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HIV/AIDS AWARENESS AND RISK BEHAVIOUR AMONG COLLEGE STUDENTS OF CENTRAL ASSAM: A CROSS SECTIONAL STUDY

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Abstract:

Background: Acquired Immunodeficiency Syndrome (AIDS) poses a severe challenge to healthcare and is a significant public health issue worldwide. Young people tend to engage in sexual activity at tender ages and knowledge is an essential precursor of sexual risk reduction[4]. As more than one third of the population in India is young adults and adolescents, reaching and educating them is a key for prevention programmes and a healthier future[8] . The aim of the current study was to assess the knowledge about HIV/AIDS among college students and their risk behaviors

Background & Rationale for the study:

Acquired Immunodeficiency Syndrome (AIDS) poses a severe challenge to healthcare and is a significant public health issue worldwide. Young people tend to engage in sexual activity at tender ages and knowledge is an essential precursor of sexual risk reduction[4]. Sometimes STIs may be viewed as unavoidable or may even be viewed as an "initiation into adulthood". Historically knowledge about STIs has been very low even in communities where there is high prevalence of STIs[4].

As more than one third of the population in India is young adults and adolescents, reaching and educating them is a key for prevention programmes and a healthier future[8].

One of the studies on the subject showed that only 13.5% senior school students had clear knowledge regarding AIDS- its general aspects, transmission and prevention. Girls had higher and clear knowledge than boys[4].Approximately86% of the subjects knew AIDS was transmitted sexually, but the percentages aware of other transmission pathways and effective preventive measures were much lower.

About 64% of all the survey subjects reported experiencing sexual intercourse (90% of the males, 50% of the females)[9].Use of condoms was cited as a preventive measure by 41% of the students, but by significantly more male respondents than female respondents. 60% of the study participants were very much worried about AIDS. But, only 23% considered themselves at risk of contracting

the disease [9].

Unfortunately, there is a shortage of evidence on what predicts awareness of HIV among young adults in the North-Eastern states and particularly Assam. Almost all the research in India is based on beliefs, attitudes, and awareness of HIV. However, this current study has tried to cover the level of knowledge on HIV/AIDS and its transmission and prevention measures. Also, this current study has tried to identify the associated high risk sexual behavioural practices among the young students in middle Assam districts viz., Karbi-Anglong, Nagaon and Hojai districts.

Objective

1. The objective of the study was to assess the knowledge about HIV/AIDS among college students and their risk behaviors.

Detailed research plan:

a) Hypothesis: None.

b) Sample Size-Considering default prevalence, the sample size was calculated by– Z^2pq/l^2 (where Z= 1.96, p= 50, q=50 and l=3%). Sample size was calculated as 1068. Considering 10% non-respondents, the sample size was 1176 which was rounded off to 1200.

c) Sampling design-The proportionate to size sampling method was adopted. In Nagaon district, there were more number of eligible colleges (9) as compared to other two districts. Hence, three colleges were randomly selected in Nagaon district. If, the selected respondent not fulfilling the inclusion criteria or not willing to participate, then immediate next roll number was included till the required sample is obtained. Similar sampling method was adopted for selection of participants in the two districts of Hojai and Karbi-Anglong as done at Nagaon district.

d) Methodology-This cross-sectional study was carried-out in three districts, namely, Nagaon, Hojai and Karbi-Anglong in the central Assam. Around 1194 students from 7 colleges (three colleges from Nagaon district and two colleges from each Hojai and Karbi-Anglong districts) were included in-to the study. Around 600 students from Nagaon and 220 students from Hojai and 374 students from Karbi-Anglong were recruited in-to the study. The data collection was done using a pre-designed and pre-tested questionnaire. Data analysis was done using SPSS.20.

Inclusion Criteria:

1. Any student who was studying in the bachelor degree course aged completed 18 years and more.
2. Those who gave informed consent.

