A REPORT ON IMPROVING HIV/AIDS KNOWLEDGE ACCURACY AMONGS UNIVERSITY STUDENTS IN NIGERIA

Descriptive Statistics Interpretation

(Categorical Demographics Data)

Age Group of Participants – Frequency Distribution

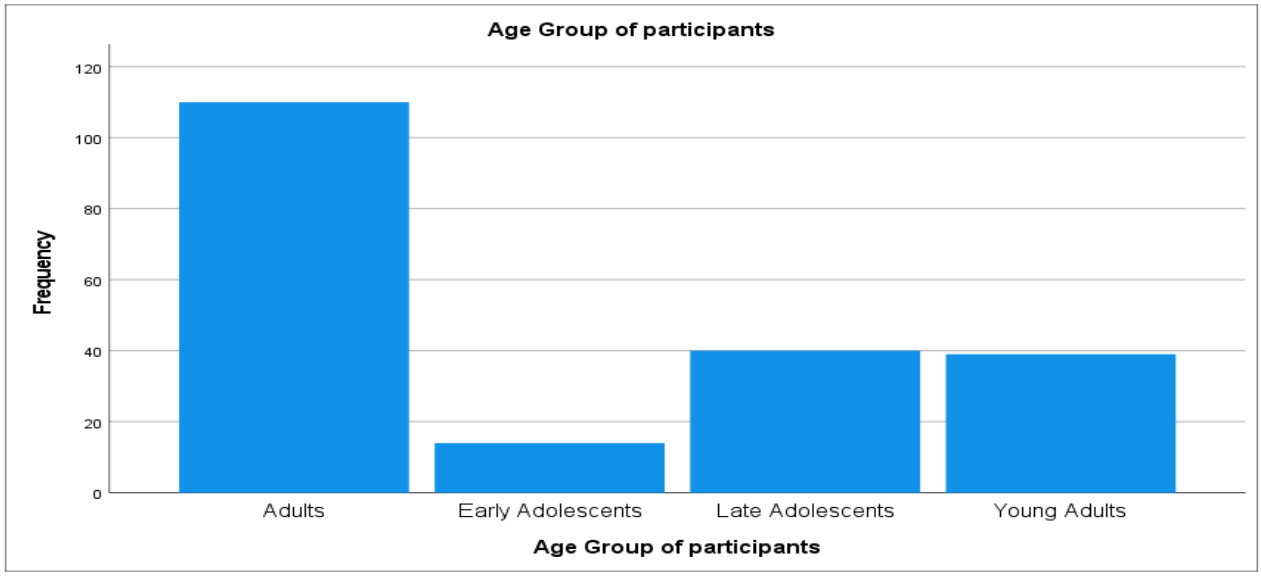
A total of 203 university students participated in the survey. The distribution of their age groups is as follows:

- **Adults** made up the largest proportion, with **110 respondents (54.2%)**, indicating that over half of the participants fall within this age category.
- **Late Adolescents** accounted for **40 participants (19.7%)**.
- **Young Adults** followed closely with **39 participants (19.2%)**.
- **Early Adolescents** were the smallest group, consisting of **14 participants (6.9%)**.

This distribution suggests that the majority of the respondents are within the adult age bracket, with a significantly smaller portion being early adolescents.

Age Group of participants

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Adults	110	54.2	54.2	54.2
	Early Adolescents	14	6.9	6.9	61.1
	Late Adolescents	40	19.7	19.7	80.8
	Young Adults	39	19.2	19.2	100.0
	Total	203	100.0	100.0	



Gender of Participants – Frequency Distribution

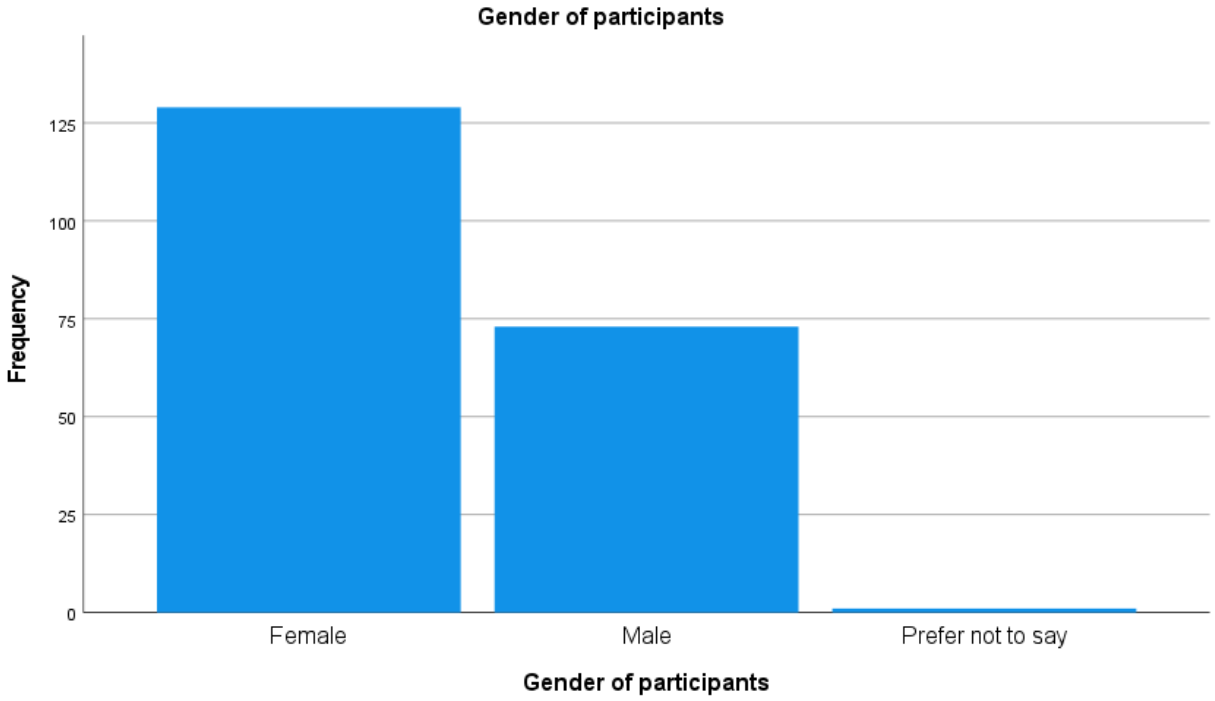
Out of **203 participants**:

- **129 (63.5%)** identified as **female**, representing the majority of the sample.
- **73 (36.0%)** identified as **male**.
- **1 participant (0.5%)** selected **"Prefer not to say"**.

This gender distribution shows a higher representation of females in the study, which may influence how certain insights (like HIV knowledge levels) trend across gender lines.

Gender of participants

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	129	63.5	63.5	63.5
	Male	73	36.0	36.0	99.5
	Prefer not to say	1	.5	.5	100.0
	Total	203	100.0	100.0	



Areas (Rural/Urban) – Frequency Distribution

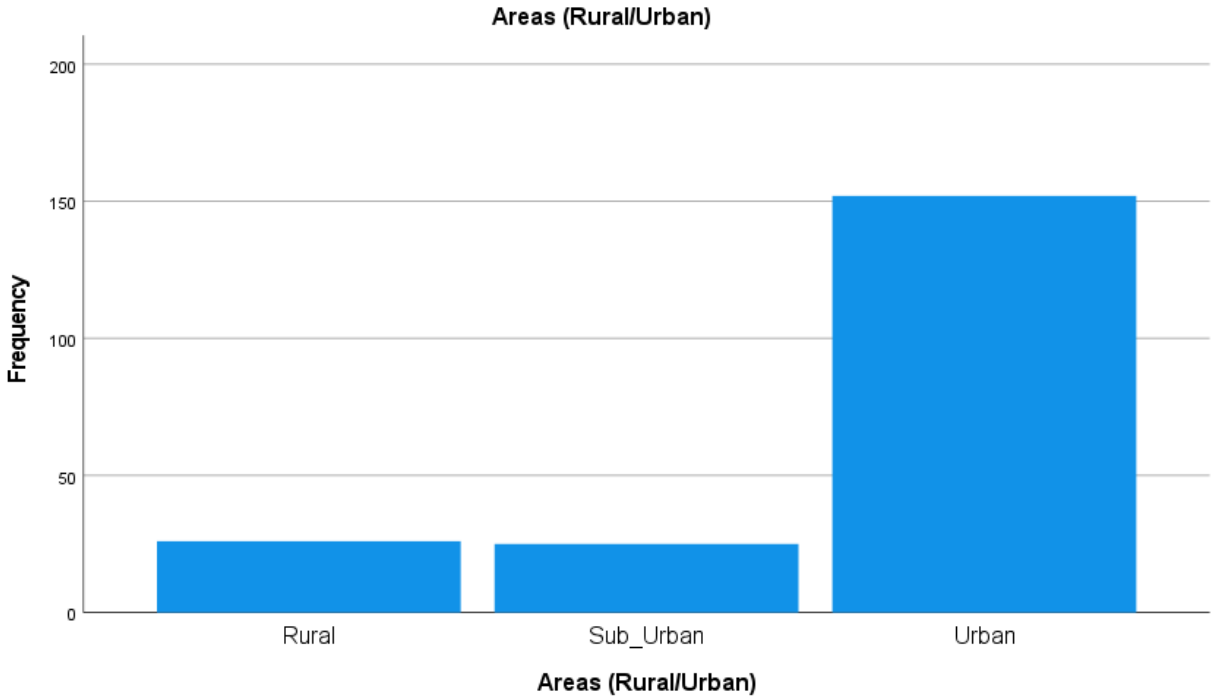
Among the **203 participants**:

- **152 participants (74.9%)** reported living in **urban** areas, making them the dominant group.
- **26 participants (12.8%)** were from **rural** areas.
- **25 participants (12.3%)** identified as living in **sub-urban** areas.

This indicates that the majority of respondents are from urban locations, which might correlate with better access to HIV/AIDS information and health services. Comparisons across area types may help identify geographic gaps in knowledge or access.

Areas (Rural/Urban)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rural	26	12.8	12.8	12.8
	Sub_Urban	25	12.3	12.3	25.1
	Urban	152	74.9	74.9	100.0
	Total	203	100.0	100.0	

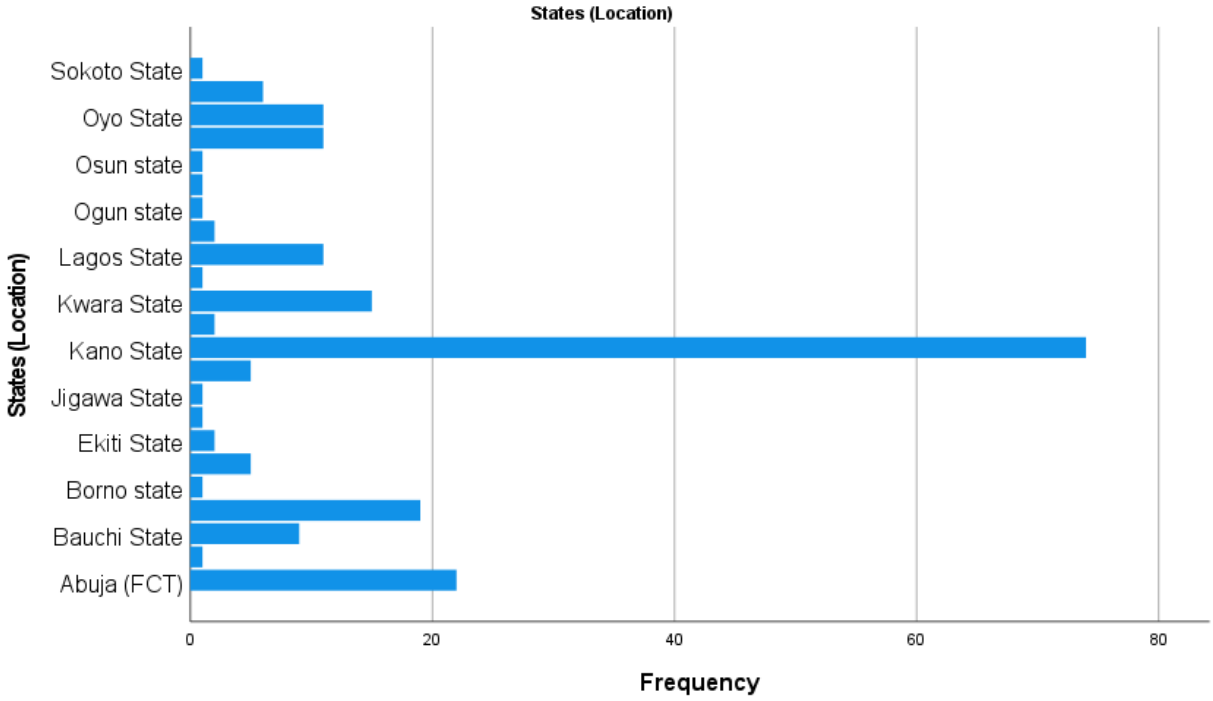


Among the **203 participants**, respondents came from **over 20 Nigerian states**, with notable variation in representation:

- **Kano State** had the highest representation with **74 participants (36.5%)**, indicating a significant portion of the data was collected there.
- Other notably represented states include:
    - **Abuja (FCT)** – 22 participants (10.8%)
    - **Benue State** – 19 participants (9.4%)
    - **Kwara State** – 15 participants (7.4%)
    - **Osun, Oyo, and Lagos States** – 11 participants each (5.4%)
- Several states had only **one participant (0.5%), such as Adamawa, Borno, Imo, Jigawa, Lagos, Ogun, and Sokoto**.

