

Factors associated with stigma and discrimination towards people living with HIV/AIDS in Ethiopia.

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Abstract

Background: HIV is a major public health concern in many developing countries. HIV related discriminatory attitudes or stigmas considered as a key in the prevention and control of HIV prevalence. This work evaluated the overall attitude of the population towards people living with HIV (PLHIV) in Ethiopia, which helps in the prevention and control of HIV/AIDS.

Methods: Secondary data was obtained from the 2016 Ethiopian Demographic and Health Survey. Data included 20,770 samples of women and men between the ages of 15 to 49 years, which is a nationally representative sample in Ethiopia. Analytical methods used in this paper include descriptive analysis and multivariate logistic regression to identify factors associated with discriminatory attitudes .

Results: A total of 20,770 samples who have heard about HIV/AIDS were included in the analysis. Out of this, 41% of respondents said they would not buy fresh vegetables from vendor and 34.1% of them indicated HIV positive children should not attend school with HIV negative children. Multivariate Logistic regression results indicated having discriminatory attitudes were associated with the lack of knowledge of HIV/AIDS prevention methods, endorsement transmission misconceptions, and never have been tested for HIV. Furthermore, respondents reside in rural areas, lack of formal education, belonging to poor wealth quantile, and lack of media exposure shows a higher level of discriminatory attitudes.

Conclusion: The findings of this research showed a high magnitude of stigma towards people living with HIV/AIDS among reproductive age women and men in Ethiopia. For stigma and discriminatory attitudes to be decreased interventions should focused on improving HIV related knowledge's through mass medias such as television and newspapers, especially through medias that can address the rural community.

Introduction

The HIV/ AIDS virus continues to be one of the biggest public health problems in Ethiopia, with around 718,500 people living with HIV and resulting in more than 19,999 deaths in 2016 [1, 2]. In addition to the medical problems people living with HIV/AIDS face different social problems like a stigma. Even if, the country spends more than two decades into the HIV/AIDS epidemic, peoples who have HIV were highly likely to perceive and internalize a great deal of stigma enacted by their families and communities, along with society and its institutions [3].

According to the World Health Organization(WHO), HIV-related stigma is defined as “a process of devaluation of people either living with or associated with HIV and AIDS. Discrimination follows stigma and is the unfair treatment of an individual based on his or her real or perceived HIV status” [4]. Stigma can be defined as “an attribute that is deeply discrediting, reducing an individual from a whole and usual person, to a tainted discounted one” [5]. However, Stigma is not limited to negative attitudes or prejudicial views held against marginalized groups in this case, PLHIV [3].

In Ethiopia, despite the progress in scaling up HIV prevention and treatment efforts [6], negative attitudes against people who are affected by HIV continue persistent [3]. These negative attitudes have been observed to deter people from seeking health care services such as participating in Antiretroviral Drug Therapy [7, 8], voluntary counselling and testing [8], and prevention of mother-to-child transmission [9]. Therefore, addressing stigma was considered as a key for overall management and control of the HIV/AIDS epidemic.

Previous studies done on HIV/AIDS-related stigma revealed that knowledge about transmission methods such as knowledge of local misconceptions about HIV, and testing for HIV can drastically alter the negative attitude towards PLHIV [10-12]. Further, the socioeconomic conditions, exposure to mass media, and the context in which the persons are embedded may also play a role in influencing attitude towards PLHIV[11, 13-15]. Despite the analyses conducted in literature, there has been a limited attempt to analyze HIV/AIDS-related stigma in Ethiopia, especially from a national representative sample.

This study aimed to identify determinants of HIV-related discriminatory attitudes from a nationally representative sample of the study population in Ethiopia and examine the association between HIV/AIDS related knowledge's with expression of discriminatory attitudes..

Method

Data source

The data were obtained from the 2016 Ethiopian Demographic and Health survey (EDHS), conducted by the central statistics agency of Ethiopia with the financial and technical support of the United Nations Children's Fund [16]. The DHS(Demographic and Health survey) employed a representative sample of women and men from nine regions and two administrative cities of Ethiopia. The DHS utilized a multistage stratified cluster sampling in which sample households are selected within clusters enumeration areas. The final sample included 20,770 women and men aged 15-49 years.

