

# Attitude and Cognitive Distortion on HIV/AIDS among Undergraduate Students of Madda Walabu University, Southeast Ethiopia

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## Abstract

**Introduction:** Worldwide over half of all new infections are among young people. The primary prevention and control of the spread of HIV/AIDS infection is through awareness and changing behaviour remains at the highest priority. The aim of the study was to assess the attitude and cognitive distortion towards HIV/AIDS among undergraduate students of Madda Walabu University Southeast Ethiopia.

**Methods:** Cross sectional study with quantitative methods of data collection was employed among 605 randomly selected under graduate regular students in March, 2014. Data were collected using self-administering questionnaire. The analysis employed using SPSS version 20 to calculate t-test and ANOVA.

**Result:** The average number of students of Madda Walabu University who had poor attitude on sexual abstinence 241 (39.8%), mutual monogamy 274 (45.3%), use of condom 227 (37.5%) and towards people living with HIV. The ANOVA psychological-cognitive distortion of the study participants had statistically significant difference among students age [F (6,594)=2.134, P<0.05] and academic year level [F (6,598)=2.471, p<0.05] on their total score of all-or- nothing thinking. Statistical significant difference was also observed between age and overgeneralization thinking of participants, F (6,594)=2.619, p<0.05 and residential status, F(6,593)=3.646, p<0.01. Similarly, age of the students has a statistical significant effect on mental filtration, F (6,594)=2.399, p<0.05). One sample t-test showed t-value for abstinence (t=-1.096, mutual monogamy df=604, <0.05) and condom use (t=-283, df=604, p<0.05) was less than the critical t-value at 0.05 level.

**Conclusion:** Socio-demographic variables such as age, sex, academic year level, admission type, had significant effect on cognitive distortions or dysfunctional belief about sexual abstinence, mutual monogamy and condom use. Students indicate unfavourable attitude towards those infected with HIV/AIDS. HIV/AIDS counselling, health education and intervention strategies must focus on behavioural changes, safer sex and changing the negative attitude towards HIV/AIDS.

**Keywords:** HIV/AIDS; Attitude; Cognitive distortion; University students

## Introduction

HIV/AIDS is continuing to be a world challenge. Young people are the most affected groups that include university under graduate students as well. One of the main negative outcomes for people with symptoms of HIV is stigmatizing attitudes. Stigma and discrimination associated with HIV/AIDS are the biggest challenges experienced by people suffering from the disease and it has been recognized as a serious threat to the fundamental rights of all infected people who are affected by or associated with this disease. Those aged 15-24 years accounted for 42% of new HIV infections and nearly 80% of this lives in sub-Saharan Africa including Ethiopia [1-4].

There are anecdotes and reports that indicate that HIV/AIDS has had a significant impact on higher education institutions. The epidemic has affected students, their lecturers and non-teaching staff. The University environment provides unique challenges to the students, lecturers and communities. University environment expose learners for multiple sex partnerships, unprotected sex, transactional sex, cross-generational sex and sex for favours such as marks in exams. As consequence university students are more likely to have sex with high-risk partners or multiple partners [5]. Self-efficacy, outcome expectancies and perception of peer attitudes at the beginning of sexual activity also can affect the use of condoms among young people who are sexually active [6].

There has been idea among students that those infected with HIV should be separated from their communities and keep away from those infected. In line with this statement, most people develop

negative attitude towards PLWHA because most people share the same reasoning and perception towards people living with HIV/AIDS. As a result it is critical for HIV/AIDS prevention and control program to have the relevant information regarding tertiary students' attitudes toward people with AIDS, students' beliefs about AIDS in relationship to themselves [7].

Notwithstanding all the efforts by both government and non-governmental organization against AIDS, the problem of the pandemic is still at increase. Therefore in looking at the problem of attitude and cognitive distortion on HIV/AIDS among undergraduate students is very crucial. But there is dearth information among undergraduate students of Ethiopia specifically the study area. As a result this study assessed attitude and cognitive distortion towards HIV/AIDS among undergraduate students of Madda Walabu University Southeast Ethiopia.