States (Location)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Abuja (FCT)	26	12.8	12.8	12.8
	Adamawa State	1	.5	.5	13.3
	Bauchi State	9	4.4	4.4	17.7
	Benue State	21	10.3	10.3	28.1
	Borno State	1	.5	.5	28.6
	Edo State	6	3.0	3.0	31.5
	Ekiti State	3	1.5	1.5	33.0
	Imo State	1	.5	.5	33.5
	Jigawa State	1	.5	.5	34.0
	Kaduna State	5	2.5	2.5	36.5
	Kano State	80	39.4	39.4	75.9
	Kogi State	2	1.0	1.0	76.8
	Kwara State	16	7.9	7.9	84.7
	Lagos State	13	6.4	6.4	91.1
	Ogun State	3	1.5	1.5	92.6
	Osun State	2	1.0	1.0	93.6
	Oyo State	1	.5	.5	94.1
	Plateau State	1	.5	.5	94.6
	Sokoto State	11	5.4	5.4	100.0
	Total	203	100.0	100.0	



GENERAL AWARENESS DATA

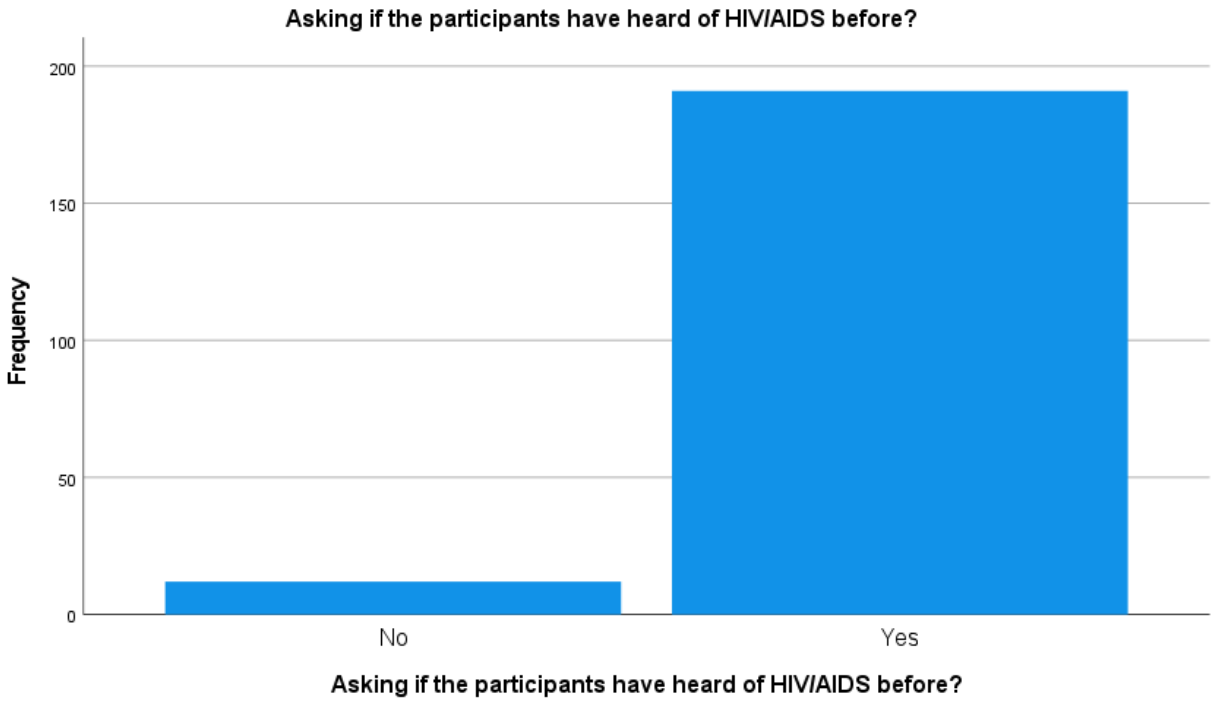
Have You Heard of HIV/AIDS Before? – Frequency Distribution

Out of the **203 participants**:

- **191 (94.1%)** reported **"Yes"**, indicating that the vast majority have heard of HIV/AIDS.
- Only **12 participants (5.9%)** said **"No"**, showing a small proportion are unaware.

Asking if the participants have heard of HIV/AIDS before?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	12	5.9	5.9	5.9
	Yes	191	94.1	94.1	100.0
	Total	203	100.0	100.0	



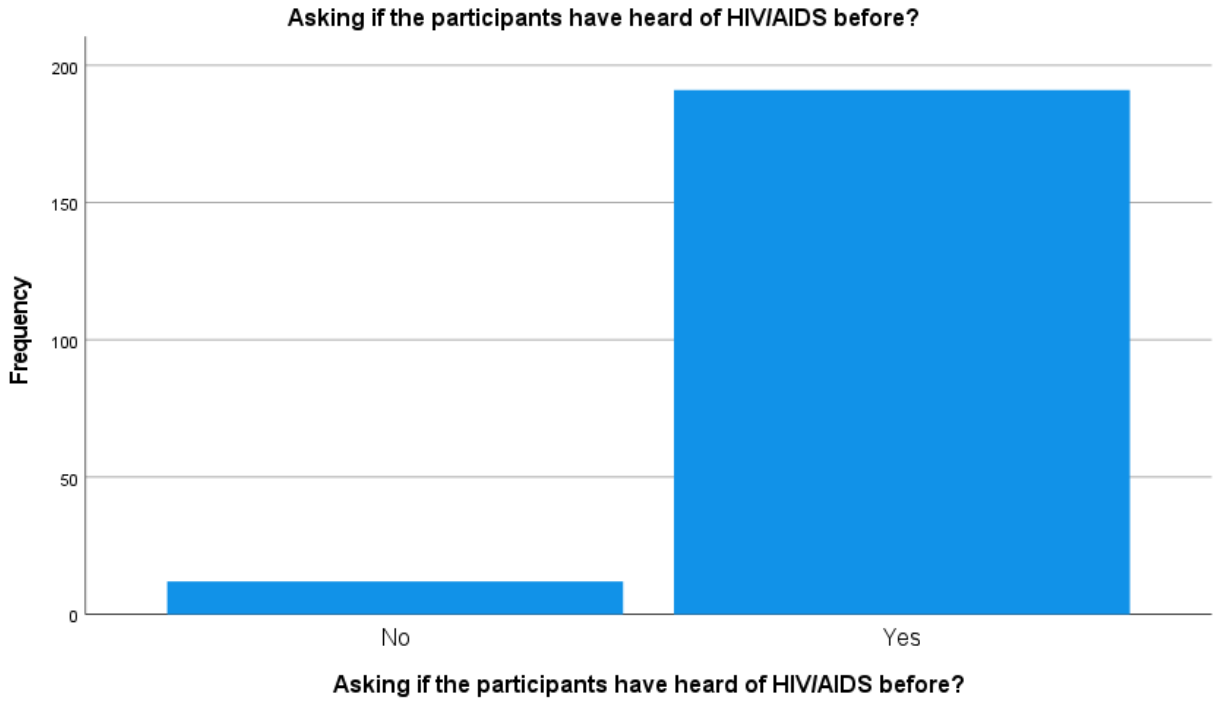
Overall Knowledge of HIV/AIDS – Frequency Distribution

Among the **203 participants**, their self-reported knowledge of HIV/AIDS is as follows:

- **100 participants (49.3%)** rated their knowledge as **Good**.
- **69 participants (34.0%)** rated their knowledge as **Very Good**.
- **23 participants (11.3%)** rated their knowledge as **Fair**.
- **8 participants (3.9%)** rated their knowledge as **Poor**.
- Only **3 participants (1.5%)** indicated they had **No Knowledge**.

This is their overall knowledge of HIV/AIDS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fair	23	11.3	11.3	11.3
	Good	100	49.3	49.3	60.6
	No Knowledge	3	1.5	1.5	62.1
	Poor	8	3.9	3.9	66.0
	Very Good	69	34.0	34.0	100.0
	Total	203	100.0	100.0	



KNOWLEDGE QUESTIONS

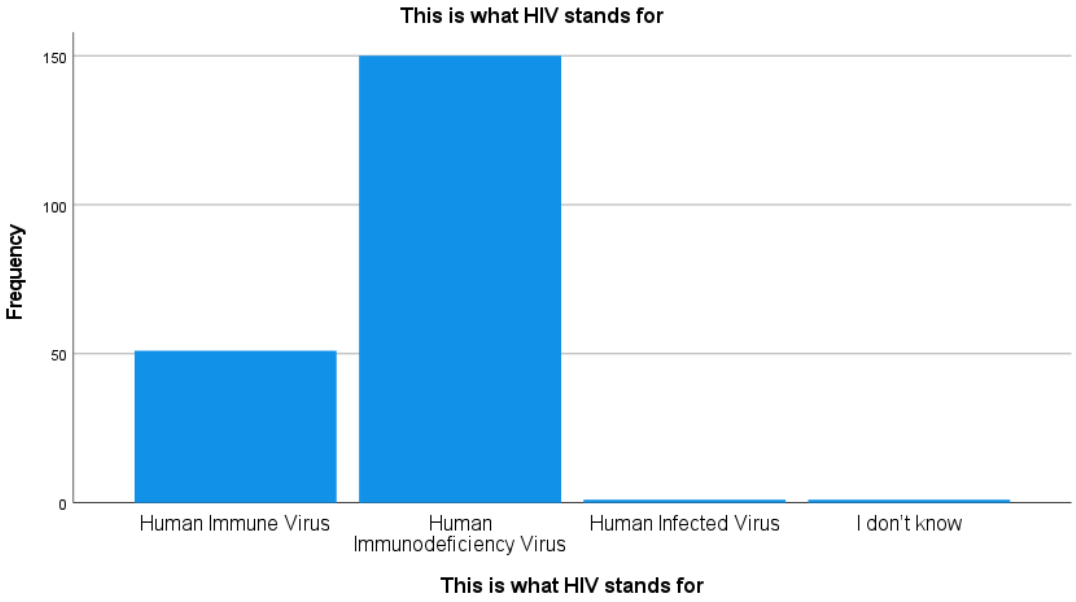
What HIV Stands For – Frequency Distribution

Among the **203 participants**:

- **150 participants (73.9%)** correctly identified **"Human Immunodeficiency Virus"** as the meaning of HIV.
- **51 participants (25.1%)** incorrectly selected **"Human Immune Virus"**.
- **1 participant (0.5%)** selected **"Human Infected Virus"**.
- **1 participant (0.5%)** answered **"I don't know"**.