Exclusion Criteria:

1. Any student aged < 18 years and didn't meet the above criteria.
2. Those not willing to participate in this study.

e. Statistical Method used-The collected information were entered in SPSS.20 spreadsheet and analyzed using both descriptive and inferential statistics.

f. Tools-Pre-designed and pre-tested questionnaire.

g. Implementation/Operational Plan: A formal communication was made to the selected colleges and on approval from the college authority only data collection was started in that college. The study was conducted by the field team, who were selected from each district and were trained beforehand and were collecting the data from the selected students using a pre-designed and pre-tested questionnaire.

h. Quality Assurance and Quality Control Protocols: Periodic meetings with the field investigators on virtual platform were conducted to resolve the issues that were flagged during the data collection process and time to time guidance were also provided on the completeness and correctness of the data collection processes.

i. Ethical considerations & respondent protection measures**:** Ethical approval was taken from the Institutional Ethics Committee of Diphu Medical College and Hospital and a written informed consent was taken from all the study participants.

Findings:

Background Characteristics:

Table 1: Age and gender distribution of the study participants

Age in completed years (Count % column wise)	Sex		Total (%)
	Male (%)	Female (%)	
19	151 (28.8%)	283 (42.3%)	434 (36.3%)
20	225 (42.9%)	276 (41.3%)	501 (42.0%)
21	85 (16.2%)	75 (11.2%)	160 (13.4%)
22	49 (9.3%)	23 (3.4%)	72 (6.0%)
23	12 (2.3%)	10 (1.5%)	22 (1.8%)
24	02 (0.4%)	02 (0.3%)	04 (0.3%)
25	01 (0.2%)	-	01 (0.1%)
Total	**525 (100%)**	**669 (100%)**	**1194 (100%)**

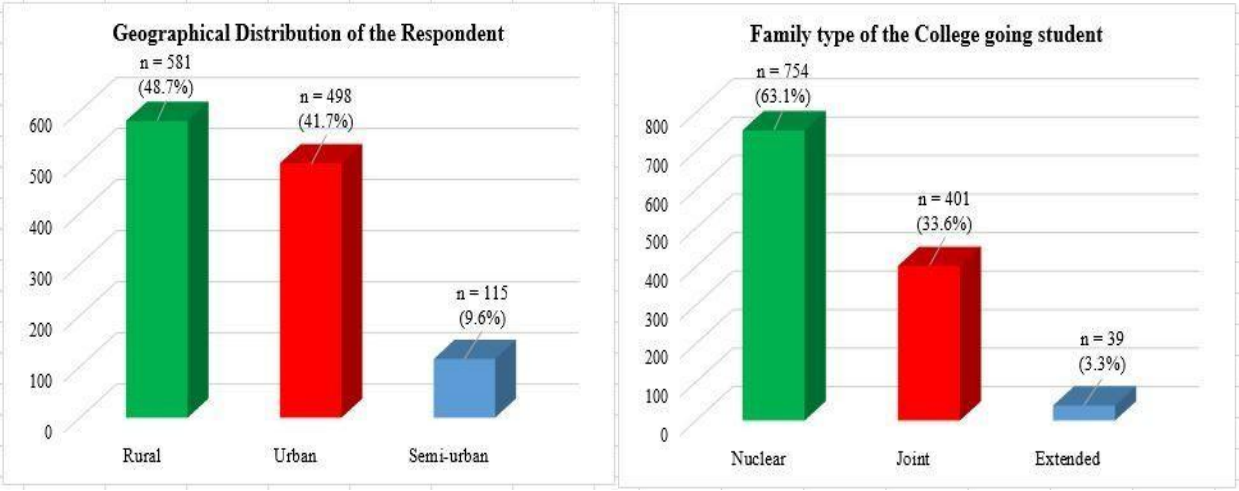
It was observed from table 1 that, majority of the study participants (78.3%) were less than 20 years of age and 83.6% of them were females.

