Research Article
Volume 12:6, 2021

Journal of AIDS & Clinical Research

ISSN: 2155-6113 Open Access

Factors Associated with HIV Viral Load suppression Among Adults at HIV Care and Treatment Centers in Dodoma, Mtwara and Lindi Region, July 2018-June 2019

Ona Machangu*

Ministry of Health, Community Development for Gender, Elderly and Children, NACP, United Republic of Tanzania

Abstract

Despite the increase number of people living with HIV still there are limited information about the factors associated with viral load suppression among HIV+ individual enrolled into HIV care and treatment centers in Tanzania. Data reports that 87% of those who are living with HIV have attained viral suppression. However this is still low compare to the UNAIDS global targets that by 2020 of 90% on treatment must achieve viral suppression. Viral load remains a gold standard for assessing treatment outcome for those who are on treatment. In 2014 UNAIDS introduced 90-90-90 goal so as to combat HIV epidemic by 2020. First 90% know there status, second 90 accessing treatment and Third 90% viral suppression. The aim of this study was therefore to identify factors affecting viral load suppression among HIV+ adults attending care and treatment services in the regions. Crossectional analytical study conducted at Dodoma, Mtwara and Lindi regions in randomly selected health facilities. 459 participants who are on ART for atleast 12 months and 18+ years were recruited for the study. Structured questionnaire was used. Data was entered, cleaned and analyzed using EPI info 7.2.2.16. Odds ratio was used to establish association, 95% CI, and P value of 0.05 were used for statistically significance. A total of 459 study participants were enrolled. The prevalence of viral load suppression was 79%. Viral load suppression was found to be association with Satisfaction to care OR, 11.6 (95% CI: 1.2, 113.6) and Stigma level OR, 2.5 (95% CI: 1.03, 6.1) and found to be statistically significant. Majority of participants were female 165 (68.6%), married 185 (40.3%), with primary education 309 (67.3%) and 280 (61%) had small business or self-employed. Those younger than 35 years had a 70% reduced chance of having viral load suppression OR 0.7 (95% CI: 0.41 OR 1.18), gender OR 0.85 (95% CI: 0.5,1.35), marital status OR, 0.93 (95% CI: 0.59, 1.47), those with primary education level OR, 0.47, (95% CI: 0.22 OR 0.99), duration on ART OR, 0.46 (95%:0.15,1.42) disclosure status OR, 0.39 (95% CI: 0.15, 1.01)there were found to be associated with viral suppression but not statistically significant. Satisfaction with care and low level of stigma were associated with viral load suppression.

Keywords: Human immune deficiency virus • Stigma level • Viral load suppression

Abbreviations: HIV: Human Immunodeficiency Virus • AIDS: Acquired Immunodeficiency Syndrome • HVL: HIV Viral Load • HC: Health center • THIS: Tanzania Health Impact survey • WHO: World Health Organization • UNAIDS: United Nation for Aids • ARVs: Anti-Retroviral Drugs • VLS: Viral Load Suppression • ART: Antiretroviral Treatment

Introduction

Globally, it was estimated that by 2018 there would be 37.9 million people living with HIV of which 21.7 million would be receiving antiretroviral treatment. In Tanzania however, by the end of 2017 it was estimated that 1.5 million people were living with HIV and about 1.1 million have access to antiretroviral treatment [1]. In 2013 WHO recommended that viral load suppression to be one of the treatment outcome to all people living with HIV worldwide who are on antiretroviral treatment and they must achieve viral suppression of 90% [2].

Viral load refers to the number of viral particles found in the blood of an individual infected by the HIV. The more viral particles in the blood the more HIV in the blood, and the faster the CD4+ T-cells are likely to be destroyed and the faster the progression towards AIDS and the easier the transmission of the virus [3]. In 2016 the World Health Organization (WHO) introduced viral load monitoring as a gold standard for the follow up on treatment effectiveness [4]. Therefore, a WHO consolidated guidelines was produced on the use of antiretroviral drugs for treating and prevention of HIV infection, and this guideline defines a viral load threshold of less than 1000 copies per milliliter as a treatment success.