This is what HIV stands for

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Human Immune Virus	51	25.1	25.1	25.1
	Human Immunodeficiency Virus	150	73.9	73.9	99.0
	Human Infected Virus	1	.5	.5	99.5
	I don't know	1	.5	.5	100.0
	Total	203	100.0	100.0	



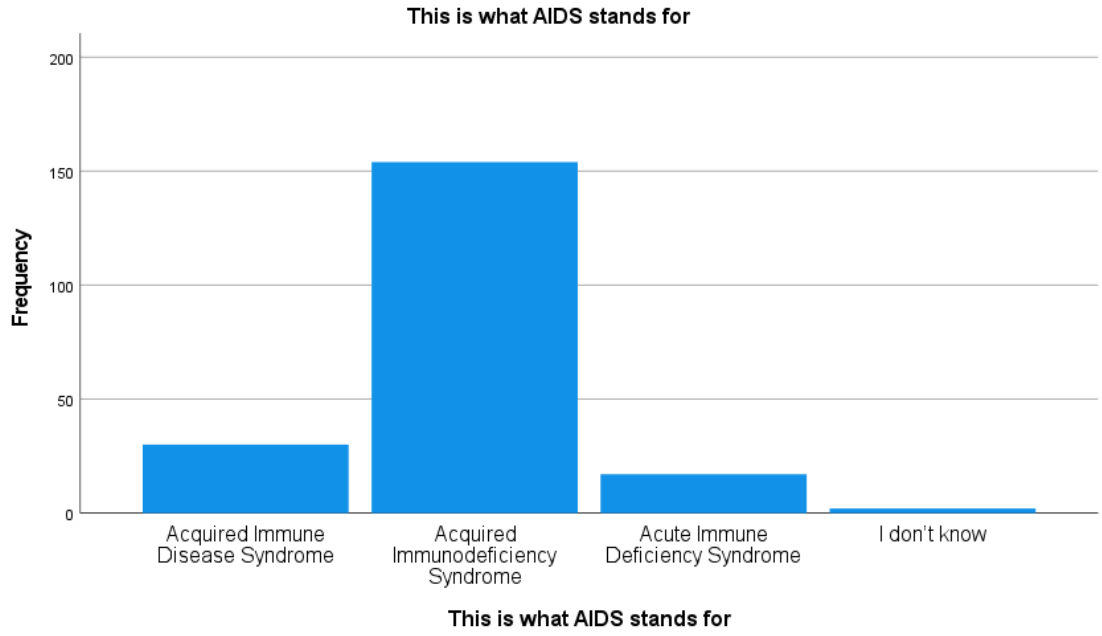
What AIDS Stands For – Frequency Distribution

Among the **203 participants**:

- **154 participants (75.9%)** correctly identified **"Acquired Immunodeficiency Syndrome"** as the meaning of AIDS.
- **30 participants (14.8%)** incorrectly selected **"Acquired Immune Disease Syndrome"**.
- **17 participants (8.4%)** chose **"Acute Immune Deficiency Syndrome"**.
- **2 participants (1.0%)** answered **"I don't know"**.

This is what AIDS stands for

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Acquired Immune Disease Syndrome	30	14.8	14.8	14.8
	Acquired Immunodeficiency Syndrome	154	75.9	75.9	90.6
	Acute Immune Deficiency Syndrome	17	8.4	8.4	99.0
	I don't know	2	1.0	1.0	100.0
	Total	203	100.0	100.0	



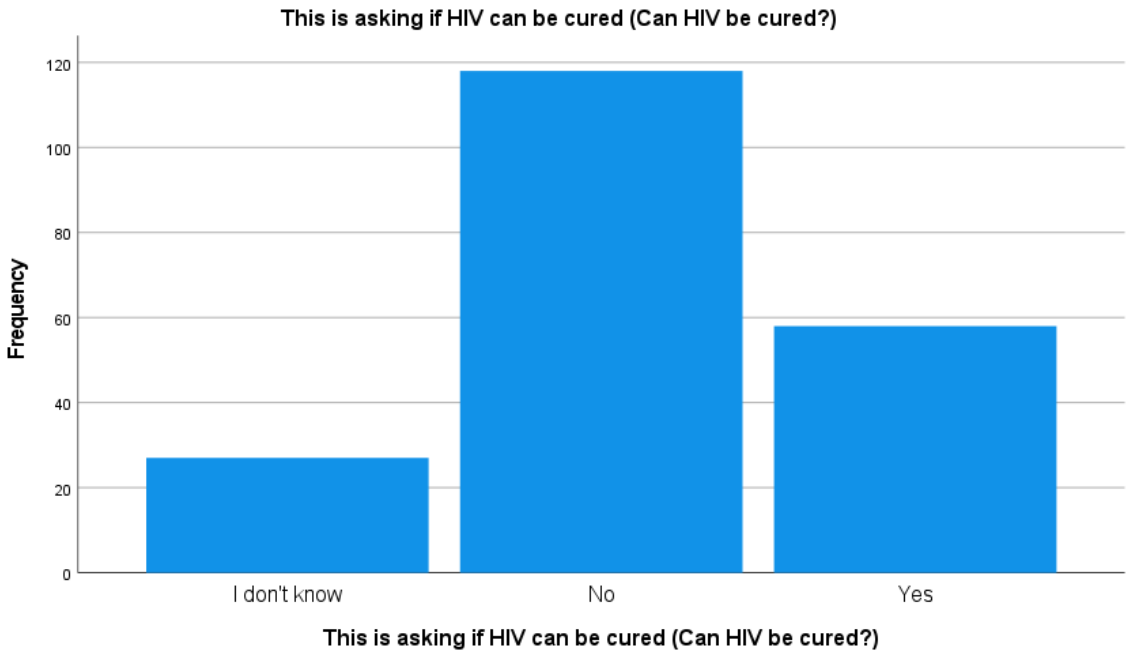
Can HIV Be Cured? – Frequency Distribution

Among the **203 participants**:

- **118 participants (58.1%)** correctly answered **"No"**, indicating that they understand HIV cannot currently be cured.
- **58 participants (28.6%)** mistakenly thought **"Yes"**, implying that they believe HIV can be cured.
- **27 participants (13.3%)** responded with **"I don't know"**, suggesting some uncertainty or lack of awareness on the subject.

This is asking if HIV can be cured (Can HIV be cured?)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I don't know	27	13.3	13.3	13.3
	No	118	58.1	58.1	71.4
	Yes	58	28.6	28.6	100.0
	Total	203	100.0	100.0	



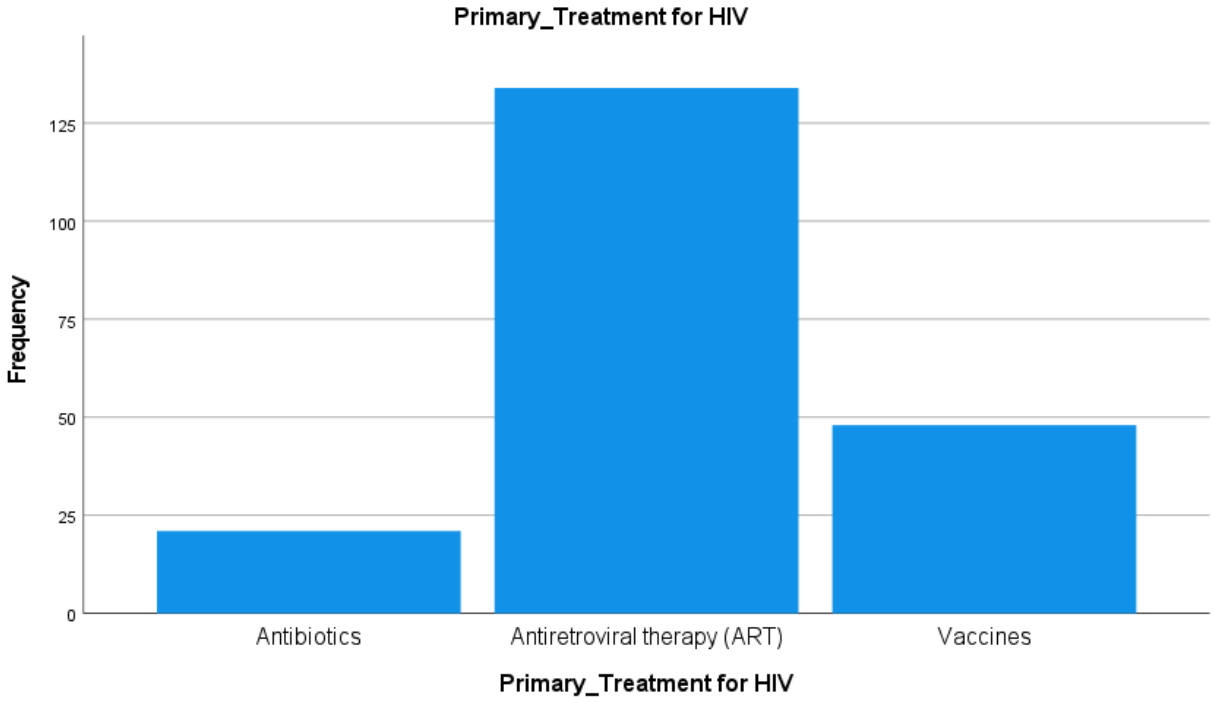
Primary Treatment for HIV – Frequency Distribution

Among the **203 participants**:

- **134 participants (66.0%)** correctly identified **"Antiretroviral therapy (ART)"** as the primary treatment for HIV.
- **48 participants (23.6%)** incorrectly selected **"Vaccines"**, showing some misconception about HIV treatment.
- **21 participants (10.3%)** thought **"Antibiotics"** was the primary treatment, which is also incorrect.

Primary_Treatment for HIV

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Antibiotics	21	10.3	10.3	10.3
	Antiretroviral therapy (ART)	134	66.0	66.0	76.4
	Vaccines	48	23.6	23.6	100.0
	Total	203	100.0	100.0	



Can People with HIV Live Healthy Lives with Proper Treatment? – Frequency Distribution

Among the **203 participants:**

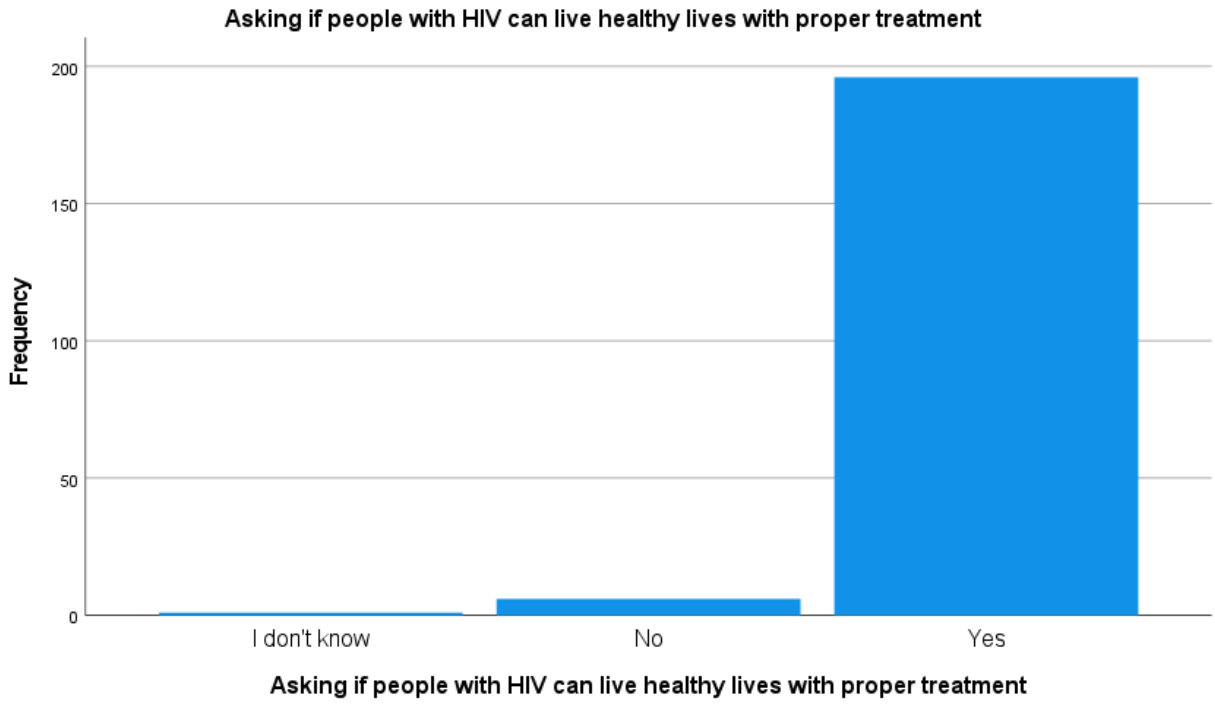
196 participants (96.6%) **correctly answered** "Yes"**, showing that the majority of respondents understand that** people with HIV can live healthy lives **if treated properly.**