Table 2:**District wise Distribution of Study Participants by Age and Sex:**

KARBI ANGLONG DISTRICT			
Age in completed years (Count % column wise)	**Sex**		**Total (%)**
	Male (%)	**Female (%)**	
19	56 (28.4%)	77 (43.5%)	133 (35.6%)
20	63 (32.0%)	50 (28.2%)	113 (30.2%)
21	48 (24.4%)	33 (18.6%)	81 (21.7%)
22	24 (12.2%)	12 (6.8%)	36 (9.6%)
23	05 (2.5%)	04 (2.3%)	09 (2.4%)
24	01 (0.5%)	01 (0.6%)	02 (0.5%)
25	-	-	-
Total	**197 (100%)**	**177 (100%)**	**374 (100%)**
HOJAI DISTRICT			
19	27 (22.0%)	30 (30.9%)	57 (25.9%)
20	48 (39.0%)	51 (52.6%)	99 (45.0%)
21	26 (21.1%)	13 (13.4%)	39 (17.7%)
22	16 (13.0%)	02 (2.1%)	18 (8.2%)
23	04 (3.3%)	01 (1.0%)	05 (2.3%)
24	01 (0.8%)	-	01 (0.5%)
25	01 (0.8%)	-	01 (0.5%)
Total	**123 (100%)**	**97 (100%)**	**220 (100%)**
NAGAON DISTRICT			
19	68 (33.2%)	176 (44.5%)	244 (40.7%)
20	114 (55.7%)	175 (44.3%)	289 (48.2%)
21	11 (5.3%)	29 (7.3%)	40 (6.7%)
22	09 (4.4%)	09 (2.3%)	18 (3.0%)
23	03 (1.5%)	05 (1.3%)	08 (1.3%)
24	-	01 (0.2%)	01 (0.2%)
25	-	-	-
Total	**205 (100%)**	**395 (100%)**	**600 (100%)**

It was also observed from table 2 that, in the district of Karbi-Anglong, approximately 65.8% of the study participants were less than 20 years with more females (71.7%) compared to males (60.4%). In the district of Hojai, approximately 70.9% of the study participants were less than 20 years with more females (83.5%) compared to males (61%).
In the district of Nagaon approximately 88.9% of the study participants were less than 20 years with more males (88.9%). compared to females (88.3%).

Diagram 1: Socio-demographic distribution of participants:



It was observed in the diagram 1 above that, 48.7% of the respondents were resident of rural areas and 63.1% of them coming from nuclear families. As observed also from diagram 1 that, 48.7% of the respondents were residing in rural areas and 63.1% of them belong to nuclear families

Current Status of Knowledge:

Table 3: College Students knowledge on HIV & AIDS Terminologies

Knowledge on terminology	Number	Percentage
HIV stands for		
Human Immunity Virus	169	14.2%
Human Immunodeficiency Virus	939	78.6%
Human Intelligence Vaccine	40	3.4%
Human Idiotic Virus	46	3.9%
AIDS stands for		
Acquired Infectious Disease Symptom	119	10.0%
Acquired Infectious Disease Syndrome	134	11.2%
Acquired Immunodeficiency Symptom	184	15.4%
Acquired Immunodeficiency Syndrome	757	63.4%

It was observed that, 78.6% of the respondents could correctly mention the full form of HIV and another 63.4% for AIDS respectively. Majority of student respondents 58.4% (n=697) knew the full terminology of both HIV and AIDS.

Table 4. District & Gender wise correct terminology of HIV and AIDS

Correct terminology of HIV (% counted from correct response only)	**Karbi-Anglong District**		**Hojai District**		**Nagaon District**	
	Correct Responses (n = 292) *78.1% from 374 samples*		**Correct Responses (n = 161)** *73.2% from 220 samples*		**Correct Responses (n = 486)** *81.0% from 600 samples*	
	Male (%)	**Female (%)**	**Male (%)**	**Female (%)**	**Male (%)**	**Female (%)**
	147 (50.3%)	145 (49.7%)	83 (51.6%)	78 (48.4%)	188 (38.7%)	298 (61.3%)

Correct terminology of AIDS	**Correct Responses (n = 185)** *49.5% from 374 samples*		**Correct Responses (n = 139)** *63.2% from 220 samples*		**Correct Responses (n = 433)** *72.2% from 600 samples*	
(% counted from correct response only)	99 (53.5%)	86 (46.5%)	78 (56.1%)	61 (43.9%)	167 (38.6%)	266 (61.4%)

It was observed that from table 4 that, in Karbi-Anglong District, 94.1 % respondents knew HIV is transmitted by unprotected casual sex followed by 93.0% in Nagaon and 90.0% in HojaiDistrict. However, 37.7% in Hojai responded that HIV is transmitted by Mosquito bite, 28.9%in Karbi-Anglong, and another 20.0% in Nagaon.