And in 2016, Tanzania through the Ministry of health at programmatic level adopted and developed the national guidelines that recommended that viral load testing be performed 6 months after the initiation of ART and repeated routinely once a year, as a key indicator of treatment success in HIV-positive individuals on ARVs in the effort to meet the third 90 of the UNAIDS 90-90-90 strategy which is 90% achievement of Viral Load Suppression [5]. Recent survey data on viral load suppression showed that about 87% of adults on ARVs aged 15 years and above are virally suppressed, However in adolescent and children viral load suppression remains a challenge as it has remained high [6].

There is a need for sustainable coverage of HIV testing, linkage, and retention in care and treatment. This requires strengthening the public health workforce to better collect, analyze, and report data on factors associated with each of the '90' targets. Thus the aim of this study was therefore to determine factors associated with HIV viral load suppression among HIV-positive adults on ARVs at HIV care facilities in order to inform decision maker on improvements in service delivery [6].

Materials and Methods

Study design and study area

This was a facility based cross-sectional analytical study conducted in

Address for Correspondence: Ona Machangu, Ministry of Health, Community Development for Gender, Elderly and Children, NACP, United Republic of Tanzania,Tel: +255754437009; E-mail: onamach@gmail.com

Received 07 May 2021; **Accepted** 08 June 2021; **Published** 15 June 2021

three regions.

Dodoma

- Dodoma MC (Makole H/C, Dodoma Regional Referral Hospital and Mirembe Hospital).

Mtwara

- Mtwara MC (Ligula Regional referral Hospital)
- Masasi DC (Ndanda Referral Hospital)
- Newala TC (Newala District Hospital)
- Nanyamba DC (Nanyamba H/C)

Lindi

- Lindi MC (Lindi Town Health Center)
- Lindi DC (Nyangao Council Designated Hospital)
- Kilwa DC (Tingi Health Center)
- Ruangwa DC (Ruangwa Hospital)
- Nachingwea DC ((Nachingwea District hospital)

Study population

The study population was HIV positive adults aged 18 years and older who have been enrolled in care and treatment attending CTC at respective facilities in the specified councils mentioned above for a period of not less than six months before the start of this study.

Sampling and sample size

Review of appointment register at CTC in each facility to identify eligible study participants who will attend clinic on the months of august 2019, and 30 eligible adults were identified by simple random sampling from each of the 15 facilities that were selected for the study.

Eligibility criteria

Inclusion and exclusion criteria

To be included in this study the participant must have met the following criteria:

- Aged 18 years and older
- Has been enrolled in care for at least 6 months by the start of recruitment (8th July 2019), and is not classified as defaulter, lost to follow up, or transferred to another facility
- Has at least one viral load test in the last 6 months
- Has at least one CD4 result test in the last 6 months, if no viral load result is available
- Able and willing to provide informed consent (at time of recruitment)

Outcome variables

Primary outcome variable was viral load suppression (viral load count of less than 1000 copies/mL.

Exposure variables

Exposure variables were Socio-demographic information, travel time, costs of travel, waiting time at the clinic, Satisfaction with care, HIV status disclosure, HIV stigma, Reasons for missed visits, Self-rated ART and adherence in the last month.

Data collection

At the selected care and treatment clinics, the appointment register was reviewed to identify HIV positive adults aged 18 years and older who are on ARVs and after an informed written consent, An interviewer administered structured questionnaire was used to collect information on social demographic information, travel time, travel costs, waiting time, Satisfaction with care, HIV status disclosure, HIV stigma, Self-rated ART adherence in the last 6 months. CD4 count and or viral load results obtained from medical records at clinics.