Only 6 participants (3.0%) **responded with** "No"**, showing a small misconception about HIV management.**

1 participant (0.5%) **answered** "I don't know"**, indicating a small degree of uncertainty.**

Asking if people with HIV can live healthy lives with proper treatment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I don't know	1	.5	.5	.5
	No	6	3.0	3.0	3.4
	Yes	196	96.6	96.6	100.0
	Total	203	100.0	100.0	



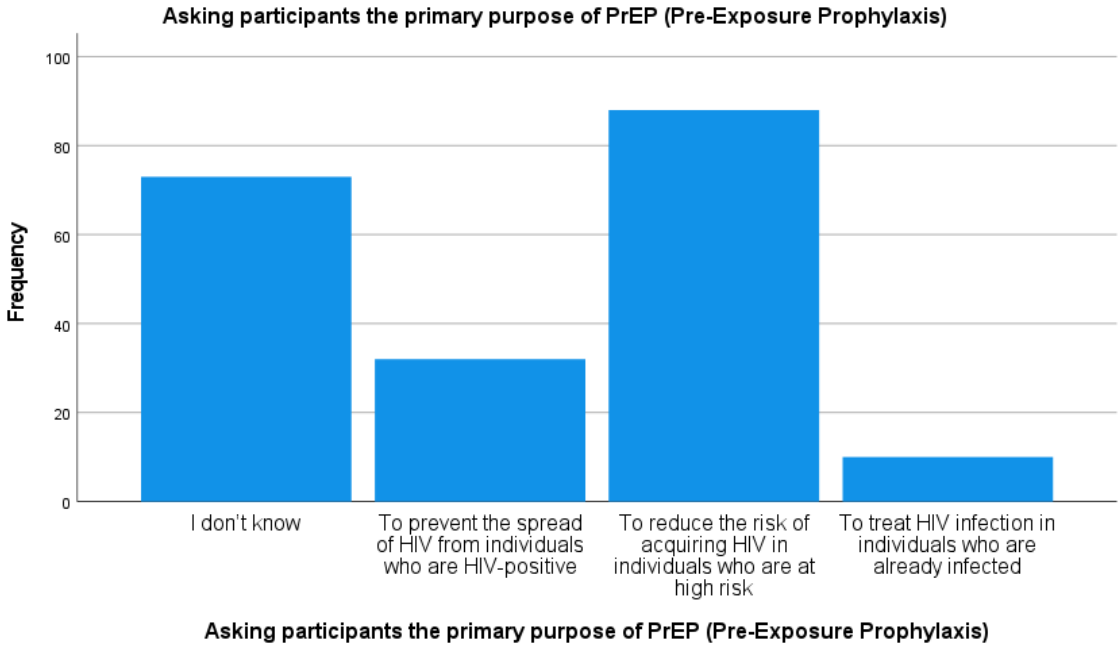
Primary Purpose of PrEP (Pre-Exposure Prophylaxis) – Frequency Distribution

Among the **203 participants**:

- **88 participants (43.3%)** correctly identified the purpose of PrEP as **"To reduce the risk of acquiring HIV in individuals who are at high risk"**.
- **32 participants (15.8%)** selected **"To prevent the spread of HIV from individuals who are HIV-positive"**.
- **10 participants (4.9%)** incorrectly believed that PrEP is used **"To treat HIV infection in individuals who are already infected"**.
- **73 participants (36.0%)** answered **"I don't know"**, indicating significant uncertainty or lack of awareness about PrEP.

Asking participants the primary purpose of PrEP (Pre-Exposure Prophylaxis)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I don't know	73	36.0	36.0	36.0
	To prevent the spread of HIV from individuals who are HIV-positive	32	15.8	15.8	51.7
	To reduce the risk of acquiring HIV in individuals who are at high risk	88	43.3	43.3	95.1
	To treat HIV infection in individuals who are already infected	10	4.9	4.9	100.0
	Total	203	100.0	100.0	



HIV Transmission Knowledge Results

Summary of Findings

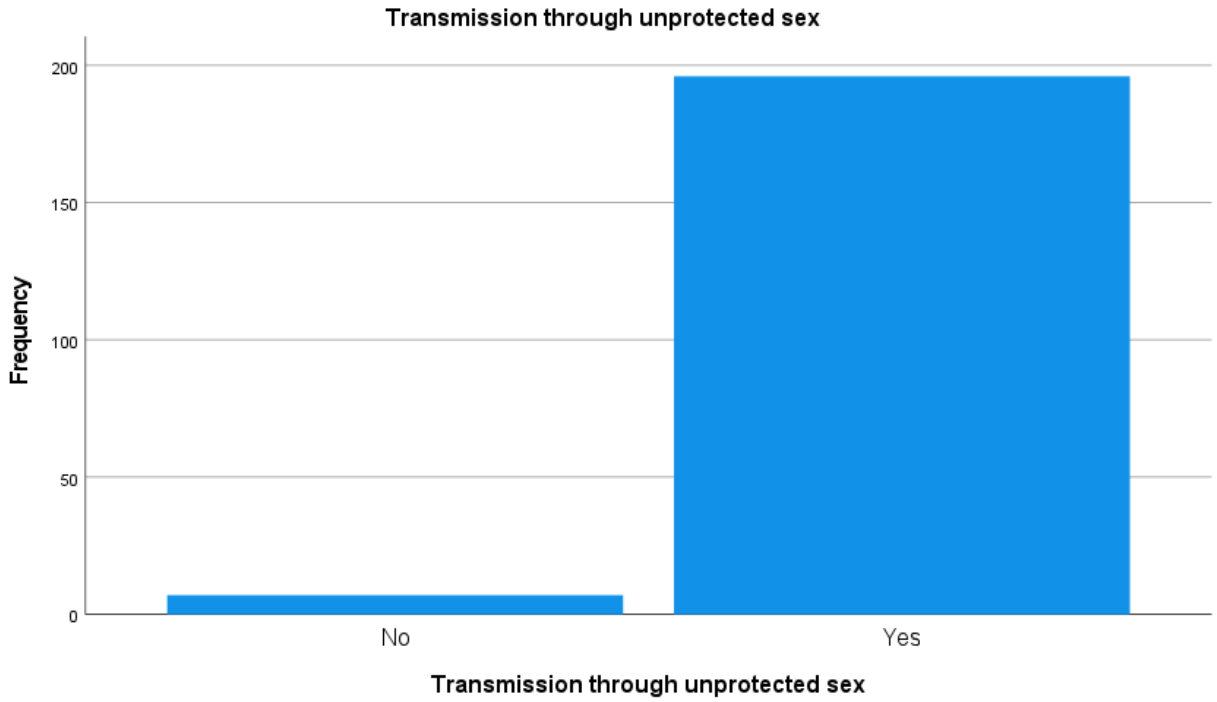
These results provide important insights into university students' understanding of HIV transmission routes. Let me break down each result and its implications:

Correct Knowledge Areas

1. **Unprotected Sexual Contact (96.6% correct)**
    - Nearly all students (196 out of 203) correctly recognized that HIV can be transmitted through unprotected sexual contact.
    - This indicates excellent awareness of the primary transmission route for HIV.

Transmission through unprotected sex

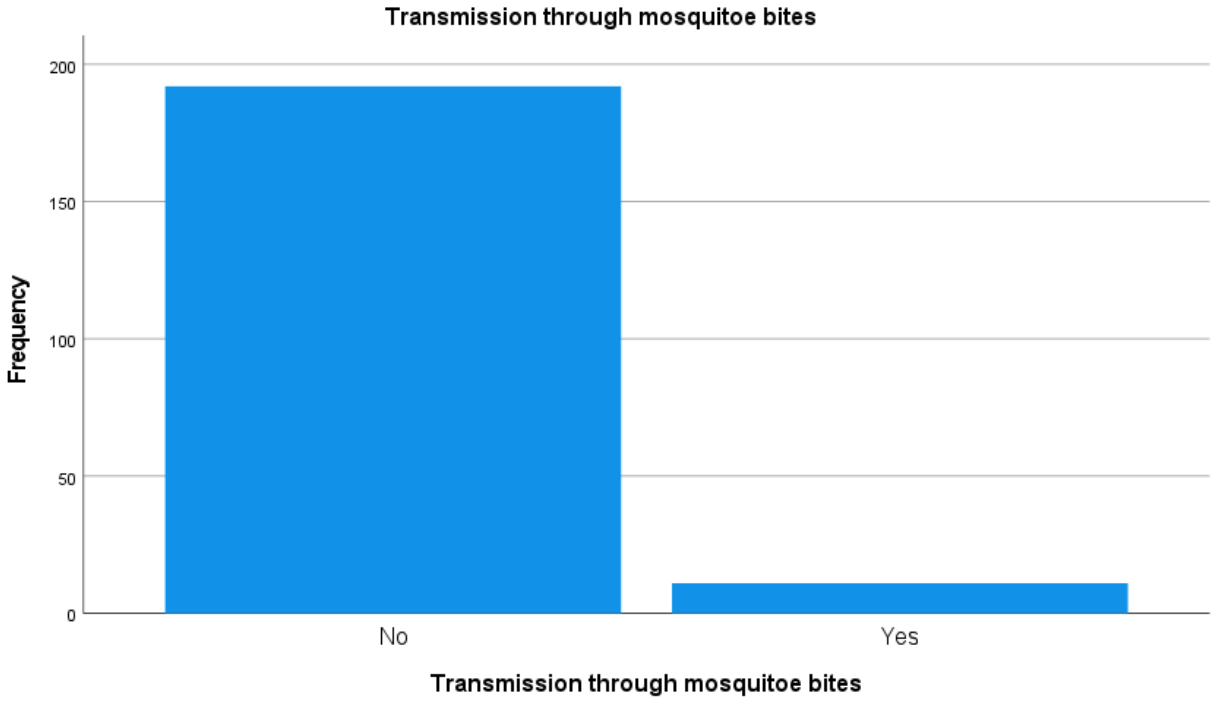
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	7	3.4	3.4	3.4
	Yes	196	96.6	96.6	100.0
	Total	203	100.0	100.0	



2. **Mosquito Bites (94.6% correct)**
    - A high percentage of students (192 out of 203) correctly understood that HIV is NOT transmitted through mosquito bites.
    - Only 5.4% held this misconception, showing good overall awareness on this topic.

Transmission through mosquitoe bites

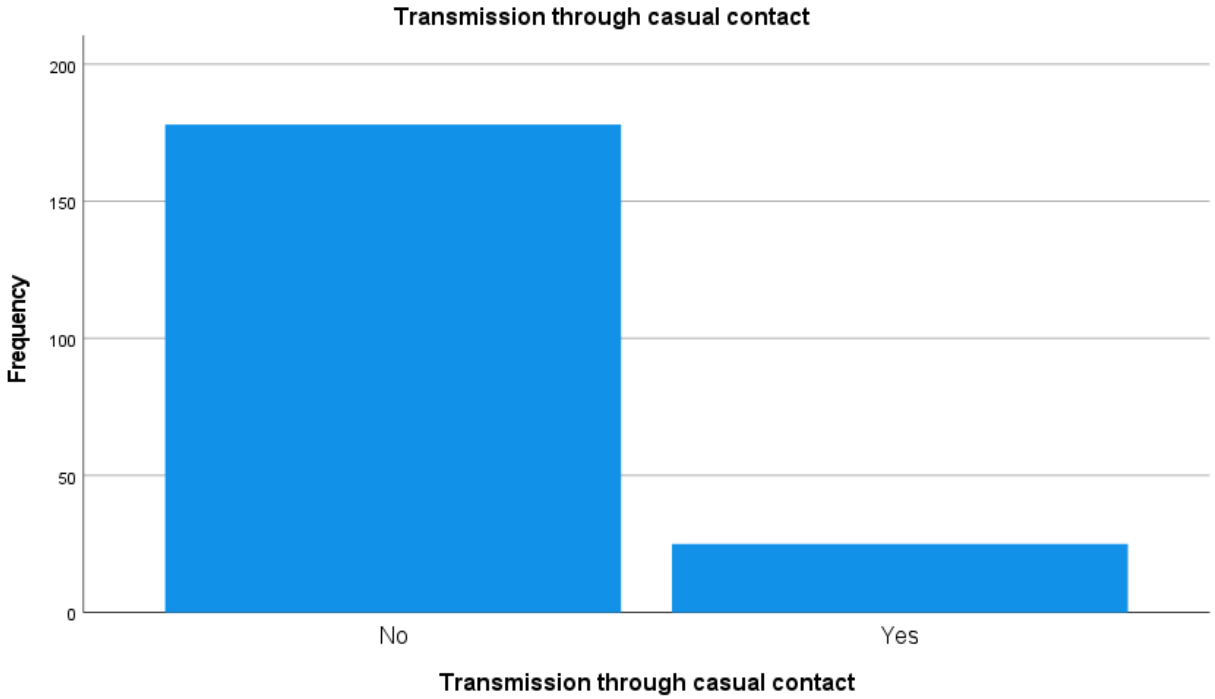
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	192	94.6	94.6	94.6
	Yes	11	5.4	5.4	100.0
	Total	203	100.0	100.0	



3. **Casual Contact (87.7% correct)**
    - Most students (178 out of 203) correctly knew that HIV is NOT transmitted through casual contact like hugging or sharing utensils.
    - This helps counter stigmatization of people living with HIV.