Current Status of Knowledge

Table 5: Distribution of current status of knowledge on HIV/AIDS of College Students

Current Status of Knowledge on HIV/AIDS	**Responses**	
	Yes (%)	**No (%)**
Modes of transmission		
HIV transmitted by unprotected casual sex	1108 (92.8%)	86 (7.2%)
HIV transmitted from infected mother to child	1008 (84.4%)	186 (15.6%)
HIV transmitted through air or water	288 (24.1%)	906 (75.9%)
HIV transmitted by mosquito bite	311 (26.0%)	883 (74.0%)
HIV transmitted by sharing toilets, foods or drinks	317 (26.5%)	877 (73.5%)
Modes of Prevention		
HIV/AIDS prevented by using condom	921 (77.1%)	273 (22.9%)
HIV/AIDS prevented by using contraceptive pills	361 (30.2%)	833 (69.8%)
HIV/AIDS prevented by avoiding needle sharing	848 (71.0%)	346 (29.0%)
HIV/AIDS prevented by avoiding alcohol/smoking	189 (15.8%)	1005 (84.2%)
HIV/AIDS prevented through vaccination	472 (39.5%)	722 (60.5%)
Knowledge on ART and ICTC		
ART is available for HIV positive individuals	637 (53.4%)	557 (46.6%)
ART centre available in your district	489 (41.0%)	705 (59.0%)
ICTC centre available in your district	492 (41.2%)	702 (58.8%)

It was observed that, 45.3% (n=541) respondents knew all the modes of transmission of HIV. Another, 30.3% (n=362) respondents knew all the mentioned modes of AIDS prevention. Overall, 20.0% (n=239) respondents knew the above cited modes of transmission and prevention of HIV/AIDS.30.8% (n=368) respondents had knowledge on the above cited both ART and availability of ART centre.

Table 6. District wise current status of Knowledge on the transmission and prevention of HIV/AIDS :

Current Status of Knowledge on HIV/AIDS	**Karbi-Anglong District**		**Hojai District**		**Nagaon District**	
	Responses (n = 374)		**Responses (n = 220)**		**Responses (n = 600)**	
	Yes (%)	**No (%)**	**Yes (%)**	**No (%)**	**Yes (%)**	**No (%)**
Knowledge on HIV Transmission						
HIV transmitted by unprotected casual sex	352 (94.1%)	22 (5.9%)	198 (90.0%)	22 (10.0%)	558 (93.0%)	42 (7.0%)
HIV transmitted from infected mother to child	315 (84.2%)	59 (15.8%)	175 (79.5%)	45 (20.5%)	518 (86.3%)	82 (13.7%)
HIV transmitted through air or water	74 (19.8%)	300 (80.2%)	54 (24.5%)	166 (75.5%)	160 (26.7%)	440 (73.3%)
HIV transmitted by mosquito bite	108 (28.9%)	266 (71.1%)	83 (37.7%)	137 (62.3%)	120 (20.0%)	480 (80.0%)
HIV transmitted by sharing toilets, foods or drinks	127 (34.0%)	247 (66.0%)	100 (45.5%)	120 (54.5%)	90 (15.0%)	510 (85.0%)
Knowledge on HIV Preventions						

HIV/AIDS prevented by using condom	269 (71.9%)	105 (28.1%)	184 (83.6%)	36 (16.4%)	468 (78.0%)	132 (22.0%)
HIV/AIDS prevented by using contraceptive pills	133 (35.6%)	241 (64.4%)	54 (24.5%)	166 (75.5%)	174 (29.0%)	426 (71.0%)
HIV/AIDS prevented by avoiding needle sharing	266 (71.1%)	108 (28.9%)	173 (78.6%)	47 (21.4%)	409 (68.2%)	191 (31.8%)
HIV/AIDS prevented by avoiding alcohol/smoking	74 (19.8%)	300 (80.2%)	40 (18.2%)	180 (81.8%)	75 (12.5%)	525 (87.5%)
HIV/AIDS prevented through vaccination	149 (39.8%)	225 (60.2%)	105 (47.7%)	115 (52.3%)	218 (36.3%)	382 (63.7%)

It was observed from table 6 that, in Karbi-Anglong District, 94.1 % respondents knew HIV is transmitted by unprotected casual sex followed by 93.0% in Nagaon and 90.0% in Hojai District. However, 37.7% in Hojai responded that HIV is transmitted by Mosquito bite, 28.9% in Karbi Anglong, and another 20.0% in Nagaon. Also, it was observed from table 6 that, in Hojai district, 83.6% knew that HIV/AIDS can be prevented by using condom followed by 78.0% in Nagaon and 71.9% in Karbi-Anglong. However, 47.7% in Hojai responded that Vaccination is available for preventing HIV/AIDS followed by 39.8% in Karbi-Anglong and 36.3% in Nagaon.