Measurements of variables

Dependent variable

To measure discriminatory attitudes towards people living with HIV/AIDS, the 2016 survey included two questions: (1) "Should children with AIDS virus be allowed to attend in school with children who do not have AIDS virus?"; and (2) "Would you buy food from a shopkeeper or vendor if you knew that this person had the AIDS virus?" [16].

Independent variables

In this study, key independent variables were knowledge about HIV/AIDS prevention methods, transmission misconceptions, and their HIV/AIDS testing status.

Based on the literature review, this study also included a number of socioeconomic and demographic variables known to affect discriminatory attitudes towards HIV-infected people [10, 11, 13, 15]. Socioeconomic and Demographic variables were education, mass media exposure, household wealth status, age, sex, marital status, region, and residence.

Statistical analysis

Descriptive analyses

After the extraction of data, STATA software Version 14 (StataCorp LP, College Station, Texas 77845 USA) was used to clean up, rename, recode, and further analyze. Sampling weights were used to adjust the probability of selection and non-response differences. Cross tabulations and summary statistics were conducted to describe the study population. Further, Pearson's Chi-squared test was used for analyzing contingency tables.

Multivariable logistic regression

Multivariate logistic regression models were used to examine factors associated with discriminatory attitudes towards people living with HIV/AIDS. Sociodemographic, socio-economic, and HIV/AIDS knowledge related fitted into univariate logistic regression models and estimating odds ratios (OR). Those variables, having a *P* value of less than 0.05, were retained and a backward regression method was applied in order to refine the model.

Results

Background characteristics

A total of 20,770 individuals (59.5%, n= 12,358 women's and 40.5%, n=8,412 men's) who have heard about HIV/AIDS were included in the study. The background information of the sample population can be seen in Table 1. Overall, The highest proportion of respondents (59.3%) were between age 15-29, 63.3% of respondents were rural residents. In terms of educational level, forty-eight percent of them had primary education, whereas 36.6 % had no education. Nearly 32% were in the poor economic category, and 61.5% of respondents were Tigray, Amhara, Oromia, SNNP, and Dire-Dawa residents.

Table 1 Reproductive age (15–49) men and women who heard about HIV/AIDS by background Characteristics in Ethiopia, 2016 EDHS.

Variables	Women		Men		Total	
	Frequency	%	Frequency	%	Frequency	%
Age						
15-19	2814	22.8	1809	21.5	4623	22.2
20-24	2397	19.4	1533	18.2	3930	18.9
25-29	2230	18.0	1560	18.4	3790	18.2
30-34	1760	14.2	1135	13.5	2895	13.9
35-39	1451	11.7	969	11.5	2420	11.6
40-44	993	8.0	828	9.8	1761	8.4
45-49	713	5.8	578	6.9	1291	6.2
Residence						
Urban	4736	38.3	2866	34.1	7602	36.7
Rural	7622	61.7	5546	65.9	13,168	63.3
Education						
No education	4727	38.3	1609	19.1	7602	36.6
Primary	4417	35.7	3627	43.1	9963	47.9
Higher	3214	26.0	3176	37.8	6390	
Wealth index						
Poorest	2452	19.8	1529	18.2	3981	19.2
Poorer	1518	12.3	1145	13.6	2663	12.8
Middle	1591	12.9	1162	13.8	2753	7.6
Richer	1668	13.5	1315	15.6	2983	14.4
Richest	5129	41.5	3261	38.8	8390	40.4
Region						
Tigray	1443	11.7	992	11.8	2435	11.7
Afar	876	7.1	487	5.8	1363	6.5
Amhara	1388	11.2	1103	13.1	2491	11.9
Oromia	1468	11.9	1129	13.4	2597	12.5
Somali	601	4.9	399	4.7	1000	4.8
Benishangul	875	7.1	557	6.6	1432	6.9
SNNP	1570	12.7	1127	13.4	2697	12.9
Gambela	804	6.5	629	7.5	1433	6.8
Harari	770	6.2	490	5.8	1260	6.0
Dire-Dawa	1683	13.6	919	10.9	2602	12.5
Addis Ababa	880	7.1	580	6.9	1460	7.0

The proportion of discriminatory attitudes among women and men

As Figure 1 shows, 44.3% of women and 37.7% of men respondents said they would not buy vegetables from an HIV-infected vendor, and 38.8% of women and 29.7% of men would not be willing to allow an HIV infected child to attend school.