Transmission through casual contact

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	178	87.7	87.7	87.7
	Yes	25	12.3	12.3	100.0
	Total	203	100.0	100.0	

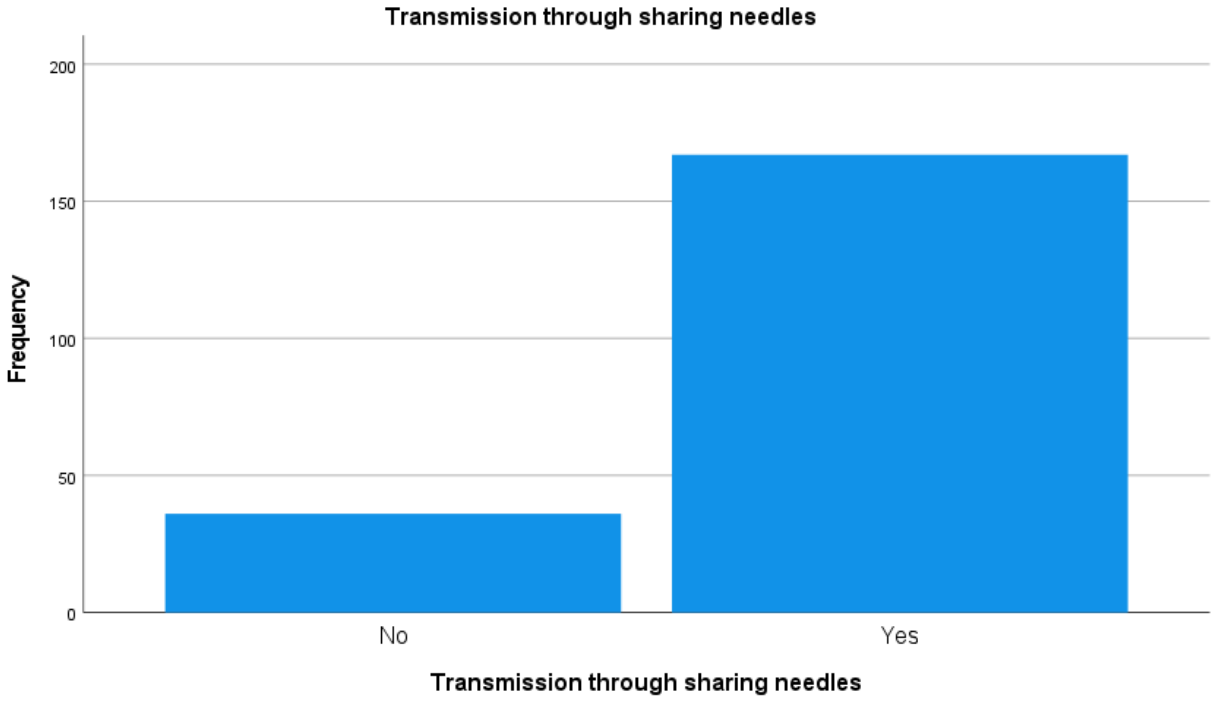


Knowledge Gap Areas

1. **Sharing Needles (82.3% correct)**
    - While a majority recognized this transmission route, 17.7% (36 students) did not identify sharing needles as a way HIV spreads.
    - This represents a significant knowledge gap that could be addressed in educational interventions.

Transmission through sharing needles

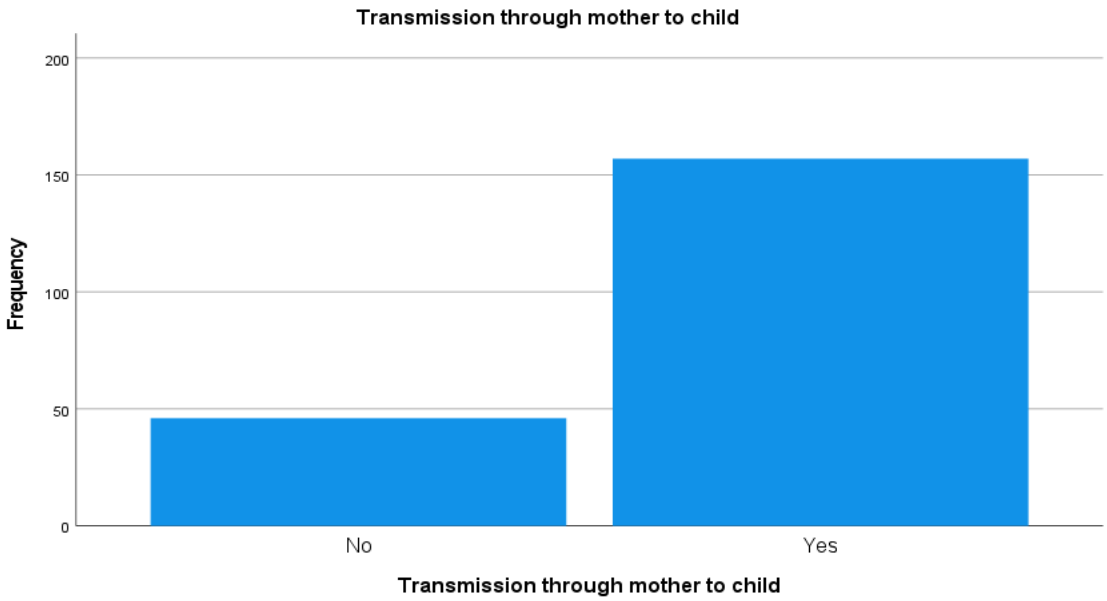
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	36	17.7	17.7	17.7
	Yes	167	82.3	82.3	100.0
	Total	203	100.0	100.0	



2. **Mother-to-Child Transmission (77.3% correct)**
    - Nearly one-quarter of students (22.7%) were unaware that HIV can be transmitted from mother to child during childbirth.
    - This knowledge gap could impact attitudes toward prevention of mother-to-child transmission programs.

Transmission through mother to child

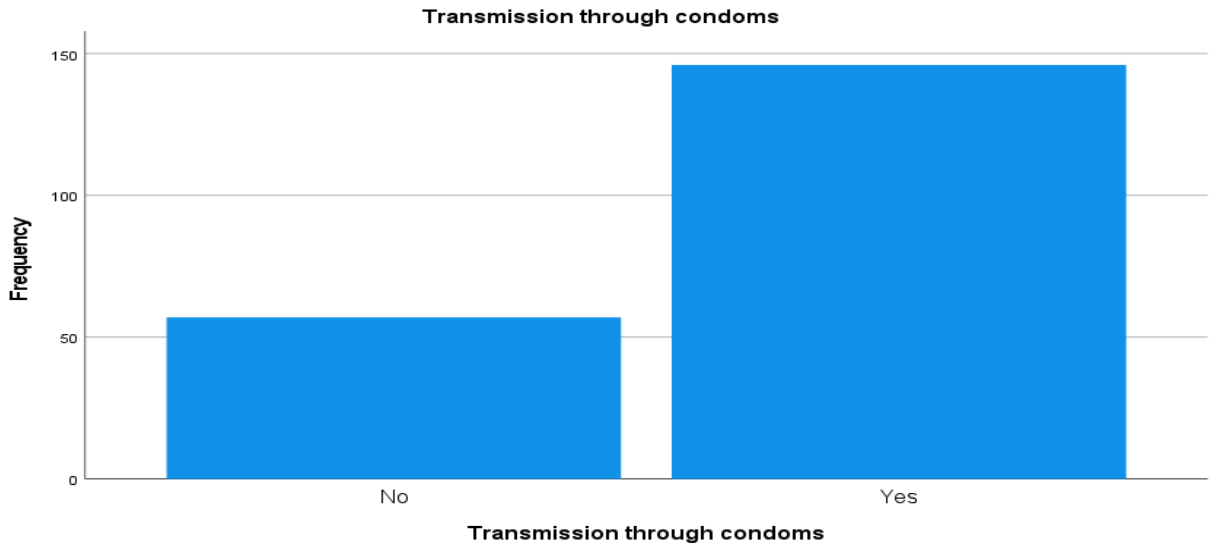
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	46	22.7	22.7	22.7
	Yes	157	77.3	77.3	100.0
	Total	203	100.0	100.0	



3. **Condom Use (71.9% correct)**
    - Only about 72% recognized that condoms can reduce HIV transmission risk.
    - This is particularly concerning as it represents a critical prevention strategy, and 28.1% (57 students) either don't know or don't believe in condom effectiveness.

Transmission through condoms

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	57	28.1	28.1	28.1
	Yes	146	71.9	71.9	100.0
	Total	203	100.0	100.0	



Key Implications

1. **Overall Knowledge Pattern**: Students demonstrate strong knowledge of basic transmission routes (sexual contact) and common misconceptions (mosquitoes, casual contact), but have important gaps in prevention strategies (condoms) and less commonly discussed routes (mother-to-child).
2. **Prevention Education Needs**: The relatively lower knowledge about condom effectiveness (71.9%) suggests that prevention education should emphasize the effectiveness of barrier methods in reducing transmission.
3. **Comprehensive Education Gaps**: The knowledge gaps regarding mother-to-child transmission indicate a need for more comprehensive education beyond the most commonly discussed transmission routes.
4. **Misconceptions**: While small, the presence of misconceptions about casual contact (12.3%) could contribute to stigmatization of people living with HIV/AIDS.

Recommendations Based on These Results

1. Strengthen education about HIV prevention strategies, particularly regarding condom effectiveness
2. Expand educational content to cover mother-to-child transmission and prevention
3. Continue reinforcing education about needle sharing as a transmission route
4. Address remaining misconceptions about casual contact to reduce stigma

These findings directly address your research questions regarding current knowledge levels and common misconceptions about HIV transmission among Nigerian university students.

Interpretation of HIV Prevention Knowledge

1. Practicing Safe Sex

- **82.3%** of respondents selected this as a prevention method.
- **Correct prevention method**
- **Interpretation**: Most participants are aware that practicing safe sex helps prevent HIV. This shows **good knowledge** in this area.

2. Taking PrEP (Pre-Exposure Prophylaxis)

- **56.7%** selected this as a prevention method.
- ✅ **Correct method**
- **Interpretation**: Just over half of respondents know about PrEP as a prevention option. This suggests a **knowledge gap**, considering PrEP is a scientifically supported method. You may want to highlight this as an area for increased awareness.

3. Avoiding Sharing Sharp Objects

- **81.8%** said yes.
- **Correct method**
- **Interpretation**: High awareness that sharing needles or razors can spread HIV — another **positive sign of knowledge**.