Table 7. District and Gender wise current status of Knowledge on the transmission and Prevention of HIV/AIDS :

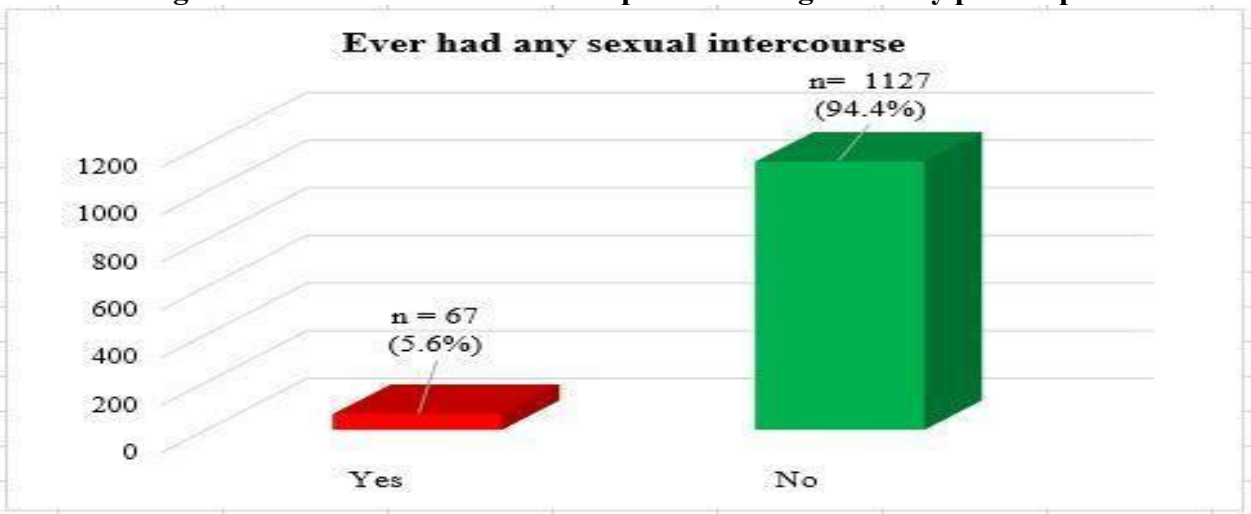
Genderwise knowledge on the transmission and Prevention of HIV/AIDS (Count % within rows)	**KarbiAnglong District (M = 197; F = 177)**		**Hojai District (M = 123; F = 97)**		**Nagaon District (M = 205; F = 395)**	
	Yes (%)	**No (%)**	**Yes (%)**	**No (%)**	**Yes (%)**	**No (%)**
HIV transmitted by unprotected casual sex						
Male	183 (92.9%)	14 (7.1%)	113 (91.9%)	10 (8.1%)	195 (95.1%)	10 (4.9%)
Female	169 (95.5%)	08 (4.5%)	85 (87.6%)	12 (12.4%)	363 (91.9%)	32 (8.1%)
HIV transmitted from infected mother to child						
Male	165 (83.8%)	32 (16.2%)	97 (78.9%)	26 (21.1%)	193 (94.1%)	12 (5.9%)
Female	150 (84.7%)	27 (15.3%)	78 (80.4%)	19 (19.6%)	325 (82.3%)	70 (17.7%)
HIV transmitted through air or water						
Male	33 (16.8%)	164 (83.2%)	25 (20.3%)	98 (79.7%)	65 (31.7%)	140 (68.3%)
Female	41 (23.2%)	136 (76.8%)	29 (29.9%)	68 (70.1%)	95 (24.1%)	300 (75.9%)
HIV transmitted by mosquito bite						
Male	56 (28.4%)	141 (71.6%)	56 (45.5%)	67 (54.5%)	41 (20.0%)	164 (80.0%)
Female	52 (29.4%)	125 (70.6%)	27 (27.8%)	70 (72.2%)	79 (20.0%)	316 (80.0%)
HIV transmitted by sharing toilets, foods or drinks						
Male	71 (36.0%)	126 (64.0%)	62 (50.4%)	61 (49.6%)	22 (10.7%)	183 (89.3%)
Female	56 (31.6%)	121 (68.4%)	38 (39.2%)	59 (60.8%)	68 (17.2%)	327 (82.8%)
HIV/AIDS prevented by using condom						
Male	143 (72.6%)	54 (27.4%)	105 (85.4%)	18 (14.6%)	186 (90.7%)	19 (9.3%)
Female	126 (71.2%)	51 (28.8%)	79 (81.4%)	18 (18.6%)	282 (71.4%)	113 (28.6%)
HIV/AIDS prevented by using contraceptive pills						
Male	67 (34.0%)	130 (66.0%)	31 (25.2%)	92 (74.8%)	68 (33.2%)	137 (66.8%)
Female	66 (37.3%)	111	23	74	106	289 (73.2%)