Data analysis

After data collection, data was entered, cleaned and analyzed using EPI INFO 7.2.2.16, continuous data were summarized by means and range while categorical data were summarized using frequency and proportions. In bivariate analysis, the association between viral load suppression and risk factors of interest was determined using Odds ratios, 95% Confidence Intervals and p-value of 0.05.

NB: *Merged data analysis was done from the data collected in all the facilities involved in the study.*

Ethical considerations

The study received a Non- Research Determination from the University of Washington with IRB ID: STUDY00000758, on December 15th 2016. In addition, Tanzania National Institute received ethical clearance for this work for Medical Research Ethical Committee, which represents the Tanzanian Ministry of Health Community Development, Gender, Elderly and Children (MOHCDGEC). There was minimal risk to the participants included in these HIV program evaluations. Patient data collected from routine HIV care records. No names were recorded and participants were assigned unique identifier number to maintain confidentiality, completed consent forms were stored in separate locked filing cabinets. All hard and soft copy files will be retained for 15 years, and then will be destroyed according to the NIMR regulations.

Results

Data collected at Makole H/C

A total of 30 adults who had been started on ART for more than 12 months were involved in this study. The mean age of the study participants was 41 years SD=11.3 among study participants 19 (63.3%) were females. With 76.7% of the study participants having primary education. All the study participants were on ART, all 30 (100%) had their viral load results and only 2 (6.6%) of the study participants had both VL and CD4 tests results available in the last 12 months.

Prevalence of viral load suppression

Among study participants with viral load results (within the last 12 month) only 17% had achieved viral load suppression of less than 1000 copies/ml. as indicated in the Figure 1 and Table 1.

Most of the study participants were 30 years or older 25 (83%). There was a higher proportion of females 19 (63%). 57% of the study participants were married, and 20 (66.7%) were Self-employed or had small business. Majority 12 (40%) reported to spend less than 30minutes to be seen by health care worker at Clinic (Figure 2).

Majority of the study participants 12 (40%) spent less than 2000Tshs to get to the clinic and back home; while another 12 (40%) spent more than 4000 Tshs. All participants 30 (100%) reported that they had disclosed their HIV status to another person beside the health staff. The median time that they had been on antiretroviral therapy (ART) was 5 years or more and majority 26 (87%) reported to be satisfied with HIV care received at the health facility (Figure 3 and Table 2).

Among the study participants those with 35 years of age and above were more likely to have viral load suppression compared to those below 35 years OR, 0.8 (95% CI: 0.70 - 8.52), however this was not statistically significant. Married individuals were more likely to have viral load suppression OR, 0.85 (95% CI: 0.12 - 5.99) than those who were not married but this was not statistically significant. There was no association between the level of education of the study participants OR, 1.0, (95% CI: 0.09 - 11.02) and viral

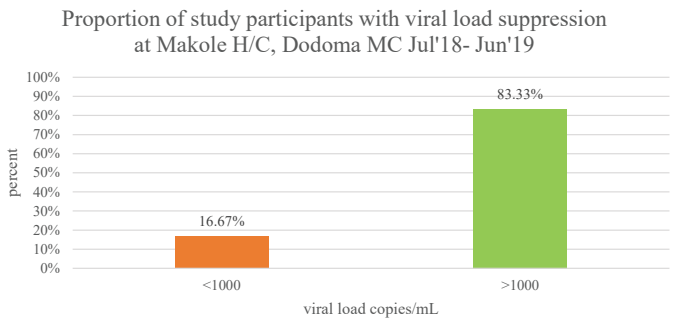

Figure 1. Proportion of viral load suppression among study participants receiving HIV care services at Makole Health Center at Dodoma Municipal July '18-June '19.

Table 1. Demographic, social, health and behavioral characteristics of study participants at Makole Urban H/C in Dodoma MC.