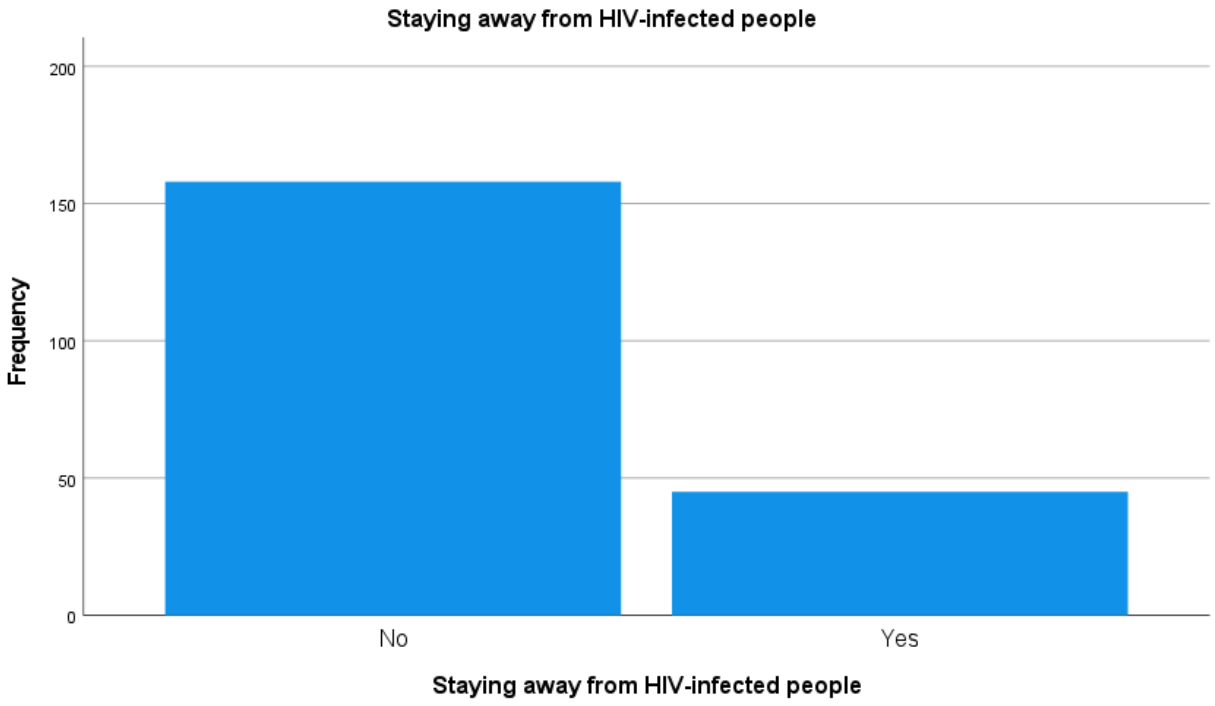
4. Getting Tested with Your Partner

- **70.9%** said yes.
- **Correct method** (This encourages shared responsibility and reduces transmission risk)
- **Interpretation**: Majority are aware of the value of partner testing — **strong knowledge** shown here.

5. Staying Away from HIV-Infected People

- **Only 22.2%** selected this.
- **Incorrect** prevention method (this is a misconception/stigmatizing belief)
- **Interpretation**: Most respondents correctly **did NOT select** this option — **a good sign**, suggesting **low belief in stigma-driven misinformation**. However, **22.2% still chose it**, so this remains a concern.

Participants demonstrated high awareness of key HIV prevention strategies such as safe sex (82.3%), avoiding shared sharps (81.8%), and partner testing (70.9%). However, only 56.7% recognized PrEP as an effective method, indicating a potential knowledge gap. Notably, 22.2% of respondents selected 'staying away from HIV-infected people' as a preventive strategy, highlighting the persistence of stigmatizing misconceptions among a subset of students.



Interpretation of HIV Treatment Knowledge

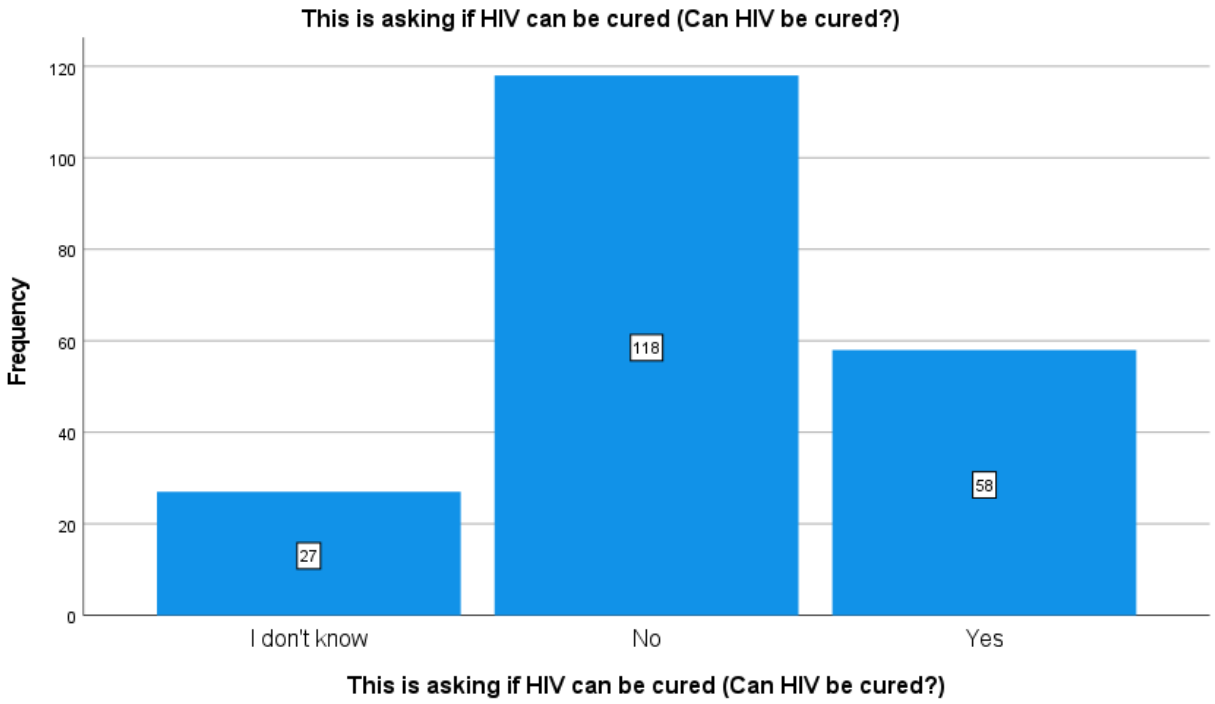
1. Can HIV Be Cured?

Frequency Breakdown:

- **58.1%** correctly said **"No"**
- **28.6%** mistakenly said **"Yes"**
- **13.3%** answered **"I don't know"**

Interpretation:

- While more than half of the students are aware that HIV **has no current cure**, a **concerning 41.9%** either believe it can be cured or are unsure.
- This points to a **gap in understanding** HIV treatment realities.



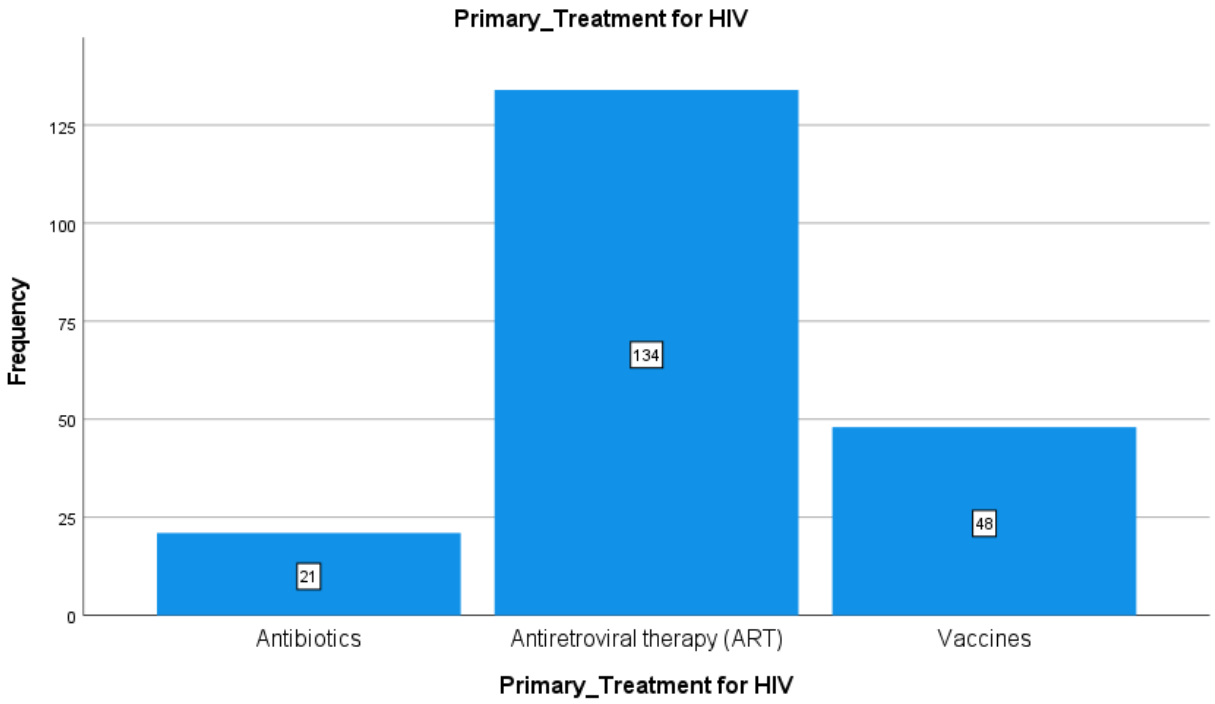
2. What Is the Primary Treatment for HIV?

Frequency Breakdown:

- **66.0%** correctly chose **"Antiretroviral therapy (ART)"**
- **23.6%** incorrectly chose **"Vaccines"**
- **10.3%** chose **"Antibiotics"**

Interpretation:

- A solid two-thirds of students know ART is the correct treatment.
- But over **a third of respondents (33.9%)** held **incorrect beliefs**, suggesting the need for more focused education on **HIV medical care** and treatment options.



3. Can People with HIV Live Healthy Lives with Proper Treatment?

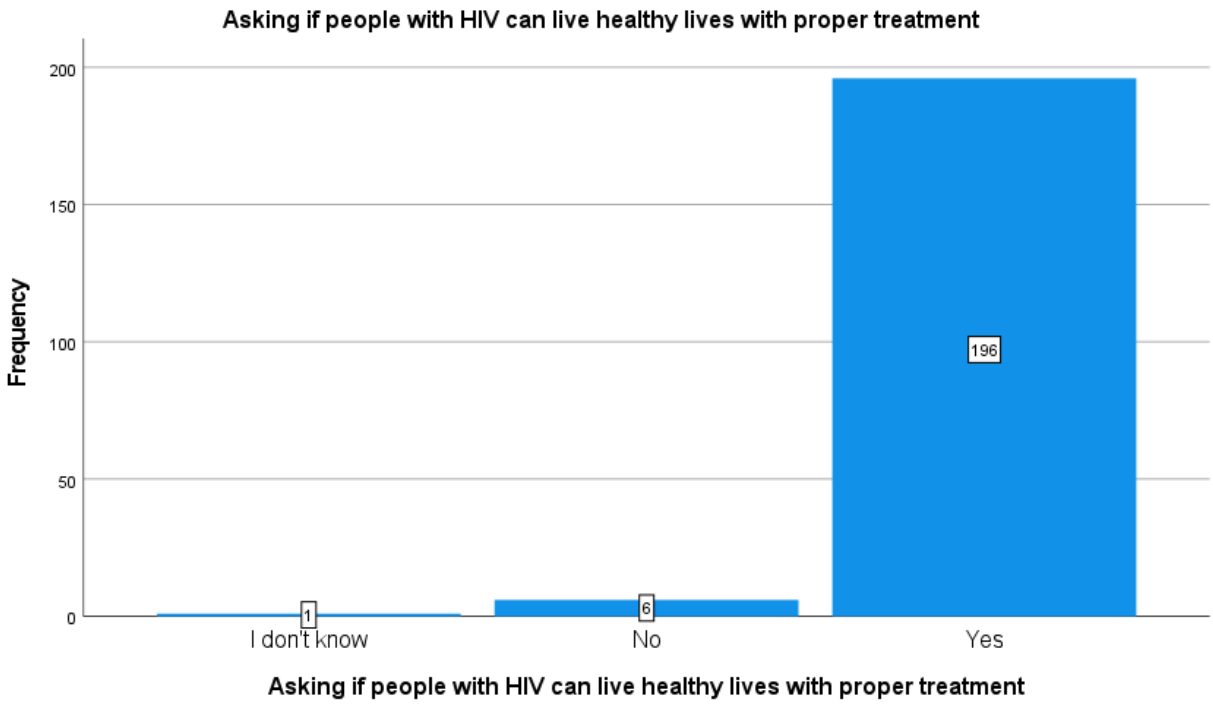
Frequency Breakdown:

- **96.6%** correctly answered **"Yes"**
- **Only 3.5%** said **"No"** or **"I don't know"**

Interpretation:

- Excellent awareness here — students overwhelmingly understand that HIV is **manageable with treatment**.
- This reflects **progress in destigmatizing HIV** and recognizing it as a chronic, treatable condition.

