe and needles

Age Group	Married		Un-Married			Separated		Widowed		Divorced		Total			Overall
	F	M	F	M	T	F	M	F	M	F	M	F	M	T	
Upto 18			1									1			1
19-30				4									4		4
31-40		1	2	1					1			2	3		5
41-50		4											4		4
51-60	1	1				1						2	1		3
Total	1	6	3	5		1	1					5	12		17
Over-all	7		8			2						17			

### Integrated Counselling and Testing Centres (ICTC) / HIV Counselling and Testing Services (HCTS)

HCTS have been rapidly scaled up by National AIDS Control Organisation throughout the country both in Public and Private Sector institutions. To enhance access to HIV Counselling and Testing Services with, Integrated counselling and testing centres have been decentralised to the district, sub district and block levels through Stand Alone Integrated Counselling & Testing Centres (ICTCs), Public Private Partnership ICTCs (PPPs), Facility Integrated ICTCs (FICTCs), Mobile ICTCs & Community Based Screening Through Targeted Intervention Projects. ICTCs were started in India in 1997. The major functions of an ICTC are:

- Conducting HIV diagnostic tests.
- Providing basic information on the modes of HIV transmission, and promoting behavioural change to reduce vulnerability.
- Link people with other HIV prevention, care and treatment services.

An ICTC is located in facilities that serve specific categories such as high risk group, pregnant women, STI cases, TB Patients, HIV/ AIDS symptomatic patients. Accordingly, an ICTC is located in the General OPD or Obstetrics and Gynaecology Department of a medical college or a district hospital or in a maternity home, where the majority of clients can access counselling and testing services.

The planned outcome of the service of ICTC was to make the infected people to adopt a healthy lifestyle; access life-saving care and treatment and help prevent further transmission of HIV reducing the impact of social discrimination.

In accordance with the global vision to end AIDS as public health threat by 2030, India has moved ahead towards achieving the global 90:90:90 target by 2020. Scaling up of HCTS is a crucial step towards achieving the first 90, wherein, it is desired that 90% of the estimated PLHIV in the country know their HIV status. Achieving this is vital for the success of the subsequent 90:90 related to anti-

retroviral treatment and viral suppression. An ICTC does counselling as per the request of HIV patient or as advised by a medical provider. However, it is not the mandate of an ICTC to counsel and test everyone in the general population. The sub-populations that are more vulnerable or practice high risk behaviour or have higher HIV prevalence levels are the target group for counselling and testing services in the country. It is reported that when compared to the statistics during 2015-16, more than 29 million clients accessed counselling and testing services in the ICTC throughout the country.

HIV counselling and testing service is a key entry point to the prevention of HIV infection and for the treatment and to give care of people who are infected with HIV. When availing counselling and testing services, people can access accurate information about HIV prevention and care and undergo HIV test in a supportive and confidential environment. People who are found HIV negative are supported with information and counselling to reduce risks and remain HIV negative. People who are found HIV positive are provided psycho-social support and linked to treatment and care.

There are 150 Stand Alone ICTC Confirmatory Centres working under KSACS. ICTCs or Jyothis. The Jyothis centres are working in all government facilities like CHC, Medical colleges, Taluk Hospitals etc. One Counsellor, lab technician and one medical officer are providing services in ICTCs or Jyothis. In an ICTC an individual can come by him/her alone or with reference from a medical officer for counselling and testing. The individual who comes first to the centre is taken to the counsellor for pre-test counselling. During pre-test counselling the counsellor explains about the infection, the circumstances from where the infection can be spread, different ways of preventing this infection, explore the clients risk behaviour and the testing methodology etc. During this counselling, the counsellor will have to explain about the role and responsibility and how they maintain the details of clients confidentially. This is very much required to gain confidence of the client. This would help to get the personal details of the clients.

After this with the informed consent of the client, she/he is tested for HIV. In Jyothis, rapid test can be done which provides result very soon. Three tests are conducted in the Jyothis. If the first test conducted for a client becomes positive then immediately the other two tests are also done. Based on the results of the test only, the infection of HIV is considered as positive. If the HIV positivity is confirmed, the counsellor explains about HIV result and provides and post-test counselling. If the HIV test is negative and if the client is doubted to be in the window period, the counsellor will advise the client to repeat the test for HIV infection after two weeks. Presence of Human Immuno-deficiency Virus can be identified only after 3 months after the virus entered into a human body. This three month period is known as window period. If the client became HIV positive then the counsellor gives support and care to live and face the society. Slowly counsellor explains about the treatment and the ways from where he/she gets treatment. Also follow up counselling is given by the counsellor.