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## Methods

### Study design and area

Institutional-based cross-sectional study was conducted among 605 randomly selected regular undergraduate students in March, 2014 of Madda Walabu University in Ethiopia and located at a distance of 430 km to the Southeast of Addis Ababa. The university has two campuses, Robe main campus and Goba College of Medicine and Health Sciences. In the year 2014 the university has ten schools, one institute, one college and thirty seven departments with the total number of 5,960 undergraduate students.

### Sampling and participants

Regular undergraduate students of Madda Walabu University were the source population and the study populations were those selected students for study through simple random sampling. The sample size was determined by using a single population proportion formula considering the assumptions: proportion of self-efficacy which was 59.8% [8] level of confidence of 95%, margin of error 0.05, design effect of 1.5 and 10% non-response rate were considered. Finally the sample size was 609.

The respondents were stratified into health and non-health campus. From the total ten non-health schools (Robe campus) and one medicine and health sciences college of the university (Goba campus), eight schools/college were selected randomly. The total sample size of the study was allocated proportionally for the schools/college. Sample allocated for the schools/college were allocated proportionally for the stratified class year under the departments of selected schools/college. Finally, simple random sampling was employed to reach 605 the study subject.

### Data collection and analysis

In order to collect the relevant and reliable data the researcher employed the close ended questionnaire used from the tools used before by scholars in the area. Data were collected through self-administered questionnaire. Before data entry questionnaires were checked for completeness and entry was made SPSS windows version 16 for analysis. Accordingly, Percentage, t-test and ANOVA were computed and results were presented by tables. Association between the explanatory and dependent variable were assessed at p-value of 0.05.

This study is not free of limitations. Since the study was conducted in relatively small and geographically restricted area, the result of this study finding was compromised to some extent to accurately represent the negative attitude and cognitive distortion problem occurred towards PLWHA in Ethiopian higher education institution. Also the study involves only quantitative method of data collection, the level of attitude and cognitive distortion was being under-reported.

## Results

### Socio-demographic characteristics of the respondents

From the total 609 participants, 605 of them responded to the questionnaires that produce a response rate of 99.3%. Three fourth 452 (74.7%) of the participants were male. Majority of the study participant aged below 25 years and more than half 353 (58.3%) of the respondents age ranged from 21-25 years. Regarding their origin of residence 361 (59.7%) them were from rural community. Moreover, academic year level, 244 (40.3%) and 203 (33.5%) of them were year I and year II, respectively (Table 1).

### Attitude of students towards HIV/AIDS

The attitude of study participant toward HIV/AIDS was negative. The t-value for attitude on HIV and AIDS total score ( $t=5.826$ ,  $df=604$ ,  $p<0.001$ ) was less than the critical t-value at 0.05 level of significant. This shows that there is statistical significant difference between the observed sample mean for total score and attitude on HIV and AIDS (22.97) and the expected mean (24.00).

Regarding feelings of respondents toward HIV/AIDS prevention and control strategies, more than one third 241 (39.8%) of the students agreed that sexual abstinence was very difficult while 216 (35.7%) of them students agreed abstinence was easier said than done. In terms of mutual monogamy, 274 (45.3%) of the students agreed with the ideas of being faithful to one's partner is meaningless since the other partner may cheat. Moreover, they also agreed that it is unlikely that two people would be faithful to each other always, 211 (34.9%) and hopeless to be fully faithful, 221 (36.5%). In relation to correct and consistent use of condom 227 (37.5%) of the respondents agreed that using condom kill sex play, while 208 (34.4%) and 179 (29.6%) agreed with false perception of sensory and poor decision of joy respectively (Table 2).