Variables	Number (n)	Percent (%)
Age (Years)		
18 – 27	3	10
28 - 37	7	23.3
38 – 47	13	43.3
48 - 57	4	13.3
58 – 67	3	10
Mean Age (years)		41.3 years, SD = 11.3
Gender		
Male	11	36.7
Female	19	63.3
Marital status		
Married	17	56.7
Single	10	33.3
Divorced/widowed	3	10
Cohabitating	-	-
Decline	-	-
Level of Education		
None	1	3.33
Primary	23	76.67
Secondary	5	16.67
College	1	3.33
Occupation		
Salaried job	5	16.67
Self-employed/small business	20	66.67
Unemployed	5	16.67
# of people in household		
01-Feb	4	13.33
03-Apr	9	30
5+	17	56.67
# of living children in household		
01-Feb	17	56.67
03-Apr	9	30
5+	4	13.33
Travel frequency		
Never	10	33.3
Once every few years	8	26.7
Once or twice every year	8	26.7
Monthly	3	10
Weekly	1	3.3
Duration away from home		
<1 week	7	35
1-4 Weeks	10	50
>4 weeks	3	15
Duration to get to clinic		
< 1 hr	10	33.3
1-2 hrs	17	56.7
>2 hrs	3	10
Waiting duration for HIV Care		
<30 mins	12	40
30 min-1 hr	10	33.3
>1 hr	8	26.7
Money spent to get to clinic		
<2000	12	40
2000-4000	6	20
>4000	12	40
Duration on ART		
<1 year	5	16.7
1-2 years	7	23.3
3+ years	18	60

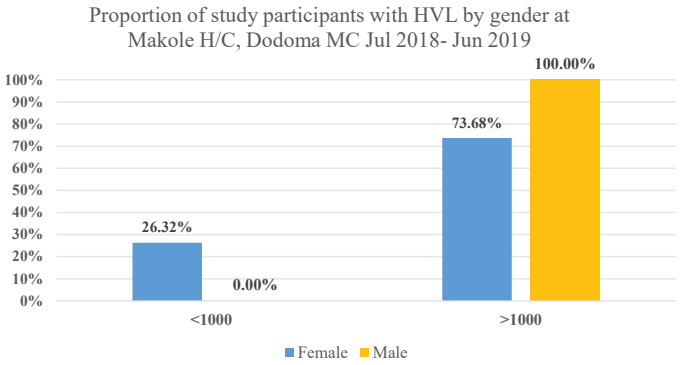

Figure 2. Proportion of viral load suppression of the study participants at Makole H/C July 2018-June 2019 by gender.

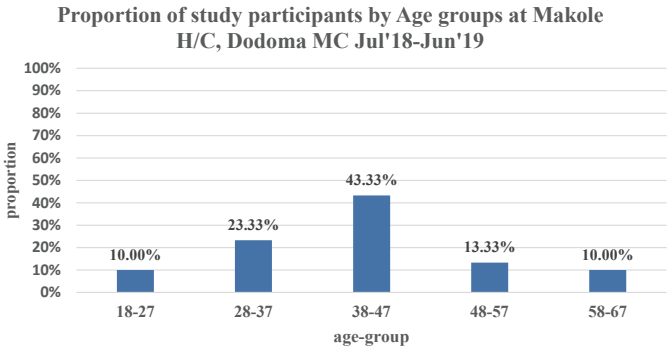

Figure 3. Proportion of study participants by age group at Makole H/C Dodoma MC, July 18 to June 19.

load suppression. Those who do not travel frequently were more likely to be virally suppressed OR 1.56, (95% CI: 0.15 -16.46) compared to those who do travel frequently but this was not statistically significant. Those who spent less than an hour to get to the clinic were more likely to have high viral suppression OR, 1.18 (95% CI: 0.17, 8.33) than those who spent more than one hour to get to the clinic however this was found to be not statistically significant. Fear to disclosure lead to high viral load suppression OR, 2.67 (95% CI: 0.35, 20.51) compared to those who openly disclose their HIV status also not statistically significant (Figure 4). Majority (83%) of the study participants showed low level of stigma according to standardized stigma scale (Figure 5).