ICTCs have established linkages with other health care facilities to provide better care and support to individuals assessing ICTC. During 2019-20, referrals to ICTC are basically from 16 type facilities of which 49.20% are from Government Health Facilities. This is followed by 16.30% of clients who approached the ICTC centres directly without any external references. Private health facilities also referred 143 cases to the centre which comes to 12.30% of the total. However, there are no details to justify that all cases diagnosed in private hospitals are referred to the ICTC centres. It is reported that 91% of the new cases are referred to ICTC by these centres. 9% would not approach ICTC as they would like to keep it as a confidential matter. During 2019-20 more cases are reported at ICTC (VCTC), MCH, Thiruvananthapuram (153 nos) followed by ICTC, DH, Palakkad (89 cases) and ICTC(VCTC), MCH, Kozhikode.

**Table 19:** Percentage distribution of PLHAs with respect to the centres from where referrals are made during 2019-20

Sl. No	Referred by	PLHAs	Percent
1	Government Health Facilities	571	49.20
2	Client initiated	189	16.30
3	Private Health Facilities	143	12.30
4	TI NGO	48	4.10
5	ART Centers	45	3.90
6	Others	37	3.20
7	RNTCP	29	2.50
8	F-ICTC (Fixed/Mobile)	28	2.40
9	STI Clinics	15	1.30
10	Blood Bank	12	1.00
11	Care Support Centres	12	1.00
12	PPP-ICTC (Fixed/Mobile)	10	0.90
13	TI NGO / (FSW)	7	0.60
14	TI-ICTC	6	0.50
15	OBG/Maternity Homes	3	0.30
16	Non TI NGOs	2	0.20
17	Not known	4	0.30
<b>Total</b>		<b>1161</b>	<b>100.00</b>

Once the clients are detected positive, ICTC will send them to ART centres for clinical investigation and treatment, after evaluation of key health indicators including conducting of TB tests, Syphilis test and HIV test for their partners, wherever applicable. Syphilis is reported to be a really common STD. Syphilis sores provide an easy entry point

for HIV. HIV impairs the immune system in ways that make it easier for syphilis to take hold.

Tuberculosis is a serious health threat, especially for people living with HIV. TB is one of the leading causes of death among people living with HIV. Without treatment, HIV and TB can work together to shorten lifespan.

However, it is observed that out of 1161 cases, TB test conducted only for 37.8% cases and only 13.90% turned positive. Similarly, syphilis conducted only for 37.7% of the total cases and only 4.34% were turned positive. But the smaller percentage of positive cases can never be a decision factor conducting these tests in all cases, considering its complication over HIV infected patients.

**Table 20:** Details of TB and syphilis tests conducted among the new cases reported during 2019-20

Tests	Conducted	% to total cases	Positive cases	% against test conducted
TB	439	37.8	61	13.90%
Syphilis	438	37.7	19	4.34%

This analysis indirectly indicating that even if the prevalence rate against the actual tests conducted is considered as a normal ratio 100 more people would have been left with TB and 31 more cases would have been reported with syphilis. Since the tests are not conducted, treatment cannot be started and this would develop as a cause for their fatality.

It is also understood that evaluation of HIV in partners of infected married cases are also being done by ICTC. Analysis shows that among 683 married cases, prevalence of HIV in the partners is tested in 495 cases which come to 71.43%. Out of 495 cases 52.92% cases were found positive which comes to 262 numbers.

Detailed analysis shows that no tests were conducted among 329 cases referred to 76 ICTC centres, which come to 28.34% of which 225 cases are unmarried and hence partners test is not applicable to them. However, evaluation of TB and Syphilis were not conducted. All tests were conducted in 233 cases from 85 centres, which comes to 20.07% of total cases. In certain cases, either TB test is conducted or syphilis. These figures indicate that the centres are not following procedures systematically either on its absence or in the absence of review mechanism.