Association of discriminatory attitudes towards PLHIV with HIV related knowledge's among men and women

In the analysis, discriminatory attitudes were significantly associated with Comprehensive knowledge about HIV, knowledge about mother-to-child transmission Ever tested for HIV ($p < 0.01$). From knowledgeable respondents, A higher proportion of men than women had a more discriminatory attitude toward PLHIV. From respondents who had tested for HIV before the survey, above two-thirds of them had a favorable attitude (Table 2).

Table 2 Relationship between discriminatory attitudes towards PLHIV with HIV-related knowledge's among reproductive age (15-49) men and women.

Variables	Attitude towards PLHIV		Total frequency	P-value
	Negative n(%)	Positive n(%)		
Women				
Comprehensive knowledge about HIV				
Knowledgeable	1476(22.9)	2676(45.3)	4152(33.6)	0.000
Not-knowledgeable	4979(77.1)	3227(54.7)	8206(66.4)	
knowledge about mother-to-child transmission				
Knowledgeable	4516(69.9)	4352(73.3)	8868(71.8)	0.000
Not-knowledgeable	1939(30.0)	1551(26.3)	3490(28.2)	
Knowledge of HIV status				
Know status	2781(43.1)	4068(68.9)	6849(55.4)	0.000
Don't know the status	3674(56.9)	1835(31.1)	5509(44.6)	
Men				
Comprehensive knowledge about HIV				
Knowledgeable	1360(35.6)	2571(55.9)	3931(46.7)	0.000
Not-knowledgeable	2459(64.4)	2022(44.0)	4481(53.3)	
knowledge about mother-to-child transmission				
Knowledgeable	2299(60.2)	2961(64.5)	5260(62.5)	0.000
Not-knowledgeable	1520(39.8)	1632(35.5)	3152(37.5)	
Knowledge of HIV status				
Know status	1713(44.8)	2881(62.7)	4594(54.6)	0.000
Don't know status	2016(55.2)	1712(34.3)	3818(45.4)	

Association of discriminatory attitudes towards PLHIV with Socioeconomic and demographic factors

Table 3 shows that the discriminatory attitude was significantly associated with age, residence, education, wealth, and region ($p < 0.001$). The level of discriminatory attitudes was lower in urban areas and respondents in higher educational status.

Table 3 Association between sociodemographic factors and discriminatory attitude among reproductive age (15–49) men and women.

Variables	Women		p-value	Men		p-value
	Negative n(%)	Positive n(%)		Negative n(%)	Positive n(%)	
Age(in years)						
15-19	1354(20.9)	1460(24.7)	0.000	823(21.5)	986(21.5)	0.000
20-24	1140(17.7)	1257(21.9)		654(17.1)	879(19.1)	
25-29	1169(18.1)	1061(17.9)		644(16.9)	916(19.9)	
30-34	967(14.9)	793(13.43)		533(13.9)	602(13.1)	
35-39	815(12.6)	636(10.7)		472(12.4)	497(10.8)	
40-44	579(8.9)	414(7.0)		395(10.3)	433(9.4)	
45-49	431(6.7)	282(4.8)		298(7.8)	280(6.1)	
Residence						
Urban	1188(18.4)	3548(60.1)	0.000	677(17.7)	2189(47.7)	0.000
Rural	5267(81.6)	2355(39.9)		3142(82.3)	2404(52.3)	
Highest Education attainment						
No education	3501(54.2)	1226(20.8)	0.000	1085(28.4)	524(11.4)	0.000
Primary	2288(35.5)	2129(36.1)		1893(49.6)	1734(37.8)	
Higher	666(10.2)	2548(43.2)		841(22.0)	2335(50.8)	
Household Wealth index						
Poorest	1905(29.5)	547(9.3)	0.000	998(26.1)	531(11.6)	0.000
Poorer	1094(16.9)	424(7.1)		687(18)	458(10)	
Middle	1078(16.7)	513(8.7)		644(16.8)	518(11.3)	
Richer	1011(15.7)	657(11.1)		648(17)	667(14.5)	
Richest	1367(21.2)	3762(63.7)		842(22.1)	2419(52.7)	
Region						
Tigray	807(12.5)	636(10.8)	0.000	455(11.9)	537(11.7)	0.000
Afar	598(9.3)	278(4.7)		240(6.3)	247(5.4)	
Amhara	776(12.0)	612(10.4)		479(12.5)	624(13.6)	
Oromia	1014(15.7)	454(7.7)		614(16.1)	515(11.2)	
Somali	476(7.4)	125(2.1)		250(6.6)	149(3.2)	
Benishangul	472(7.3)	403(6.8)		309(8.1)	248(5.4)	
SNNP	1095(16.9)	475(8.1)		666(17.4)	461(10)	
Gambela	345(5.3)	459(7.8)		317(8.3)	312(6.8)	
Harari	300(4.7)	470(7.9)		187(4.9)	303(6.6)	
Addis Ababa	285(4.4)	1398(23.7)		157(4.1)	762(16.6)	
Dire-Dawa	287(4.5)	593(10.5)		145(3.8)	435(9.5)	