Merged data analysis

A total of 459 adults who had been started on ART for more than 12 months were involved in this study. The mean age of the study participants

Table 2. Risk factors for viral load suppression among study participants at Makole Urban H/C Jul 2018 to June 2019.

Variables	HIV Viral Load Suppression		Crude OR	Conf. Interval (95%)	P-value
	Yes (<1000)	No (>1000)			
Age					
<35	1 (14.3%)	6 (85.7%)	0.8	(0.07-8.52)	1.0
≥35	4 (17.4%)	19 (82.6%)			
Gender					
Male	0 (0%)	11 (100%)	Undefined	undefined	0.13
Female	5 (26.3%)	14 (73.7%)			
Family size					
<5	2 (15.4%)	11 (84.6%)	0.85	(0.12-5.99)	1.0
≥5	3 (17.6%)	14 (82.4%)			
Marital status					
Single	2 (15.4%)	11 (84.6%)	0.85	(0.12-5.99)	1.0
Married	3 (17.7%)	14 (82.3%)			
Level of education					
<secondary	4 (16.7%)	20 (83.3%)	1.0	(0.09-11.02)	1.00
≥secondary	1 (16.7%)	5 (83.3%)			
Occupation status					
Has job	5 (20%)	20 (80%)	undefined	undefined	0.55
Jobless	0 (0%)	5 (100%)			
Travel frequency					
≤twice a year	4 (18.2%)	18 (81.8%)	1.56	(0.15-16.46)	1.00
>twice a year	1 (12.5%)	7 (87.5%)			
Duration to get to clinic					
<1hr	3 (17.7%)	14 (82.3%)	1.18	(0.17-8.33)	1.00
≥1hr	2 (15.4%)	11 (84.6%)			
Money spent to get to clinic (TZS)					
<2000	1 (8.3%)	11 (91.7%)	0.32	(0.03-3.27)	0.62
≥2000	4 (22.2%)	14 (77.8%)			
Waiting time at clinic					
<1hr	0 (0%)	22 (100%)	0.00	Undefined	0.0004
≥1hr	5 (16.7%)	3 (37.5%)			
Level of internalized stigma (QN32)					
Low & moderate	2 (7.4%)	25 (92.6%)	0.00	undefined	0.002
High	3 (100%)	0 (0%)			
Duration on ART					
<12 months	1 (20%)	4 (80%)	1.31	0.11,15.03	1.0
≥12 months	4 (16%)	21 (84%)			
Ever treated differently since HIV disclosure					
Yes	0 (0%)	2 (100%)	0.00	undefined	1.0
No	5 (17.9%)	23 (82.1%)			
Did not disclose feared for negative reaction					
Yes	2 (28.6%)	5 (71.4%)	2.67	0.35,20.51	0.56
No	3 (13.0%)	20 (87%)			

was 43 years SD=10.7 among study participants 315 (68.6%) were females. With 67.3% of the study participants having primary education. All the study participants were on ART, all 459 (100%) had their viral load results and only 110 (24%) of the study participants had both VL and CD4 tests results available in the last 12 months.

Prevalence of viral load suppression

Among study participants with viral load results 79.1% had achieved viral load suppression of less than 1000copies/ml.

Most of the study participants were 35 or older 25 (83%). There was a higher proportion of females 315 (68.6%). 40.3% of the study participants were married, and 280 (61.0%) were Self-employed or had small business. Majority 235 (51.2%) reported to spend less than 1 hour to reach to clinic with an average of between 30 minutes to 1 hour to be seen 181 (39.4%) by health care worker at Clinic (Table 3).

Most of the study participants 172 (37.5%) spent an average of between 2000 Tshs- 4000 Tshs to get to the clinic and back home. A great majority of the participants 407 (89.1%) reported that they had disclosed their HIV status to another person beside the health staff. The median time that they had been on antiretroviral therapy (ART) was 3 years or more 344 (74.9%) and majority 455 (99.1%) reported to be satisfied with HIV cares services provided at the health facilities.