		(62.7%)	(23.7%)	(76.3%)	(26.8%)	
HIV/AIDS prevented by avoiding needle sharing						
Male	137 (69.5%)	60 (30.5%)	95 (77.2%)	28 (22.8%)	160 (78.0%)	45 (22.0%)
Female	129 (72.9%)	48 (27.1%)	78 (80.4%)	19 (19.6%)	249 (63.0%)	146 (37.0%)
HIV/AIDS prevented by avoiding alcohol/smoking						
Male	41 (20.8%)	156 (79.2%)	20 (16.3%)	103 (83.7%)	21 (10.2%)	184 (89.8%)
Female	33 (18.6%)	144 (81.4%)	20 (20.6%)	77 (79.4%)	54 (13.7%)	341 (86.3%)
HIV/AIDS prevented through vaccination						
Male	72 (36.5%)	125 (63.5%)	56 (45.5%)	67 (54.5%)	58 (28.3%)	147 (71.7%)
Female	77 (43.5%)	100 (56.5%)	49 (50.5%)	48 (49.5%)	160 (40.5%)	235 (59.5%)

It was observed in table 7 that, in Karbi-Anglong district, 95.5% Female respondents knew HIV is transmitted by unprotected casual sex compared to 92.9% males, while 29.4% females feel that HIV is transmitted by Mosquito bite compared to 28.6% males.
In Hojai district, 87.6% Female respondents knew HIV is transmitted by unprotected casual sex compared to 91.9% males. while 27.8% females feel that HIV is transmitted by Mosquito bite compared to 45.5% males In Nagaon district, 91.9% Female respondents knew HIV is transmitted by unprotected casual sex compared to 95.1% males. While 20.0% females and males feel that HIV is transmitted by Mosquito bite.
Also, it was observed from table 7 that, in Kabi-Anglong, 72.6% males knew that HIV/AIDS can be prevented by using condom compared to 71.2% females. However, 43.5% females feel that Vaccination is available for preventing HIV/AIDS compared to 56.5% males.
In Hojai, 85.4% males knew that HIV/AIDS can be prevented by using condom compared to 81.4% females. However, 50.5% females feel that Vaccination is available for preventing HIV/AIDS compared to 45.5 males.
In Nagaon District, 90.7% males knew that HIV/AIDS can be prevented by using condom compared to 71.4% females. However, 40.5% females feel that Vaccination is available for preventing HIV/AIDS compared to 28.3 males

Risk Behaviour-

Diagram 2: Distribution of sexual exposure among the study particiapnts:



It was observed from the above diagram that,5.6% of the responding students (n=67) have ever had sexual intercourse before the study period.

Table 8 District and Gender wise sexual exposure of participants:

District	Male (A)	Female (B)	Total Exposures	Total Participants	% of exposure
KarbiAnglong	41 (91.1%)	04 (8.9%)	45 (100%)	374	12.0%
Hojai	15 (100%)	-	15 (100%)	220	6.8%
Nagaon	05 (71.4%)	02 (28.6%)	07 (100%)	600	1.2%
Total	61 (91.0%)	06 (9.0%)	67 (100%)	1194	5.6%

In table 8, it was observed that, 5.6 % (n-67) respondents have ever had sexual exposure with participants from Karbi-Anglong leading with 12.0% (n-45) followed by Hojai at 6.8% (n-15) and Nagaon at 1.2% (n-7).
It was also observed that, male have submitted sexual exposure more (91.0%, n-61) compared to females (9.0%, n-06).