Factors associated with discriminatory attitudes towards PLHIV

Table 4 shows the factor associated with respondent attitudes towards PLHIV. In multivariate analysis, women and men respondents who reside in a rural area were about 1.61 and 1.64 times greater odds of having discriminatory attitudes respectively compared with urban residents. Likewise, when uneducated women and men compared with educated respondents, respondents who had no formal education had 1.79 times greater odds of having a negative attitude towards PLHIV respectively compared with higher educated levels. Respondents who are in richest category were 57% (AOR women =0.43, 95% CI: 0.35-0.52) and 42% (AOR men =0.58, 95% CI: 0.47-0.71) less likely to had discriminatory attitudes as compared with poorest ones.

In terms of region of residence, The odds of discriminatory attitudes among women and men in Oromia, Somali, and SNNP regions were higher compared to the Tigray region. However, the odds of discriminatory attitudes at Amhara, Benishangul, Gambella, and Dire Dawa regions were lower as compared to Tigray. Afar had not significantly different in the prevalence of the discriminatory attitude among men and women as compared to the reference region Tigray.

For HIV/AIDS-related knowledge, the negative attitude of respondents decreased by 47% among women's and 45% among men's respondents who have comprehensive knowledge about HIV transmission methods compared to the attitude of respondents who are not knowledgeable. In addition, previous experience of respondents to HIV test has shown a significant impact on attitude towards PLHIV, discriminatory attitudes towards HIV decreased by 36% (AOR women =0.64, 95% CI: 0.58-0.70) and 24% (AOR men =0.76, 95% CI: 0.68-0.84) among respondents who have tested for HIV compared to the attitude of respondents who did not take HIV test ever. Furthermore, there was a 17% decreases in negative attitude among males who are knowledgeable about mother-to-child HIV transmission methods compared to their counterparts.

Furthermore, respondents who have exposure to mass media shows favorable attitudes towards PLHIV, respondents who don't read newspapers before the survey were about 1.55 (women) among and 1.34 (men) times more likely to have discriminatory attitudes to PLHIV compared to the attitude of respondents who read newspapers once a week. Similarly, the discriminatory attitudes of women respondents towards PLHIV increased by 26% among women who never watched television before (AOR =1.26, 95% CI: 1.11-1.42) compared to women respondents who watch television at least once a week.

Table 4 Factors associated with discriminatory attitudes towards PLHIV among reproductive age (15–49) men and women by selected characteristics

	Women		Men	
Variables	AOR (95% CI)	p-value	AOR (95% CI)	p-value
Residence				
Urban	1		1	
Rural	1.61[1.36-1.90]	0.000	1.64[1.35-1.99]	0.000
Education				
No education	1.79[1.61-2.01]	0.000	1.79[1.55-2.06]	0.000
Primary	4.34[3.79-4.98]	0.000	3.42[2.91-4.02]	0.000
Higher	1		1	
Wealth index				
Poorest	1		1	
Poorer	0.83[0.70-0.97]	0.022	0.84[0.70-0.99]	0.047
Middle	0.71[0.60-0.83]	0.000	0.73[0.61-0.87]	0.000
Richer	0.59[0.50-0.69]	0.000	0.60[0.51-0.72]	0.000
Richest	0.43[0.35-0.52]	0.000	0.58[0.47-0.71]	0.000
Region				
Tigray	1		1	
Afar	0.86[0.69-1.05]	0.152	0.85[0.67-1.09]	0.212
Amhara	0.81[0.68-0.96]	0.015	0.82[0.68-0.99]	0.037
Oromia	1.54[1.30-1.84]	0.000	1.50[1.23-1.79]	0.000
Somali	2.45[1.93-3.20]	0.000	2.21[1.70-2.91]	0.000
Benishangul	0.63[0.52-0.77]	0.000	1.57[1.25-1.98]	0.000
SNNP	1.50[1.26-1.78]	0.000	1.83[1.51-2.20]	0.000
Gambela	0.63[0.51-0.77]	0.000	1.70[1.36-2.11]	0.000
Harari	0.84[0.68-1.04]	0.107	1.11[0.86-1.43]	0.392
Addis Ababa	0.65[0.53-0.79]	0.000	0.77[0.61-0.99]	0.050
Dire-Dawa	0.75[0.61-0.92]	0.007	0.72[0.56-0.93]	0.011
Comprehensive knowledge about HIV				
Knowledgeable	0.53[0.48-0.58]	0.000	0.55[0.49-0.60]	0.000
Not-Knowledgeable	1		1	
knowledge about mother-to-child transmission				
Knowledgeable	0.94[0.85-1.0]	0.181	0.83[0.75-0.91]	0.000
Not-Knowledgeable	1		1	
Ever tested for HIV				
Yes	0.64[0.58-0.70]	0.000	0.76[0.68-0.84]	0.000
NO	1		1	
Watching television				
No watch at all	1.26[1.11-1.42]	0.000	1.05[0.93-1.18]	0.430
Watch once a week	1		1	
Reading news paper				
Doesn't read before	1.55[1.35-1.76]	0.000	1.34[1.20-1.51]	0.000
Read once a week	1		1	