Among the study participants those with 35 years of age and above were more likely to have viral load suppression compared to those below 35 years OR, 0.7 (95% CI: 0.41 – 1.18), however this was not statistically significant. Married individuals were more likely to have viral load suppression

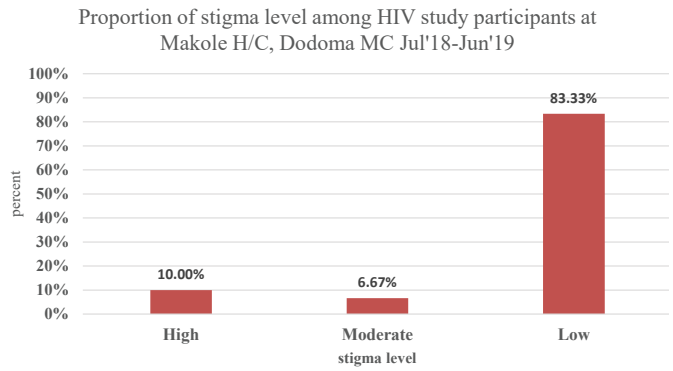

Figure 4. Proportion of stigma level among study participants at Makole H/C Dodoma MC, July 18-June 19.

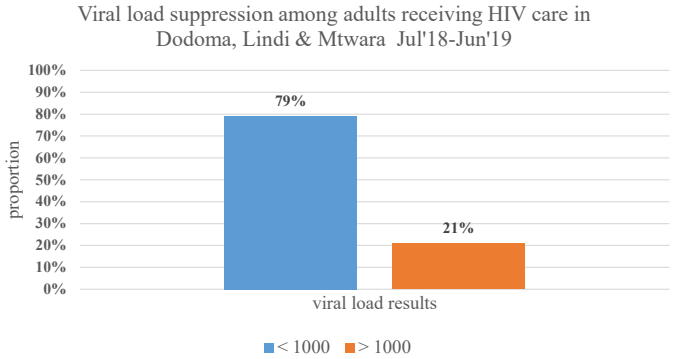

Figure 5. Proportion of viral load suppression among study participants receiving HIV care services at Dodoma, Lindi & Mtwara regions July' 18- June' 19.

Table 3. Demographic, social, health and behavioral characteristics of study population at Dodoma, Mtwara and Lindi July '18-June '19.

Variables	Number (N= 459)	Percent (%)
Age (years)		
18 - 24	20	4.3
25 - 34	72	15.69
35 - 44	165	35.95
45 - 54	132	28.76
55 – 64	55	11.98
65+	15	3.27
Mean Age (years)		Mean 43.3, and standard deviation (10.7)
Gender		
Female	315	68.6
Male	144	31.4
Marital status		
Single	118	25.7
Married	185	40.3
Divorced/Widowed	134	29.2
Cohabitating	22	4.8
Level of Education		
None	76	16.6
Primary	309	67.3
Secondary	68	14.8
College	6	1.3
Occupation		
Salaried job	47	10.2
Self-employed/small business	280	61
Stay at home	4	0.9
Unemployed	128	27.9
# of people in household		
01-Feb	33	7.2
03-Apr	186	40.5
5+	240	52.3
# of living children in household		
01-Feb	153	33.3
03-Apr	200	43.6
5+	106	23.1
Travel frequency		
Monthly	51	11.1
Never	136	29.6
Once every few years	90	19.6
Once or twice a year	175	38.1
Weekly	7	1.5
Duration away from home		
<1 week	153	47.1
1-4 Weeks	121	37.2
>4 weeks	51	15.7
Duration to get to clinic		
< 1 hr	235	51.2
1-2 hrs	162	35.3
>2 hrs	54	11.8
Waiting duration for HIV Care		
<30 mins	92	20
30 min-1 hr	181	39.4
>1 hr	169	36.8
Money spent to get to clinic		
<2000	145	31.6
2000-4000	172	37.5
>4000	142	30.9
Duration on ART		
<1 year	14	3.05
1-2 years	95	20.7
3+ years	344	74.95
Don't recall	6	1.31
Currently on ART		
Yes	459	100
No	-	-
Satisfied with Care		
Yes	455	99.13
No	4	0.87
Neutral	-	-
Viral load test within 6 months		
Yes	448	97.6
No	9	2