**Table 21:** Evaluation based on the tests conducted for the PLHAs

10	Tests	Cases		ICTC centres	
		Nos	%	Nos	%
1	TB, Syphilis, Partner Test	122	10.51%	46	36.22%
2	TB, Syphilis, Not applicable	111	9.56%	39	30.71%
3	TB, Partner Test	72	6.20%	25	19.69%
4	TB, Partner Test not applicable	69	5.94%	20	15.75%
5	TB, Syphilis	46	3.96%	19	14.96%
6	Syphilis, Partner Test not applicable	63	5.43%	28	22.05%
7	Syphilis, Partner Test	67	5.77%	32	25.20%
8	TB	19	1.64%	13	10.24%
9	Syphilis	29	2.50%	22	17.32%
10	Partner Test	234	20.16%	39	30.71%
11	Partner test not applicable	225	19.38%	45	35.43%
12	No test done	104	8.96%	31	24.41%
<b>Total</b>		<b>1161</b>	<b>100.00%</b>		

The need for good working procedures re-iterated when the severity of the HIV cases is analysed and grouped in to stages in line with evaluation of the infected patients based on WHO guidelines.

Later ICTC refers the patients to ART centres for treatment. District wise evaluation shows that in all districts all cases have not undergone all preliminary tests conducted by

ICTCs. More cases were reported in Thiruvananthapuram with 208 cases through 15 ICTCs. Among this only 22 cases were taken all tests when 92 cases were not taken any tests. This is being followed by Thrissur, Palakkad and Ernakulam and in all these districts complete tests conducted only for less than 11% cases. Against 1161 cases, these three tests are conducted only in 20% of cases