Discussion

This paper attempt to describes common discriminatory attitudes towards PLHIV, and assess the sociodemographic and HIV-related knowledge factors associated with the negative attitude of

respondents about HIV. In this study, among men and women of reproductive age, urban areas, higher educational level, high-income indices, regions such as (Amhara, Benishangul, Gambella, and Dire Dawa), knowledge about HIV transmission, ever tested for HIV, and reading newspapers were positively associated with discriminatory attitudes towards PLHIV.

Regarding the age respondents, our analysis revealed there lack of association between age and discriminatory attitudes. This is in line with the findings of a study conducted in a rural part of southern Ethiopia [10], Afghanistan [14], and Tajikistan [15]. However, this result contrast with a study done in Pakistan [12], which shows younger age groups had a more positive attitude towards PLHIV than older age groups. Similarly, this study indicated reproductive age women and men from urban residency had a favorable attitude towards PLHIV than residents in the rural area. This is in line with findings of studies that shows urban residents were less likely to express discriminatory attitudes towards PLHIV than rural residents [12, 15]. Further our analysis indicated that respondents from households of rich wealth indexes were less likely to express discriminatory attitudes towards PLHIV as compared to the respondent from the poorest household. This finding has also been consistent with previous studies conducted in Pakistan [12], and Tajikistan [15].

Furthermore, Women and men education were positively associated with attitudes towards PLHIV in Ethiopia, our multivariate analysis indicated respondents who had primary education and above were less likely to express discriminatory attitudes than reproductive age women and men with no formal education. This result is consistent with previous studies, which show respondents who had at least a primary educational level have a favorable attitude towards PLHIV [12, 13, 15]. This might be because educated individuals will have more access to information regarding HIV/AIDS than their counterparts.

In this study, HIV/AIDS-related knowledge was significantly associated with attitudes towards PLHIV among reproductive-age women and men. Women and men who had comprehensive knowledge about HIV/AIDS had higher odds of having a positive attitude about PLHIV compared to women and men who are not knowledgeable about HIV transmission methods. It is in line with studies reported in Ethiopia [10, 11], china [13], and Tajikistan [15], this could be because knowledgeable persons

In this study, media exposure was significantly associated with attitudes towards PLHIV among reproductive-age women and men. Women who watch televisions at least once a week had higher odds of having favorable attitudes towards PLHIV compared to women's who didn't watch televisions. Similarly, respondents who read newspapers had lower discriminatory attitudes towards PLHIV. This findings are consistent with the previous studies, which shows that mass media exposure have a positive effect in reducing discriminatory attitudes [12, 13, 15]. This could be exposure to mass medias are the major source of information, and most powerful tool for addressing a large group of people to change the community awareness, attitude and practice towards HIV/AIDS.

Conclusion

The findings of this research showed a high magnitude of stigma towards people living with HIV/AIDS among reproductive age women and men in Ethiopia. Our analysis revealed that, key HIV related knowledge's such as lack of Comprehensive knowledge about HIV , lack of knowledge on mother-to-child transmission, endorsement of common community misconceptions, and never tested for HIV . Moreover, respondents reside in rural areas, lack of formal education, belonging to poor wealth quantile, and lack of media exposure shows a higher level of discriminatory attitudes.