OR, 0.93 (95% CI: 0.59 – 1.47) than those who were not married but this was not statistically significant. There was no association between the level of education of the study participants OR, 0.47, (95% CI: 0.22 – 0.99) and viral load suppression. Those who do not travel frequently are more likely to be virally suppressed OR 0.64, (95% CI: 0.40 -1.04) compared to those who do travel frequently but this was not statistically significant. Those who spent less than an hour to get to the clinic were more likely to have attain viral suppression OR, 1.2 (95% CI: 0.8, 1.9) than those who spent more than one hour to get to the clinic however this was found to be not statistically significant. Those who openly disclose their HIV status OR, 2.5 (95% CI: 0.15, 1.01) are more likely to attain viral suppression compared to those in fear of disclosure. Those who reported to be on ART more than 12 Months OR, 0.5 (95% CI: 0.15,1.42) has

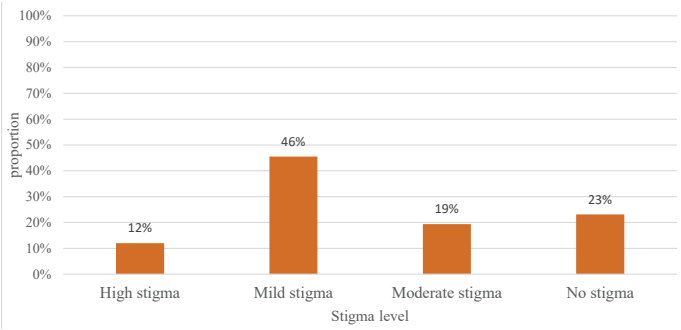

Figure 6. Proportion of stigma level among study participants in Dodoma, Lindi & Mtwara.

Table 4. Risk factors for viral load suppression among study participants attending health facilities in Dodoma, Mtwara and Lindi July '18-June '19.

Variables	HVL		Crude OR	Conf. Interval (95%)	P-value
	Yes (<1000)	No (>1000)			
		Age			
<35	68 (18.7%)	24 (25.0%)	0.69	0.41,1.18	0.17
≥35	295 (81.3%)	72 (75.0%)			
		Gender			
Female	246 (78.1%)	69 (21.9%)	0.82	0.5,1.35	0.44
male	117 (82.3%)	27 (18.8%)			
		Family size			
<5	304 (80.2%)	75 (19.8%)	1.44	0.83,2.52	0.2
≥5	59 (73.8%)	21 (26.3%)			
		Marital status			
Single	198 (78.6%)	54 (21.4%)	0.93	0.59,1.47	0.77
Married	165 (79.7%)	42 (20.3%)			
		Level of education			
<secondary	298 (77.4%)	87 (22.6%)	0.47	0.22,0.99	0.04
≥secondary	65 (87.8%)	9 (12.2%)			
		Occupation status			
Has job	258 (78.9%)	69 (21.1%)	0.96	0.58,1.58	0.88
Jobless	105 (79.6%)	27 (20.4%)			
		Travel frequency			
≤twice a year	217 (76.4%)	67 (23.6%)	0.64	0.40,1.04	0.07
>twice a year	146 (83.4%)	29 (16.6%)			
		Duration to get to clinic			
<1hr	189 (80.4%)	46 (19.6%)	1.2	0.8,1.9	0.42
≥1hr	167 (77.3%)	49 (22.7%)			
	**Don't recall n= 8*				
		Money spent to get to clinic (TZS)			
<2000	110 (75.9%)	35 (34.1%)	0.76	0.47,1.2	0.25
≥2000	253 (80.6%)	61 (19.4%)			
		Waiting time at clinic			
<1hr	214 (78.4%)	59 (21.6%)	0.91	0.57,1.48	0.71
≥1hr	135 (79.9%)	34 (20.1%)			
		Disclosure status			
Yes	317 (77.9%)	90 (22.1%)	0.39	0.15,1.01	0.05
No	45 (90%)	5 (10%)			
	**Decline n=1*				
		Level of internalized stigma			
Low & moderate	228 (76.5%)	70 (23.5%)	2.51	1.03,6.1	0.04
High	49 (89.1%)	6 (10.9%)			
	**No stigma n=106*				
		Duration on ART			
<12 months	9 (64.3%)	5 (35.7%)	0.46	0.15,1.42	0.17
≥12 months	349 (79.5%)	90 (20.5%)			