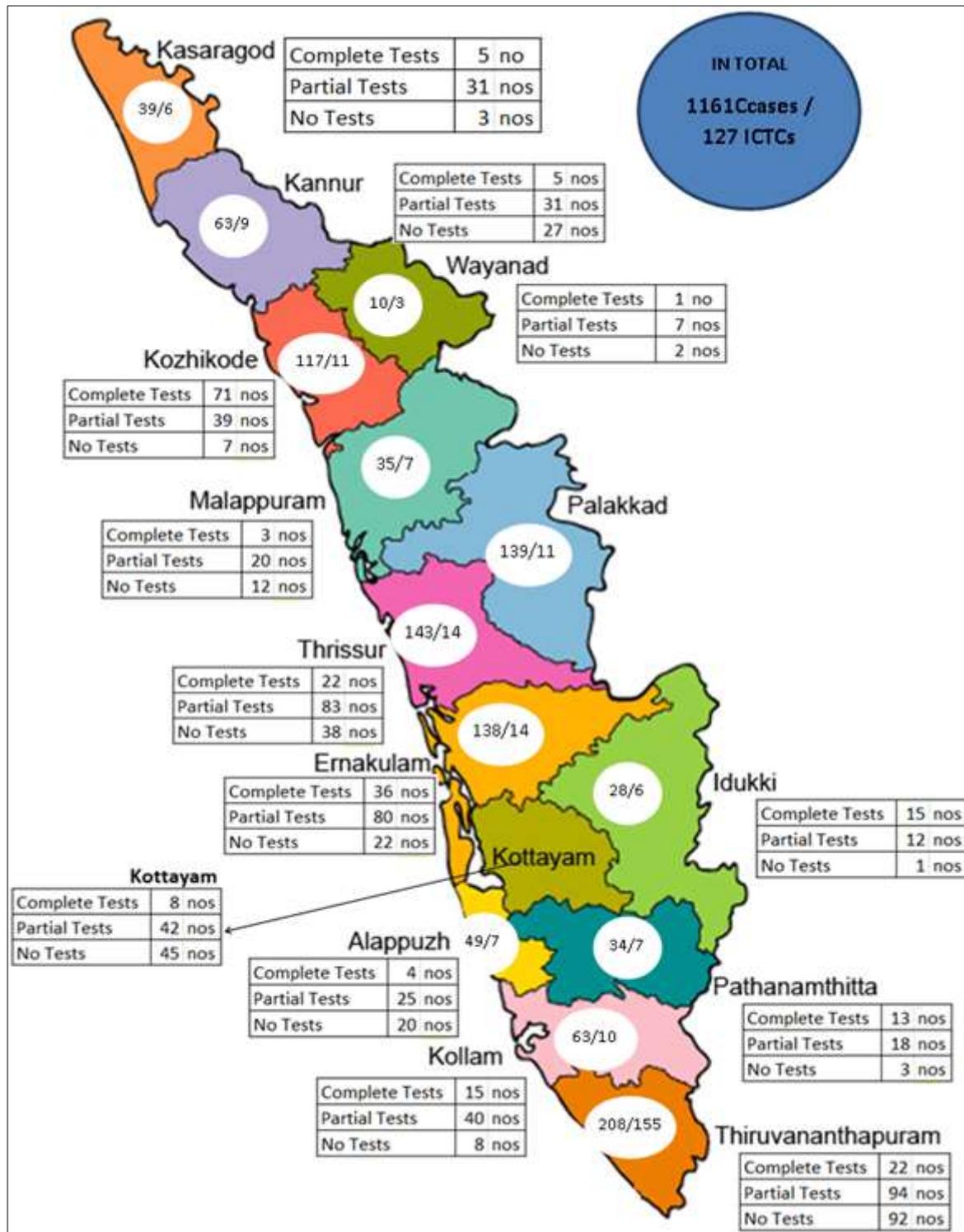


Fig 1: District wise data showing the number of cases per ICTCs

**Table 22:** District wise details of tests conducted by ICTC Centres

Districts→	TVM	KLM	PTA	ALP	KTM	IDK	EKM	TSR	PGT	MPM	KZD	KNR	WYD	KGD	Total
No of cases	208	63	34	49	95	28	138	143	139	35	117	63	10	39	1161
No of ICTCs	15	10	7	7	7	6	14	14	11	7	11	9	3	6	127
TB, Syphilis, Partner Test	14	7	6	1	2	8	11	8	7	3	47	3	1	4	122
TB, Syphilis, Partner test not applicable	8	8	7	3	6	7	25	14	6	0	24	2	0	1	111
Partner Test	75	4	5	14	35	2	9	23	45	6	3	12	0	1	234
Syphilis	1	3	4	0	1	2	3	5	2	1	3	3	0	1	29
Syphilis, Partner test not applicable	0	17	4	3	2	2	3	16	7	0	3	5	0	1	63
Syphilis, Partner Test	3	13	2	3	3	4	4	20	5	2	7	1	0	0	67
TB	4	0	0	1	0	0	5	1	0	1	1	3	0	3	19
TB, Partner test not applicable	5	2	0	2	0	0	24	8	4	3	5	4	3	9	69
TB, Partner Test	5	1	2	0	1	0	25	4	6	6	3	1	4	14	72
TB, Syphilis	1	0	1	2	0	2	7	6	8	1	14	2	0	2	46
Partner test not applicable	58	6	2	16	32	0	13	23	43	5	4	19	2	2	225
No Tests done	34	2	1	4	13	1	9	15	6	7	3	8	0	1	104
Complete tests	22	15	13	4	8	15	36	22	13	3	71	5	1	5	233
Partial tests	94	40	18	25	42	12	80	83	77	20	39	31	7	31	599
No Tests	92	8	3	20	45	1	22	38	49	12	7	27	2	3	329
% Against total															
a. Complete tests	11%	24%	38%	8%	8%	54%	26%	15%	9%	9%	61%	8%	10%	13%	20%
b. Partial Tests	45%	63%	53%	51%	44%	43%	58%	58%	55%	57%	33%	49%	70%	79%	52%
c. No tests	44%	13%	9%	41%	47%	4%	16%	27%	35%	34%	6%	43%	20%	8%	28%

Complete tests -> TB Tests, Syphilis Test and Partners Test

More than 10 cases were reported in 18 ICTC centres. The maximum cases reported are in ICTC (VCTC), MCH, Thiruvananthapuram ie.153 cases. As per the details available, this Centre has neither done TB test nor Syphilis test for any of these reported cases. Similarly, in the case of ICTC (VCTC), Department of Micro Biology Govt. MCH, Kottayam, where 79 cases were reported during 2019-20 and they have conducted only partner test for 68 and 35 cases respectively. Where as in the case of ICTC (VCTC), MCH, Kozhikkode, among 83 cases reported in 2019-20, all tests were conducted for more than 70% of the cases. They have done only partner test for 68 cases. Details of tests conducted by ICTC centres are attached as Annexure. However, all these cases were referred for ART and out of this more than 75% were registered at ART Centre.

### Clinical Stages of PLHAs and its severity

WHO has classified the HIV in four stages of HIV in line with how it progresses, how long it takes and the affect it

has on the individual depends on a number of factors for example, general health, lifestyle, diet etc.

**Stage 1:** (HIV infection): The clinical condition is normal with no symptoms. The CD4+ cell count is at least 500 cells per microliter.