### The relationship between attitude toward HIV/AIDS and some selected socio-demographic variable

Socio-demographic variables namely admission type, sex and age had statistically significant difference on attitude toward HIV/AIDS with reference abstinence and mutual monogamy. Admission type of the participants had significant effect on the difficulty of sexual abstinence,  $F(1,603)=5.4$ ,  $p<0.05$ . There was also statistically significance difference on difficulty of sexual abstinence across sex,  $F(1,603)=8.97$ ,  $p<0.01$  and age,  $F(3,595)=6.2$ ,  $p<0.01$  respectively. Moreover, age of the participants had statistically significant effect on number of the participants able to abstinence,  $F(3,595)=1.82$ ,  $p<0.01$ , while the sex was observed significant,  $F(1,603)=7.3$ ,  $p<0.01$ , on practice of abstinence. Finally, age of the participants had a significant effect on poor decision on faithfulness,  $F(3,595)=2.68$ ,  $p<0.05$  (Table 3).

### HIV/AIDS cognitive distortion of students

Psychological-cognitive distortions were varies across age, academic year level, residential status, sex and admission type of the participants of this study. The psychological-cognitive distortion of the study participants had statistically significant difference among students age [ $F(6,594)=2.134$ ,  $P<0.05$ ] and academic year level [ $F$

		N	%
Sex	Male	452	74.7
	Female	153	25.3
Admission Type	Regular	523	86.4
	Extension	82	13.6
Residential status	Urban	239	39.5
	Rural	361	59.7
Age	18-20	194	32.1
	21-25	353	58.3
	26-30	47	7.8
	31-35	11	1.8
Year of study	I	244	40.3
	II	203	33.5
	III	138	22.7
	IV	20	3.6

**Table 1:** Socio-demographic variables of under graduate regular students of Madda Walabu University, March, 2014.

(6,598)=2.471,  $p < 0.05$ ] on their total score of all-or-nothing thinking. Statistical significant difference was also observed between age and overgeneralization thinking of participants,  $F(6,594)=2.619$ ,  $p < 0.05$  and residential status,  $F(6,593)=3.646$ ,  $p < 0.01$ . Similarly, age of the students has a statistical significant effect on mental filtration,  $F(6,594)=2.399$ ,  $p < 0.05$ . In contrary, there is no statistical significant difference,  $F(6,593)=1.748$ ,  $p > 0.05$  between students of urban and rural resident on the mental filtration.

Moreover, the result shows that there was statistical significant difference between frequency of disqualifying positive thought and sex of the respondents,  $F(6,598)=2.704$ ,  $p < 0.01$ . On the other hand, the  $F(6,598)=3.081$ ,  $p < 0.01$  and,  $F(7,597)=2.717$ ,  $p < 0.01$  elaborate that there was significant difference between admission type of the students on the cognitive distortion variables (magnification and minimization, and emotional reasoning) respectively. The analysis also shows, there was statistically significant difference between the frequency of making should statements and academic year level,  $F(7,597)=2.556$ ,  $p < 0.01$ . Finally, as it can be seen from the table above, the result of this study revealed that statistical significant difference effect was reported between residential status of the study participants and making should statements,  $F(7,592)=2.392$ ,  $p < 0.05$  and, labelling,  $F(7,593)=3.334$ ,  $p < 0.01$  (Table 4).

With regard to cognitive distortions on HIV and AIDS there was significant difference between the observed sample mean for abstinence and condom use (19.80 and 19.95) the expected mean (20) of the students' response to those variables. One sample t-test showed t-value for abstinence ( $t = -1.096$ , mutual monogamy  $df = 604$ ,  $p < 0.05$ ) and condom use ( $t = -283$ ,  $df = 604$ ,  $p < 0.05$ ) was less than the critical t-value at 0.05 level of significance. Hence, as the sample means significantly less than the expected mean, it can be reported that students have cognitive distortion on HIV and AIDS in relation to abstain and condom use. Independent sample t-test for cognitive distortion on HIV/AIDS related to abstinence showed that there was no statistically significant difference based on students admission type,  $t(603) = -1.24$ ,  $p > 0.05$ .