Table 9: Status of condom use during first sexual intercourse

Condom use	**No. of Respondents**	**Percentage**
Yes	31	46.3%
No	26	38.8%
Do not remember	10	14.9%
Total	**67**	**100%**

It was observed in the table-9 that, 38.8% (n=26) of the sexually active respondents had not used condom and another 14.9% could not remember use of condom during the first sexual intercourse.

Table 10:District wise condom uses during first and last sexual intercourse:

Condom use during sexual intercourse	**KarbiAnglong District**		**Hojai District**		**Nagaon District**	
	Responses 12.0% (n = 45)		**Responses 6.8% (n = 15)**		**Responses 1.2% (n = 7)**	
	First exposure (%)	**Last Exposure (%)**	**Yes (%)**	**No (%)**	**First exposure (%)**	**Last Exposure (%)**
Yes	16 (35.6%)	15 (33.3%)	08 (53.3%)	09 (60.0%)	07 (100%)	04 (57.1%)
No	23 (51.1%)	19 (42.2%)	03 (20.0%)	03 (20.0%)	-	-
Do not remember	06 (13.3%)	11 (24.4%)	04 (26.7%)	03 (20.0%)	-	03 (42.9%)

It was observed from table 10 that, in Karbi-Anglong district, 51.1% of the study participants who have ever had sexual exposure had not used condom and another 13.3% could not recall. When asked about condom use during their most recent sexual intercourse in the preceding three months of the study period, 42.2% reported not using a condom.
In the district of Hojai 20.0% of the study participants who have ever had sexual exposure had not used condom and another 26.7% could not recall. Also, during the preceding 3 months of the study period, 20.0 % have not used condom during their recent sexual exposure.
In the district of Nagaon 100% of the study participants who have ever had sexual exposure had used condom. However, during the preceding 3 months of the study period, 42.9%% could not recall use of condom during their recent sexual exposure.

Table 11: District and Gender wise distribution of participants who ever tested HIV/AIDS:

District	**Male (A)**	**Female (B)**	**Total No of respondents who ever tested HIV/AIDS**	**Total Participants**	**% of ever testing for HIV/AIDS**
KarbiAnglong	08 (88.9%)	01 (11.1%)	09 (100%)	374	2.4%
Hojai	-	01 (100%)	01 (100%)	220	0.5%
Nagaon	-	10 (100%)	10 (100%)	600	1.7%
Total	**08 (20%)**	**12 (60%)**	**20 (100%)**	**1194**	**1.7%**

Study Participants were asked if they would be willing to take the HIV test in near future and it was observed from table 11that, 52.2% of the study participants, were willing for testing for HIV/AIDS leading with the females (57.9%) compared to males (42.1%). Moreover, the felt need for HIV/AIDS testing was reportedly high in Nagaon district (57.8%) followed by Karbi-Anglong (50.3%) and Hojai(40.0%).

Table 12: District and Gender wise distribution of participants who were willing for HIV/AIDS testing:

District	Male (A)	Female (B)	Total No of respondents who were willing for HIV/AIDS testing	Total Participants	% of participants who were willing from overall participants
Karbi-Anglong	96 (25.7%)	92 (24.6%)	188 (100%)	374	50.3%
Hojai	48 (21.8%)	40 (18.2%)	88 (100%)	220	40.0%
Nagaon	118 (34.0%)	229 (66.0%)	347 (100%)	600	57.8%
Total	**262 (42.1%)**	**361 (57.9%)**	**623 (100%)**	**1194**	**52.2%**

Study Participants were asked if they would be willing to take the HIV test in near future and it was observed from table 12 that, 52.2% of the study participants, were willing for testing for HIV/AIDS leading with the females (57.9%) compared to males (42.1%). Moreover, the felt need for HIV/AIDS testing was reportedly high in Nogaon district (57.8%) followed by Karbi-Anglong (50.3%) and Hojai(40.0%).