**Stage 2:** (HIV infection): Minor symptoms. The CD4+ cell count is 350 to 499.

**Stage3:** (Advanced HIV disease, or AHD): Major symptoms and opportunistic diseases. The CD4+ cell count is 200 to 349.

**Stage 4:** (AIDS): AIDS. The CD4+ cell count is less than 200 or the percent of CD4+ cells is less than 15% of all lymphocytes.

(<https://www.uofmhealth.org/health-library/hw182771>)

ART Centre evaluates the client position based on the above, and classified into stages. According to this 918 cases reported during 2019-20 are classified into the four stages as explained below.

**Table 23:** Percentage distribution of respondents with respect to the WHO stages

WHO Stages	Cases in stages		Death reported	
	Number	% to total cases	Number	% to stages cases
Stage-I	467	40.2	10	2.14
Stage-II	153	13.2	6	3.92
Stage-III	131	11.3	12	9.16
Stage-IV	167	14.4	38	22.75
Not evaluated	243	20.9	22	9.05
Total	1161	100.0	88	7.58

According to them 40.2% of the positive cases referred during 2019-20 are in stage 1, which means that they are normal with no symptoms. But 13.2% comes under stage 2 which shows that they have some minor symptoms and 11.3% comes under stage 3 showing major symptoms and opportunistic diseases. Apart from this, it may be observed that 14.4% are in a critical stage with AIDS and are diagnosed in the 4<sup>th</sup> stage. It is also observed that 20.9% were not grouped in any of the stage based on their medical condition. This will be a concern, if the medications or the

approach for handling cases are decided based on stage wise classification.

Out of 1161, eighty eight patients died during 2019-20. Percentage of number of death against the number of cases indicates the severity of cases under stage wise classification. When 22.75% of PLHAs classified under Stage 4 died, 2.14% of PLHAs which comes under stage 1 also had to face the fatality. Of course, whatever be the number of death, the trends indicated that there is a need for stage wise classification because 9.05% of PLHAs who

were not classified under any of the stages also died during 2019-20. Since TB could be a factor for fatality, conduct of tests by ICTC need to be ensured before referring for ART

### Issues noted among PLHAs

Following issues were identified based on the discussion with the ICTC counsellors

- a. **Existence of HIV/AIDS-Related stigma and discrimination:** Although awareness played a major role in prevention of stigma and discrimination among people through advertisements, social media etc., people are still showing reluctance to accept the PLHAs or involving them in day to day activities. Fear of transmission through close association with the infected is another factor for keeping away from the PLHAs.
- b. **Disclosure:** It is a requirement that the PLHAs should disclose their identity to their spouses. But majority of the PLHAs did not want to disclose due to fear of discrimination from their family itself, wrangles that could popup in family circle etc. on hearing about the infection of a known sexually transmitted disease. But with the support from the ICTC counsellors some of them would be ready for the disclosure. However, majority of the PLHAs requests the counsellors not to disclose their identity to their children, family members and relatives.
- c. **Socioeconomic Issues:** The centres have arranged some initiatives for the upliftment of the PLHAs but majority of them did not want this as they are scared of being known by other people about their status.
- d. **Follow ups:** In most of the cases PLHAs show reluctance in visiting the ICTC for follow up evaluation and counselling. In such cases ICTC initiates follow up over telephone, but this would not be as effective as the interaction directly with PLHAs
- e. **Marriage:** The PLHAs want to get married but they did not want to reveal their status. But this cannot be agreed with considering possibility of transmission of infection.

It is reported that PLHAs consider wearing masks consequent to spread of Covid 19 as a blessing in disguise because mask has become very common and it will protect from revealing their identity without having a special notice. Based on the views and opinions of various groups involved in the study, the main problems of PLHA are: Ostracism, depression, anxiety, tendency to get revenge and lack of fear to infect others, frustration, social isolation, relationship problems, and fear due to the social stigma. Their psychological problems included: Marriage problems, family conflict, lack of family support, economic hardships inhibiting marriage, and social rejection of patient's families. Their family problems are: Unemployment, the need for housing, basic needs, homelessness, and lack of social support associations.