## Discussion

The analysis of socio-demographic variables of this study indicates that majority of the students 74.7% were male and age ranges from 21-25 were comprises 58.3%. In addition, relatively large number of student's resident of rural (59.7%). The finding also indicates that most of the students (40.3%) were first year in academic year level. Finally the majority, 86.4% of the students was following their regular program. As with other studies conducted in China university students in different cultures, attitude on HIV and AIDS were varies across sex, residential

	Agree		Disagree		Not sure		Total	
	N	%	n	%	n	%	Total	%
<b>Abstinence</b>								
Sexual abstinence is very difficult	241	39.8	212	35	152	25.1	605	100
Very few young people would be strong enough to abstain from sex till marriage.	195	32.2	251	41.5	159	26.3	605	100
Abstinence is easier said than done.	216	35.7	203	33.6	186	30.7	605	100
<b>Be faithful</b>								
Being faithful to one's partner is meaningless since the other partner may cheat.	274	45.3	142	23.5	189	31.2	605	100
It is unlikely that two people would be faithful to each other always.	211	34.9	167	27.6	227	37.5	605	100
It is rather too naive to expect one's partner to be fully faithful.	221	36.5	148	24.5	236	39	605	100
<b>Correct and consistent condom use</b>								
Using condoms kills sex play.	227	37.5	139	23	239	39.5	605	100
The sensory aspects (smell, touch, etc.) of condoms make them unpleasant.	179	29.6	171	28.3	225	42.1	605	100
It is unthinkable to fully enjoy sex while using condom.	208	34.4	152	25.1	245	40.5	605	100

Table 2: The attitude of Madda Walabu University undergraduate students on HIV and AIDS prevention and control strategies, March, 2014.

HIV positive people got what they deserve		SS	df	MS	F	P
Admission type	Between groups	3.43	1	3.43	5.4	0.02**
	Within groups	380.52	603	0.63		
	Total	383.96	604			
Sexual abstinence is difficult						
Sex	Between groups	6.62	1	6.62	8.97	0.00**
	Within groups	444.98	603	0.73		
	Total	451.61	604			
Sexual abstinence is difficult						
Age	Between groups	13.56	3	4.52	6.2	0.00**
	Within groups	434.02	595	4.72		
	Total	447.59	598			
Few people could abstain						
Sex	Between groups	5.01	1	5.01	7.3	0.00**
	Within groups	413.7	603	0.68		
	Total	418.72	604			
Faithfulness is meaningless because the other partner may cheat						
Age	Between groups	5.12	3	1.7	2.68	0.04*
	Within groups	378.09	595	0.63		
	Total	383.21	598			

Table 3: ANOVA results on attitude on HIV and AIDS by admission type, sex and age of the students, March, 2014.

1. All or Nothing Thinking		SS	MS	F	df	P
Age	Between	5.339	0.89	2.134	6	0.04*
	Within	247.663	0.417		594	
	Total	253.002			600	
Academic Year Level	Between	10.876	1.813	2.471	6	0.02*
	Within	438.704	0.734		598	
	Total	449.58			604	
2. Over Generalization						
Age	Between	6.522	1.087	2.619	6	0.01*
	Within	246.48	0.415		594	
	Total	253.002			600	
Residential status	Between	5.116	0.853	3.646	6	0.00**
	Within	138.682	0.234		593	
	Total	143.798			599	
3. Mental Filtration						
Age	Between	5.986	0.998	2.399	6	0.02*
	Within	247.016	0.416		594	
	Total	253.002			600	
Residential status	Between	2.5	0.417	1.748	6	0.10**
	Within	141.299	0.238		593	
	Total	143.798			599	
4. Disqualifying the Positive						
Sex of Respondents	Between	3.274	0.546	2.704	6	0.01*
	Within	120.683	0.202		598	
	Total	123.957			604	
5. Jumping to conclusion						
Residential status	Between	4.692	0.782	3.334	6	0.00**
	Within	139.106	0.235		593	
	Total	143.798			599	
6. Magnification and Minimization						
Admission type	Between	2.125	0.354	3.081	6	0.00**
	Within	68.761	0.115		598	
	Total	70.886			604	
7. Emotional Reasoning						
Admission type	Between	2.188	0.313	2.717	7	0.00**
	Within	68.698	0.115		597	
	Total	70.886			604	
8. Making Should Statement						
Academic Year Level	Between	13.08	1.869	2.556	7	0.01*
	Within	436.501	0.731		597	
	Total	449.58			604	
Residential status	Between	3.956	0.565	2.392	7	0.02**
	Within	139.843	0.236		592	
	Total	143.798			599	
Labeling						
Residential status	Between	4.692	0.782	3.334	6	0.00**
	Within	139.106	0.235		593	
	Total	143.798			599	
Personalization						
Residential status	Between	3.143	0.449	1.89	7	0.06
	Within	140.655	0.238		592	
	Total	143.798			599	