Most respondents demonstrated accurate knowledge regarding HIV treatment, with 96.6% acknowledging that people with HIV can live healthy lives with proper care. However, only 58.1% correctly stated that HIV cannot be cured, and 66.0% recognized antiretroviral therapy (ART) as the primary treatment. These results indicate that while the majority have a basic understanding of HIV care, significant gaps remain in treatment literacy and misconceptions persist around potential cures and incorrect therapies.



HIV Testing Importance Results

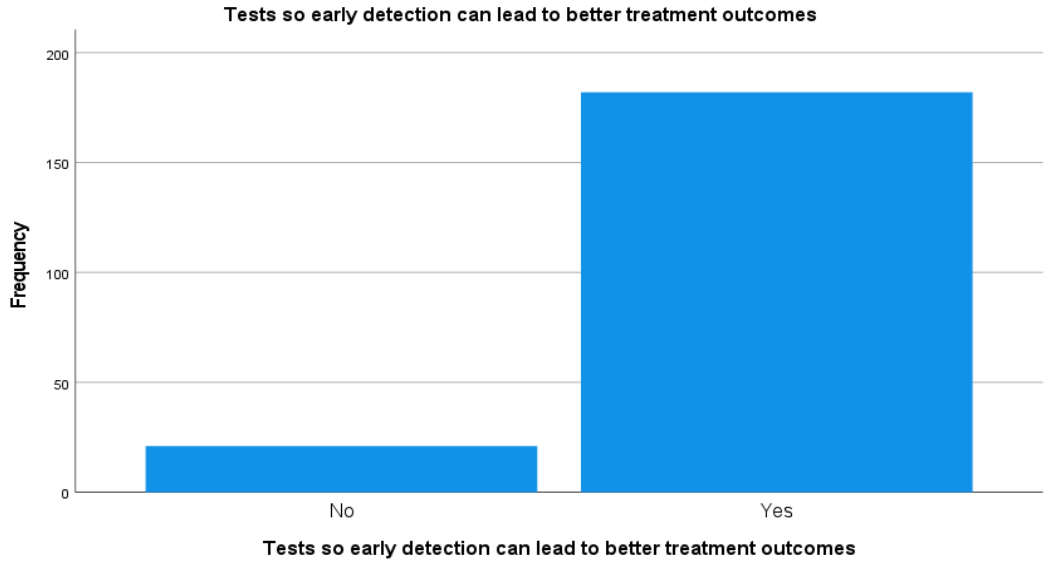
These results provide significant insights into university students' understanding of the importance of HIV testing. Let me analyze each aspect:

Understanding of HIV Testing Benefits

1. **Early Detection for Better Treatment (89.7% correct)**
    - The vast majority of students (182 out of 203) correctly understand that early detection through testing leads to better treatment outcomes.
    - This shows good awareness of the clinical benefits of early HIV detection.

Tests so early detection can lead to better treatment outcomes

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	21	10.3	10.3	10.3
	Yes	182	89.7	89.7	100.0
	Total	203	100.0	100.0	



2. **Reducing HIV Spread (73.9% correct)**
    - Nearly three-quarters of students recognize that testing helps reduce the spread of HIV.
    - However, 26.1% (53 students) don't recognize this public health benefit of testing, indicating a knowledge gap.
3. **Knowing One's HIV Status (60.1% correct)**
    - Only 60.1% of students identified knowing one's status as an important reason for HIV testing.
    - This relatively low percentage suggests many students may not fully appreciate the personal responsibility aspect of testing.
4. **Avoiding Stigma and Discrimination (0% selected)**
    - No students (0 out of 203) selected avoiding stigma and discrimination as a reason for HIV testing.
    - This finding is particularly notable as it indicates students don't perceive testing as a way to reduce stigma.

Key Implications

1. **Treatment-Focused Understanding**: Students demonstrate stronger awareness of the treatment benefits of testing compared to prevention and public health benefits.

2. **Prevention Knowledge Gap**: The lower recognition of testing's role in reducing HIV spread (73.9%) highlights a gap in understanding the public health dimensions of testing.
3. **Personal Responsibility**: The relatively low percentage (60.1%) recognizing the importance of knowing one's status suggests more education is needed on personal responsibility in sexual health.
4. **Stigma Disconnect**: The complete absence of students connecting testing to stigma reduction reveals a critical misconception about the relationship between testing, openness, and reducing societal stigma.

Recommendations Based on These Results

1. **Comprehensive Testing Education**: Develop educational programs that highlight all benefits of HIV testing, not just clinical treatment outcomes.
2. **Public Health Emphasis**: Strengthen messaging about how widespread testing contributes to reduced HIV transmission at the population level.
3. **Personal Empowerment**: Frame HIV testing as an act of personal empowerment and responsibility, emphasizing knowing one's status as a fundamental right.
4. **Stigma Reduction Campaigns**: Create specific educational content that connects regular testing to normalization and stigma reduction in society.
5. **Peer Education**: Consider implementing peer education programs where students who understand the multiple benefits of testing can share this knowledge with their peers.

HIV/AIDS Information Sources Results

Summary of Findings

These results reveal important patterns about where university students obtain their HIV/AIDS information, which has significant implications for your research objectives regarding knowledge accuracy and educational strategies.

Primary Information Sources

1. **School-Based Education (85.2%)**
    - Schools are overwhelmingly the most common source of HIV/AIDS information, with 173 out of 203 students reporting this source.
    - This highlights the critical role of formal educational institutions in shaping HIV/AIDS knowledge.
2. **Health Institutions (58.6%)**
    - Just over half of students (119 out of 203) identified health institutions as a source of information.
    - This indicates reasonable engagement with official health sources, though there's significant room for improvement.
3. **Social Media (43.8%)**
    - Nearly half of the students (89 out of 203) reported getting HIV/AIDS information from social media platforms.

    - This represents a substantial information channel that may contain both reliable and unreliable information.
4. **Friends/Peer Groups (25.1%)**
    - Only about a quarter of students (51 out of 203) cited peer groups as information sources.
    - This relatively low percentage suggests peer education opportunities may be underutilized.
5. **Family (23.2%)**
    - Family ranks as the least common source of HIV/AIDS information (47 out of 203).
    - This indicates potential discomfort or cultural barriers to family-based discussions about HIV/AIDS.

Key Implications

1. **Educational Institution Dominance**: The high percentage of school-based learning underscores the importance of ensuring accurate and comprehensive HIV/AIDS education in university curricula.
2. **Limited Family Communication**: The low percentage of family as an information source suggests potential taboos or discomfort in discussing HIV/AIDS within family settings.
3. **Social Media Influence**: With nearly half of students receiving information through social media, there's a need to ensure quality content on these platforms, as misinformation can easily spread.
4. **Underutilization of Health Institutions**: Despite being authoritative sources, only 58.6% of students get information from health institutions, suggesting accessibility or engagement barriers.
5. **Peer Education Potential**: The relatively low influence of peer groups (25.1%) suggests an opportunity for developing more peer-based education programs.

Recommendations Based on These Results

1. **Strengthen School Curricula**: Since schools are the primary information source, ensure university HIV/AIDS education programs are comprehensive, accurate, and engaging.
2. **Health Institution Outreach**: Develop strategies to increase student engagement with health institutions through campus health centers, outreach programs, or digital platforms.
3. **Social Media Campaigns**: Create accurate, engaging HIV/AIDS content for social media platforms that students frequently use, potentially partnering with influencers.
4. **Peer Education Programs**: Establish formal peer education initiatives to leverage and enhance the currently limited peer-to-peer information sharing.
5. **Family Communication Support**: Develop resources that help students and families discuss HIV/AIDS more comfortably, potentially through university-sponsored programs.

These findings directly address your research question about factors contributing to HIV/AIDS knowledge (or knowledge gaps) among Nigerian university students by identifying the primary information channels. Understanding these channels is crucial for developing targeted strategies to improve knowledge accuracy as outlined in your fourth research objective.

Comparison Of Means

Challenges to HIV/AIDS Information Access Results

Summary of Findings

These results provide crucial insights into the challenges university students face in accessing accurate HIV/AIDS information, directly addressing your third research objective about factors contributing to inaccurate knowledge.

Barriers to Accessing Accurate Information

1. **Lack of Reliable Sources (57.6%)**
    - Over half of students (117 out of 203) identified a lack of reliable information sources as a barrier.
    - This is the most commonly reported challenge, highlighting significant concerns about information quality and trustworthiness.
2. **Limited Access to Healthcare Services (42.4%)**
    - A substantial proportion of students (86 out of 203) reported limited healthcare access as a barrier.
    - This indicates structural and systemic challenges that prevent students from obtaining clinical information and services.
3. **Stigma and Discrimination (33.0%)**
    - One-third of students (67 out of 203) cited stigma and discrimination as obstacles to accurate information.
    - This suggests societal attitudes continue to impede open discussion and information-seeking about HIV/AIDS.
4. **Language Barriers (24.6%)**
    - About a quarter of students (50 out of 203) reported language barriers as an issue.
    - This highlights the need for culturally and linguistically appropriate information materials.
5. **Other Barriers (5.9%)**
    - A small percentage (12 students) indicated other unspecified barriers.
    - While relatively minor, these may represent unique challenges worth exploring further.

Key Implications

1. **Information Quality Crisis**: The predominance of "lack of reliable sources" as a barrier suggests students are aware of potential misinformation but struggle to identify trustworthy sources.
2. **Healthcare Access Challenges**: The significant percentage reporting healthcare access limitations points to structural issues that may extend beyond information to affect testing and treatment services.
3. **Persistent Stigma**: Despite decades of HIV/AIDS awareness efforts, stigma remains a substantial barrier for one-third of students, affecting information-seeking behaviors.
4. **Linguistic Considerations**: The notable presence of language barriers indicates a need for information in languages and terminology that resonate with diverse student populations.

Recommendations Based on These Results

1. **Information Literacy Programs**: Develop campus initiatives to help students identify reliable HIV/AIDS information sources and critically evaluate health claims.
2. **Healthcare Access Improvement**: Work with university health services to increase availability and accessibility of HIV/AIDS information, testing, and counseling services.
3. **Anti-Stigma Campaigns**: Create targeted campaigns to address persistent stigma, potentially involving student peer educators and campus influencers.
4. **Multilingual Resources**: Ensure HIV/AIDS educational materials are available in multiple languages relevant to the student population, with attention to appropriate medical terminology.
5. **Digital Resource Hub**: Establish a curated online repository of reliable HIV/AIDS information that addresses the most common student questions and misconceptions identified in your survey.

These findings directly address your research question about factors contributing to inaccuracies in HIV/AIDS knowledge among Nigerian university students. The data clearly demonstrates that information access barriers are multifaceted, involving both informational quality issues and structural/societal obstacles that will require comprehensive strategies to overcome.

Exploring Factors Contributing to Knowledge Gaps

For Research Objective 3 and Research Question 3:

1. **Cross-tabulate knowledge with demographics**:

Analyze > Descriptive Statistics > Crosstabs

- Row: Knowledge variables or recoded Knowledge_Score categories
- Column: Demographics (Age_Group, Gender, Area)
- Under Statistics, select Chi-square and click Continue

For Knowledge Score by Age Group:

Null Hypothesis (H_0): There is no significant relationship between age group and HIV/AIDS knowledge scores among Nigerian university students.