	*Don't recall n=6				
		Ever treated differently since HIV disclosure			
Yes	25 (67.6%)	12 (32.4%)	0.52	0.24,1.07	0.007
No	323 (80.2%)	80 (19.8%)			
	*Haven't told anyone n=2, Didn't answer n=17				
		Did not disclose feared for negative reaction			
Yes	147 (78.9%)	37 (20.1%)	1.06	0.67,1.68	0.81
No	214 (79%)	57 (21%)			
		Satisfied with care			
Yes	362 (79.6%)	93 (20.4%)	11.7	1.2,113.6	0.03
No	1 (25%)	3 (75%)			

shown a likelihood of achieving viral suppression compared to those who are below 12 months of treatment however not statistically significant. Satisfied with care is associated with achieving viral load suppression OR, 11.7 (CI: 1.2, 113.6) (Figure 6 and Table 4).

Discussion

In this study Viral load suppression was found to be 79% however this did not reach the desired UNAIDS 90-90-90 global goals [5] this prevalence is low compared to study done by D Colby et al. which found that the viral load suppression is at 89% to patients who had at least 12 months in ART [7]. But it is high compared to CDC report among HIV adult patient who were in treatment at least 12 months which were found to be 77% [8]. In this study all participants had been retained in treatment for at least 12 months and reported having their viral load results within 12 months period. This is universal practice according to WHO 2016 standards and guideline in providing services to the PLHIV that is set that all clients who are on ART more than 6 months there should be tested for viral load [2].

Majority of the study participants were female 69% however, gender *p=0.44* was not associated with viral suppression and this similar to the study done by D Colby et al. which found that there is no significant impact of gender to viral load suppression [7]. Also Nicastri et al. reported that there is no significant difference found between genders in achieving the viral load suppression [9]. This study found out those with age > 35 years and more had viral suppression compared those<35 *p=0.17*, this is similar to the study which found that younger age especially adolescent is associated with unsuppressed viral load [10,11]. In this study satisfaction to care was associated with viral suppression, those who were satisfied to the health care provided at the given facility are likely to achieve viral suppression *p=0.03* this is the similar to the study done by Carly E. Levitz which found that doctor to client rapport and good empathic demeanor of the health care providers are among the values that contribute to the clients satisfaction to care [12].

Conclusion

Finally those with low level of stigma were more likely to attain viral load suppression compared to those who had high stigma this is similar to the study findings by Lipira et al. [13] that suggested that HIV-related stigma is common among people living with HIV, and those who experience higher levels of stigma are less likely to be virally suppressed.

Recommendations

The study recommends the following

- Continuous Health education on the emphasis of adherence to treatment.
- HIV Programs to focus to young ages such as adolescents.
- Policy and programs that focus on reduction of Stigma to the community.
- Maintain the quality of health care service to the facilities

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How to cite this article: Machangu, Ona. "Factors Associated with HIV Viral Load suppression Among Adults at HIV Care and Treatment Centers in Dodoma, Mtwara and Lindi Region, July 2018-June 2019." J AIDS Clin Res 12 (2021): 844.