\* p<0.05, \*\*p<0.01

**Table 4:** ANOVA results on distribution of HIV/AIDS cognitive distortion of students by sex, age and academic year level, March, 2014.

status and academic year levels of the students. This study also identifies the significant difference of residential status towards stigmatizing and discriminating the HIV patients. In relation to this many people living with HIV/AIDS are afraid to tell anyone about their status. If they choose to tell people in their surroundings they risk losing their social support and job being discriminated against in other ways [9].

The result of this finding revealed that mutual monogamy is difficult due to personal attitudes towards each other. The study also shows, relatively high number of respondents agreed consistent and correct condom use kills sex play bad sensory perception and poor decision of joy. Our analysis showed relatively low percentage (33.5%). The findings of this study are inconsistent with that of china that, 54% of the

participants felt that persons with HIV/AIDS deserve it. As this finding we can conclude that, average number of students of Madda Walabu University had poor attitude on sexual abstinence, mutual monogamy, use of condom and towards people living with HIV/AIDS.

Cognitive theory and research has indicted that cognitive distortions contributes to psychological and behavioural disorders [10]. The ANOVA finding of this study suggested that age of the respondents had a significant effect on cognitive distortion –all-or-nothing thinking, mental filtration, over generalizing thinking. This implies that, negative thinking towards sexual abstain, mutual monogamy and condom use varies across age of the respondents.

The result also showed the significance of academic year level on all-or-nothing thinking ,making should statement and admission type on perceiving something too much or less important than it is and predominant use of emotional state in forming the conclusion on sexual intercourse.

Furthermore, the finding revealed the significance of sex and admission type on the cognitive distortion the value of altering cognitive distortions is reinforced a body of research suggesting that the influencing of negative life events on subject in feelings is far more powerful than that of positive life events [11].

As clearly, stated in the result section of this study, one third of the respondents reported the negative assumptions about sexual abstinence, mutual monogamy and condom use. This implies the underlying of cognitive distortion among the respondents. During on the theoretical assumption that individual with fewer cognitive distortions are less likely to become depressed in response to negative events. Depressed clients, who received CT, have demonstrated lower rate of cognitive distortion thoughts. Successful treatment of the emotional disorders involving cognitive restructuring through the identification, evaluation and responses to a client's cognitive distortions and dysfunctional beliefs [12,13].

The finding of the study suggested admission types and level of education had a significant effect on enacting – abstinence both on confidence not to make premarital sex and ability to delay sex till marriage. Academic year level had also significant effect on correctly and consistently use of condom. This is consistent with the findings of Ministry of Health which depicts respondents with a higher level of schooling were aware of various preventive methods [14]. Sexual risk behaviour can be avoided by limiting the number of sexual partners, delaying individual sexual debut and having protected sex is curtail in the prevention and control of HIV/AIDS. In line with these explanations, our result showed a significant difference between male and female in pass challenging situation in remaining mutual monogamy in the absence of each partner [15]. This difference might be because of biological differences between male and female.