Alternative Hypothesis (H_1): There is a significant relationship between age group and HIV/AIDS knowledge scores among Nigerian university students.

Key Findings:

1. **Distribution Across Age Groups**:
    - Adults (110 participants) form the largest age group in your sample
    - Young Adults (39 participants) and Late Adolescents (40 participants) are roughly equal in number
    - Early Adolescents (14 participants) represent the smallest group
2. **Knowledge Score Patterns**:
    - The modal (most common) scores for Adults were 19-20, with 54 participants scoring in this range
    - Late Adolescents most commonly scored 18-19 (18 participants)
    - Young Adults most commonly scored 18 (13 participants)
    - Early Adolescents showed more evenly distributed scores
3. **Statistical Significance**:
    - Chi-square test result: $\chi^2(27) = 23.395$, $p = .664$
    - The p-value (.664) is substantially greater than .05, indicating **no statistically significant relationship** between age group and HIV/AIDS knowledge scores
    - This means knowledge levels are relatively consistent across all age groups

For Knowledge Score by Gender:

Null Hypothesis (H_0): There is no significant relationship between gender and HIV/AIDS knowledge scores among Nigerian university students.

Alternative Hypothesis (H_1): There is a significant relationship between gender and HIV/AIDS knowledge scores among Nigerian university students.

Key Findings:

1. **Gender Distribution**:
    - Females (129 participants) represent approximately 63.5% of your sample
    - Males (73 participants) represent approximately 36% of your sample
    - Only 1 participant preferred not to specify gender
2. **Knowledge Score Patterns**:
    - For females, the most common scores were 18-19 (55 participants)
    - For males, the most common scores were also 18-19 (32 participants)
    - Higher scores (21) showed a slightly higher proportion in males (8 out of 73) compared to females (6 out of 129)
3. **Statistical Significance**:
    - Chi-square test result: $\chi^2(18) = 8.904$, $p = .962$

- The very high p-value (.962) indicates **no statistically significant relationship** between gender and HIV/AIDS knowledge scores
- This suggests that males and females demonstrate similar levels of HIV/AIDS knowledge

Knowledge Score by Rural/Urban Location

Hypothesis

Null Hypothesis (H_0): There is no significant relationship between rural/urban location and HIV/AIDS knowledge scores among Nigerian university students.

Alternative Hypothesis (H_1): There is a significant relationship between rural/urban location and HIV/AIDS knowledge scores among Nigerian university students.

Key Findings:

1. **Distribution Across Locations**:
   - Urban areas represent the largest proportion (152 participants, 74.9%)
   - Rural (26 participants, 12.8%) and Sub-Urban (25 participants, 12.3%) areas have similar representation
2. **Knowledge Score Patterns**:
   - Urban participants show the highest concentration of scores in the 18-20 range (98 out of 152 participants)
   - Rural and Sub-Urban participants show more evenly distributed scores
   - The highest scores (21-22) appear across all location types, with no clear pattern
3. **Statistical Significance**:
   - Chi-square test result: $\chi^2(18) = 17.147$, $p = .513$
   - The p-value (.513) is greater than .05, indicating we fail to reject the null hypothesis
   - This means there is insufficient evidence to suggest that HIV/AIDS knowledge scores differ significantly based on rural/urban location

Knowledge Score by States

Hypothesis

Null Hypothesis (H_0): There is no significant relationship between state location and HIV/AIDS knowledge scores among Nigerian university students.

Alternative Hypothesis (H_1): There is a significant relationship between state location and HIV/AIDS knowledge scores among Nigerian university students.

Key Findings:

1. **Distribution Across States**:

    - Kano State has the highest representation (80 participants, 39.4%)
    - Other relatively well-represented states include Abuja/FCT (26 participants), Benue (21 participants), and Kwara (16 participants)
    - Many states have very low representation (1-3 participants)
2. **Knowledge Score Patterns**:
    - Kano State shows a concentration of scores in the 16-20 range
    - Participants from Bauchi State (all 9) scored in the upper range (19-20)
    - Due to low representation in most states, clear patterns are difficult to establish
3. **Statistical Significance**:
    - Chi-square test result: $\chi^2(162) = 172.937$, $p = .264$
    - The p-value (.264) is greater than .05, indicating we fail to reject the null hypothesis
    - This means there is insufficient evidence to suggest that HIV/AIDS knowledge scores differ significantly based on state location

Chi-square analyses revealed no statistically significant associations between students' HIV/AIDS knowledge levels and their age group ($p = .664$), gender ($p = .962$), area of residence ($p = .513$), or state ($p = .264$). These findings suggest that demographic factors did not significantly influence the HIV/AIDS knowledge scores among the study participants.

1. **Compare knowledge by information sources**:

Analyze > Compare Means > Means

- Dependent list: Knowledge_Score
- Independent list: Source_* variables

Interpretation of Knowledge Scores by Information Sources

Analysis of HIV/AIDS Knowledge by Information Sources

For each information source, I'll state the hypothesis and interpret the findings:

1. School as Information Source

Hypothesis:

- **H_0:** There is no significant difference in HIV/AIDS knowledge scores between students who receive information from schools and those who don't.
- **H_1:** There is a significant difference in HIV/AIDS knowledge scores between students who receive information from schools and those who don't.

Key Findings:

- Students who **did not** receive information from school had a slightly higher mean score (18.50) compared to those who did (18.20)

- The difference is minimal (0.30 points)
- Standard deviations are comparable (1.757 vs. 1.864)
- This suggests school-based information has little impact on overall knowledge scores
- **$p = 0.407 > 0.05$** → The difference in knowledge scores between the two groups is **not statistically significant**.
- An independent samples t-test showed no significant difference in HIV/AIDS knowledge scores between students who reported school as a source of information (M = 18.20, SD = 1.86) and those who did not (M = 18.50, SD = 1.76), t(201) = 0.83, p = 0.407.

2. Family as Information Source

Hypothesis:

- **H_0:** There is no significant difference in HIV/AIDS knowledge scores between students who receive information from family and those who don't.
- **H_1:** There is a significant difference in HIV/AIDS knowledge scores between students who receive information from family and those who don't.

Key Findings:

- Students who received information from family had a higher mean score (18.55) compared to those who didn't (18.15)
- The difference is small (0.40 points). Although there's a 0.4-point difference in average scores, the difference could be due to chance.
- Students receiving family information showed slightly more variability in scores (SD = 2.020 vs. 1.788)
- This suggests family discussions may have a modest positive association with knowledge
- $p = 0.187 > 0.05$ → The difference is not statistically significant.
- Students who cited family as a source of HIV information (M = 18.55, SD = 2.02) had slightly higher knowledge scores than those who did not (M = 18.15, SD = 1.79), but this difference was not statistically significant, t(201) = -1.32, p = 0.187.

3. Friends/Peer Groups as Information Source

Hypothesis:

- **H_0:** There is no significant difference in HIV/AIDS knowledge scores between students who receive information from peer groups and those who don't.
- **H_1:** There is a significant difference in HIV/AIDS knowledge scores between students who receive information from peer groups and those who don't.

Key Findings:

- Students who received information from peers had a slightly higher mean score (18.43) compared to those who didn't (18.18)

- The difference is small (0.25 points). Even though the mean score is slightly higher among those who cited friends, it's not enough to be meaningful statistically.
- Peer-informed students showed greater variability in scores (SD = 2.042 vs. 1.780)
- $p = 0.397 > 0.05 \rightarrow$ The difference is not statistically significant.
- There was no statistically significant difference in HIV knowledge scores between students who cited friends or peer groups as a source of information (M = 18.43, SD = 2.04) and those who did not (M = 18.18, SD = 1.78), t(201) = -0.85, p = 0.397

4. Social Media as Information Source

Hypothesis:

- **H_0:** There is no significant difference in HIV/AIDS knowledge scores between students who receive information from social media and those who don't.
- **H_1:** There is a significant difference in HIV/AIDS knowledge scores between students who receive information from social media and those who don't.

Key Findings:

- Students who received information from social media had a higher mean score (18.46) compared to those who didn't (18.07)
- The difference is modest (0.39 points)
- Standard deviations are comparable (1.865 vs. 1.823)
- This suggests social media may provide some beneficial information on HIV/AIDS
- There was no statistically significant difference in HIV knowledge scores between students who cited social media as a source of information (M = 18.46, SD = 1.87) and those who did not (M = 18.07, SD = 1.82), t(201) = -1.50, p = 0.135

5. Health Institutions as Information Source

Hypothesis:

- **H_0:** There is no significant difference in HIV/AIDS knowledge scores between students who receive information from health institutions and those who don't.
- **H_1:** There is a significant difference in HIV/AIDS knowledge scores between students who receive information from health institutions and those who don't.

Key Findings:

- Students who received information from health institutions had a notably higher mean score (18.61) compared to those who didn't (17.73)
- The difference is more substantial (0.88 points) than for other information sources
- Standard deviations are comparable (1.781 vs. 1.826)
- This suggests health institutions provide the most beneficial information impact among all sources

- An independent samples t-test revealed a statistically significant difference in HIV knowledge scores between students who cited health institutions as a source of information (M = 18.61, SD = 1.78) and those who did not (M = 17.73, SD = 1.83), t(201) = -3.43, p = 0.001. This indicates that health institutions are an effective source of accurate HIV/AIDS knowledge

Implications for Research Questions and Objectives

These findings directly address your research questions about factors contributing to HIV/AIDS knowledge:

1. **Most Impactful Information Source**: Health institutions appear to have the strongest positive association with higher knowledge scores, with nearly a full point difference between those who use this source and those who don't.
2. **Surprising School Impact**: Despite being the most common information source (as shown in previous analyses), school-based information doesn't appear to improve knowledge scores, and may even be associated with slightly lower scores.
3. **Family and Social Media**: Both show modest positive associations with knowledge scores, suggesting these informal channels may provide valuable supplementary information.

Recommendations Based on These Results

1. **Strengthen Health Institution Outreach**: Focus on increasing student engagement with health institutions, as this appears to be the most effective information channel for accurate knowledge.
2. **Review School Curricula**: Investigate why school-based information doesn't appear to enhance knowledge scores despite being the most common source, and consider revisions to HIV/AIDS educational content.
3. **Leverage Social Media**: Develop strategic social media campaigns with accurate HIV/AIDS information to capitalize on this moderately effective channel.
4. **Family Education**: Consider programs that help families discuss HIV/AIDS accurately, as family-sourced information shows a positive association with knowledge.
5. **Further Statistical Testing**: Consider conducting t-tests or ANOVA to determine if these observed differences are statistically significant, as the current means comparison suggests trends but doesn't establish significance.

These findings address your fourth research objective by highlighting that health institution partnerships and improved school curricula may be the most promising strategies for enhancing HIV/AIDS knowledge accuracy among Nigerian university students.

Run correlation analysis for factors:

Analyze > Correlate > Bivariate

- Select Knowledge_Score and potential contributing factors

- Select Pearson's r and test for significance

Significant Correlations with Knowledge Score

Variable	Pearson's r	Sig. (2-tailed)	Interpretation
Health Institutions	**.235**	**.001**	Significant positive correlation: Getting info from health institutions is associated with higher knowledge.
None of the other variables show significant correlation with knowledge score (p > 0.05), though some are borderline or interesting to discuss descriptively.			

Non-Significant Correlations (p > .05)

Variable	Pearson's r	p-value	Interpretation
Comfort discussing HIV/AIDS	-.058	.409	Not significant
Agreement with accurate info statement	.062	.380	Not significant
Social media	.105	.135	Not significant
Stigma & discrimination	-.018	.798	Not significant
Lack of reliable sources	.064	.367	Not significant
School	-.058	.407	Not significant
Family	.093	.187	Not significant

Interpretation

A Pearson correlation analysis was conducted to examine the relationship between participants' HIV/AIDS knowledge scores and potential contributing factors. There was a **significant positive correlation between knowledge scores and receiving information from health institutions** ($r = .235$, $p = .001$), indicating that individuals who reported health institutions as a source of information tended to have higher knowledge scores. Other variables, such as social media, school, family, or comfort discussing HIV/AIDS, were not significantly associated with knowledge scores ($p > .05$).