For stigma and discriminatory attitudes to be decreased interventions should focused on improving HIV related knowledge's through mass medias such as television and newspapers, especially through medias that can address the rural community.

List Of Abbeviations

AOR-Adjusted Odds Ratio, CI-Confidence Interval, DHS- Demographic and Health Survey, EDHS-Ethiopia Demographic and Health Survey, OR-Odds Ratio, PLHIV- people living with HIV , SNNPR- Southern Nations, Nationalities, and Peoples' Region.

Declarations

Ethics approval and consent to participate

Since the study was a secondary data analysis of publically available survey data from the DHS program, ethical approval and participant consent were not necessary for this particular study. We requested DHS Program and permission was granted to download and use the data for this study from <http://www.dhsprogram.com>. There are no names of individuals or household addresses in the data files.

Consent for publication

Not applicable.

Availability of data and materials

Data we used for this study are publicly available in the MEASURE DHS program and you can access it from www.measuredhs.com after explaining the objectives of the study. Then after receiving the authorization letter, the data is accessible and freely downloaded.

Competing interests

The authors declare that they have no competing interests.

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Authors' Contributions

Proposal preparation, acquisition of data, analysis, and interpretation of data was done by BT. SH, DE, and AD guided the study design data extraction and analysis. BT drafted the manuscript and all authors have a substantial contribution in revising and finalizing the manuscript. All authors read and approved the final manuscript.

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Figures

proportion of discriminatory attitudes among women and men

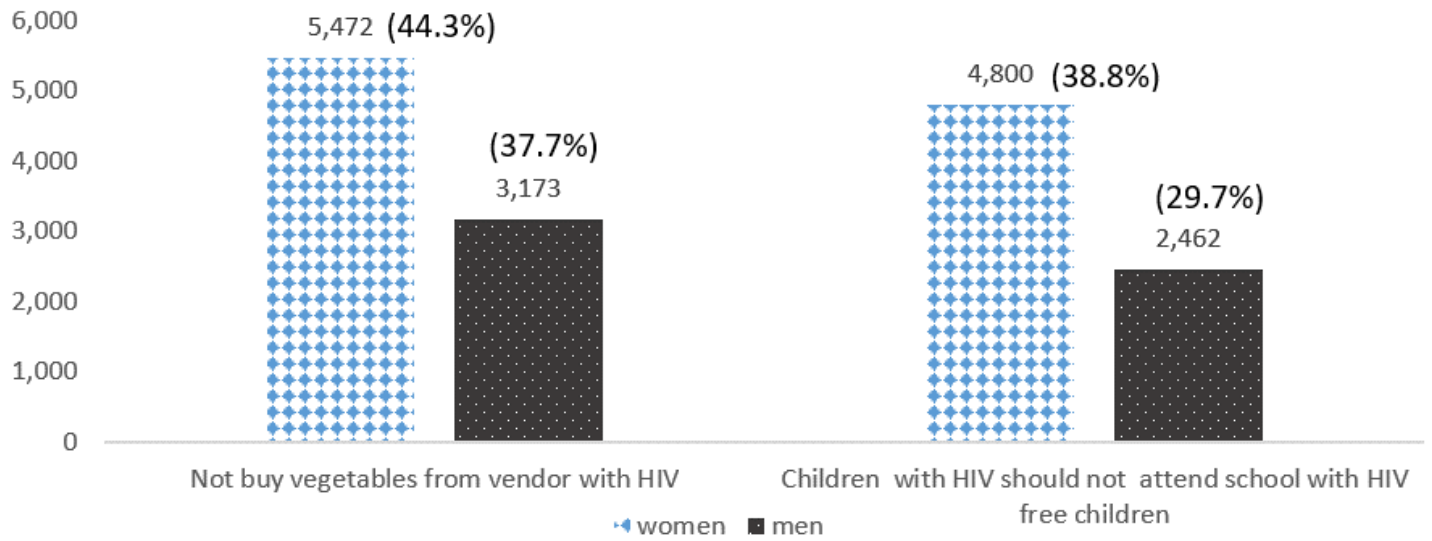


Figure 1

discriminatory attitudes towards PLHIV among women and men in Ethiopia, EDHS 2016.