According to Malindwa, there are different social; and individual reasons (barriers) that may contribute to low level of condom use, knowing what condom is, from where to get it and how to use it correctly, can be taken as factors that increase self-efficacy towards use of condom by an individual [16]. This shows that males and female adolescents share similar attitude towards AIDS. From the calculations; it is observed that both share negative attitude towards AIDS. This is an indication that little or nothing have been done to change the negative attitude of public particularly adolescents towards AIDS. Most adolescents still believe that AIDS is rumour especially some that resides in the rural area. Some of them about 30% do not know the meaning of HIV or AIDS while other sees it as a curse. Majority of them

vowed not to have anything in common with any individual living with the virus. This negative attitude promotes stigmatization against people living with HIV/AIDS. While microscopic few individual adolescents share positive attitude to AIDS and those living with the virus, majority show discriminative attitude towards it.

However, the issue of negative attitude towards AIDS and PLWHA has become a global problem. In Hong Kong also reported high level of discriminatory attitude towards HIV/AIDS and PLWHA among adolescents [17]. This indicates that urban and rural adolescents differ significantly on their attitude towards AIDS. In other words, adolescents who live in the rural area do not share the same attitude with those who live in the urban area toward AIDS.

The statistical mean indicates that adolescents who live in the rural area show higher negative attitude towards AIDS than those who live in the urban area. Though the normative mean indicates that both urban and rural adolescents have negative attitude towards AIDS, it went further to reveal that it is very high among those who live in the rural area. The reason for this may be attributed to various factors such as illiteracy, lack of proper knowledge about HIV/AIDS, belief system, cultural factors and so on. Most of the adolescents in the rural areas were illiterates. Majority of them ended their education at primary school while others were drop out from secondary school. This affects their sense of reality and general knowledge about AIDS. In addition most belief that AIDS is a curse, others say that there is nothing like AIDS.

AIDS is an important public health problem because the complex, emotional, behavioural, and psychosocial complication that accompany the physical illness. The best single way to prevent the disease is through education [18-20]. Prevention of HIV/AIDS infection through continuing education is a key strategy for the control of the HIV/AIDS epidemic at least until vaccines and drugs are available, accessible and affordable.

In order to restrict the AIDS pandemic, it is crucial to induce changes not only in awareness and attitudes, but also behaviour which would reduce the possibility of HIV/AIDS infection [21]. Nineteen present of students in a study in Israel had the attitude that HIV-positive students should not be allowed to continue their studies as they can endanger their fellow students [22].

## Conclusion and Recommendation

The undergraduate students are particularly vulnerable to HIV/AIDS due to their age group which constitutes the peak period for sexual activity. Majority of the students had negative attitudes towards the three HIV/AIDS prevention and control methods (mutual monogamy, sexual abstinence and consistent and correct condom use). Socio-demographic variables such as age, sex, academic year level, admission type, had significant effect on cognitive distortions or dysfunctional belief about sexual abstinence, mutual monogamy and condom use. Perhaps the most encouraging fact was that students overall show a considerate and compassionate attitude towards those infected. Students also indicate a positive and healthy attitude towards those infected with HIV/AIDS, which could be due to accurate knowledge of this disease.

HIV/AIDS counselling, health education and intervention strategies must focus on behavioural changes and negative attitudes towards HIV/AIDS. Madda Walabu University should offer health education program related to HIV/AIDS prevention among their students. Beside health education, intervention strategies must focus

on behavioural changes towards safer sex, and changing the negative attitude towards HIV/AIDS and those infected with HIV.

### Authors' Contribution

AG and GD conceived and designed the study. AG and GD were involved in the conception. AG analysed the data. AG prepared the manuscript. AG critically reviewed the manuscript. AG and GD assisted in the data collection and reviewed the manuscript. All authors have read and approved the final manuscript.

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