### Observations

- 1161 cases were reported in 2019-20, which comes around 91% of the estimated cases
- 67.6% are males, 31.9% are females and 6 are transgenders
- The district with highest diagnosed case of HIV positives during 2019-20 is Thiruvananthapuram with 208 cases, which comes to 18% to the total cases

- Most of the PLHAs are married and it comes to 59.7%
- Only 5.6% of the PLHAs are illiterate and 15% have an educational qualification of college and above.
- Occupation of most of the cases reported are non-agricultural labours, which comes to 25.6%
- Among the reported cases, 99.3% have diagnosed with HIV-I infection and only 0.7% have HIV-II infection
- 35.7% of the respondents received the infection through heterosexual-casual/non-commercial/non regular partners and 19.1% got the infection through heterosexual commercial partners and 21.9% got infection from heterosexual –regular partners.
- Main route of transmission of HIV is heterosexual-casual/non-commercial, non-regular partners irrespective of nature of their occupation
- One child got affected through heterosexual contact from casual/non-commercial, non-regular partner
- Route of transmission of 63.13% of the female PLHAs is heterosexual contact from regular partners/spouses but the route of transmission of 45% of male PLHAs is Heterosexual contact from Casual/non-commercial/non-regular partners.
- 49.20% of the references to ICTCs are from Government Health Facilities.
- 14.4% of the PLHAs are in a critical stage with AIDS ie. in Stage IV. Stage wise classification of 20% of the cases are either not available or not evaluated
- 11.8% of ICTC centres conducted all the three tests viz.a.viz TB test, syphilis test and partner test
- 7% of the PLHAs have not done any tests
- Out of 1161, 88 persons died, of which 43.18% were diagnosed under Stage IV
- 20% of the total cases are not classified in any stages

### Conclusion

HIV is continued to be a public health issue but do not have a vaccine or remedial medicine for complete recovery from its infection even though this has reported to be appeared before more than 4 decades. But this not a pandemic as is in the case of covid-19. Hence prevention is easier and effective and this is evident from the decreasing numbers of HIV prevalence. However, scope for making it more effective is observed on qualitative analysis of the details about the new cases reported during 2019-20.

It is reported that around 38 million people across the globe are infected with HIV. Systems are improved in such a way that more than 80% of these people are aware about their HIV status and it has planned to increase this percentage to 90% in line with WHO guidelines. In India, NACO plays a crucial role in curtailing the spread of AIDS and in Kerala, KSACS plays the vital and effective role for the management of infected patients. When a person is identified with HIV, the responsibility to inform the party is with ICTC centres setup for providing all possible support to the clients including counseling till they get referred to ART centres and after. This is very much required considering the possibility to pass the virus to others and to make them to accept the fact with its reality to ease the situation for further course of action including reference to ART centres.

Identification and focusing on psychological, social, and family problems of affected people is an important factor for disease prevention and control. It is a must that all ICTC

centres manned properly for ensuring its effective intervention. ICTC centres must ensure that the tests of all infected are conducted within a short span of time and evaluation of infection stage by the ART centres should also be ensured. There should have a more effective system to avoid loss of contact of the infected parties. It is a known fact that presence of virus in the blood can be identified in a human body only after a period of 3 months after the virus enters the body. Hence, more effective mechanisms to avoid transmission through blood and blood products needs to be explored. Infection in children through illegal activities should be viewed seriously. It is observed that possibilities are very high among adolescents in the context of various options available for getting exposure to sexual matters irrespective of gender difference. Considering all the above, it must be noted that responsibility of ICTC centres are very high in preventing controlling spread of HIV.

KSACS should evaluate and assess whether the prevailing system is appropriate for resolving the social, cultural and other issues of HIV patients from all segments and to explore all possible ways to widen the life span to the maximum. However, a little possible recommendation which could help to prevent the spread of virus a little more effectively is given below.

- Awareness should be given from the school classes onwards towards the aftereffects of heterosexual contact with -casual/non-commercial, non-regular partners
- Promote the use of condoms among people.
- Make the people aware about the consequences of using the used needles and syringes being a key factor in transmission of HIV and other infections
- Promote the use of “needle and syringe exchange programme” under various HIV related projects among IDUs
- Tests like TB, Syphilis and partner test for married cases should be made mandatory among the PLHAs
- Identification of the stage of the PLHAs should be done.
- Promote an enabling environment for the existence and survival of the PLHAs.
- Make premarital counselling compulsory irrespective of caste, covering the transmission routes and consequences of such diseases
- Awareness programmes may be conducted for non-agricultural labours where non Keralites also form part

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