Discussion

This study assessed the extent of awareness about HIV/AIDS and associated risk behaviors among college students in central Assam, a region with limited prior research on youth knowledge and practices. The findings indicate that while awareness levels are fairly high, they remain incomplete, with persisting misconceptions and gaps in preventive behaviors. These results provide important direction for developing targeted educational interventions in the North-Eastern Indian setting. A notable strength of this work is its large and diverse sample, spanning three different districts. Nearly 60% of participants could accurately differentiate between HIV and AIDS, and over 90% acknowledged unprotected sexual intercourse as the principal route of transmission. These observations mirror findings from other parts of India, where sexual transmission is widely recognized, but awareness of mother-to-child and parenteral transmission remains lower (Mishra et al., 2020). Around one-fourth to one-third of respondents incorrectly believed that HIV could spread through mosquito bites, food sharing, or casual social contact. This is consistent with patterns documented in Sub-Saharan Africa, where myths coexist with scientific awareness (Okonkwo et al., 2021). Such misunderstandings fuel stigma and discrimination, discouraging individuals from accessing testing and treatment (Mahajan et al.,(2008).

With regard to preventive practices, nearly three-fourths of participants identified condom use as protective, yet only 46% of sexually active respondents reported using condoms during their first sexual encounter. This knowledge–behavior gap is commonly reported in HIV research. University-based studies in South Asia have similarly shown irregular condom use despite awareness (Rahman et al., 2018).

Awareness of treatment and counseling services was low, with less than half of students reporting knowledge of antiretroviral therapy (ART) or Integrated Counseling and Testing Centres (ICTCs). This represents a substantial gap in prevention efforts, as limited awareness of available services contributes to late diagnosis and poor outcomes. Previous work shows that awareness of ART not only improves testing rates but also reduces stigma by framing HIV as a manageable chronic disease rather than a fatal condition.

The proportion of sexually active respondents (5.6%) was lower than national studies on Indian youth, which suggest rates between 10–25% (Jejeebhoy et al., 2015). However, the higher prevalence in Karbi Anglong district (12%) points to district-level variations, likely influenced by

socio-cultural factors. Alarmingly, more than 40% of sexually active students reported inconsistent condom use, signaling heightened risk within this subgroup.

Another positive observation is that more than half of the participants expressed willingness to undergo HIV testing, with females showing greater readiness compared to males. While this indicates a favourable attitude, the challenge lies in converting intention into actual uptake. Studies in other low- and middle-income countries show that strategies such as mobile testing units, peer-based interventions, and campus-based testing initiatives substantially increase participation among young people (Mwale et al 2020).The implications of these findings are broad. Firstly, educational initiatives should extend beyond basic information to include biomedical prevention, service availability, and correction of myths. Secondly, gender-sensitive and peer-led approaches may help bridge the gap between knowledge and practice. Finally, collaboration between health authorities, educational institutions, and community groups will be necessary to ensure lasting outcomes.

The study has some limitations. Being cross-sectional, it cannot establish causal links between knowledge and behaviours. In addition, self-reported sexual practices may have been under-reported due to social desirability bias, particularly in culturally conservative contexts. Nevertheless, the findings contribute valuable evidence from a region where data remain scarce.

Conclusion

Majority of study participants (58.4%) knew the full terminology of both HIV and AIDS while 45.3% respondents knew all the modes of transmission of HIV and another, 30.3% responded correctly of the modes of AIDS prevention In Nagaon district 81.0% responded correctly on full form of HIV followed by Karbi-Anglong, 78.1 % and Hojai at 73.2%.A number of respondents feel that vaccination is available for prevention of HIV/AIDS.

About 5.6 % respondents have ever had sexual exposure which was reportedly lead by Karbi-Anglong 12.0% followed by Hojai at 6.8% and Nagaon at 1.2% Approximately**,** 41.8% of the respondents who have ever had sexual exposure had it before the age of completed 18 years.

About 0.7% of the study participants who have sexual exposure have had more than once a month followed by 0.9% of having it once a month.

About 51.1% participants who have ever had sexual exposure had not used condom in the district of Karbi-Anglong followed by 20.0% in Hojai and another 42.9% of the respondents in Nagaon could not recall using condom during their last sexual exposure.

Approximately 52.2% of the study participants were willing for testing for HIV/AIDS leading with the females (57.9%) compared to males (42.1%).

Moreover, the felt need for HIV/AIDS testing was reportedly high in Nagaon district (57.8%) followed by Karbi-Anglong (50.3%) and Hojai (40.0%).

Recommendations for the programme

1) Mitigating measures for High risk behaviour in these age group may be initiated like Peer support group, awareness campaigns for STI/RTI in colleges may be considered.

2) As there is a felt need for testing for HIV/AIDS, periodic testing facility may be arranged to address the felt need.

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